



# #HEALTHXPH PHILIPPINE **HEALTHCARE & SOCIAL MEDIA** SUMMIT 2017

**SOCIAL MEDIA & HEALTH RESEARCH:  
CONNECTIONS THAT MATTER**

25 APRIL 2017 | MARCO POLO, CEBU CITY

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#HealthXPh



In partnership with the  
Philippine Council for Health  
Research and Development





#HealthXPH is a regular weekly tweet chat that I co-founded with Dr. Gia Sison, Dr. Remo Aguilar and Dr. Narciso Tapia last December 2014. Registered on Symplur under the Healthcare Hashtag Project, the #HealthXPH tweet chat discusses the impact of emerging technology and social media on healthcare, bringing together not only healthcare practitioners and patients from the Philippines but a global community as well.

Brought together by Twitter, the four of us were inspired to convene the first Philippine Summit on Social Media and Healthcare (#hcsmp) in February 2015 in cooperation with the Philippine Council for Health

Research and Development (PCHRD). The PCHRD has remained our partner for this and the past two summits. We would like to especially thank Dr. Jaime C. Montoya, Merlita Opena, Ana Ciaren Hipolito and Krisette Grace Campilan of the PCHRD.

Every year, I endeavor to prepare an engaging program that will galvanize participants to use social media for good. The theme of the first summit held at the Radisson Blu in Cebu last 2015 was "Synergies in Social Media and Healthcare." It brought together healthcare professionals, the academe and industry, patients and health advocates, to discuss the role of social media in healthcare. At this first summit, the

Social Media and Medical Professionalism: A Manifesto from #HealthXPH was released. It was signed on stage by the #HealthXPH team (including Dr. Helen V. Madamba who joined #HealthXPH) together with Dr. Tony Leachon (2015 president of the Philippine College of Physicians), Dr. Minerva Calimag (2015 president of the Philippine Medical Association), Dr. Ted Herbosa (former undersecretary of the Department of Health) and Mr. Pat Rich, our keynote speaker from the Canadian Medical Association.

The second #hcsmpH was held at the Philippine International Convention Center last April 2016. The theme was “Social Media & Healthcare: From Click to Brick.” This second summit was convened to discuss the translation of online activity to positive real world action. The keynote speaker was Dr. Willie Ong, who exemplifies the public health advocate on Facebook with millions of followers. Similar to the first #hcsmpH, the summit had six tracks: ethics, patients’ stories, education, policy, advocacy and research. With patients and patient advocates both as attendees and speakers in the summit, the second #hcsmpH was certified a Patients Included conference by patientsincluded.org - a first for the Philippines.

Today’s third #hcsmpH differs from the past two summits in that it concentrates wholly on research, hence the theme “Social Media and Health Research: Connections that Matter.” In the era of evidence-based medicine, it is imperative to subject the use of social media in healthcare to the rigors of research.

This year, the #HealthXPH team also welcomed a sixth member, Dr. Jaifred Christian Lopez in our tweet chat moderator rotation. He joins this summit by helming a track on social media and literature review. The #HealthXPH family is one in welcoming you all to the third #hcsmpH! We look forward to the “ripple effect.”



**IRIS THIELE C. JASP TAN, MD, MSC**

@endocrine\_witch

Co-founder #HealthXPH

Professor, UP College of Medicine

Chief, UP Medical Informatics Unit

Director, UP Manila Interactive Learning Center

# #hcsmpH2017 IS THE OFFICIAL SUMMIT HASHTAG.

Let’s make it TREND!

@healthxph | @dost\_pchrd

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# MESSAGE FROM DOST-PCHRD



Social media is now a widely used tool to create content, share ideas, show interests, and facilitate expressions. It connects individuals, organizations, and agencies to build relationships and form communities online.

For the past years, the Council has maximized the benefits of social media such as Facebook (/dostpchr) and Twitter (@DOST\_PCHRD) in ensuring information awareness and dissemination, promoting our activities and services, and reaching our stakeholders.

In fact, we were able to reach more than 12 million and engage more than a million people in 2016 through our Facebook page. From January to March 2017 alone, we already reached more than 37 million and engaged more than two million stakeholders. From being just a technological trend, social media has now big implications on how people communicate, network, and collaborate.

I am pleased that the organizers of the 3rd Healthcare and Social Media Summit chose the theme “Social Media & Health Research: Connections that Matter.” It is important that we discuss the need to do research on social media as well as the ethical issues on its use as a tool in health research.

It’s high time for us to learn the influence of social media in changing the way we convey research!

A handwritten signature in blue ink that reads "Jaime C. Montoya". The signature is fluid and cursive.

**JAIME C. MONTOYA, MD, MSC, PHD, CESO III**

Executive Director  
Philippine Council for Health Research and Development  
Department of Science and Technology



## SOCIAL MEDIA AND HEALTH RESEARCH: CONNECTIONS THAT MATTER

This is the third time that #HealthxPH has convened a health care and social media summit with the Philippine Council for Health Research & Development (PCHRD). In the first two summits, research was just one of six tracks. For this third summit, all tracks focus on research. It follows the research process from thinking of a topic (Track 1), ethical guidelines in research (Track 2), literature review (Track 4), software tools (Tracks 3 and 6) to research dissemination via social media (Track 5).

While the Philippines boasts of being the social media capital of the world, research on the use of social media in healthcare is just beginning. This summit should bring together not only those who are interested to do this kind of research, but also the patients who are at the center of healthcare.

The #HealthXPH team is honored to announce that for the second year, this 2017 summit has again been certified “Patients Included” (<https://patientsincluded.org/confer.../accredited-conferences/>). This means that patients are not only speaking at the summit but are also able to register to attend as healthcare workers can.

The #HealthXPH team is also debuting an “Unconference” within the summit. This will be a participant-driven session. A world cafe format will be used for track 4 and there will be opportunities for hands-on exercises in the software tools tracks 3 and 6.

## KEYNOTE ADDRESS

### Marie Ennis-O’Connor

Social Media Consultant. Digital Storyteller.  
#HIT100 Influencer 2016.



Named one of Health IT’s Top 100 global social media influencers, Marie Ennis O’Connor is a digital communications strategist who specialises in providing consultancy and training services to companies in the health technology, pharmaceutical, and allied healthcare fields.

Marie is an internationally recognised keynote speaker and writer on emerging trends in digital health and participatory medicine. She speaks regularly at international conferences, including Stanford Medicine X and was a keynote speaker at Mayo Clinic’s first international Social Media Summit held in Brisbane, Australia. She also serves on the external advisory board of the Mayo Clinic Center for Social Media, and on the board of trustees for the Patient Empowerment Foundation, a network of people, foundations, organizations and medical institutions dedicated to empowering patients worldwide. Marie’s work is informed by her passion for embedding the patient voice at the heart of healthcare systems and values. She has been an avid supporter of #HealthXPH since the early days of the Twitter chat.

# PROGRAM



**MASTER OF CEREMONIES**  
**GIA BAQUIRAN SISON, MD**  
Co-Founder, #HealthXPh  
@giasison

7:30-8:30

## REGISTRATION

8:30-8:40

## OPENING PROGRAM

↳ Cebu Grand Ballroom

Doxology | National Anthem

## WELCOME REMARKS

**Jaime C. Montoya, MD, MSc, PhD, CESO III**

Executive Director, Philippine Council for Health Research and Development

8:40-9:10

## KEYNOTE ADDRESS

**Marie Ennis-O'Connor**

Social Media Consultant. Digital Storyteller. #HIT100 Influencer 2016.

9:10-9:25

## SUMMIT OVERVIEW

**Iris Thiele Isip-Tan, MD, MSc** (Co-Founder, #HealthXPH)

UP Medical Informatics Unit, College of Medicine, UP Manila

9:25-11:15

## BREAKOUT INTO TRACKS

↳ Tokyo Room

### TRACK 1: WHY IS THERE A NEED TO DO RESEARCH ON HEALTHCARE AND SOCIAL MEDIA?

**Teodoro Herbosa, MD** | Executive Vice President, UP System

**Remo-tito Aguilar, MD** (Co-Founder, #HealthXPH) | Medical Specialist II, Department of Orthopedics, SPMC

**Josef de Guzman** | Psoriasis Philippines

**Ivy Cloma-Rosales, MD, MPH** | 101 Health Research

↳ Cebu Grand Ballroom

### TRACK 2: ETHICAL ISSUES IN HEALTH RESEARCH

**Aldren Bautista Gonzales, RN, MSc** | Medical Informatics Unit, UP Manila

**Pacifico Eric E. Calderon, MD** | San Beda College of Medicine and De La Salle University

**Prof. Maria Minerva P. Calimag, MD** | University of Santo Tomas-Faculty of Medicine and Surgery

↳ Manila Room

### TRACK 3: TOOLS FOR SOCIAL NETWORK ANALYSIS

**Rick Jason Obrero** | Institute of Computer Science, UPLB

**Prof. Jaderick Pabico** | Institute of Computer Science, UPLB

11:15-12:00

↪ Cebu Grand Ballroom

## ORAL RESEARCH PRESENTATION

Content Analysis of Tweets of Pregnant Women with Diabetes | Iris Thiele Isip Tan, MD, MSc

Using Social Media for Syndromic Surveillance | Kennedy E. Espina, MS CS

The Main Sources of Anxiety and Dissatisfaction of Gestational Diabetes Patients Determined by Content Analysis of their Blogs | Ralph Jason Li, MD

12:00-1:00

## LUNCH

1:00-1:45

↪ Cebu Grand Ballroom

## ORAL RESEARCH PRESENTATION

Lung cancer-related Twitter Activity among Patients and Healthcare-related Professionals | Ann Meredith Garcia, MD

Automated Sentiment Analysis of Commentaries in a HCP-Moderated Facebook Page in R Programming Language

Rick Jason Obrero

A Process Evaluation of Social Media as a platform for health comuncation using the DOH Facebook Page

Nelson Tiongson, RN

1:45-3:45

## BREAKOUT INTO TRACKS

↪ Tokyo Room

### TRACK 4: DEVELOPING A REVIEW OF LITERATURE FOR SOCIAL MEDIA HEALTH RESEARCH: A WORLD CAFÉ EXPERIENCE

Jaifred Christian F. Lopez, MD, MPM | Office of Research and Innovation, San Beda College

Nomar M. Alviar, MD, MHPEd | Office of Research and Innovation, San Beda College

Iris Thiele Isip-Tan, MD, MSc | UP Medical Informatics Unit College of Medicine, UPM

↪ Cebu Grand Ballroom

### TRACK 5: USING SOCIAL MEDIA TO DISSEMINATE RESEARCH

Helen Madamba, MD | Medical Specialist II, Vicente Sotto Memorial Medical Center

Jay Vincent Mateo | #DialysisPh

Narciso Tapia, MD (Co-Founder, #HealthXPH) | Training Specialist IV, Vicente Sotto Memorial Medical Center

↪ Manila Room

### TRACK 6: NATURAL LANGUAGE PROCESSING AND BIG DATA

Asst. Prof Reginald Neil Recario | Institute of Computer Science, UPLB

Raymond Francis Sarmiento, MD | National Institutes of Health and College of Medicine, UPM

3:45-5:15

## UNCONFERENCE

5:15-5:30

↪ Cebu Grand Ballroom

## CLOSING CEREMONIES

# TRACK ONE

## WHY THERE IS A NEED TO DO RESEARCH ON THE ROLE OF SOCIAL MEDIA IN HEALTHCARE?

### OVERVIEW:

Social media has growing roles in healthcare, which include, but are not limited to, patient engagement, information dissemination, forming support groups. We shall begin the session with talks on the role of social media in healthcare, and which issues should be addressed by research. It is from these issues where research interests root from, and subsequently research questions may be formally proposed. At the end of the session, we encourage the participants to share relevant issues, and use these issues as realistic bases of research interests, and ultimately of research questions.



**MODERATOR:**  
**Gia Baquiran Sison, MD**  
Co-Founder, #HealthXPh  
@giasison

### From an organizational and leadership perspective

*Social media is proven as an effective way for communicating organizational goals to a larger audience. This talk will enable participants to reflect on the role of social media towards more effective leadership and productive organizations.*



**Teodoro Herbosa, MD**  
Executive Vice President,  
UP System  
@teddybird

### From a clinical perspective

*Advances in clinical science and updates in practice guidelines require effective techniques for dissemination among practitioners. In this talk, the role of social media in improving clinical practice will be explored.*



**Remo-tito Aguilar, MD**  
(Co-Founder, #HealthXPH)  
Medical Specialist II,  
Department of Orthopedics,  
SPMC | @bonedoc

### From a patient perspective

*Social media has enabled patients to access valuable information related to their diagnoses, as well as opened a new avenue in communicating with specialists and professionals. This talk will explore these roles further.*



**Josef de Guzman**  
Psoriasis Philippines  
@josefdeguzman

### Small Group Discussion

*The audience will be asked to think of possible research questions based on issues arising from this track's talks. The SGD will be a venue for further refinement of these questions.*



**Ivy Cloma-Rosales,  
MD, MPH**  
101 Health Research  
@101healthsrch



# ETHICAL ISSUES IN HEALTH RESEARCH USING SOCIAL MEDIA

## TRACK TWO

### Best practices in using social media in the conduct of health research

Health research in low-resource settings has proven to be an important venue for using social media. Mr. Gonzales' experience in social media-related technologies will be showcased in this talk.



**Aldren Gonzales, RN, MSc**  
UP Medical Informatics Unit  
College of Medicine, UPM  
@aldrengonzales

### Ethical issues surrounding the use of social media in the conduct of health research

Armed with his experiences as a bioethics educator, researcher, and a member of ethical review boards, Dr. Calderon demonstrates in this talk how various bioethical principles can be applied to contemporary dilemmas in research and social media.



**Pacifico Eric E. Calderon, MD**  
San Beda College of Medicine  
De La Salle University  
@cocoycalderonmd

### Ethical strategies in securing free and informed consent and safeguarding participant privacy

Patient privacy must always be a paramount concern, especially in social media. Guided by her experiences in patient engagement, Dr. Calimag discusses ethical strategies in securing informed consent, and maintaining participant privacy.



**Prof. Maria Minerva P. Calimag, MD**  
University of Santo Tomas-  
Faculty of Medicine and Surgery  
@minervmaria

### OVERVIEW:

The popularity of healthcare social media as a way of engaging with professionals and patients, has led to its use in health research, but it also leads to important questions on ethical boundaries, patient rights, and issues related to professionalism and value judgement. In this track, speakers will share experiences and insights on using social media for research, especially in using data from social media, securing informed consent, recruitment of research participants, and patient privacy.

**MODERATOR:**  
**Helen Madamba, MD**  
Medical Specialist II,  
Vicente Sotto Memorial  
Medical Center  
@helenvmadamba



# TRACK THREE

## TOOLS FOR SOCIAL NETWORK ANALYSIS

### OVERVIEW:

Due to its roles as a source of information and a method of communication, social media has emerged as a source for analyzing social trends. In this track, the immense potential of social media in guiding health research will be demonstrated using various statistical and software-based tools.

### MODERATOR:

**Rick Jason Obrero**

### An introduction on the R programming language, and how to gather Facebook status updates from R

*As an open source statistical program, R is an accessible yet powerful tool for analyzing social network trends. This talk will showcase R in its social network analysis capabilities using the RFacebook statistical package.*



**Rick Jason Obrero**  
Institute of Computer  
Science, UPLB  
@JasonObrero

### A Gentle Introduction to Computational Social Network Analysis

*Analyzing social networks require a knowledge of how social media is considered from the computing perspective. This talk will allow participants to experience applying appropriate analytical frameworks to data sourced from social media.*



**Prof. Jaderick Pabico**  
Institute of Computer  
Science, UPLB

# DEVELOPING A REVIEW OF LITERATURE FOR SOCIAL MEDIA HEALTH RESEARCH: A WORLD CAFÉ EXPERIENCE

## TRACK FOUR

### How's the Flavor of Your Coffee?: Developing a Conceptual Framework and Literature Review

*Speaking from his experiences as a health policy researcher and communicator, Dr. Lopez will provide participants with an appropriate framework for designing a literature review that seeks to tackle a social media-related research problem.*



**Jaifred Christian F. Lopez, MD, MPM**

Office of Research and Innovation,  
San Beda College  
@jimlopez875

### A Systematic Review of #SoMe in #MedEd: What We Know So Far and How to Move Forward

*Social media has led to the development of innovative techniques in educating future health professionals. In this talk, Dr. Alviar, a local authority in this academic field, will demonstrate the now vital role of social media in health professions education.*



**Nomar M. Alviar, MD, MHPed**

Office of Research and Innovation,  
San Beda College  
@HPEducatorPH

### Can Social Media Change Health Behavior: A Literature Review

*The promotion of healthy lifestyles and health seeking behavior has become an important research question, for which social media has proven to be an indispensable tool. Dr. Isip-Tan shares her findings and her experiences in carrying out this project.*



**Iris Thiele Isip-Tan, MD, MSc**

UP Medical Informatics Unit  
College of Medicine, UPM  
@endocrine\_witch

### OVERVIEW:

An essential skill in research, the review of literature allows researchers to explore concepts that guide the design and implementation of a research project. Often, this process requires considering various perspectives. In this track, participants will learn from experiences and insights of social media-oriented researchers as they developed a review of literature and implemented a research project. An exciting twist to this track is the use of the World Café workshop technique, which allows participants to experience how different perspectives provide breadth and depth to the literature review process.

### MODERATOR:

**Jaifred Christian F. Lopez, MD, MPM**

# TRACK FIVE

## RESEARCH DISSEMINATION

### OVERVIEW:

Due to its widespread accessibility, social media can reach a broad audience, and can serve as an avenue for research-based advocacy. However, the potential of social media as a powerful tool for advocacy can only be unlocked by effective, targeted dissemination strategies. Participants in this track will explore strategies to build and sustain a community of health research advocates in social media, and learn how to create engaging posts and social media-based engagements.



### MODERATOR:

**Pacifico Eric E. Calderon, MD**

San Beda College of Medicine  
De La Salle University  
@cococalderonmd

### The Role of Social Media in Research Dissemination, Review and Development

*Harnessing the power of social media in research dissemination requires a keen understanding of what social media can do and what it cannot. Dr. Madamba will impart insights on this topic, guided by her experiences in advocacy and social media research.*



**Helen Madamba, MD**

Medical Specialist II, Vicente Sotito Memorial Medical Center  
@helenvmadamba

### Building a Community in Social Media: Lessons from an online patient support group

*A diagnosis leading to chronic management can be difficult for patients, thus necessitating support groups. The development of social media as a medium for support groups has shown much promise, as will be shared by Mr. Mateo of #DialysisPH.*



**Jay Vincent Mateo**

#DialysisPh  
@dialysisph

### Marketing Health Research in Facebook

*Social networks, such as Facebook, are now beginning to seize the opportunity to serve as venues for marketing. With his experiences in social media-based advocacy and education, Dr. Tapia will allow attendees to explore the possibilities of marketing a health research-based advocacy.*



**Narciso Tapia, MD**

Co-Founder, #HealthXPH  
Training Specialist IV, Vicente Sotito Memorial Medical Center  
@cebumd

# NATURAL LANGUAGE PROCESSING AND BIG DATA

## TRACK SIX

### Into the Future: Healthcare Data Analytics in the Philippines

*This talk introduces basic concepts of data science and its utility in the Philippine context. Facilitated by Mr. Recario, assistant professor of computer science at UP Los Baños, this talk also includes a workshop on data sets using the R programming language.*



**Asst. Prof Reginald Neil Recario**  
Institute of Computer  
Science, UPLB  
@RegRecario

### Clinical Natural Language Processing

*Analyzing data derived from clinical abstracts and other information will necessitate a specialized method of processing that will facilitate analysis. This talk, given by Dr. Sarmiento of UP NIH, will introduce clinical natural language processing (CNLP) and cite experiences on its use in the research context.*



**Raymond Francis Sarmiento, MD**  
National Institutes of Health  
and College of Medicine, UPM  
@rfrsarmiento

### OVERVIEW:

An emerging field in computer science, biostatistics and decision making, data science has numerous applications in health that are immensely helpful in clinical practice and public health. In this track, participants will learn about its basic concepts: big data, data analytics, and data mining. They will also be able to perform simple operations using R and understand the importance of clinical natural language processing.

### MODERATOR:

**Gia Baquiran Sison, MD**  
Co-Founder, #HealthXPh  
@giasison



# CONTENT ANALYSIS OF TWEETS OF PREGNANT WOMEN WITH DIABETES

IRIS THIELE ISIP-TAN<sup>1</sup>, HELEN V. MADAMBA<sup>2</sup> AND RENE JAMES P. BALANDRA JR.<sup>3</sup>

<sup>1</sup>Department of Medicine, College of Medicine and Philippine General Hospital, University of the Philippines Manila

<sup>2</sup>College of Medicine, Cebu Doctors University

<sup>3</sup>National Telehealth Center, National Institutes of Health, University of the Philippines Manila



**PRESENTER**  
IRIS THIELE ISIP-TAN, MD, MSC  
@endocrine\_witch

**OBJECTIVES:** Describe health beliefs of pregnant women with diabetes using tweets. Describe how information on diabetes in pregnancy is shared on Twitter.

**METHODS:** Tweets by women with diabetes were identified from Symplur Signals. “Status” tweets were mapped to the Health Belief Model. Tweets by women with preexisting diabetes and gestational diabetes (GD) were analyzed separately. Links within tweets were surveyed for the Health on the Net (HON) Foundation seal.

**RESULTS:** Women with GD tweeted about cravings and the connection of high carbohydrate meals with big babies. Perceived barriers included food restriction, hunger, lab tests, clinic consults and blood glucose monitoring. Perceived benefits of blood glucose testing and a healthy diet were linked to healthy babies. Blood glucose monitoring, weight gain, and age of gestation were cues to action. Perceived barriers of women with preexisting diabetes were feelings of helplessness, loss of control, and

anger. Nine domains (9.7%) had the HON Code seal. Women with preexisting diabetes shared blog posts. Women with GD shared links from organizations.

**CONCLUSION:** Women with GD and preexisting diabetes had differing perceptions of susceptibility, severity, barriers, benefits, cues to action, and self-efficacy; and shared links to information differently on Twitter.

*Key Words: gestational diabetes, pregestational diabetes, Twitter, health belief model*

# USING SOCIAL MEDIA FOR SYNDROMIC SURVEILLANCE

## KENNEDY E. ESPINA

Department of Information Systems and Computer Science  
Java Wireless Competency Center (AJWCC)  
Ateneo de Manila University

Finding determinants of disease outbreaks before its occurrence is necessary in reducing its impact in populations. The supposed advantage of obtaining information brought by automated systems fall short because of the inability to interoperate, leading to longer transfer and processing of data. As such, this study presents the use of real-time latent data from social media, particularly from Twitter, to complement existing disease surveillance efforts. This study uses Infodemiology to predict a range of possible disease incidences of Dengue and Typhoid Fever within the Western Visayas region in the Philippines. Both diseases showed a strong positive correlation ( $R > .70$ ) between the number of tweets and surveillance data based on official records of the Philippine Health Agency. Regression equations were derived to determine a numerical range of possible disease incidences given certain number of tweets. As an example, the study shows that 10 infodemiological tweets represent the presence of 19-25 Dengue Fever incidences at the provincial level.”



**PRESENTER**  
**KENNEDY E. ESPINA, MS CS**  
@kennedyespina

# ORAL RESEARCH PRESENTATION



## MODERATOR:

**Remo-tito Aguilar, MD**  
(Co-Founder, #HealthXPH)  
Medical Specialist II,  
Department of Orthopedics, SPMC  
@bonedoc

# THE MAIN SOURCES OF ANXIETY AND DISSATISFACTION OF GESTATIONAL DIABETES PATIENTS DETERMINED BY CONTENT ANALYSIS OF THEIR BLOGS

RALPH JASON S. LI MD<sup>1,3</sup>, ANGELINE ODELIA C. CONCEPCION MD<sup>2</sup>, IRIS THIELE ISIP-TAN MD<sup>1</sup>

<sup>1</sup>Section of Endocrinology, Diabetes and Metabolism, Department of Medicine

<sup>2</sup>Section of Medical Oncology, Department of Medicine, University of the Philippines, Philippines General Hospital

<sup>3</sup>Email address: ralphjasonsiali@yahoo.com; Contact #: 09985316535



PRESENTER  
RALPH JASON LI, MD  
@rajali8384

**BACKGROUND.** Studies by Daniells et al, Hui et al, and Lapolla et al show that patients with gestational diabetes mellitus (GDM) have increased anxiety from various sources. However, Pilnick et al showed that that patients may be reluctant to give information during consult with their physician. Thus, content analysis of blogs posted by GDM patients may be helpful in elucidating the anxieties and dissatisfactions that these patients are hesitant to divulge to their physicians.

**OBJECTIVE.** The main objective of the study is to determine the sources of anxiety/dissatisfaction of GDM patients by content analysis of their blogs shared within tweets with #Gestationaldiabetes from March 21, 2006 to July 31, 2015.

**MATERIALS AND METHODS.** This is a content analysis type of study and involved 3 phases. The first is an online search of blogs of GDM patients shared within tweets with the #Gestationaldiabetes using the online tool Symplur. All blogs posted by patients with or had previous GDM will be included in the study for content analysis. Blogs related to GDM but which are posted by persons with no GDM will be excluded as well as blogs which are in the non-English

language, and those that are inaccessible. The next phase is characterization of the bloggers [by identifying country of origin, trimester of pregnancy when blog was written, trimester of pregnancy at diagnosis, treatment type for GDM (diet, diet+oral hypoglycemic agent, diet+insulin)] and the blogs [by determining the number of sentences per blog, and sentiment analysis (positive or negative) of each blog using Linguakit tool]. The last phase is content analysis of blogs which consists of evaluating each sentence to determine whether anxiety or dissatisfaction is present. Then the sentences identified as addressing anxiety or dissatisfaction are categorized according to the source of anxiety/dissatisfaction into a developed classification system: disease notification; outpatient consult; hospitalization; diagnostics; treatment; clinic facilities/equipment; relationship with medical staff; symptoms/side effects; lifestyle; financial burdens; relationship with family members; disease perception; anxiety/dissatisfaction not otherwise specified.

**RESULTS.** Fifty-six blogs were included. Most of the bloggers were from the USA (70%), were in the 3rd trimester when blog was written (32%), and were on diet only treatment (59%). The average number of



# AUTOMATED SENTIMENT ANALYSIS OF COMMENTARIES IN A HCP-MODERATED FACEBOOK PAGE IN R PROGRAMMING LANGUAGE

**RICK JASON OBRERO**

University of the Philippines College of Medicine Medical Informatics Unit

sentences per blog is 50. Most blogs expressed negative sentiment (54%) using the Linguakit tool. From the 2,787 sentences of the 56 blogs, 422 (15%) expressed anxiety/dissatisfaction. The most common source of anxiety/dissatisfaction is symptoms/side effects (18.96%), followed by treatment (18.25%). Sub-analysis of the sources of anxiety/dissatisfaction by region showed that the most common are treatment (20.07%), symptoms/side effects (18.89%), and treatment (28.57%) in North America, Europe, and Australia/Asia, respectively. Sub-analysis by type of treatment showed that the most common sources are disease notification (16.30%), anxiety/dissatisfaction not otherwise specified (27.37%), and treatment (34.21%) for those on diet alone, on diet+oral hypoglycemic agent, and on diet+insulin, respectively.

**CONCLUSION.** This study provides insight into the different sources of anxiety and dissatisfaction in GDM patients through blogs. Regional and treatment type differences in the main sources of anxiety/dissatisfaction occur in GDM patients.

This research project shall gather comments from the highest commented status update in the Endocrine Page Facebook page, which is about Polycystic Ovary Syndrome (PCOS). Once these comments are gathered, sentiment analysis shall be performed in order to gather insights from the trends of such comments.

These comments shall be classified as positive, neutral or negative, based on certain keywords that a health professional shall provide. These keywords shall be provided after the conduct of an interview. The classifications shall help the Facebook Page Manager to manage the comments in the post, as well as to respond to such comments efficiently.

After the conduct of this research, the package produced can also be used to health-related Facebook pages to consider sentiment among the status updates that they are posting.



**PRESENTER**  
**RICK JASON OBRERO**  
@JasonObrero

# LUNG CANCER-RELATED TWITTER ACTIVITY AMONG PATIENTS AND HEALTHCARE-RELATED PROFESSIONALS

ANN MEREDITH U. GARCIA, MD<sup>1</sup>, ANGELINE ODELIA C. CONCEPCION, MD<sup>1</sup>, IRIS THIELE C. ISIP-TAN, MD<sup>2,3</sup> & GRACIEUX Y. FERNANDO, MD<sup>1</sup>

<sup>1</sup> Section of Medical Oncology, Department of Medicine, University of the Philippines – Philippine General Hospital

<sup>2</sup> Section of Endocrinology, Department of Medicine, University of the Philippines – Philippine General Hospital

<sup>3</sup> University of the Philippines College of Medicine Medical Informatics Unit



PRESENTER  
ANN MEREDITH U. GARCIA, MD  
@annmeredithmd

**BACKGROUND:** With information technology's rapid advancement and increasing accessibility, the role of patients has shifted from being passive recipients to active consumers of health information. Social media platforms like Twitter have expanded health-related behavior (social networking, user-generated content sharing, online support groups) among various stakeholders, producing a significant impact on the way health information is shared particularly with life-changing diseases like cancer. Previous studies showed that Twitter data could be used to analyze health-related behaviors and trends. This study evaluated Twitter activity on lung cancer, the leading cause of cancer mortality.

**METHODS:** This is a cross-sectional study on various aspects of Twitter activity based on tweets containing the hashtag #lungcancer among lung cancer patients and healthcare-related professionals (HCPs) at specified time points. Topics, tweet categories (Dann's content and Xu's functionality categories), number of tweets/re-tweets, re-tweet sources, and influence patterns were analyzed.

**RESULTS:** There were more active HCPs versus patients, with the former generating twice more tweets. Among

HCPs, 57% were physicians and 22% were researchers/scientists. There were three times more active physicians than patients, but tweet number was comparable. Oncologists comprised only 18% of physicians but still generated a considerable number of tweets (29%). The most frequent topic was cancer advocacy/awareness for both patients and HCPs, followed by death, stigma, treatment, and personal experiences. Majority of tweets were "pass along"/"re-tweet" (84%) content-wise and mostly involved knowledge sharing (55%) and action (33%) functionality-wise. For re-tweets, the most frequent sources were support organizations for patients and the LungCancer-SocialMedia account for HCPs, followed by hospitals and medical organizations.

**CONCLUSION:** Twitter content among patients mirrors that of HCPs despite the latter's greater activity, possibly reflecting bidirectional flow of information. With social media's increasing popularity, it is important to investigate how they are being used in order to exploit their advantages in cancer healthcare promotion to a wider audience.

# A PROCESS EVALUATION OF SOCIAL MEDIA AS A PLATFORM FOR HEALTH COMUNICATION USING THE DOH FACEBOOK PAGE

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The Philippine Health Care system continues to be lacking in resources. With the increasing health care needs, there is now a shift in the burden of national mortality into non-communicable diseases. Health care services focus on curative and rehabilitative aspects on the other hand have led to the downgrade of national health status and to the widening of the health equity gap. Most of the lifestyle related conditions can be addressed by health promotion but initiatives in the Philippines have mainly been focused on traditional media. With growing influence of social media, the Department of Health has engaged the social atmosphere through Facebook and used it in terms of health promotions.

The goal of the present study was to provide an initial assessment on how Facebook is being utilized as a health communications platform by the Department of Health. Specifically, the study evaluated the performance of the Department of Health's Facebook Page in terms of the data the DOH Facebook page produces. Data was then consolidated and compared along the standards defined in the Process Evaluation by Neiger et al (2012) which is used as the overarching strategy in this study.

The results convey that social media has become an important health advocacy tool as it leverages social dynamics and networks that encourage participation, conversation, and community and thus the authors recommend the use of Facebook as a health communications platform. However, based from the findings gathered by using the Process Evaluation Framework, the DOH Facebook Page has not been fully utilized, mostly in terms of taking advantage of the engagement principles of social media. As the research findings suggests, project goals and objectives should be initially aligned with social media and health promotion principles for a better evaluation output as challenges arose in quantifying the given objectives. Data findings in this research remain inconclusive for impact and outcomes, but provides a good baseline for the future researches to materialize.



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