IS DAVAO CITY, PHILIPPINES READY FOR E-HEALTH?

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ABSTRACT

In the Philippines wherein most concepts are taken from a western perspective, the transmission of information from the source to the receiver rely solely on what is affordable and logistically doable resulting to areas in Geographically Isolated and Disadvantaged Area (GIDA) sites to receive less or no health care information from the government.

To answer this, the Department of Health (DOH) Regional Office XI and Davao City Health Office make their presence available to the netizens of Davao through its website. However, technical problems seem to always hinder a smooth transfer of information. For instance, the link provided for the City Health of Davao in the website of DOH Regional Office XI is not active. Furthermore, the website of Davao City Health Office is available intermittently. The presence of the City Health Office in Social Networking Sites (SNS) is not available as well despite the fact that the several government agencies and local government units are already doing online as well as offline transactions such as the local government of Davao City's presence in twitter (@DavaoCityGov) as well as the presence of the Department of Education Regional Office XI in twitter (@DepEdDavao), including the active Facebook and Twitter accounts of the Mayor and Vice-Mayor of the city are evidences that the government wants to create an identity online.

Despite its absence in digital media channels, Davao City Health Office is a recipient of the Outstanding Lifestyle Advocacy Award given by the DOH Regional Office XI. With this, it is assumed that once Davao City Health Office takes an active role in the communication process by designing new messages and introducing new channels to the growing demand of its clients; the city health office will be able to reach a lot of its clients.

With this, a descriptive auditing of the current communication tools and the readiness of Davao City to shift from traditional communication tools to *e*Health is documented in this paper. This working paper is part of a descriptive ongoing study on the health communication cycle in Davao City.

INTRODUCTION

One of the common curiosities in the context of health communication is that it is one of the best examples of science communication. It is translated into a language understandable by its stakeholders yet its stakeholders are one of the most complex and demanding. It is also the field of communication that transcended from science communication to medical sociology, medical anthropology, and intercultural and transcultural communication in health care.

Several studies have been made in terms of documenting health care systems around the world. In People's Republic of China during Mao Zedong's time, its health care system emphasized preventive public health yet after the market reform, it emphasized in curative medicine. (Chen, 2005) Japan also identified its 10 Components of a Nations Health Care, which are determined by its history, economy, technology, culture, and traditions. (Anesaki and Munakata, 2005)

In the Philippines wherein most concepts are taken from a western perspective, the transmission of information from the source to the receiver rely solely on what is affordable and logistically doable resulting to areas in the boondocks to receive less or no health care service from the government. This is also a result of political issues and bureaucracy per area affecting the delivery of government health care.

According to Mary Divene C. Hilario (2012) of the Health Advocacy and Promotion Unit of the Department of Health (DOH) Regional Office XI, the process in developing health care intervention programs, which includes development of communication collaterals, starts with the National Center for Health Promotion of the Department of Health Central Office calling for a collaborative national workshop. This workshop involves representatives from the Department of Health Regional Offices and consultants. (M.D. Hilario, Personal Interview, January 2012)

Hilario also opined that the city and the barangay can create their own tools and methodologies in implementing the government's health care programs as long as it follows the prescribe content. However, with the Interpersonal Communication and Counseling Manual, message designing is not part of the training of grassroots implementers. Moreover, the said manual only emphasizes the use of traditional communication tools like posters and putting face-to-face communication. Hilario also mentioned that aside from the tools, the other problem they encountered is sending the tools (messages) to difficult areas or known as the geographically isolated and disadvantaged areas (GIDA). Most of the communication collaterals are delivered late or sometimes, these are not delivered at all.

Moreover, despite such emphasis on traditional communication tools in the Interpersonal Communication and Counseling Manual, the Department of Health Regional Office in Davao also makes its presence available to the netizens of Davao City. However, the link provided for the City Health Office of Davao in the website of the Department of Health Regional Office XI is not active. Furthermore, the website of the City Health Office of Davao is available intermittently. The presence of the City Health Office in Social Networking Sites (SNS) is not available as well despite the fact

that the local government of Davao City (@DavaoCityGov in twitter), the Department of Education Regional Office XI (@DepEdDavao in twitter), including the Mayor and Vice-Mayor, maintains an active Facebook and Twitter accounts. This somehow contradicts several formative studies conducted specially on the increasing cases of HIV/AIDS in the city. As reported, the increasing cases of HIV/AIDS cases in Davao City covers an age bracket who are almost always active online.

Yet, despite its absence in new media channels, Davao City's health office is DOH's recipient of the Outstanding Lifestyle Advocacy Award. (Mindanews, 2012) Therefore, it is easy to assume that once Davao City's health office takes an active role in the communication process by designing new messages and introducing new channels to the growing demand of its clients, the city health office will be able to reach a lot of its clients. This new media channel is referred to as *e*Health and is used as a catchall phrase for this type of information dissemination strategy in this paper. The World Health Organization (2005) defines *e*Health as "the cost-effective and secure use of information and communication technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education." It simply means that health care services will be received not only by visiting the health centers, clinics or hospitals but also by getting health care information through available mobile applications, online interface with a health care specialist or subscribing to short message service (SMS) for medical consultation.

With the current move of the Department of Health Head Office, to study and implement *e*Health in the country, it is notable to look at the capacity of Davao City, Philippines to get into the bandwagon. The general objective of this paper then is to know whether Davao City is indeed ready for *e*Health.

METHODOLOGY

With this objective, a series of Key Informant Interviews were conducted at the level of the top management implementers of the Davao City Health Office, which is also the delimitation of this study. It was appropriate to look at the research question from the perspective of top management before we go into the frontline implementers at the grassroots level since they are the direct connection of the city to the Department of Health Regional Office. Moreover, program planning,policy making and self-evaluation by implementers were done at this level.

An interview schedule was prepared and the questions were divided into 3 parts – Program Planning, Policy Making, and (Self) Evaluation. Program planning questions focused on the capacity of the City Health Office to design, and disseminate information and knowledge to its target audience.Whereas, policy making is centered on the relationship of the City Health Office to the Local Government Unit and the Department of Health Regional Office wherein it highlights the implementation of DOH orders, transition to *e*Health, and budget. Evaluation, on the other hand, is an anecdotal and personal evaluation of the capacity of the City Health Office to go into *e*Health.

*e*Health in the context of this paper includes, but not limited to, text messages (SMS), phone calls, online, radio, and social networking sites. It is to operate as something beyond face-to-face interpersonal communication and traditionally mediated communication – television, radio transistors, and newspapers.

Another method used in gathering data was document review looking at the past and current Health Communication collaterals of the City Health Office. Also included in the document review are records of mortality rates and causes of mortality to verify the increasing and decreasing statistics and if communication plays an important role. Lastly, the list of health districts, the number of health centers and sub-centers were identified. In the process, no particular document was found related to policy.

However, included in the document review is an investigation of how the Philippines is transitioning from traditional information transfer system to *e*Health. Therefore, part of the result of this investigation is a data on the various methodologies on how the country adapts to *e*Health and looking into specific media as well.

RESULTS AND DISCUSSION

Discussed in the Philippines *e*Health Strategic Framework and Plan 2013-2017 (2014), the Philippines' health goals are guided by its National Objectives for Health. This helps the government to decide and prioritize their activities to improve health programs in the country. In the years 2005-2010 and 2011-2016, the National Objectives for Health is geared towards harnessing the use of information and communication technologies (ICTs) in various health concerns as to reform areas, critical health programs, as well as, specific points in health administration.

Moreover, the Philippines signed in support to the resolution drafted during the 58th and 66th World Health Assembly. Cited also in the Philippine *e*Health Strategic Framework Plan 2013-2017 (2014), the 58th World Health Assembly in 2005 focuses on the following: (1) to draft a long-term plan as guide for the implementation of *e*Health services including infrastructure and lawful structure (for manpower and activities) encouraging also public-private partnerships; (2) the ICT infrastructure for health should be reasonable, affordable and accessible; (3) partnerships with private and non-profit institutions should be built; (4) vulnerable populations should be included and suitable *e*Health services be delivered accordingly; (5) creating ties with various sectors to determine evidence-based *e*Health practices to impart, with inexpensive model and safeguarding quality and ethical standards – confidentiality and impartiality; (6) creating a national body governing practices of *e*Health services; and (7) start an efficient public-health information system to respond to the needs of the community or country. While the 66th World Health Assembly in 2013 focuses on the following and serves as an update to the previous *e*Health Resolution, to wit: (1) study on possibilities to work with participating individuals taking consideration people in authority – national leaders, health care workers and relevant academes – in drafting and implementing *e*Health at the levels of national and subnational; (2) toensure confidentiality at all times, legal measures – drafting of policies or passage of legislative resolutions – regarding implementation of *e*Health should be complied; and (3) ensure a

representative on the ICANN Governmental Advisory Committee with open communication to the national authorities concerning health to relay national stand in implementing *e*Health.

The World Health Organization (WHO) *e*Health Resolution (2005) signed during the 58th World Health Assembly also endorsed and adopted a health academy, which aims to promote good health and healthy lifestyle, and increase health awareness among its clients. This health academy will achieve these two goals through *e*Learning as an alternative way to attain knowledge through various types of devices. This effort is made to address the advocacies stipulated during the 58th World Health Assembly.

Moreover, during the 66th World Health Assembly, *e*Health and health internet domain names (2013) were reported by the Secretariat. It updated discussions on the *e*Learning that discussed matters on strengthening the idea of *e*Learning and building partnerships. According to this report, the use of *e*Learning technologies is to make available a number of educational and training materials on health. Using the health academy, many young people are given the opportunity to access health information that promotes health and disease prevention and promotes better health activities. Added also in this report were WHO-validated health information that can be adapted for translation to local language and culture. With this, more population will be reached.

The Philippines Strategic Framework and Plan 2013-2017 was laid down as a way of showing the active participation of the Philippines towards the implementation of *e*Health. It posits that "by 2020 *e*Health will enable widespread access to health care services, health information, and securely share and exchange patient's information in support to a safer, quality health care, more equitable and responsive health system for all the Filipino people by transforming the way information is used to plan, manage, deliver and monitor health services."The ultimate goal is to attain health system goals of "financial risk protection, better health outcomes and responsive health system for the Filipino people." The use of *e*Health in the country will also give appropriate health information to health consumers as reference and health care workers will have ready standard operating procedure for referrals.

The Philippine *e*Health Strategic Framework and Plan also has set nine (9) strategic guidelines for *e*Health implementation, to wit: "(1) *e*Health must serve the needs of the client or person, (2) collaboration and partnerships with key health care stakeholders are critical in realizing the country's *e*Health vision, (3) Users must be involved at all phases of development and implementation to gain commitment for implementation, (4) a strategic approach in terms of phases enables more focus, and judiciously and efficiently make use of resources to achieve *e*Health vision, (5) *e*Health activities must be aligned or harmonized, without controlling health care providers to implement local *e*Health solutions, (6) the presence of entities that have already started *e*Health must be recognized so as not to constraint their continuing advancement and gain their support, (7) human resource can be made available by building capacity to implement *e*Health agenda in the country and promote transparency and public accountability, (8) implementation of *e*Health must comply to relevant laws and regulation, and (9) investments must be made on areas that deliver the greatest benefits to health consumers,

health care providers, and health care managers; and ensure no duplication in terms of time, effort and resources."

Partner institutions in this endeavor include a privatetelecommunications company. In one of the messages sent by Globe Telecom to its prepaid and postpaid subscribers, they informed the public that they are supporting the country's telehealth service.This phone call service is a 24/7 medical advice hotline provided by licensed and skilled Filipino doctors. (Balea, 2015)It is named as KonsultaMD, which in English is *Consult MD*. Balea (2015) added that the development of this service in the Philippines was made possible with the help of a Mexican telecommunications company, *SaludInteractiva*, already delivering the same health services in Mexico. Basically, the services included consultation via phone call, which the client needs to subscribe to Globe Telecom. The clients can opt to subscribe for a month or a week that costs PhP 15.00 to PhP 150.00 ($ 0.33 to $ 3.33). However, Balea added that non-Globe Telecom subscribers can still avail of the services but regular rates will be charged accordingly.This new telehealth service is said to be gaining grounds of immediate medical attention just by calling the physicians on duty without problems of long queue at medical clinics or hospital clinics. Currently, KonsultaMD has 10 doctors receiving calls and their number is expected to grow in the coming months as the demand grows.

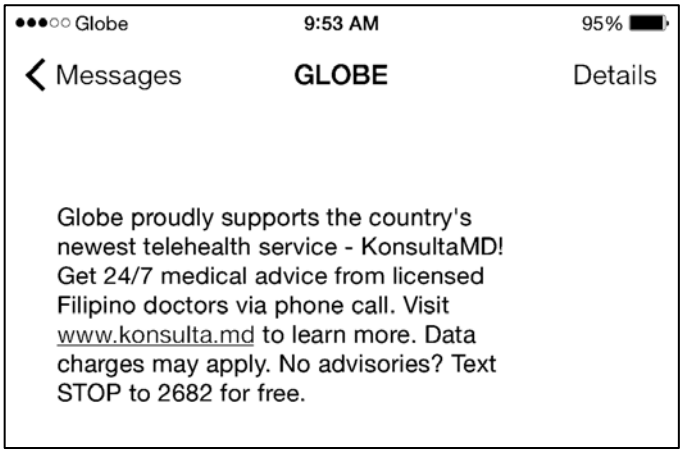

Image 1: SMS of Globe Telecommunication Company on KonsultaMD!

Updates on the development of *e*Health in the Philippines were also presented during the 2nd *e*Health Summit in July of 2015 in Manila, Philippines. Part of the presentation includes plans and other advances in telehealth, teleconsultation, and telemedicine.

The Executive Director of the Department of Science and Technology – Philippine Council for Health Research and Development, Dr. Jaime C. Montoya (2015) said in his opening remarks during the 2nd *e*Health summit that he is "convinced that ICT-based innovations in health or *e*Health, can address our challenges in accessing health care services and accessing real time information for decision making." These words from Dr. Montoya show that the Philippines is gearing toward a connection of a health facility and local government unit (LGU) to exchange information on health for future establishment of appropriate measures in addressing health concerns in the community. This brought the idea of e-Hatid LGU project popularly known as the eHealth Tablet for

Informed Decision-making of Local Government Units. The Ateneo de Manila University, together with the Department of Science and Technology (DOST), partnered for the development of this project. (*e*HATID LGU Beta, 2015) According to the proponents this program "is a health information system support for Local Government Units through an Android-based Electronic Medical Record application." This project also abides with the information technology needs of the Philippine Health Insurance Corporation (PHIC) outpatient benefit package for better and transparent monitoring of services to the stakeholders, especially those recipients of the social service support from the government.

Another *e*Health project that is being piloted in 115 sites in the country is the RxBox (2012). This is another *e*Health project wherein another academic institution, particularly the University of the Philippines Manila, in partnership also with theDOST, innovated a device that can provide blood pressure monitoring, pulse oximeter reading, electrocardiogram (ECG) function, fetal heart monitoring, maternal tocometer monitoring, and temperature reading. Not only that, the device can also give health workers more than those services enumerated since the RxBox also serves as telemedicine device, recording of patient information, and teleconsultations. This is a milestone in the Philippine *e*Health program. However, these projects need to be scaled further. In the Davao Region, only two (2) RxBox devices are deployed in the municipalities of Governor Generosoand Lupon, Davao Oriental – a lot more municipalities need the same device to serve the community better and be more efficient. Telemedicine, as cited by the World Health Organization in the Telemedicine: Opportunities and Developments in Member States (2010), defines as "healing at a distance". Telemedicine services include teleconsultation which is creating an environment of interaction of a medical provider to a client without doing it face to face, yet still able to provide the adequate care.

Projects like those above mentioned should be scaled or institutionalized and realized to be very significant in the society. Wilson et al (2014) wrote about The Journey to Scale: Moving together past digital health pilots. They pointed out in this paper that to institutionalize a project, may it be a service or a product, it needs to have the right leader, right solution, right approach and right capacity. To start the sequence to scale, there has to be a trigger or a call of action on an emerging problem. This is true to incidences like the need of developing a vaccine for Ebola virus – it triggers the government officials to act on the problem, for a specific need and right capacity for the development. This goes same with the projects of institutionalizing the use of barcodes for inventory purposes, standardization of shipping container dimensions so that it will be easy to transfer whenever the container goes around the globe, and among others. An example of mobile health project that can address maternal and child health is the mobile alliance for maternal action (MAMA). This project started in Bangladesh on 2012, then in South Africa on 2013, and in India on 2014. The MAMA project helps increase the knowledge of mothers in taking care of themselves and their child towards better health.

In the coming months or years, more and more *e*Health initiative will be available and it needs to be scaled accordingly to realize the effects of these projects in the society. There are projects that may be small or large at scale but the ultimate goal is to serve the

community and give necessary information to be disseminated to the stakeholders and the government leaders.

THE CASE OF DAVAO CITY

It is good to note that the objective of this paper is to describe, based on qualitative methodologies, the capacity of Davao City to go into *e*Health. Moreover, it is also best to take into consideration the delimitation of this paper, which is focused on the perspective of the implementers of health promotion programs. The fact that this study is ongoing mean that it could not provide any form of conclusion nor present a series of recommendations because the communication cycle is not yet complete. For now this paper only provides a descriptive overview of the planning, implementation, and self-evaluation of the delivery of health promotion programs of this city. It also provides anecdotals coming from the implementers of health promotion programs as to the readiness of the city to go into *e*Health.

Background on Davao City and its Health Care System

Posted on the National Economic Development Authority (NEDA) Davao Region website, Davao City is among the largest cities in the world in terms of land area that expands 244,000 hectares. It is located at the southeastern part of Mindanao, the second largest island in the country. The boundaries of Davao City are the provinces of Davao del Norte at the north, Davao Oriental and Davao Gulf at the east, Davao del Sur at the south, and North Cotabato at the west side. The city is the economic center of the southern part of the country, which caters domestic and international trade. The city is also the Philippines' gateway to the neighboring countries of Brunei, Indonesia, Malaysia, and Australia and among others.

In 2013, the Philippine Statistics Authority indicates that Davao City's population has reached 1.4 million during the 2010 census of population and housing. Adding to this report, the agency said that the city has a 2.36% annual population rate increase. Previously, reported during the 2000 census of this highly urbanized city, 300,000 persons are added from its 1.1 million population.

Moreover, Davao City is divided into three congressional districts. The 1st Congressional District includes the city proper divided into 4 districts: A, B, C, D, and then Talomo District. The 2nd Congressional District includes the districts of Buhangin, Bunawan, Agdao and Paquibato. Then, the 3rd Congressional District includes the districts of Baguio, Calinan, Marilog, Toril and Tugbok. Among these districts, there are two districts that belong to GIDA sites, to wit: Marilog (66, 242 hectares) and Paquibato (63, 800 hectares), which are also the biggest districts of the city.

However, the City Health Office made its own way of dividing the entire city into 16 Health Districts. The number of Health Centers and Substations also reflect the coverage of a certain health district.

Program Planning and Implementation

NO.	NAME OF HEALTH DISTRICT	NUMBER OF HEALTH CENTERS/SUB-STATIONS
1	District A	7
2	District B	10
3	District C	11
4	District D	6
5	Talomo North District	10
6	Agdao District	12
7	Tugbok District	18
8	Talomo South District	11
9	Bunawan District	11
10	Sasa District	8
11	Buhangin District	10
12	Toril District	27
13	Baguio District	7
14	Calinan District	20
15	Paquibato District	16
16	Marilog District	13

Table 1. List of Health Districts as of May 2015.

Table 1 indicates that the largest health district is Toril with 27 Health Centers and Sub Stations, followed by Calinan and Tugbok and in terms of program planning and implementation, these 16 health districts and each individual district's profile is considered. In an interviewwith Dr. Marjorie Dureza-Culas, the Assistant City Health Officer for Operations, she mentioned that the City Health Office of Davao is composed of several programs with one program head assigned to each. The program head is also in-charge in the dissemination of health information to its clients. In general, Dureza-Culas said that 95% of the projects that they implement are Department of Health orders. Only 5% of the projects of the City Health Office are initiated locally. The 5% is the health caravan of the CHO conducted in Barangays during the Araw ng Barangay celebration. However, the caravan is only conducted upon the request of the Barangay Officials. During the caravan, free medical consultation and tooth extraction is provided. According to Dureza-Culas, the City Health Office has difficulty coming up with its own programs due to lack of budget. (M.D. Culas, Personal Interview, July 7, 2015)

In terms of information dissemination, Dureza-Culas believed that there is no need for a campaign for their programs since these programs are routinary and clients are already familiar with the schedule. However, the city still uses posters, fliers, and barangay meetings as ways to disseminate information. Barangay Health Workers (BHWs) are considered to be the last medium of information dissemination in the whole flow but Dureza-Culas talked about the fast turnover of BHWs from late 1990 to early 2000. Lastly, she mentioned that the City Health Office maintains a website and considers this as the city's first step in going into *e*Health. She also added that in terms of *e*Health in program implementation, the program on HIV-AIDS is among the first to utilize

*e*Health by providing *e*Consultation to its clients.(M.D. Culas, Personal Interview, July 7, 2015)

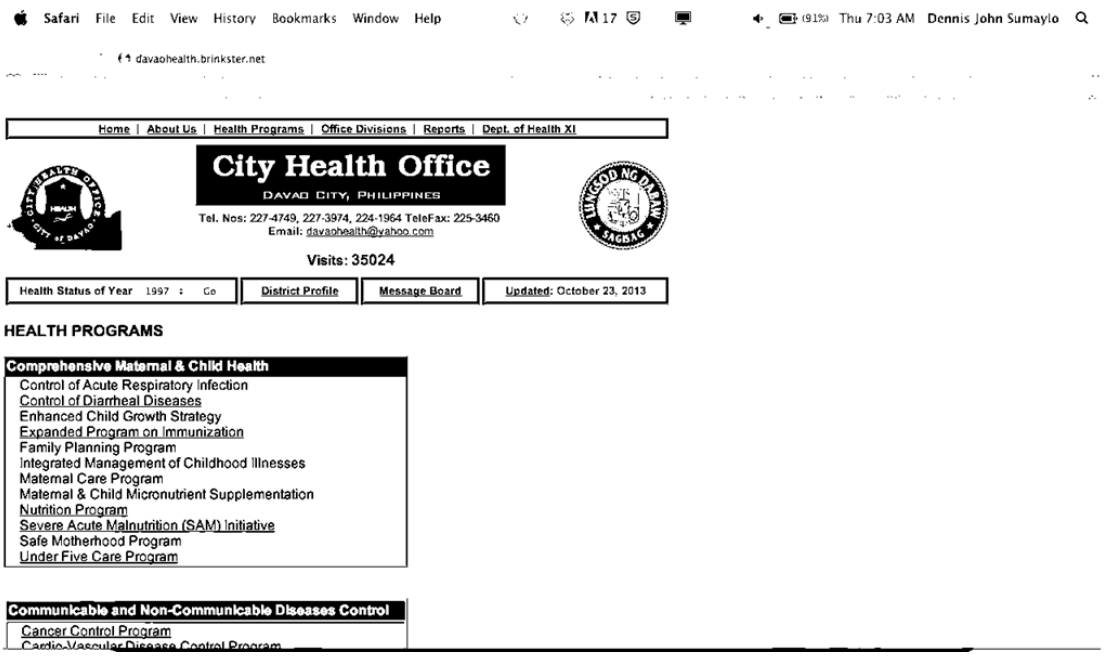

Image 2: Screenshot of Davao City Health Office Website.

With this background, an investigation on two big programs was conducted. An interview with Elma Albay of the Maternal and Newborn Child Health Program and Armi Capili of the Nurse Child Program yielded the same stories on lack of budget intended for program development and information dissemination. In the late 1980s to early 1990s, a lot of budget coming from the national government and international funding agencies were available. During this time, programs on family planning and efforts to disseminate information on family planning were evident in print, radio, and television bringing the slogan "Kung Sila'y Mahal Niyo, Magplano" (Translation: *If you love them (kids), plan ahead*). A series of poster making and mural painting competitions nationwide were conducted. There were abundant supplies of posters and fliers. The City Health Office can afford radio programs and cassette players and tapes of recorded lectures on family planning were provided for each barangay health center for their house visits. All of these disappeared during the late 1990s when the budget was cut. Now, the DOH, the City Health Office, and the Local Government Unit work together to produce posters, leaflets, and flipcharts. If funding is available from the LGU, these materials will be translated by the Philippine Information Agency to be used in school visits.(E. Albay and A. Capili, Personal Interview, July 9-10, 2015)

Policy-Making

How meager is meager? In December of 2014, only 15 tarpaulins were produced to be used in 16 Health Districts covering 165 barangays. The budget for IEC is only PhP 20,000.00 ($430.10*) per year and this budget is not provided on a regular basis. The *e*Health aspect is in the context of *e*Reporting and the City Health Office website which, according to Dureza-Culas, Albay, and Capili are not regularly updated and is run by an IT personnel than a (health) communication specialist. They attributed this situation to

the lack of interest of the leadership of the City Health Office in information, education and communication (IEC) materials and information and knowledge transfer.

In a research conducted by Lewis et al (2012), low- and middle-income countries usually harness technologies for health like in a software for collection and to analyze health data, voice to contact hotline numbers, internet to exchange electronic mails and share health information in the world-wide-web (www), text messaging (SMS), and videoconferencing. They also identified that the common devices used are camera, computer, tablet computer, phones (just like the smart phones, cellular phones and landline phones), radio, portable diagnostic tool, smart card, unique ID such as biometric scanners, and others. Among these devices, this research shows that common devices utilized for the services are phones (71% of users) and computers (39% of users). The research also shows that the common applications are voice (34%), software (32%) and text messages (31%).

The data of Lewis et al's (2012) research are taken from the Center for Health Market Innovations (CHMI), which has several partners in the world, including 16 countries in both low- and middle-income status, and other active private sectors. Among the 16 countries, 4 countries come from the Southeast Asian Nations, namely: Cambodia, Indonesia, the Philippines and Viet Nam. There are several *e*Health strategies already documented in the Philippines but no specific data yet is available for Davao City, Philippines alone.

In the case of Davao City, the use of phones and computers are also common as it speeds up reporting.However, no data is available if these are also used in health information dissemination to the grassroots level taken into consideration that this paper is delimited to the implementing agency only. If you look at *e*Health from this context, what is relevant for the implementers is fast reporting and data generation. This idea does not necessarily coincide with what Kotler and Lee (2008) discussed on desired positioning in social marketing. Kotler and Lee (2008) argued that in social marketing, a clear positioning whether it is behavior-focused, barriers-focused, benefit-focused, competition-focused, or repositioning-focused should be evident in the planning and implementing stages especially when we talk of health promotion programs. The maintenance of a website is evident but as to what purpose does the website serve is not clear to the implementers interviewed even if they believe that it is essential in information dissemination especially now that government transactions are almost always done online.

Lewis et al (2012) also show the main purposes of health program's ICT use, which was taken from CHMI data. The following are the purposes: (1) extending geographic access, (2) facilitating patient communications, (3) improving diagnosis and treatment, (4) improving data management, (5) streamlining financial transactions, (6) mitigating fraud and abuse, and (7) others – that include overcoming hindrances of health care service delivery due to language challenges or attracting more patients or users with technology's appeal. For this paper, it will be concentrating much on the second purpose. This is for the reason that health information should be communicated by the health workers to the patients even outside the health facilities. This means that health workers should be able to give general health education, encourage compliance of

patients on health programs, empower the community for emergency care, and keeping confidentiality.

Using the Seven (7) Purposes enumerated by Lewis et al, Davao City is still compliant but partially observed to some items.

Purposes	Davao City's Status	Discussion
(1) Extending geographic access	✓	This is true for Davao City but only in the context of data reporting to the City Health Office passed on to DOH. In the implementation of programs in GIDA sites, the Armed Forces of the Philippines (AFP) are tapped to go into contested and highly critical areas of the city. Currently, the City Health Office partners with UNICEF and UP Telecenter in providing fast and efficient reporting to address the issue on geographic access.
(2) Facilitating patient communications	✓	This is true for Davao City but only in the HIV-AIDS Program. There is no effort coming from the City Health Office to build a bridge between them and their general public. The website does not serve its purpose since it is not updated, the design is not aesthetically pleasing, and the interface is not user-friendly. The City Health Office does not utilize SNS and other FREE sites as well that they can use for information dissemination and knowledge transfer. However, some of the program coordinators are already looking at the possibility of creating a presence online and some are already present. The only problem is the whole City Health Office is not yet considering *e*Health which

		creates a breakdown in communicating an image of strong and connected organization.
(3) Improving diagnosis and treatment	✓	This is true for Davao City Chest Center only which is a special entity of the City Health Office. This center addresses the clients with tuberculosis and currently uses Gene XPERT in diagnosing presumptive drug-resistant TB clients. This center is also a prime referring facility practicing public-private mix DOTS.
(4) Improving data management	✓	This is the main focus of the City Health Office of Davao. Not only that, data management is also within the context of providing fast and efficient reporting to the DOH.
(5) Streamlining financial transactions	✓	This is the main focus of the City Health Office of Davao and is directly connected to program budget management rather than information and knowledge transfer.
(6) Mitigating fraud and abuse	✓	This is true in Davao City but only in the context of program planning and reporting and not in information and knowledge transfer.
(7) Others – Geographically Isolated and Disadvantaged Areas (GIDA), Security and Hostility, Language	✓	City Health Office's current effort to reduce the problems indicated are within the context of *e*Health, specifically, mobile and online communication, through the provision of internet connections to all health districts.

Table 2: Davao City's Standing Based on Lewis et al Purposes.

The data in Table 2 only means that Davao City is starting to transform its information and knowledge transfer efforts into *e*Health by providing first the infrastructure. However, looking at how it is currently implementing programs, one can say that there

is a complete detach between the heads of office and the program coordinators. The heads of office focus more on one client and that is the Department of Health, while the program coordinators are focused on their individual target audiences. If the website will be used as a representation of the City Health Office, you can immediately say that everyone is detached from everything; doing efficiently their individual tasks but the results of their individual tasks does not necessarily mean it can be part of the whole picture. The City Health Office as an entity should act as gatekeeper of the programs rather than a data collection unit as what is observed in the website.

Self-Evaluation

The problems mentioned during the interviews are budget, no support from local government unit in terms of policy (regular budget allocation), minimal financial support from DOH Regional Office, and the expectation of the DOH that the LGU will always provide budget for health. However, these problems are superficial especially in the context of *e*Health. The following points may be of help only on the side of the heads of office base on the problems provided by the interviewees and not yet applicable to grassroots. These are not yet recommendations since the investigation is not yet final.

First, the understanding of *e*Health in Davao City, Philippines and perhaps the country is more concentrated on data collection and reporting as what can be observed in the Philippine *e*Health Strategic Framework and Plan, and lack of emphasis on *e*Learning tools. **Second**, the local idea of *e*Health is more online than offline hence the infrastructure problem on internet connection is at hand. **Third**, the idea that everything revolves around money is half-truth. *e*Health is more of an initiative problem than budgetary. Printing posters and leaflets are expensive but through *e*Health, you can make these collaterals readily available online in JPEG or PDF format which majority of the residents of Davao City can have access. On the other hand, the printed materials can be sent to GIDA sites since these are only available in limited copies. Maintaining Twitter, Facebook, and other SNS accounts aside from the website does not require a big budget as well. An internet connection in the office as well as a trained (health) communication staff can handle the presence of the City Health Office in digital media. Should a post needs promotion, the City Health Office can pay a minimal amount of PhP 500.00 ($10.75) to promote a post for a month to its targeted audience. **Fourth**, offline promotion does not necessarily mean printed materials. Face-to-face interactions and SMS can be used. A policy can be lobbied by the City Health Office to the barangay captains on the provision of a monthly prepaid credit of PhP 200.00 ($4.30) to its midwife. This amount is enough to disseminate information to all its clients especially now that telecommunication companies offer unlimited calls and texts promos. Sumaylo (2013) cited that the use of SNS for health information dissemination has been done in Dawis, Digos City, a coastal barangay 56 kilometers away south of Davao City. This practice now only needs support from the local government unit and the Department of Health.

In general, the problem of Davao City is not in its capacity to implement neither *e*Health nor the presence of geographically isolated and disadvantaged areas. The problem is in the blatant neglect of the importance of (health) communication in

knowledge transfer and behavior change among its clients. The fact that a website is present, internet connections are slowly being provided to the health centers, and Barangay Health Workers are already utilizing SMS in information dissemination are already proof that it can be ready to be *e*Health compliant.

*$1 = PhP46.50

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