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**GABRIEL I. YUMUL**

# The Intention for Seasonal Influenza Vaccine (SIV) Uptake and the Perceived Beliefs of Healthcare Providers in a Private Tertiary Hospital in Metro Manila

Thesis Adviser:

**ASST. PROF. RITA C. RAMOS, Ph.D.**
**Faculty of Management and Development Studies**

23 January 2025

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## Biographical Sketch

Gabriel Yumul is a registered nurse with over a decade of experience in healthcare. He is internationally certified in infection control (Certification Board of Infection Control and Epidemiology, Inc.) and healthcare quality (National Association for Healthcare Quality).

He held the pivotal role as the Head of Hospital Infection Control in one of the leading major hospitals in the Middle East. He had the opportunity to commission healthcare facilities, establish the IPC committee, and lead teams to tackle several emerging/reemerging infectious diseases such as the MERS-CoV, Ebola Virus Disease, and COVID-19 pandemic as the national focal person in the State of Qatar.

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## Dedication

This research is dedicated to the healthcare providers who continue to be the backbone of health systems, advocating for health and well-being despite the challenges they face. Their unwavering commitment, resilience, and sacrifices in the face of international health challenges ensure the well-being of the communities they serve. This study is a tribute to their tireless advocacy for preventive health, with seasonal influenza vaccination seen as a critical partner in the prevention and control of Influenza-like Illness (ILI).

**Abstract**

Healthcare providers' (HCPs) uptake of the seasonal influenza vaccine (SIV) vis-à-vis their perceived beliefs remain a fundamental international health concern. This study investigated the HCPs' intention to receive the SIV at a private tertiary hospital in Metro Manila and examined the perceived beliefs that influenced their decisions. The study based its theoretical framework on the Health Belief Model and used a cross-sectional, questionnaire-based study with total enumeration sampling. Chi-square and logistic regression analyses were performed to identify associations between the intent to vaccinate and perceived beliefs and the modifying factors.

Results showed a significant proportion of HCPs' expressed intention to receive the SIV. The perceived beliefs including perceived susceptibility, severity, benefits, barriers, and cues to action played a major role in shaping vaccination intention, whereas socio-demographic and role-related factors showed little and non-significant influence apart from the history of seasonal influenza vaccination.

The findings revealed the need for interventions at both the targeted and broad-level health approaches to address vaccine hesitancy among HCPs. Educational activities, institution-led interventions, as well as suitably framed policy measures, were recommended to improve HCPs' vaccine uptake, ultimately contributing to better patient outcomes and a resilient healthcare workforce.

Keywords: Seasonal Influenza Vaccine, Healthcare Providers, Vaccination Intention, Health Belief Model, Vaccine Hesitancy, International Health Policy

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# CHAPTER I

# THE RESEARCH PROBLEM

## Background of the Study

More than a decade ago, the vaccination for seasonal influenza for Healthcare Providers (HCP) was approved and endorsed by the Strategic Advisory Group of Experts (SAGE) on Immunization by the World Health Organization (WHO, 2012). In the health sector, medical personnel and practitioners play the most crucial role, particularly during pandemics and other health emergencies (Harrell & Edgar, 2020). Ignorance and noncompliance among HCPs regarding preventive measures might have caused interruptions in delivering effective and efficient healthcare services. Numerous studies have proven that knowledge and behavior on flu vaccination have affected one's acceptance. Even with the potentially severe effects or complications of influenza and widespread recommendations, misconception and hesitancy influencing HCPs' intention to take flu vaccine was not uncommon (WHO, 2019). Given this evidence, there has been a looming need to understand the factors affecting the HCPs' intention and perceived belief on Seasonal Influenza Vaccination (SIV).

According to the Centers for Disease Control and Prevention [CDC, 2019], Influenza-like Illness (ILI) is considered a pressing public health problem. Each year, approximately 3 to 5 million Influenza severe illnesses are recorded, of which 250,000 to 500,000 have died (WHO, 2016). Although flu is self-limiting, it can also lead to severe complications like pneumonia, myocarditis, encephalitis, and multi-organ failure, and some result in death (CDC, 2019). The 2009 to 2011 data in the Philippines showed that Seasonal Influenza is the most detected, constituting about 25% positivity

rate among all ILIs (Tallo et al., 2014), and is the foremost cause of morbidity (Philippine Health Statistics, 2020). In healthcare settings, influenza virus transmission is apparent among HCPs and patients or visitors, as well as between patients and staff (Wilson et al., 2019; Voirin et al., 2009). It is well documented that influenza among HCPs significantly increases the rate of absenteeism (Groenewold et al., 2019), resulting to a shortage of human resources and additional cost and burden to healthcare (Gianino, 2019). This is why the CDC has regarded vaccination as the single most efficient way to avoid influenza (CDC, 2019). It also protects patients and colleagues from illnesses, complications, and deaths associated with influenza infection. Even with this proven coverage and benefits, perceived beliefs influencing behavior to take action (whether or not to be vaccinated) still need to be investigated in the Philippines.

The vaccination uptake in high income countries has improved in recent years. According to the CDC (2020), rates of yearly influenza vaccination coverage among HCPs (pre-COVID pandemic) in the US amounted to about 81% during the 2018-2019 flu season. Furthermore, the coverage rate in Europe is nearly 91% of the same season (Hammer et al., 2022). Schmid et al. (2017) however, argued that, reluctance to influenza vaccination remains a significant international health threat and a global barrier in controlling the burden of seasonal influenza viruses. In Asia, for instance in China, the uptake reports remained low, approximately 12% only (Liu et al., 2019), while in the Philippines, no research has investigated this. The Department of Health (DOH) in the Philippines, has no existing mandate urging employees working in the healthcare field to take the annual flu vaccination. Although the agency recommends it to the general public, ideally before the flu months in the Philippines (June to November), there has been no existing datum about flu vaccination rates among

healthcare workers in the Philippines. In an article by Cordero (2023), even though the issues of vaccine hesitancy in the Philippines were listed, research and in-depth understanding are required to substantiate them. This study is the first one of its kind to provide insights into the HCPs' intention to receive SIV while taking the Philippines' cultural context into account.

The use of the Health Belief Model (HBM) in research about influenza vaccination among healthcare workers shows the disparity in vaccination uptake by region and income. For example, in high-income countries such as the U.S. and Canada, higher immunization rates are often related to better access the vaccine, stronger institutional cues to action, and lowered perceived barriers. However, in countries with middle and lower income such as Jordan and Kenya, perceived barriers such as cost, limited availability, and logistics are more pronounced, resulting to significantly lower expected vaccination uptake (Silva et al., 2021). In addition, cultural attitudes, workplace policies, and individual perceptions such as susceptibility and severity vary considerably from region to region. This affects how weight may be attached to HBM dimensions across continents. Therefore, interventions should be designed to overcome specific regional challenges and implementation of the most relevant dimensions of HBM to improve vaccination rates worldwide should be done.

It is imperative to guarantee that healthcare workers who provide direct care to patients obtain the influenza vaccination every year as a patient-safety initiative. The primary health advocates are the HCPs who help patients navigate the healthcare system and provide teaching so they may make educated decisions about their care. However, how can someone give what he doesn’t have or believe in if HCPs’ intention for SIV uptake is influenced and hindered by his perceived belief?

## Statement of the Problem

The study sought to answer the following questions:

1. What is the specific intention for the SIV uptake of healthcare providers in a private tertiary hospital in Metro Manila?
2. Is there an association between the HCPs' intention for SIV uptake and beliefs in terms of:
   a. Perceived susceptibility to influenza infection,
   b. Perceived severity of disease,
   c. Perceived benefits of influenza vaccine,
   d. Perceived barriers, and;
   e. Cues to action
3. Is there an association between the HCPs' intention for SIV uptake and the following modifying factors?
   a. Socio-demographic (age, gender, marital status, educational attainment, smoking), and;
   b. Role-related (job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior).
4. What modifying factors predict the likelihood of SIV uptake?
   a. Socio-demographic (age, gender, marital status, educational attainment, smoking), and;
   b. Role-related (job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior).

## Objectives of the Study

The specific objectives of the study are as follows:

1. To examine the specific intention for seasonal influenza vaccine (SIV) uptake of healthcare providers in a private tertiary hospital in Metro Manila.
2. To determine the association between the HCPs' intention for SIV uptake and beliefs in terms of:
    a. Perceived susceptibility to influenza infection,
    b. Perceived severity of disease,
    c. Perceived benefits of influenza vaccine,
    d. Perceived barriers, and;
    e. Cues to action.
3. To determine the association between the HCPs' intention for SIV uptake and the modifying factors such as:
    a. Socio-demographic (age, gender, marital status, educational attainment, smoking), and;
    b. Role-related (job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior).
4. To identify the modifying factors that predict the likelihood of SIV update:
    c. Socio-demographic (age, gender, marital status, educational attainment, smoking), and;
    d. Role-related (job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior).

## Significance of the Study

Healthcare providers (HCPs) can be a source of transmission of Influenza infection to patients, visitors, and coworkers. Their well-being is fundamental to the maintenance of healthcare services during influenza season. The influenza vaccine is recommended for the general public to protect themselves and to reduce transmission of influenza. Despite this fact, HCPs may or may have not perceived it as beneficial. Hence, the study aimed to determine the intention and perceived beliefs of HCPs on flu vaccination in the Philippines that is currently unavailable. This study also examined the other modifying factors influencing their decision to take action towards SIV. Moreover, the study provided data that were geographically relevant to the Philippine setting to benefit:

a. **Healthcare Providers.** HCPs' views, attitudes, and perceptions regarding flu and influenza vaccinations differ. By determining HCPs' intentions and analyzing their perceived beliefs, they will be guided to make informed decisions toward seasonal influenza vaccine to protect not only themselves, but also their family and patients including those who are highly susceptible to serious flu illness and complications in the young and older population, and people with particular chronic health conditions.
b. **Patients and Visitors.** Being the recipient of care, the risk of contracting and transmitting Influenza-like Illnesses (ILI) will be reduced if HCPs intend to take SIV**,** thus**,** preventing flu-associated hospitalizations.
c. **Hospital administrators.** Studies have shown that poor vaccination rates among HCPs may lead to hospital outbreaks of ILI resulting in absenteeism among staff, additional medical costs, and healthcare burden. The results

of the study can influence hospital management and leaders to devise programs and campaigns towards enhancing the flu-vaccination uptake of HCPs.

d. **Policymakers.** To give a snapshot or overview of HCPs' flu vaccination acceptance and provide and establish a foundation for developing guidelines, interventions, and future research at both national and regional levels on the subject.

e. **International health.** Once published, it will serve as a resource and pertinent study for the global community concerning the SIV intention and perceived beliefs of HCPs in a Private Tertiary Hospital setting in Metro Manila, Philippines.

## Scope and Limitations of the Study

The study included HCPs in a private tertiary hospital in Metro Manila, Philippines, to address the lack of research on the perceived beliefs and determinants of SIV. The survey was self-reported by respondents, and answers related to SIV status were not subject to independent verification as this may be subjected to bias. More so, the study did not plan to confirm or crosscheck whether or not the HCPs has actually acquired the vaccine. In addition, it was limited to the HCPs who provided direct care to patients. More information was needed from other tertiary healthcare facilities in the Philippines; hence, the study's findings could not be generalized at a national level. Thus, the proposed study targeted HCPs to enhance and contribute to understanding perception and behavior towards SIV to increase the uptake and influence local agencies/facilities to add it as part of their preventive measures/program.

# CHAPTER II

# THEORETICAL BACKGROUND

## Review of Literature

Various diseases and illnesses might significantly disrupt daily lives of humans or activities. People could be diagnosed with a particular disease because of their organ systems' responses to the toxic products brought by the disease. The patient could be in direct or indirect contact with infected or contaminated objects, such as people, food, water, respiratory droplets, bodily fluids, and even vectors such as mosquitoes or ticks.

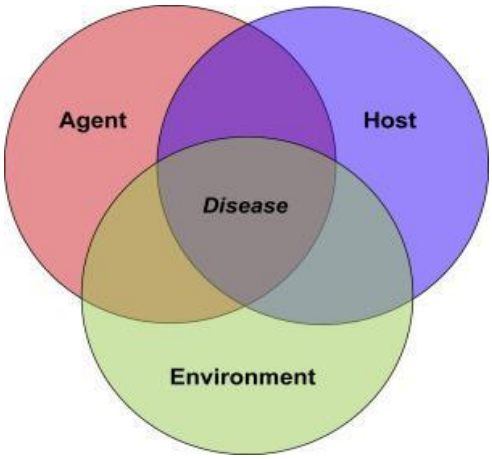
International organizations like the World Health Organization have been advising the public to observe safety precautions to prevent the occurrence of transmissible diseases. However, some still needed help following safety health protocols, the reason behind the reoccurring and spreading of diseases. As the chances of viruses have increased significantly during influenza season, health sectors and agencies decided to form, recommend, and mandate an effective response to the viruses through the use of vaccination. It is a strategic prevention measure to reduce or suppress an emerging or reemerging disease.

### Viruses Roaming Every Year that Negatively Affect Everyone

Viruses are noxious microscopic substances transmitted through direct inhalation of droplets or indirect contact with a contaminated object or a host, primarily humans. The transmission of aerosols cannot be easily seen by the naked eye since it is carried by air through sneezing, coughing, or spitting. To understand how seasonal

influenza spreads out, scientists developed a method to deeply examine the transmission activity of the bacteria, viruses, fungi, and parasites to non-infected objects or individuals.

Figure 1. The Epidemiologic Triad Model of Infectious Disease Causation (https://doi.org/10.1016/B978-0-12-803678-5.00516-6).




The Epidemiologic triad model consists of three primary dimensions known to be the agent, host, and environment (Figure 1), which carry the possibilities of virus occurrences. The agent can be the vehicle that transmits infectious organisms that can pass through the host or is characterized as any organism that can be infected with pathogens. Environment, which brings the host and agent together, serves as an avenue that determines the exposure-outcome. According to Wade Hampton Frost (1976), for a disease to occur, there must be an interplay among these three factors, which are characterized by an imbalance in the equilibrium.

Based on the study of Gavigan P. and Opin C. (2019), seasonal influenza is recorded to be one of the leading viruses that causes major morbidity and mortality. It is also revered that during the year 2017-2018, seasonal influenza was recorded at its highest severity ever recorded in a decade. It spread around the globe, not only to hospitalized patients but also to outpatient clinics and emergency departments (CDC,

2023). In the Philippines, the patterns of virus distribution on a seasonal premise show a significant increase in the numbers of reported ILI, and the rate of positive virology results in two peaks each year, generally from February to March and later points from June to December, which is the rainy season. Evidently, according to the CDC (2019), the typically identified strains are covered by the SIV.

**The Use of Vaccination to Eliminate the Mother of all Pandemics**

An adage that is usually heard from people saying, "Prevention is better than cure", is one of the major bases of medical institutions to establish adequate procedures to prevent and suppress a particular health problem. Aside from tablet or syrup medications, a concoction of herbs, therapy, and the use of a mask or hand wash is the proven most effective strategy to combat the continuous spread of the virus is vaccination. A rising trend in the list of organizations supporting the mandate of HCPs' influenza vaccination in the United States of America (USA) is seen, including The Immunization Action Coalition, American College of Physicians, Infectious Diseases Society of America, American Nurses Association, National Patient Safety Foundation, Society for Healthcare Epidemiology of America, and 80 more healthcare entities (CDC, 2019; Immunize.org, 2023), but in the Philippines no guideline or memorandum is mandating it for the HCPs.

As mentioned in the study of Trombetta et al. (2022), medical and health organizations consider vaccines as a fundamental method to control the morbidity and mortality chances caused by a seasonal influenza virus. Highly exposed individuals and high-risk groups like HCPs are monitored to implement the SIV program properly. The monitoring process includes systematic observation, analysis, and a series of clinical trials that are conducted to know if the laboratory-formed vaccines are effective

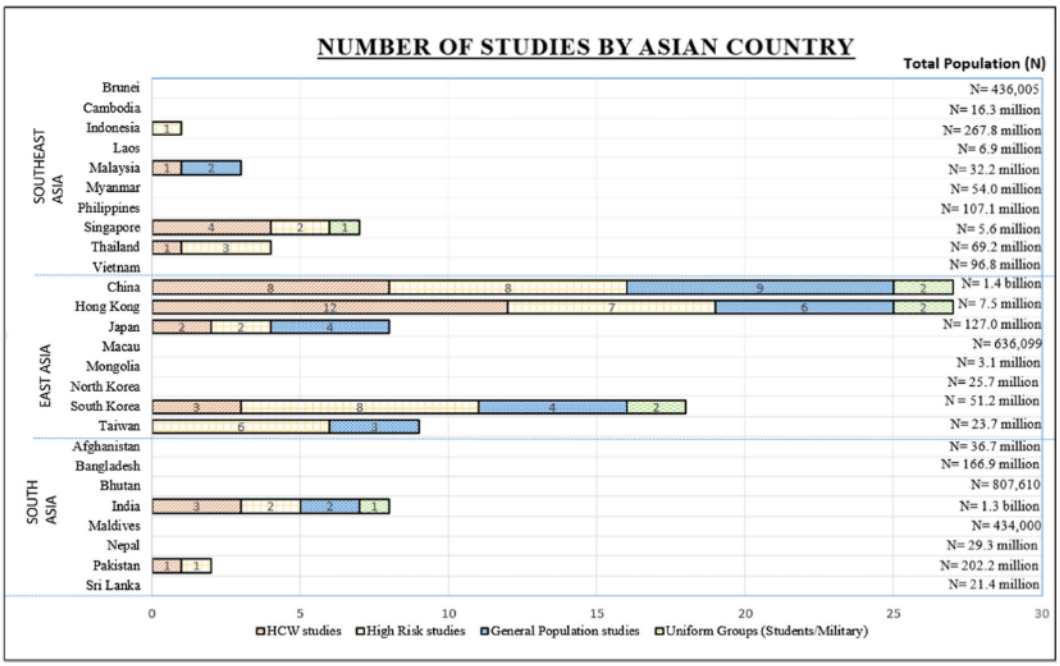
once injected into humans. The use of vaccines must undergo a procedural scientific study to properly examine its possible effectiveness, side effects, and long-term results.

Vaccines are not made to be used as a remedy for existing patients diagnosed with seasonal influenza viruses. It has no record to solidify vaccines as a cure for the disease. Instead, it is chemically formed to lower or reduce the risk of individuals having influenza. It is also a factor to control or prevent the transmission processes of the virus from one person or object to another. There are three available types of influenza vaccines: Inactivated Influenza Vaccine (IIV), Recombinant Influenza Vaccine (RIV), and Live Attenuated Influenza Vaccine (LAIV) (Kalarikkal et al., 2024).

**Influenza Vaccine Uptake in the Context of Asian Region**

Asia, the largest and most densely populated on Earth, is not as safe from health threats as its Western counterparts. Even though the influenza burden is well pronounced and despite the available evidence of influenza vaccines' effectiveness, studies on HCPs' Influenza vaccination uptake are minimal in this part of the world. As shown in Figure 2, a lack of study is evident among Asian nations, where 15 out of 26 countries do not have relevant studies relating to influenza vaccination (Sheldenkar et al., 2019). The scarcity of research, especially in the Southeast Asian region, is highlighted, such as in two countries, the Philippines and Bangladesh, which had no related studies on attitudes, beliefs, and behaviors related to influenza vaccination. As the first of its kind in the Philippines, this knowledge gap presented an opportunity to understand better the variables influencing the region's poor SIV compliance uptake and beliefs.

Figure 2. Number of influenza vaccination studies by Country and Population Groups
Sheldenkar, A., Lim, F., Yung, C. F., & Lwin, M. O. (2019). Acceptance and uptake of influenza vaccines in Asia: A systematic review. Vaccine, 37(35), 4896–4905. https://doi.org/10.1016/j.vaccine.2019.07.011




## Factors Affecting Healthcare Provider's Beliefs towards Seasonal Influenza Vaccine

Healthcare Providers are trusted entities, especially in terms of health-related problems, as they are equipped with the knowledge and appropriate clinical experience or background. They are considered the most influential members of the healthcare team in promoting insight into the benefits of SIV among patients, their families, peers, and coworkers (Hayde et al., 2019; Bertoldo et al., 2019). Amos Adedokun (2018) mentioned that even though healthcare professionals are trained to be health advocates, some still refuse to comply with the SIV's policies or implementation because of their preconceived notions regarding vaccinations. Despite their medical propensity and understanding, there are several reasons why noncompliance may occur, including fear of being injected and, most importantly,

concerns about the safety and effectiveness of the vaccines. To comprehend the elements influencing the acceptance of SIV and the perceived beliefs, a review of relevant studies is necessary.

**Modifying Factors**

a. **Socio-demographic.** According to a study by Alhalalesh et al. (2020), no discernible correlation existed between an individual's intention to be vaccinated and socio-demographic factors such as age, gender, marital status, educational attainment, smoking habits, and work description. Instead, they discovered that HCP's perceived benefit of influenza vaccine and previous history of vaccination were the most critical determinants of intention for influenza vaccine. Moreover, Brewer et al. (2020) suggested that intrinsic factors—like perceived severity, perceived advantages, perceived vulnerability, and cues to action—have a greater impact on vaccination intentions than demographic determinants. This is in contrast with a prior study conducted by Bish et al. (2011), which discovered that older individuals, male gender and professional background as physicians, had higher vaccination intentions and uptake. While social networks may be formed in relation to shared age, gender, professional category, and area of work, they do not have the same behavior toward vaccination (Llupià et al., 2016). Abu Hammour and Al-Saleh (2019) revealed that healthcare providers with higher educational backgrounds had an increased chance of vaccination. Since different settings may have different understandings of socio-demographic characteristics, the proposed study investigated if these factors were related to HCPs' intention to get SIV in the Philippines.

b. **Role-related.** Physicians and nurses (university degree and post-graduate degree holders) tend to take the vaccine more than nonclinical hospital employees (e.g. admin staff). This may be true for other healthcare settings. However, in another study, nurses had a low compliance rate compared to physicians (Adedokun, 2018). This phenomenon was seen to be a significant problem since they had the most interaction with diagnosed patients, which could put them at a higher risk of being infected. The noncompliance did not only affect them personally, but it could continue to spread to their family, community, and colleagues. According to Boey et al. (2018), other factors could influence healthcare providers' decisions to engage in Influenza vaccination. These factors included professional determinants and healthcare professionals' attitudes and views on the available influenza vaccination. In other hospital facilities, physicians were the ones who were mostly vaccinated compared to nurses and midwives. In terms of home healthcare setup, nurses were more compliant than nursing aides and assistants. In other institutions, because of HCPs' higher exposure risk, frontline workers—such as those in emergency or critical care—frequently exhibited higher vaccination rates (Nowak et al., 2020).

There were few to none studies that investigated the relationship HCPs' area of assignment (e.g. outpatient and inpatient) and years of clinical experience in relation to SIV uptake, though several studies looked into the effectiveness of patients' influenza uptake in preventing influenza-associated hospitalizations and hospital-bed usage (Tenforde et al., 2021; Nguyen & Mould-Quevedo, 2022). Furthermore, studies have proven strong relationship of flu vaccination history leading to a higher chance of taking the influenza vaccine in the upcoming year (Alhalaseh et al., 2020; Bish et al., 2011). The

present study sought to examine the prevailing role-related variables and deepen the understanding by including years of clinical experience and area of assignment of HCPs in Philippine context.

**Perceived Beliefs**

a. **Perceived Susceptibility to Infection and Perceived Severity of Infection.** Apart from the demographics described above, the Health Belief Model components were found to be more significant factors. In an integrative review by Silva et al. (2021), studies have connected perceived susceptibility with an increase in influenza vaccination compliance and its absence was associated with a higher rate of vaccine reluctance (Hofmann et al., 2006). Interestingly, the vaccination uptake increased and healthcare workers' altruistic actions were mitigated when they believed that protecting others was just as important as protecting themselves (Dini et al., 2017; Mytton et al., 2013,; Betsch, 2014). Alhasaleh et al. (2020) added that those who planned to get vaccinated had a significantly higher probability of recognizing the increase susceptibility of their ill patients aside from their own protection. Thus, by adding a question about the HCPs' risk of transmitting influenza to their vulnerable patients enhanced their awareness, counteracted the altruism of HCPs, and improved HBM's sensitivity overall. Although with perceived severity, there was no consensus on the findings of studies reviewed by Silva et al. (2021). With the 11 papers analyzed, conflicts can be found in deriving association between perceived severity and vaccination intention.

b. **Perceived Benefit of Influenza Vaccine.** Emphasizing the perceived benefit not only to HCPs' welfare but also to protect patients thus increased the

likelihood of taking flu vaccination (Alhalalesh et al., 2020). In addition, whatever HCPs' past experience with the flu vaccine was, when coupled with their perceived benefit of the shot, the intention of being vaccinated was higher. A promising result of close to 30 percent improvement in the uptake was seen in Spain following the facility's vaccination campaign (Del Río García et al., 2022). However, increasing awareness by emphasizing the SIV benefits through educational sessions alone might not be sustainable as it had to be combined with other strategies such as a set of reminders, protocols, advocacy campaigns, mandatory guidelines, and recommendations from reputable sources (Rashid et al., 2016). Likewise, when the risk for a pandemic influenza (perceived benefit) was highlighted to HCPs the tendency for influenza vaccine uptake increased (Bish et al., 2011).

c. **Perceived barriers against vaccination.** Healthcare professionals were much more likely to get vaccinated if they faced fewer obstacles, such as lack of availability, expense, time limits, or side effect worries (Nowak et al., 2020). Whereas, the study by Hadaye et al. (2019) suggested that the primary cause of low vaccine compliance among physicians was caused by their ignorance of the negative or adverse effects of the H1N1 vaccine, myths about it, and doubts about efficacy and duration of the vaccine. Among many target groups, vaccination rejection was frequently attributed to fear of negative or adverse effects (Chapman & Coups, 1999; Kyaw et al., 2019; Souza et al., 2019). This nonconformity was despite the high prevalence in the post-H1N1 pandemic era, in which only 29.8% of people received vaccinations overall. Additionally, despite the heightened awareness during the pandemic times, accounts were

recorded where vaccination rates have gradually declined over time, coinciding with the diminishing trend of these outbreaks (Fan et al., 2023; CDC, 2024).

The healthcare infrastructure in the Philippines was typically hampered by limited investment and a scarcity of healthcare professionals; and access to services was further compromised by the disparities in healthcare delivery (Cordero, 2023). Despite the DOH's annual recommendation, many Filipinos remained hesitant due to a lack of access to the influenza vaccine, a limited supply of free government-sponsored vaccines that ran out quickly, their lack of knowledge about the availability of free vaccines for certain groups, and the fact that vaccines could be "expensive" for some Filipino families.

d. **Cues to action.** In a multi-country study by Schulz et al. (2019), it was discovered that there was a significant association between social influences from peers or family members and individual vaccination decisions related to cues to action. The same could be said when at least one family member acquired the vaccine during the same season (Shaham et al., 2020). Healthcare workers who consented to vaccinations did so primarily on evidence-based guidelines from refutable organizations like the Ministry of Health, Professional Medical Association, and World Health Organization (Hidiroglu et al., 2010). The availability of recommended guidelines and the presence of news on severe influenza only affected people who were already planning to obtain the vaccine (Alhalalesh et al., 2020).

The HCPs' acceptance of vaccination and decision to vaccinate have demonstrated a substantial link with their perceptions on the advantages and lower perceived costs of vaccination, as well as their perceptions on the disease's severity and higher perceived susceptibility to the virus (Bish et al.,

2011). The desire to protect oneself and others, beliefs about the safety and effectiveness of vaccines, and receiving a previous influenza vaccination were all associated with adherence to influenza immunization. These elements were constructs of HBM.

## Synthesis

Numerous global outbreaks have already occurred in the past decades, brought about by particular diseases with toxic or harmful substances. Seasonal influenza viruses are still a major health problem around the world today. Scientists who discovered the gift and uses of vaccines were hopeful that there would be a day when people could enjoy living without worrying about infectious diseases as they would be controlled and prevented through the use of vaccination; however, if one more piece of the puzzle would still be missing—that is, understanding HCPs' perceived beliefs regarding SIV in the context of Philippine Healthcare setting—the issue would still exist.

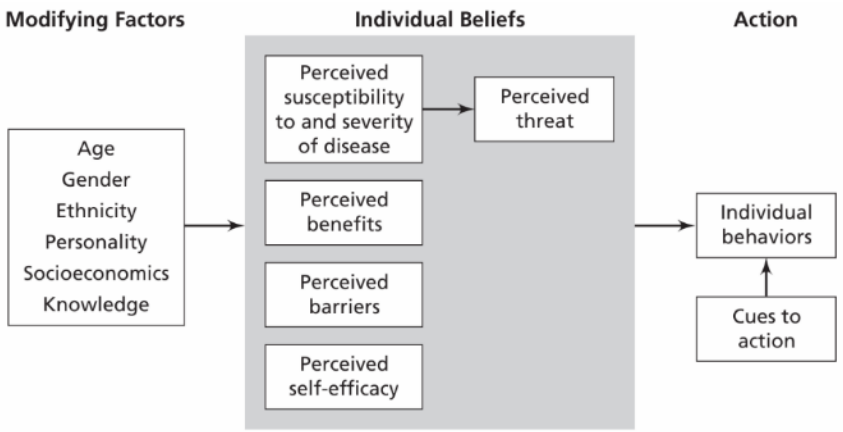
The medical industry accounts for the majority of non-compliance to flu vaccination. HCPs provide direct care to patients by their demographical, professional, behavioral, and attitude determinants. The Health Belief Model (HBM) outlines constructs that help in predicting a health behavior. With this model, healthcare practitioners can use it to evaluate people's perceptions of their susceptibility to seasonal influenza viruses typically covered by the vaccine, the severity of ILI and its complications, the benefits of vaccination for individuals and societal health, and measures to overcome barriers to vaccination like vaccine hesitancy and misconception. Enhancing perception and consciousness among healthcare

personnel is crucial to improving their provision of quality and efficient health services. After all, one cannot effectively deliver care that he himself does not believe on.

## Theoretical Framework

Medical professionals, usually known as healthcare providers, are the basic unit of the health sector. They are responsible for assessment and consultation, provision of care and healthcare assistance, treatment, and recovery or rehabilitation. To be effective health providers for people who are diagnosed with or suffer from a particular disease or illness, HCPs should be role models and advocates for health programs like regular or annual SIV.

Figure 3. The Health Belief Model Components and Linkages
(Glanz, K., & Rimer, B. K., Viswanath K. (2008). Health behavior and health education: Theory, Research, and Practice (4th ed.). San Francisco, CA: Jossey-Bass.)




Most commonly, an integrated behavioral model that combined the application of the Theory of Reasoned Action and the Theory of Planned Behavior was used to determine how the beliefs (attitude, norms, controls) and external variables predicted an intention that will lead to an actual performance of a behavior (Glanz et al., 2008). These theories combined have been widely used around the globe for more than 30

years to foresee behavior intents, more so in studies relating to influenza vaccination (Adedokun, 2018). According to Alhalaseh et al. (2020), one exceptional conceptual theory that has been narrowly utilized is the Health Belief Model (HBM), shown in Figure 3.

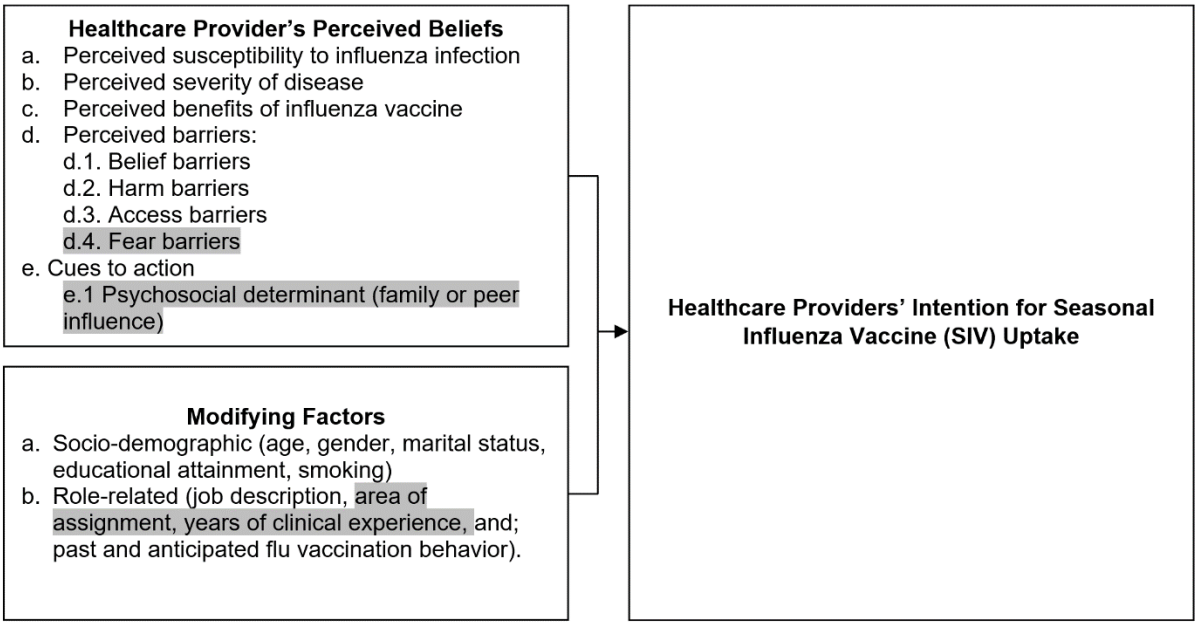
## Conceptual Framework

The HBM was used to establish relationships and connections between various factors or variables and constructs or belief concepts. To develop a systematic approach in determining the Perceived Belief of HCPs towards SIV in a tertiary hospital in the Philippines, figure 4 represented the conceptual framework of the study in which the researcher gathered the socio-demographic information that included age, gender, marital status, educational attainment, and smoking. In addition, role-related data such as job description, area of assignment, years of clinical experience, and past and anticipated flu vaccination behavior were included as modifying factors. The five HBM key constructs related to the present study and influencing health behaviors were perceived susceptibility to influenza infection, perceived severity of disease, perceived benefits of influenza vaccine, perceived barriers with supplementary emotional component (fear barriers), and cues to action with an additional psychosocial element (influence from family, friends or peers). While the concept of self-efficacy was regularly added, the study did not include it as it did not seem to influence basic time-bound health behaviors like getting vaccinated against influenza, unlike lifestyle change that required complex diet modification or exercise program (Alhalaseh et al., 2020; Cheney & John, 2013; Chapman & Coups, 1999).

Strengths and limitations can be seen across theories and concepts pertaining to health. It was how the researcher outlined his objectives and accordingly identified

the strong points and challenges. With HBM, its simplistic approach encouraged investigators to explore how its constructs helped in predicting a behavior. However, to weigh the predictive power of a perceived threat, perceived susceptibility, and severity, they were calculated as combined or as multiplicative variables. Moreover, HBM might be lacking an emotional component; hence, the fear barrier was added under the perceived barrier construct, and when pooled with other barriers such as belief, harm, and access barriers, it became a valuable and substantial predictor for a behavior (Glanz et al., 2008). A study in Europe by Blasi et al. (2012) suggested that one of the major factors for low compliance for both HCPs and the public to SIV was due to fear and anxiety linked with the side effects and vaccine efficacy.

Figure 4. Conceptual framework of the Study
*Note: The Health Belief Model (Glanz et al., 2008 and Alhalaseh et al., 2020); highlighted in grey are the additional factors/sub-constructs.



## Operational Definition of Terms

**Perceived Belief** is not only mere awareness but also one's subjective insight or thoughtful understanding and confidence of how things seem towards an idea, situation, or phenomenon. In this study, this concept utilized the five (5) constructs of the Health Belief Model (HBM), namely:

a. Perceived susceptibility to infection- refers to beliefs about the chances of getting an influenza-like illness (ILI) (Glanz et al., 2008).
b. Perceived severity of infection- refers to the belief about how serious an ILI is and the complications it may entail (Glanz et al., 2008).
c. Perceived benefits of SIV- refer to beliefs in the effectiveness and efficiency of the vaccine in reducing the risk of ILI or the severity of its impact (Glanz et al., 2008).
d. Perceived barriers- refer to the matters (belief, harm, access, and fear barriers) that may prevent or impede someone from taking the recommended action or behavior (Glanz et al., 2008).
e. Cues to action- refers to the elements that motivate a person to take an action (Glanz et al., 2008).

**Seasonal Influenza Vaccine (SIV)** is a vaccine that may come as trivalent/quadrivalent. It is formulated on a yearly basis to protect against common seasonal flu viruses, including two influenza A viruses and one or two influenza B viruses' strains (CDC, 2024). In this study, SIV can be interchangeably termed flu vaccine and influenza vaccine.

**Influenza-like Illness (ILI),** also known as Influenza or Flu, is an infectious respiratory disease caused by influenza viruses that infect the nose, throat, and lungs. It is frequently characterized by a fever (37.78 °C or greater) and cough and/or sore throat (CDC, 2023).

**Healthcare Providers (HCPs)** are individuals employed to provide direct or indirect patient care by applying principles and procedures of evidence-based healthcare practices. Precisely for this study, HCPs' are the professions providing direct interaction or care to patients such as Physicians/Doctors (Consultants, Specialists, Residents), Nursing (Registered nurses, Registered Midwives, Nursing aides, Orderly), and Allied health (Respiratory Therapist, Physical Therapist, Medical Technologist, and Medical Technicians).

**Modifying factors** refer to the socio-demographic and role-related variables that may directly or indirectly influence a person's health beliefs and perceptions (Glanz et al., 2008). This study's socio-demographic factors included age, gender, marital status, educational attainment, and smoking. Whereas, role-related factors consisted of job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior.

**Hypotheses/Assumptions**

1. The perceived beliefs have association(s) on the seasonal influenza vaccine (SIV) uptake by healthcare providers (HCP) in a private tertiary hospital in Metro Manila.

2. The modifying factors have association(s) on the seasonal influenza vaccine (SIV) uptake by healthcare providers (HCP) in a private tertiary hospital in Metro Manila.

# CHAPTER III

# RESEARCH METHODOLOGY

## Research Design

The study utilized a descriptive, correlational study design that involved the analysis of data collected through a self-directed questionnaire from a population at one specific point in time (cross-sectional). This type of study design was particularly suitable since it enabled the researcher to examine a behavior by predicting an action or intention like influenza vaccination uptake. Additionally, when independent variables were not deemed or could not be manipulated, correlational could be employed. According to Silva et al. (2021) out of eleven studies that have utilized the concepts of the Health Belief Model (HBM), a common theme was the use of cross-sectional study. Consequently, the survey instrument was derived and adopted based on the research conducted by Alhalaseh et al. (2020) after obtaining authorization from the relevant author (Appendix A).

As a pioneer on this subject in the Philippine context, using this type of study design provided a snapshot of the variables and factors leading to the decision of HCP to receive the Seasonal Influenza Vaccine (SIV), which presented the nature and one advantage of it. Moreover, multiple outcomes were studied by outlining the modifying factors and constructs of HBM and their relationship with one another. Aside from utilizing the HBM, elements such as family or peer pressure (psychosocial) and fear barrier (emotional construct) were added to substantiate the study.

## Research Setting

A correlational questionnaire-based study was performed in a private tertiary hospital in Metro Manila, Philippines, after receiving the endorsement and approval of Ethics Research Committee (ERC) (Appendix G). This hospital is a non-profit, non-stock healthcare facility in the Philippines, licensed by the Department of Health and accredited by the Philippine Hospital Association and Philippine Health Insurance Corporation. The institution has been providing the community with state-of-the-art and holistic health care for more than 100 years. As a 120-bed Hospital, it has been providing services to 18,243 patients in 2022 and has been one of the primary healthcare facilities during the COVID-19 pandemic (Healthcare Climate Action, n.d.; Hallare, 2020). It is known for its residency program and for being a 'mother-baby-friendly' hospital. The hospital has six major services: Medicine, Obstetrics and Gynecology, Surgery, Pediatric, Accident and Emergency, and Intensive Care Unit.

In the Philippines, the DOH recommended seasonal influenza vaccine (SIV) to the public but not mandated for healthcare personnel. Consequently, it has been the prerogative of hospital institutions to decide whether or not to incorporate flu vaccination into their program and preventive strategy. The selected hospital's annual flu shot for staff was not fully subsidized by the facility, and its compliance and observance were not systematically monitored. Furthermore, being situated in the heart of Tondo - a densely populated area in Metro Manila, it catered to different types of clients from all walks of life. Having HCPs protected from Influenza-like Illnesses would ensure adequate manpower that can attend to the needs of the community and patients requiring care at any given time.

## Sampling Technique

The proposed study utilized a total or complete enumeration sampling method. This technique examines the entire population that possesses a given set of characteristics such as specific behavior or intention, a set of demographic factors, and job-related traits like type of work, years of experience, etc. (Laerd Dissertation, 2012). Although quantitative studies typically utilize probability sampling, this type of purposive sampling technique could be used pragmatically because of the specificity of a selected sample and the limited number of participants. Nonetheless, since it included extensive coverage of every member of the population that met the set of criteria, an in-depth understanding of the problem or phenomenon was achievable thus there was less chance of missing important insights.

The survey tool was distributed to all HCPs who provided direct care of the nominated private tertiary hospital in Metro Manila. Respondents were given a 2-hour time limit, and the entirety of the study period was two (2) months following the approval of the Ethics Research Committee (ERC) of the chosen hospital.

## Inclusion and Exclusion Criteria

This study focused only on HCPs as the research respondents working at the designated private tertiary healthcare facility in Metro Manila. It was conducted to target HCPs that were providing direct care to patients, which were divided into three groups: Physicians/Doctors Group (Consultant, Specialist, Residents), Nursing Group (Registered Nurses, Registered Midwives, Nursing Aides, Orderly) and Allied Health Group (Respiratory Therapist, Physical Therapist, Medical Technologist, and Medical Technicians). Only full-time employed HCPs were included, and those who were

contractual or temporary staff were excluded. Moreover, visiting/referring HCPs outside the cost center or hospital's financial template were excluded. Accordingly, HCPs who were not physically present or unable to participate during the 2-month study period due to vacation leave, sickness, sabbatical or official missions, were excluded. Since intention/action was required to infer the hypothesis critically, those who have not provided any response to this question were excluded. The level of literacy/education and some HCPs' reservations about vaccination likely influenced the acquisition of informed consent. For this reason, only adult HCPs who were older than 18 years and above were included.

## Data Collection

**Step 1:** The research study protocol, informed consent, and survey questionnaire were sent to the Ethics Research Committee (ERC) of the selected hospital for review through email and/or formal letter, and approval was secured before the research commenced (Appendix G). Upon issuance of the certificate of ethical clearance, the document was shared to the University of the Philippines – Open University (UPOU). The ERC of the chosen hospital provided oversight and guarantee of ethical soundness of the research.

**Step 2:** Upon request of the ERC, the survey tool and informed consent (Appendix H) were translated to the local Filipino language, and received certification from *Sentro ng Wika at Kultura* (Center of Language and Culture) of Biliran Province State University (BIPSU).

**Step 3:** With the ERC's approval, a list of the employees was requested (Appendix I) from the Human Resources Department of the designated private tertiary hospital in

Metro Manila where it was categorized into three groups namely Physician's Group, Nursing Group, and Allied Health Group. A pilot test of the instrument proceeded upon the approval of the Executive Team (Appendix J) by distributing the paper-based survey tool on a convenience sample of six respondents and Cronbach's Alpha was used to analyze its consistency and reliability. The reliability and internal consistency were acceptable with a Cronbach's Alpha of 0.788 when the five (5) Health Belief Model (HBM) constructs' multiple-question Likert-scale were tested.

**Step 4:** Since the mock survey's calculated Cronbach's Alpha was acceptable, the Executive Team was informed about the commencement of the survey (Appendix K). A written informed consent was sought and obtained from each of the respondents before starting the survey (Appendix E and H). It was the researcher's responsibility to inform the respondents about the study's intention, procedure, goal, and scope. Respondents were not coerced or pressured to answer. They could withdraw freely at any stage of the study. The researcher maintained objectivity, honesty, fairness, and openness to professional standards throughout the study. Also, the researcher ensured that the study did not deliberately or purposely cause harm but kept the welfare of the participants. In addition, no sensitive identifiers were included, and analysis remained anonymous throughout the study.

**Step 5:** Since the sampling method was a total enumeration, the approved survey questionnaire was disseminated to all target HCP respondents who met the inclusion criteria. It was performed by sending a survey invitation through email and/or a memorandum from the ERC. The researcher personally delivered the tool to each department. Each respondent was asked to complete the paper-based questionnaire at his/her most convenient time but within the allocated two (2) hours. Upon

completion, the respondent folded and enclosed it in the envelope provided, and handed it to the researcher or sent it to the drop box located in the Nursing Service Office. The whole period of data collection was two (2) months.

A total number of 174 (83.25% response rate) respondents were surveyed comprising 22 Physicians (84.62% response rate), 102 Nursing Personnel (84.30% response rate), and 50 Allied Health Groups (80.65% response rate). The coefficient of reliability for the 174 responses was considered very reliable with a Cronbach's Alpha of 0.847.

**Step 6:** The accomplished forms were segregated according to their classification: Physician Group, Nursing Group, and Allied Health Group. To maintain anonymity, forms were coded as: P for physician, N for nursing, and A for Allied health, and then coded from 001 to the end number of the specific group (for example P-001).

## Research Instrument

Although the content and reliability of the adopted questionnaire/survey tool (Appendix C) has been validated by Alhalaseh et al., 2020, a pilot test of the instrument (Appendix D) was executed on a convenience sample of six Healthcare Providers - two (2) from each professional category (Physician's Group, Nursing Group, and Allied Health Group), to ascertain relevance with respect to the Philippine context. To examine the tool's reliability and internal consistency, Cronbach's alpha was utilized to measure multiple-question Likert scale with at least 0.70 to 0.79 to be considered as acceptable. The responses from the pilot testing were exempted from the final analysis of results at the concluding stage.

The tool was divided into two (2) major sections. First, the respondents were asked about the modifying factors: socio-demographic (age, gender, marital status, educational attainment, smoking), and role-related (job description, area of assignment, years of clinical experience, and; past and anticipated flu vaccination behavior). The dependent variable/action was the HCP's intention, where responses were divided into two (2) groups: “Intending to vaccinate” and “Not intending to vaccinate.” Then, answers were gauged using "Three yes/no questions": whether they had received it while employed by the organization, whether they had received the vaccine in the past year, or whether they planned to receive it during the upcoming influenza season in 2024–2025 (Alhalaseh et al., 2020).

The second section included structured-questions related to the five (5) Health Belief Model (HBM) constructs, which were scored on a four-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. The five constructs were: perceived susceptibility to influenza infection, perceived severity of disease, perceived benefits of influenza vaccine, perceived barriers with added fear barrier component, and cues to action. "Self-efficacy" was included in the proposed study because, in contrast to lifestyle changes that necessitate complicated food modifications or exercise programs, it does not appear to influence simple time-bound health behaviors like receiving an influenza vaccination (Alhalaseh et al., 2020; Cheney & John, 2013; Chapman & Coups, 1999).

## Plan for Data Analysis

The data from the completed forms were encoded using Microsoft Excel program. The study employed *Jamovi* version 2.6.17 for statistical analyses of the data. For characteristics (socio-demographic and role-related) of the sample, a detailed descriptive analysis was presented in table format. To determine the specific intention for SIV uptake of healthcare providers in a private tertiary hospital in Metro Manila (Problem 1), the data were displayed in cumulative frequency and descriptive statistics.

To establish the association between the HCPs' intention for SIV uptake and the perceived beliefs (HBM constructs) where Likert questions were asked (Problem 2), proportions and a chi-square goodness-of-fit test was performed to compare the level of perception of healthcare workers who intended to vaccinate against influenza with those who did not. Whereas, the association between the modifying factors such as socio-demographic and role-related factors (Problem 3), and the intention to receive the flu vaccination were tested using chi-square and results were tabulated in a table.

For Problem 4, socio-demographic and role-related factors predicting the dichotomous dependent variable "HCPs' intention for SIV uptake" in the binomial regression model were loaded to test for goodness of fit. The model's fit was assessed using deviance, Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC) and McFadden's pseudo $R^2$ that provided a quantitative measure of model performance. A chi-square test was performed for the overall model to decide whether predictors included in the model could improve the prediction of vaccination intention beyond chance.

To incorporate modifying factors in the final model (model coefficient), socio-demographic variables (age, marital status, gender, highest educational attainment, smoking status) were tested separately. The model coefficients for individual predictors were examined to assess their contribution to the intention to vaccinate. Statistical significance was evaluated at a threshold of $p \leq 0.05$. Assumptions of the logistic regression model were tested, particularly multicollinearity among the predictors to confirm if the predictors were correlated and if the statistical significance was not due to redundancy among the variables. For role-related variables such as job description, primary area of assignment, years of clinical experience and history of flu vaccine, they were loaded and tested in a separate table using the model fit measures and model coefficients. Each were examined for fit and significance through a final adjusted logistic regression model.

## Data Management

The process of gathering, validating, classifying, processing, and disseminating research findings to relevant shareholders was entirely the researcher's duty. Once data was collected and managed, it was owned by the researcher, the University of the Philippines Open University (UPOU), and the nominated study setting or hospital facility. All data gathered were classified and forms were coded as: P for physician, N for nursing, and A for Allied health, and then coded from 001 to the end number of the specific group (for example P-001). The identity of the respondents remained incognito, and responses stayed confidential. Written and accomplished forms were safely stored in a locked filing cabinet for a span of three years by the researcher; thereafter, they would be subject to disposal through shredding. Digital files and

databases created were kept properly in a labeled password-protected and/or encrypted flash drive.

## Ethical Considerations

This study was conducted upon approval of the Ethics Research Committee (ERC) of the chosen hospital, and in compliance with the Philippine Data Privacy Act. Ethical principles were adhered to and observed as follows:

**Informed Consent and Autonomy.** All HCPs who agreed to participate signed a written consent form (Appendix E and H). The study's informed consent form followed the UPOU Institutional Research Ethics Committee's format and conformed to its guidelines and procedure. The participants were given relevant information such as the duration of the survey, any risk and benefits, confidentiality of data, sharing of results, and the like, to enable them to make an informed decision about whether or not to engage in the research. In ensuring the participant full understanding, informed consent was provided in a way that reduced the possibility of coercion or undue influence, and it was presented, giving sufficient time to think about engaging. In any event, they were allowed to withdraw freely at any stage of the study without giving an explanation.

**Confidentiality and Data Privacy.** All data collected for this study were kept confidential by using codes or identified letters and numbers in exchange for names. To achieve anonymity and confidentiality, the respondents were coded as follows: P for physician group, N for nursing group, and A for allied health group, and then coded from 001 to the end number of the specific group. The database could only be handled solely by the researcher and kept securely in a password-protected and encrypted

flash drive. Whereas, written and accomplished forms were safely stored in a locked filing cabinet by the researcher for a span of three years; thereafter, they would be subject to disposal through shredding. Only the researcher had access to all the data to protect the respondents from potential damages (e.g. identity theft, bullying, guilt, or mental harm like humiliation, etc.).

**Openness and Integrity.** It was the researcher's responsibility to inform the respondents about the study's intention, procedure, goal, and scope. The researcher always observed integrity throughout the study by practicing honesty and openness and conforming to facts and accuracy that was performed in reporting and interpreting results. If participants had any questions about the research, inquiries about their participation or study results, they were given means to contact the researcher either by phone number 0969-631-9412 or by email address at giyumul@up.edu.ph. with the alternative contact details: 0969-631-9405 or gabrielyumul@gmail.com. Respondents were assured that no sensitive personal or demographic information were shared, published or presented at any stage of the study. Once the study was complete, the research findings would be published in reputable journals and presented at seminars or conferences.

**Beneficence and non-maleficence.** The findings of the study would be presented to the primary benefactor of the study – the Healthcare providers. By determining HCPs' intentions and analyzing their perceived beliefs, they would be guided to make informed decisions toward seasonal influenza vaccine to protect not only themselves, but also their family and patients including those who would be highly susceptible to serious flu illness and complications, like young and older population, and people with particular chronic health conditions. Once the study was completed, the researcher

would arrange and coordinate with the chosen hospital for a presentation on the results and findings of the study. In addition, since the study was planned to be published and presented, hospital administrations, policy makers and international community could benefit from it as mentioned in the significance of the study. Throughout the study, the researcher ensured that it did not deliberately or purposely caused harm and kept the welfare of the respondents at all times. The study did not involve the highly vulnerable population (e.g. patients and children) hence the risk for harm was unlikely. Moreover, since the study was conducted through survey to find HCPs' intention to vaccinate and determine predictors/determinant thereof (e.g. perceived belief, socio-demographic, etc.) it did not involve nor introduced any intervention or habit modifications.

# CHAPTER IV

# RESULTS AND DISCUSSIONS

This section contains the data, analysis, interpretation, and discussion of collected data to determine the intention for seasonal influenza vaccine (SIV) uptake and the perceived beliefs of healthcare providers (HCP) in a private tertiary hospital in Metro Manila, Philippines, from September to November 2024.

## Characteristics of the sample

**Table 1**

*Socio-demographic and Role-Related Description of the Study Sample*

| | N | Mean | SD |
|---|---|---|---|
| **Age** | 174 | 33.86 | 9.512 |
| **Marital Status** | 174 | 1.39 | 0.488 |
| **Gender** | 174 | 1.76 | 0.426 |
| **Highest Educational Attainment** | 174 | 2.15 | 0.457 |
| **Cigarette Smoking** | 174 | 1.95 | 0.222 |
| **Job Description** | 174 | 2.16 | 0.625 |
| **Area of Assignment** | 174 | 1.63 | 0.484 |
| **Years of Clinical Experience** | 174 | 7.29 | 6.442 |
| **History of Flu Vaccine** | 174 | 1.43 | 0.496 |
| **History of Vaccine Uptake in the Past Year** | 174 | 1.32 | 0.466 |
| **Intention to Vaccinate in the Upcoming Season** | 174 | 1.09 | 0.290 |

The dataset provided a detailed descriptive analysis of healthcare professionals' socio-demographic characteristics and role-related factors. The mean age of the respondents is 33.86 years, with a standard deviation of 9.51, indicating a moderately young cohort with a wide age range spanning from 22 to 56 years. The

median age aligned closely with the mean, showing a central tendency around 32 years.

From a sociocultural perspective, marital status trended toward single individuals, with a mean of 1.39 and a predominant median of 1 (single). This confirmed the observation earlier made in the demographic studies of the workforce, which asserted that younger professionals tend to postpone marriage due to the rigors of their career in health care (American Nurses Association [ANA], 2020). The average gender distribution demonstrated that there was a slight predominance in females, with a mean of 1.76 and a median of 2, hence, confirming that females (coded in the form of 2) dominated the dataset. The educational attainment was indicative of a mostly educated workforce, having a mean of 2.15, and most of the respondents fell under the category of "college educated" (median = 2). This observation conformed to what was marked around the world, that healthcare professionals are earning more advanced degrees increasingly likely in these times to face the uncertainties of modern healthcare (WHO, 2020). Most respondents were denoted as non-smokers, owing to a mean smoking score of 1.95, whereby most respondents reported: "2" (non-smoking). Thus, the observation was also following global trends reducing the smoking prevalence among health professionals as role models for public health behaviors (World Health Organization [WHO], 2019).

In terms of occupational functions, the median value for job description score was 2.00, highlighting a higher proportion of nurses (coded as 2), followed by allied health professionals. This trend reflected the increased reliance on nursing staff in modern healthcare systems, particularly during critical periods such as the COVID-19 pandemic (International Council of Nurses [ICN], 2021). The median value for primary

areas of assignment is 2.00, indicating that the majority of respondents were assigned to inpatient settings. This aligned with global healthcare trends showing increased hospital utilization for inpatient care due to chronic conditions and the demands of managing infectious disease outbreaks (WHO, 2021).

Clinical experience was diverse, with an average of 7.29 years and a range of 1 to 30 years. The median clinical experience was notably lower at 5 years, with 75% of respondents having less than 9 years of experience. These findings highlighted a relatively junior workforce, a trend observed globally due to high turnover rates in healthcare, particularly among nurses and allied health professionals. The workforce pressure increased because of the COVID-19 pandemic causing less experienced recruits among others in the workforce and further resulting in understaffing (ICN, 2022). This demographic shift underscored the need for comprehensive professional development programs to ensure an efficient and resilient manpower resource.

Vaccination history and intentions were promising as indicated by a mean of 1.43 for previous flu vaccinations, suggesting that most of the participants have had a flu vaccine while working in the institution. Recent vaccination uptake in the last year showed 1.32 with a large number reporting vaccination. The intent to vaccinate in the coming season showed a mean of 1.09 with a remarkably low standard deviation (0.29), indicating a strong consensus toward vaccination intention. These findings were consistent with the research that highlighted the pivotal role played by healthcare professionals in influenza vaccination campaigns and their influence on public attitudes toward vaccination (Centers for Disease Control and Prevention, 2020). This trend in recent years, has focused on vaccine-preventable diseases, emphasizing the role of healthcare workers as advocates for vaccines (CDC, 2021).

These findings gave a glimpse of a dynamic healthcare workforce that stressed in keeping the momentum in vaccination compliance, developing clinical expertise, and addressing the capacity constraints faced by a relatively younger, less experienced cohort. Such aspects highlighted the strategic investment required in training, retention, and support to keep the healthcare system sustainable and resilient.

**Problem 1: What is the specific intention for SIV uptake of healthcare providers in a private tertiary hospital in Metro Manila?**

**Table 2**

*Descriptives and Frequencies of Intention to Vaccinate in the Upcoming Season*

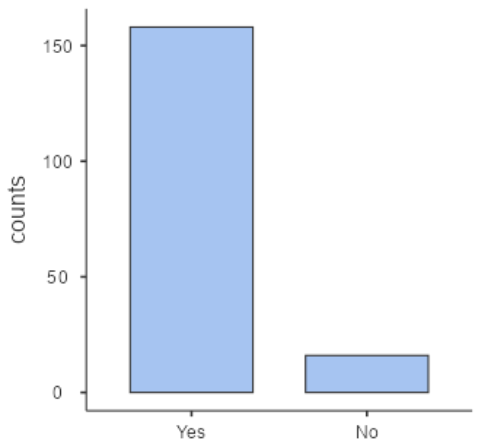
Mean and Standard Deviation of Intention to Vaccinate in the Upcoming Season

| | N | Mean | SD |
|---|---|---|---|
| **Intention to Vaccinate in the Upcoming Season** | 174 | 1.09 | 0.290 |

Frequencies of Intention to Vaccinate in the Upcoming Season

| Intention to Vaccinate in the Upcoming Season | Counts | % of Total | Cumulative % |
|---|---|---|---|
| **Yes** | 158 | 90.8% | 90.8% |
| **No** | 16 | 9.2% | 100.0% |

Figure 5. Proportion of HCPs' Intention to Vaccinate in the Upcoming Season.



The data presented the intentions of healthcare providers at a private tertiary hospital in Metro Manila regarding the uptake of the seasonal influenza vaccine (SIV) in the upcoming season. Among the 174 respondents surveyed, the overwhelming majority (158 participants or 90.8%) expressed their intention to vaccinate, while only 16 participants (9.2%) indicated that they did not intend to vaccinate. The cumulative frequency distribution confirmed that by the time the "No" responses were added, all responses were recorded.

The descriptive statistics further illustrated the central tendency and variability of the responses. The mean value for the intention to vaccinate is 1.09, closely aligned with the categorical value "1" (indicating "Yes"). This highlighted that a significant proportion of respondents affirmed their intention to receive the vaccine. The median value of 1.00 corroborated this tendency, while the low standard deviation of 0.290 suggested minimal variability in responses, indicating strong consensus within the group. The range spanned from the minimum response of 1 to the maximum response of 2, reflecting the binary nature of the dataset.

This finding indicated a notable willingness of healthcare providers in a private tertiary hospital in Metro Manila to receive immunization against seasonal influenza in the upcoming season, with 90.8% of respondents intending to vaccinate. Such positive remarks coincided with the global trends indicating that healthcare providers generally display higher vaccination rates than the general population due to their heightened awareness of disease risks and vaccine efficacy (Cuningham et al., 2020). The low variability in individual responses as indicated by a standard deviation of 0.290 suggested a consensus on attitudes to vaccination within this group. Such similarity could be reflective of shared professional values, institutional policies, or exposure to

similar vaccination campaigns, supported by literature pointing to the relevance of organizational culture in shaping vaccination behavior (Baumgartner et al., 2022).

On the contrary, the minority (9.2%) who reported no intention to get vaccinated might be considered individuals with barriers to vaccination, such as hesitancy with vaccines, logistical issues, or low perceived personal risk. The finding was in line with the studies that have identified common barriers to vaccination among healthcare workers. Most of those barriers included misinformation, lack of time, and undervaluation of personal susceptibility (Betsch et al., 2019; WHO, 2021). These barriers needed to be understood because there might be even a small unvaccinated subgroup in the healthcare sector that could undermine herd immunity and place staff and patients at risk of preventable hazards.

The areas of application of such research findings were multifaceted. The overwhelming remarks of positive intentions to vaccinate showed that the healthcare provider may have become even more vested in wider vaccination campaigns. The high compliance rates of vaccination could reduce the chances of transmitting diseases and therefore heighten the general public's confidence in the vaccines, as they can be trusted sources of health information (Schmid et al., 2017). Healthcare workers, as vaccine champions, are essential in fighting vaccine hesitancy, a long-standing challenge that could be dealt with by showing commitment to immunization.

For the minority portion of the respondents who were reluctant to vaccination, there was a necessity for specific intervention measures to achieve universal vaccination coverage. Addressing this group was critical, as even a small proportion of unvaccinated HCPs could contribute to increased disease transmission risks in healthcare settings, impacting both staff and patients (Schmid et al., 2017). Research

concurred concerning the practice of targeting educational and institutional barriers as the most effective means to conquer hesitancies toward vaccination (Baumgartner et al., 2022). Improving logistical arrangements, making misinformation clear, and vaccinating in easily accessible and accommodating venues in the hospitals, could all further increase uptake or accession rates. Institutional measures like mandatory vaccinations or including immunization within regular check-ups have been proven beneficial in similar settings (Betsch et al., 2019; WHO, 2021).

The above figures implied a high intention to vaccinate among healthcare workers as well as the potential for translating that behavior into vaccination uptake at the community level. It was crucial to address the barriers that may constrain those who were reluctant. By integrating interventions supported by evidence-based materials, such as improvements in institutional support and addressing misinformation, the hospital would come a step nearer to universal coverage with vaccination, thereby improving individual and public health outcomes.

**Problem 2: Is there an association between the HCPs' intention for SIV uptake to perceived beliefs in terms of:**

a. **Perceived susceptibility to influenza infection**

**Table 3**

*Proportions and Chi square Test - Intention to Vaccinate and Association with Perceived Susceptibility*

| Level | Observed Count (Proportion %) | Expected Count | (Observed - Expected)² / Expected |
|---|---|---|---|
| 1 | 228 (90.48%) | 126 | 82.57 |
| 2 | 24 (9.52%) | 126 | 82.57 |
| | | **$\chi^2$ =** | **165** |

The data explored the association between healthcare providers' (HCPs) intention to receive the seasonal influenza vaccine (SIV) and their perceived susceptibility to influenza infection. Among the respondents, 90.48% indicated a strong belief in their susceptibility to influenza infection (Level 1), while only 9.52% demonstrated a lower perception of susceptibility (Level 2). The results of the chi-square goodness-of-fit test, $x^2(1, N=252) = 165$, $p < .001$, revealed a statistically significant association between intention to vaccinate and perceived susceptibility. This significant result indicated that the observed distribution of responses was unlikely to have occurred by chance and suggested that perceived susceptibility played a critical role in influencing HCPs' intention to vaccinate.

The results also showed that healthcare providers who regarded themselves as more susceptible to influenza infection were much more likely to intend to vaccinate in the following season, confirming prior findings in which perceived susceptibility was found to be a prime factor in vaccination behavior within the theories of health behavior like the Health Belief Model (HBM) (Betsch et al., 2019) and whose absence corresponded with greater rejection of the vaccine (Silva et al., 2021; Hofmann et al., 2006). Several studies revealed that clinical health workers were significantly more likely to perceive a heightened susceptibility to influenza than other non-clinical staff. This was because they were more exposed to infected patients and understood how fast influenza could spread in healthcare settings. Self-perceived risk of influenza infection among HCPs was found to significantly influence the likelihood of accepting vaccination; in other words, HCPs at greater risk status were more likely to embrace vaccination. For example, Brewer et al. (2007) stated that HCPs holding clinical roles had a high personal vulnerability perception that is positively correlated to their vaccination uptake rates. They were also aware that by being infected, they might

become a source for transmission, especially to elderly and immune-compromised patients.

The HBM assumed that when individuals' beliefs about illness could indicate a risk of acquiring an illness, people are more likely to undertake preventive health behavior, such as vaccination. Hence, it could be inferred from the representation of respondents with a strong perception of susceptibility (90.48%) that advocacy campaigns targeting individual vulnerability to influenza might witness maximum effectiveness in enhancing vaccine uptake among healthcare providers. Thus, the statistically significant connection between perceived susceptibility and vaccination intention confirmed the necessity to consider individual beliefs for a well-designed strategy to achieve vaccination uptake in different populations. Messages tailored to the targeted population and focusing on the risks of influenza infection might improve vaccination uptake motivation among frontline healthcare workers, according to studies conducted by Schmid et al. (2017). The percentage of respondents who showed diminished perception of susceptibility (9.52%) conformed to the worldwide trend of healthcare providers generally being more aware of their risk due to professional exposure to infectious diseases (Cuningham et al., 2020).

Importantly, from an international health perspective, the heterogeneous vaccination compliance rates observed between different categories of HCPs', irrespective of their degree of clinical training or exposure to patients as a result of their misperception still persisted. These findings suggested that other factors apart from professional knowledge such as personal attitudes, misconceptions, or work culture might have a more significant influence on vaccination behavior (Wicker et al., 2008). Persons who recognized that they possessed a higher risk were more likely to

seek preventive measures through vaccination against influenza. It pertained mostly to health inequities found within the low- and middle-income countries because while such awareness raised vaccine demand, access to vaccines has been a different challenge worldwide, since increasing perceived susceptibility through ad hoc public health messaging become even more beneficial in increasing vaccination rates, reducing disease transmission, and health-security sustenance, particularly in pandemic periods. Cultural beliefs and misinformation were deeply pertinent in improving risk awareness and consequently increasing vaccine uptake among heterogeneous communities (World Health Organization, n.d.; Paltiel et al., 2021; Wang & Zhang, 2022). Results from the study further substantiated the requirement for a targeted communication strategy within healthcare settings. Such educational interventions focusing on the risks of influenza for healthcare workers and their patients could help bridge the gap for the small group of providers who showed low perceived susceptibility to the disease. Such interventions had also appeared as effective when combined with peer influence and institutional support, such as mandatory vaccination policies or incentives for participation (Baumgartner et al., 2022). These methods could potentially create a positive culture around immunization that would ensure broader coverage of vaccines, thereby potentially reducing the likelihood of outbreaks of influenza in health facilities.

Still, the studies informed that healthcare providers could act as proponents for influenza vaccination to the broader public. HCPs could mold healthier public attitudes and behavior towards influenza vaccination by addressing their perceived risks and promoting a positive vaccination culture within healthcare institutions and communities. Research had consistently shown that the vaccination status of

healthcare workers had a strong effect on public trust in vaccines and the likelihood of complying with their recommendations (Schmid et al., 2017).

The intention to vaccinate was highly associated with perceived susceptibility, and this supported the need to capitalize on individual beliefs to promote vaccination. Health institutions needed to keep emphasizing the influenza risk as well as the protection offered by vaccination, especially for a small group of providers who do not see themselves as vulnerable. Associating such findings with evidence-based communication strategies and institution policies would ensure a higher uptake of these vaccines by healthcare personnel, thus improving personal and public health outcomes.

### b. Perceived severity of disease

**Table 4**

*Proportions and Chi square Test - Intention to Vaccinate and Association with Perceived Severity of Disease*

| Level | Observed Count (Proportion %) | Expected Count | (Observed - Expected)² / Expected |
|---|---|---|---|
| 1 | 236 (90.42%) | 131 | 84.16 |
| 2 | 25 (9.58%) | 131 | 85.77 |
| | | **$\chi^2$ =** | **171** |

The data highlighted the relationship between healthcare providers' intention to take the seasonal influenza vaccine (SIV) and their perceived severity of influenza disease. Around 90.42% of respondents showed a strong belief in the flu severity (Level 1), whereas only 9.58% exhibited a lower perception of the disease's severity (Level 2). A chi-square goodness-of-fit test, $x^2(1, N=262) = 171$, $p<.001$, revealed a statistically significant association between intention to vaccinate and perceived

severity, underscoring the critical role of disease severity perception in shaping vaccination behavior.

The finding indicated that a strong perception of influenza as a severe disease increased the chances of an individual HCP intending to vaccinate. This aligned with the Health Belief Model (HBM) which identified perceived severity as an important predictor of preventive health behaviors, including vaccination (Champion & Skinner, 2008). The high proportion of respondents (90.42%) implicating their understanding that influenza might become serious and could progress to severe infections leading to potential complications and impinging on the disease could reinforce vaccine uptake. This result was in line with the Health Belief Model, which stated that individuals are more likely to engage in preventive health practices if they perceived that they are seriously threatened. The association was statistically significant, indicated by a significant chi-square result, confirming that perceived severity was neither a random nor insignificant factor in influencing the intention of vaccination.

Clinicians and other medical professionals had the potential to recognize the possible serious complications of severe influenza and stimulate their motivation to vaccinate, such behaviors might be encouraged by considering prevention of transmission to high-risk patients (Bish et al., 2011). Moreover, when they perceived that influenza could escalate from mild to severe and, thus cause hospitalization, long-term problems, or even death, they considered prioritizing vaccination. A systematic review by Fan et al., (2018), concluded that healthcare workers who see influenza as a significant health threat including its potential complications were much more likely to follow vaccination guidelines, this factor underlined the role of such factors in creating awareness of public health measures and initiatives. HCPs were likely to

witness first-hand from their clinical departments the consequences of influenza, such as the severe respiratory illness that might have resulted in hospital admission and death, particularly among high-risk populations. This exposure might account for the strong association between their perception of severity and their inclination to be vaccinated. However, the very few- 9.58 percent- who reported relatively lower perceptions of the severity of disease among such individuals would be those who considered influenza a minor illness or have some misconceptions about the disease and its effect (e.g. complications). Literature suggested that such beliefs would reduce the tendency to practice preventive behaviors, hence requiring specific interventions. Evidence-based campaigns presenting real-world influenza complications and mortality, especially within healthcare settings, could bridge this perception gap (Gallone et al., 2021).

The importance of severity perception suggested that the belief of healthcare providers could also influence their patients. Personal values and advocacy for vaccinations in health care workers were significant in increasing the likelihood of vaccination uptake by their patients (Sokol & Grummon, 2020). This meant that addressing healthcare providers' beliefs was of dual importance: in terms of personal health or those of their peers, and their ability to influence positive public health behaviors.

Perceptions of influenza severity largely affected the intake of vaccinations for flu from a world health perspective, thus shaping the public's health in different countries. Those who perceived influenza as a serious health threat were likely to receive vaccination and avoid morbidity, reduce mortality, and burden on the healthcare system itself. Cultural and regional variations affected these perceptions,

with countries that have experienced severe outbreaks often showing higher vaccine acceptance. Conversely, vaccination rates tend to lag in areas where influenza was viewed as mild exacerbating health disparities, particularly in low- and middle-income countries (Johns Hopkins Bloomberg School of Public Health, 2024; University of Minnesota - Center for Infectious Disease Research and Policy, 2024). Strong public health campaigns should emphasize the consequences of severe influenza and highlight the benefits of vaccination, thereby leading to greater equity in health, improved pandemic preparedness, and a culture of preventive care (National Academy of Medicine, n.d.). Also, the beliefs of this minority must be addressed. Evidence-based approaches, like educational campaigns displaying real-world examples of morbidity and mortality from influenza, might be suitable to counteract myths (Dubé et al., 2020). Interactive training sessions or sharing patient case studies might also help lessen the risks, fostering a deeper understanding of the disease's potential severity and strengthening the motivation to vaccinate.

The association between perceived severity and vaccination intention underscored the importance of leveraging these beliefs to enhance vaccine uptake. Healthcare institutions should focus on reinforcing the reality of influenza's potential severity, particularly among hesitant providers. Integrating this approach with institutional policies and targeted communications would yield increased rates of vaccination leading to reduced transmission rates and improved patient health outcomes.

### c. Perceived benefits of influenza vaccine

**Table 5**

*Proportions and Chi square Test - Intention to Vaccinate and Association with Perceived Benefits of Influenza Vaccine*

| Level | Observed Count (Proportion %) | Expected Count | (Observed - Expected)² / Expected |
|---|---|---|---|
| 1 | 232 (88.6%) | 131 | 77.87 |
| 2 | 30 (11.4%) | 131 | 77.87 |
| | | **$\chi^2$ =** | **156** |

This data investigated the association between the intentions of healthcare providers (HCPs) towards receiving the seasonal influenza vaccine (SIV) and the perceived benefits of vaccination. Among the respondents, 88.6% strongly believed in the benefits of the influenza vaccine (Level 1) while 11.4% had a lower perception of its benefits (Level 2). A chi-square goodness-of-fit test, $x^2(1, N=262) = 156$, $p<.001$, revealed a statistically significant association between intention to vaccinate and perceived benefits. This significant result suggested that healthcare providers' belief in the vaccine's effectiveness significantly played a pivotal role in their intention towards receiving the SIV.

The findings illustrated that perceived benefits of vaccination were strongly associated with the intention to vaccinate among healthcare providers. This was consistent with the Health Belief Model (HBM), which considered perceived benefits among other factors as deterring ones toward health practices (Champion & Skinner, 2008). This high percentage of staff who were aware of the advantages of influenza vaccination (88.6%) means that healthcare providers understood the vaccine's protective role in preventing influenza-related complications, lowering the transmission rates, and maintaining workforce stability during peak seasons of illness. Still, the

11.4% who exhibited lower perceptions of the benefits of vaccines reflected the minority whose beliefs were most likely to be curbed by misinformation, low trust in the efficacy of vaccines (would rather get flu than getting the vaccine), or just underestimation on the impact of the disease itself.

Perceived benefits were among the strongest motivators of vaccine uptake. Interestingly, healthcare providers who believed that the influenza vaccine could protect not only themselves but eventually influence their peers and patients to vaccinate (Gallone et al., 2021; Alhalalesh et al., 2020). This reinforced the critical role of teaching as a response to eliminate the gaps in understanding, especially among the minority who may not recognize the vaccine's full benefits. Tailored messaging highlighting real-life data on vaccine efficacy, such as reducing hospitalization and severe results, could change the perception toward it (Dubé et al., 2020). Furthermore, several studies had supported that influenza vaccination uptake occurred among HCPs when they perceived a direct benefit to prevent the risk of exposure or during ongoing pandemic influenza (Bish et al., 2011; Dexter et al., 2012).

The major association also substantiated that institutional support was important to strengthen the perceived benefits of vaccination. Equipping HCPs with accessible and transparent information about the vaccine effectiveness, personal health benefits of flu vaccine against seasonal and pandemic influenza strains, and possible protective benefits for their clients, particularly in a healthcare setting, became very important. For example, initiatives within organizations under which case studies, statistical benefits, and endorsements from respected medical professionals and health agencies (Department of Health, etc.) would enhance belief in the utility of the vaccine. Research showed that integrating such strategies into mandatory

vaccination policies or incentive programs might further improve uptake rates in healthcare workers. Shared success stories with statistical efficacy data and endorsements from senior staff or reliable medical leaders, could help boost such belief (Nowak et al., 2020).

The perceived benefit of influenza vaccination has been a major factor influencing vaccination uptake, particularly from an international health perspective. People get vaccinated when they realized that these vaccines prevent them from acquiring an illness or death because they can feel the personal or community-level benefits of vaccination, especially for the protection of the vulnerable ones who would have otherwise faced critical strains on the healthcare system. Public health campaigns emphasizing these benefits have been shown to increase uptake among at-risk populations and in countries with relatively low vaccination compliance (CDC, 2023; MacDonald & Dubé, 2015). Moreover, health workers who firmly believed in the vaccine's benefits do so more as role models or advocates in their communities because they believed in its effectiveness. Their vaccination status and advocacy could significantly influence public trust in vaccines, particularly in the fight against vaccine hesitancy (Sokol & Grummon, 2020). For the small minority that were hesitant to receive the vaccine, evidence-based interventions to correct misconceptions about vaccine efficacy are essential to achieve higher vaccination rates, whether in healthcare settings or the community (Goje & Kapoor, 2024).

A significant association of perceived benefits with the intention to vaccinate demanded concerted educational efforts and institutional policy to enforce vaccine uptake. By countering the misbeliefs of the minority against the benefits of vaccine use and strengthening positive beliefs about it among the majority, healthcare institutions

could create an immunization protective culture that would safeguard health providers and communities.

### d. Perceived barriers against influenza vaccination

**Table 6**

*Proportions and Chi square Test - Intention to Vaccinate and Association with Perceived Barriers against Influenza Vaccination*

| Level | Observed Count (Proportion %) | Expected Count | (Observed - Expected)² / Expected |
|---|---|---|---|
| 1 | 368 (91.45%) | 201 | 138.75 |
| 2 | 34 (8.55%) | 201 | 138.75 |
| | | **$\chi^2$ =** | **276** |

The data explored the association between healthcare providers' (HCPs) intention to receive the seasonal influenza vaccine (SIV) and their perceived barriers to vaccination. Among the respondents, 91.45% indicated low perceived barriers to vaccination (Level 1), while 8.55% reported high perceived barriers (Level 2). The results of the chi-square goodness-of-fit test, $x^2(1, N=402) = 276$, $p<.001$, demonstrated a statistically significant association between perceived barriers and intention to vaccinate. This suggested that the presence of fewer perceived barriers was strongly associated with an increased likelihood of intending to vaccinate.

The findings underscored the critical role of perceived barriers in influencing vaccination intention among healthcare providers. The high proportion of respondents reporting low barriers (91.45%) indicated that individual's perception towards personal health (belief barrier), logistical challenges, psychological and emotional (fear of side effects and being injected), or systemic obstacles (cost of the vaccine) to vaccination were minimal for most participants. This aligned with existing research showing that healthcare workers who encountered fewer barriers—such as availability, cost, time

constraints, or concerns about side effects—were significantly more likely to vaccinate (Nowak et al., 2020). Healthcare workers' beliefs and perceptions about their health, such as a strong immune system or concerns about vaccine safety, often acted as significant barriers to influenza vaccination. Some healthcare workers perceived themselves as being at low risk of contracting influenza due to their age, overall health, or previous immunity, leading to lower vaccine uptake. In addition, fears about potential side effects or mistrust of vaccine efficacy also deterred vaccination. For instance, a systematic review found that healthcare workers who viewed vaccination as unnecessary or feared adverse reactions were less likely to vaccinate (Adedokun, 2018).

In addition, the linkage of low perceived barriers to vaccination intention had broader implications in establishing a supportive institutional culture. Initiatives such as periodic vaccination campaigns and workshops, as well as workplace incentives would further facilitate vaccine uptake. For instance, literature had shown that when vaccination is framed as both a professional responsibility and a convenient and low-burden activity, healthcare workers are more likely to participate (Schmid et al., 2017).

On the other hand, the 8.55% of respondents with high perceived barriers were likely those who experienced practical or attitudinal constraints that necessitate specific measures to help them overcome these barriers. Such individuals might hold apprehensions concerning side effects, competing demands, or the availability of vaccines. Barriers to vaccination could stem from various factors, including accessibility of vaccines, doubts about their efficiency or safety, or competing demands at the workplace. It has been found that perceived barriers were among the strongest predictors of non-vaccination, especially among healthcare workers who

might believe that they undervalued their personal risk or overestimated vaccine side effects (Paterson et al., 2020). This minority group of hesitant providers was significant, as their lack of vaccination would increase the risk of flu-like illness transmission within healthcare settings, impacting staff and patients alike. Structural solutions like onsite vaccination clinics, flexible scheduling, and transparent communication regarding vaccine safety could aid in eradicating barriers of this nature (Lau et al., 2020).

From a global health perspective, influenza vaccination barriers such as cost, access, mistrust, and logistical challenges had a significant impact on vaccination uptake worldwide. For individuals in low- and middle-income countries, the cost of vaccines or lack of access to healthcare facilities could prevent vaccination, particularly in countries where flu vaccines have not been included in the national immunization programs (Schmid et al., 2017). More importantly, evidence showed that systemic and logistical solutions, such as making vaccines available for employees, providing the vaccines free of charge, or integrating vaccination into routine health assessments, could dramatically reduce logistic barriers (Gallone et al., 2021). Misinformation and fear of side effects contributed to an individual's decision not to get vaccinated, as would often an individual's belief in the mistrust of healthcare systems. To break through psychological barriers, such as a fear of side effects, physical discomfort from SIV injections, or distrust of vaccines required educational campaigns that were directly focused on evidence-based information, and simple, and persuasive formats (Dubé et al., 2020). In addition to education, better healthcare infrastructure features were important in improving vaccination rates, thus, reducing influenza-related morbidity and mortality worldwide (WHO, 2024). Finally, the advocacy role of healthcare providers as champions in health could not be overlooked. HCPs who

overcame their barriers to vaccinating themselves were more likely to act as advocates for their patients serving as role models and building public trust in vaccines (Sokol & Grummon, 2020). Thus, it followed that access to the above barriers for the small hesitant minority is a global health imperative rather than a single individual issue.

The significant association between perceived barriers and vaccination intention underscored the importance of reducing obstacles to SIV uptake. Addressing both practical and psychological barriers would be best handled through institutional policies, targeted interventions, and education so that healthcare facilities would attain a greater level of uptake in the vaccination of providers, contributing to safer healthcare environments and improved public health outcomes.

### e. Cues to action

**Table 7**

*Proportions and Chi square Test - Intention to Vaccinate and Association with Cues to Action*

| Level | Observed Count (Proportion %) | Expected Count | (Observed - Expected)² / Expected |
|---|---|---|---|
| 1 | 284 (89.4%) | 159 | 98.27 |
| 2 | 34 (10.6%) | 159 | 98.27 |
| | | **$\chi^2$ =** | **197** |

The analysis of the data related to the association between the HCP's intention to take a seasonal influenza vaccine (SIV) with the cues to action. Among the respondents, 89.4% reported exposure to strong cues to action (Level 1) and 10.6% weakly caused or fewer cues to action (Level 2). The chi-square goodness-of-fit test, $x^2(1, N=318) = 197$, $p<.001$, showed a statistically significant association between cues to action and intention to vaccinate. This result reinforced the crucial role of stimuli or external triggers in motivating healthcare providers to vaccinate.

The cues to action were significantly associated with the intention to vaccinate, which indicated external trigger factors such as institutional guidelines, public announcements or news about an influenza outbreak. Peer influences were substantial forces propelling preventive health behaviors. The high number of healthcare providers who were influenced by strong cues to action reflected the awareness of HCPs of these motivators. This finding supported previous studies highlighting cues to action— public reminders, educational sessions or workplace vaccination drives—are pivotal in closing the intention-behavior gap (Brewer et al., 2020). Meaningful social influences, such as from peers or family members, could also be responsible for individual vaccination decisions. When at least one family member gets vaccinated during the same season, it could increase the likelihood of others in the household following suit (Schulz et al., 2019; Shaham et al., 2020).

Conversely, the 10.6% having weaker cues to action were individuals who might require additional interventions or more individualized support. They might not have regular exposure to relevant cues, such as notifications from health agencies (like that of the Department of Health) or institutional prompts, or have considered those cues as a result of competing priorities or personal hesitations. Literature noted that cues were not clear and consistent; despite understanding the importance of getting vaccinated, individuals still have missed opportunities for vaccination (Nowak et al., 2020). To be effective, it needed to be targeted to ensure that all staff would receive cues to capture their attention followed by consistent follow-through, which could help ensure that all staff were reached effectively.

From the international health perspective, healthcare providers exposed to strong cues to action were more likely to advocate for vaccination among their patients, amplifying the impact of institutional campaigns. Creating environments where

vaccination was normalized and encouraged strongly not only helped improve health facilities' internal vaccination rates but also took care of broader public health goals such as increasing vaccine confidence and reducing transmission within the community (Sokol & Grummon, 2020).

Cues to action were particularly effective when integrated into multi-media platforms and organizational culture. Research has shown that regular reminders, easy access to vaccines, or public endorsements from respected peers or leaders in the healthcare setting have been proven to significantly increase vaccination rates and create a culture where vaccination became normalized and encouraged (Brewer et al., 2020; Hughes et al., 2021). For example, a continuous and visible vaccination campaign where senior staff, opinion leaders, and healthcare executives openly received vaccines would create a ripple effect reinforcing positive behaviors among other staff. Automated systems like email announcements or mobile app notifications could also represent practical tools to raise awareness and action (Lau et al., 2020; Brewer et al., 2020). Furthermore, social influences such as reminders by family and peers could motivate the individual to get vaccinated (Al-Hasan et al., 2021). Public health campaigns that used cues such as local flu outbreaks or media coverage might motivate individuals to act (Bonnievie et al., 2020). These kinds of motivators were especially effective in regions with low vaccination coverage, raising awareness and getting people vaccinated exactly when it needed to happen before disease transmission and healthcare burdens rise globally.

The strong relationship between cues to action and intention to vaccinate showed the important role external motivators played in SIV uptake. Healthcare institutions should continue to implement strategies into their routine environments that would provide frequent and visible reminders in accessible ways. It was also possible

to serve the needs of the minority who might have weaker cues; this could further boost vaccination coverage, creating a stronger and more responsive health system to mitigate risks from influenza.

**Problem 3. Is there an association between the HCPs' intention for SIV uptake and the outlined modifying factors?**

**Table 8**

*Chi square Test of Association - Intention to Vaccinate and Socio-demographic and Role-related Factors*

| Modifying Factors | | Total number (%) | Intending to vaccinate | Not intending to vaccinate | *P*-Value |
|---|---|---|---|---|---|
| Age (years) | 20-29 | 57 (32.8%) | 51 (89.5%) | 6 (10.5%) | 0.774 |
| | 30-39 | 70 (40.2%) | 64 (91.4%) | 6 (8.6%) | |
| | 40-49 | 24 (13.8%) | 21 (87.5%) | 3 (12.5%) | |
| | +50 | 23 (13.2%) | 22 (95.7%) | 1 (4.3%) | |
| Marital status | Single | 107 (61.5%) | 96 (89.7%) | 11 (10.3%) | 0.531 |
| | Married | 67 (38.5%) | 62 (92.5%) | 5 (7.5%) | |
| Gender | Male | 41 (23.6%) | 35 (85.4%) | 6 (14.6%) | 0.168 |
| | Female | 133 (76.4%) | 123 (92.5%) | 10 (7.5%) | |
| Educational Attainment | High school | 7 (4.0%) | 7 (100%) | 0 (0.0%) | 0.509 |
| | College | 134 (77.0%) | 120 (89.6%) | 14 (10.4%) | |
| | Higher Education | 33 (19.0%) | 31 (93.9%) | 2 (6.1%) | |
| Cigarette smoking | Current | 9 (5.2%) | 8 (88.9%) | 1 (11.1%) | 0.838 |
| | Non-smoker | 165 (94.6%) | 150 (90.9%) | 15 (9.1%) | |
| Job description | Physician | 22 (12.6%) | 21 (95.5%) | 1 (4.5%) | 0.589 |
| | Nursing | 102 (58.6%) | 93 (91.2%) | 9 (8.8%) | |
| | Allied Health | 50 (28.7%) | 44 (88.0%) | 6 (12.0%) | |
| Area of assignment | Outpatient | 64 (36.8%) | 59 (92.2%) | 5 (7.8%) | 0.630 |
| | Inpatient | 110 (63.2%) | 99 (90.0%) | 11 (10.0%) | |
| Clinical experience (years) | 0-5 | 76 (43.7%) | 69 (90.8%) | 7 (9.2%) | 0.973 |
| | 6-10 | 58 (33.3%) | 52 (89.7%) | 6 (10.3%) | |
| | 11-15 | 13 (7.5%) | 12 (92.3%) | 1 (7.7%) | |
| | +16 | 27 (15.5%) | 25 (92.6%) | 2 (7.4%) | |
| History of flu vaccine at the institution | Yes | 100 (57.5%) | 95 (95.0%) | 5 (5.0%) | 0.026 |
| | No | 74 (42.5%) | 63 (85.1%) | 11 (14.9%) | |
| History of vaccine uptake in the past year | Yes | 119 (68.4%) | 113 (95.0%) | 6 (5.0%) | 0.005 |
| | No | 55 (31.6%) | 45 (81.8%) | 10 (18.2%) | |
| **Total** | | **174** | **158 (90.8%)** | **16 (9.2%)** | |

This data provided the analysis of chi-square test results of association of factors about socio-demographic and role-related and the intention to vaccinate among health workers, with the results presented based on categories. The chi-square test showed no significant association between age and intention to vaccinate ($p$ = 0.774) where all age groups showed heightened intent to vaccinate ranging from 87.5% to 95.7%. This finding indicated that age was not a substantial determinant in terms of vaccination intentions in this sample, which coincided with studies that show mixed results between age and acceptance of vaccines. For example, it has been shown that younger adults tend to consider vaccines as unnecessary because of their low personal risk in some contexts (Willis et al., 2021).

Similarly, marital status did not reveal a significant association with intention toward vaccination ($p$ =0.531); both single (89.7%) and married participants (92.5%) returned an almost similar view toward vaccination intention indicating that marital status did not significantly affect vaccination decisions. Previous research supported this finding suggesting that marital status did not play a key role in health-related behavior (Alhalalesh et al., 2020), except for household-related decisions. No differences were found between gender and the intention to vaccinate ($p$ = 0.168). Interestingly, females (92.5%) slightly outnumbered males (85.4%) when it came to getting the vaccine, but the difference was not statistically significant. Several studies in various settings reported that women were usually more health-conscious and might receive higher levels of vaccination (Larson et al., 2016). Nevertheless, the trends were inconsistent across different populations and settings.

Moreover, educational attainment had no significant relationship with vaccination intention ($p$ = 0.509). All educational levels had fairly high vaccination intentions, with 100% of high school graduates planning to vaccinate. However, the

latter was from a small sample, meaning that educational attainment might not be a strong determining factor in this population. A strong role of education in health literacy and vaccine acceptance was often emphasized, for example in Dubé et al. (2021) and Abu Hammour and Al-Saleh (2019), though such relation was not evident in the present study. Cigarette smoking was rather inconclusive regarding vaccination intention ($p$ = 0.838). Smokers and non-smokers were almost similar in showing their intent for vaccination (88.9% of smokers and 90.9% of non-smokers), indicating that smoking status did not influence the intention to be vaccinated in this group. Although smoking has rarely been looked into among few factors in vaccination behavior, these results indicated minimal impact when it came to vaccine decisions. Regarding job description, no significant association was found ($p$ = 0.589). Physicians (95.5%) expressed slightly greater intentions to vaccinate than nurses (91.2%) and allied health professionals (88.0%). This study's finding corroborated with other studies that showed high vaccine acceptance by healthcare professionals due to their exposure and knowledge as a consequence to their occupations (Nowak et al., 2020; World Health Organization, 2023).

On role-related factors, the area of assignment did not exhibit a significant relation with vaccination intention ($p$ = 0.630). Health care provider assigned in outpatient (92.2%) and inpatient (90.0%) patient care environments reported similar levels of intention to vaccinate. These implied an overall uniformity in vaccination attitudes regardless of location, as it supported other studies highlighting widespread vaccine acceptance among healthcare professionals. Likewise, clinical experience did not significantly correlate with vaccine intention ($p$ = 0.973); intent to vaccinate was consistently high among individuals, regardless of years of working experience, implying that tenure may not directly affect the decision. This finding aligned with prior

studies, which suggested that clinical experience might influence advocacy rather than individual behavior toward vaccination (Nguyen et.al., 2021).

A significant association was found between the history of flu vaccination and intention to vaccinate ($p$ = 0.026). Participants reported a higher likelihood of intending to vaccinate if they have received a flu shot before (95.0 %), compared to those without any history (85.1 %). Also, recent flu vaccination in the past year was strongly associated with vaccination intention ($p$ = 0.005), where, among people who have recently received vaccinations, 95.0% intended to vaccinate against the flu, compared to 81.8% among those who have not. These results were in line with research showing that having vaccination previously lowered reluctance and promoted favorable attitudes toward subsequent shots (Alhalalesh et al., 2020; Bednarczyk et al., 2019). These insights were particularly valuable for healthcare initiatives, as they highlighted that individuals who had prior experience, especially in the recent past, were more likely to continue this behavior (Alhalalesh et al., 2020; Pfattheicher et al., 2022). Evidence like this could be used to properly target interventions, design campaigns aimed at specific groups like those who missed vaccinations but could still be persuaded by personalized outreach, as well as manage resources more effectively, and ultimately improve vaccination rates for more effective influenza vaccination campaigns targeting at-risk populations. Further, it meant that health institutions can maximize efforts and optimize the cost to ensure that it will get translated into an improved vaccination uptake.

From an international health perspective, these findings supported the development of global campaigns promoting routine vaccinations, particularly in regions with low uptake rates. Comparative studies could further investigate how the findings applied across different populations and healthcare systems. The strong

relationship between prior flu vaccination experience and the intention for future vaccination underscored the necessity of establishing routine vaccination campaigns as part of public health strategies. Policies enabling healthcare workers to take the annual flu vaccinations would likely enhance habits for vaccine uptake. In healthcare practice, health institutions should emphasize the preventive benefits of flu vaccination and address barriers associated with routine vaccination among hesitant groups.

While the majority of the outlined socio-demographic and role-related factors did not impact vaccination intention significantly, prior vaccination history proved to be a key determinant. Furthermore, these findings underscored the importance of leveraging previous vaccine exposure to encourage future acceptance of vaccination programs, ultimately contributing to improved public health outcomes.

**Problem 4. What modifying factors predict the likelihood of SIV uptake?**

a. **Socio-demographic (age, marital status, gender, highest educational attainment, cigarette smoking)**

**Table 9**

*Binomial Logistic Regression – Intention to Vaccinate and Socio-demographic Factors*

| Predictor | Estimate | SE | Z | p |
|---|---|---|---|---|
| Intercept | -17.111 | 1481.7825 | -0.0115 | 0.991 |
| Age | 2.16e-5 | 0.0347 | 6.23e-4 | 1.000 |
| Marital Status: | | | | |
| Married – Single | -0.371 | 0.6851 | -0.5414 | 0.588 |
| Gender: | | | | |
| Female – Male | -1.013 | 0.5826 | -1.7381 | 0.082 |
| Highest Educational Attainment: | | | | |
| College – Highschool | 15.985 | 1481.7818 | 0.0108 | 0.991 |
| Higher Education – Highschool | 15.302 | 1481.7819 | 0.0103 | 0.992 |
| Cigarette Smoking: | | | | |
| Non-smoker – Current | -0.159 | 1.1670 | -0.1362 | 0.892 |

Note. Estimates represent the log odds of "Intention to Vaccinate in the Upcoming Season = No" vs. "Intention to Vaccinate in the Upcoming Season = Yes"

The data evaluated whether socio-demographic factors (age, marital status, gender, highest educational attainment, cigarette smoking) were associated with healthcare providers' (HCPs) intention to vaccinate against seasonal influenza (SIV). A binomial logistic regression analysis was conducted to assess these associations. This model's fit was assessed using deviance, Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). The deviance value of 102, with an AIC of 116 and BIC of 138, provided a quantitative measure of model performance. However, the McFadden's pseudo $R^2$ value of 0.0493 indicated that the model explained less than 5% of the variance in the intention to vaccinate. The Chi-square test for the overall model, $\chi^2(6) = 5.27$, was not statistically significant ($p = 0.510$). This suggested that, when considered collectively, the predictors included in the model did not significantly improve the prediction of vaccination intention beyond chance (Peng et al., 2021).

The model coefficients for individual predictors were examined to assess their contribution to the intention to vaccinate. Statistical significance was evaluated at a threshold of $p \leq 0.05$. The intercept was non-significant ($p = 0.991$), indicating no meaningful baseline prediction in the absence of predictors. Marital status also showed no significant effect on vaccination intention (Estimate = -0.371, $p = 0.588$). Age contributed negligibly to the model, with a near-zero estimate (2.16e-5) and a non-significant p-value ($p = 1.000$). Gender demonstrated a marginal effect (Estimate = -1.013, $p = 0.082$), but this result did not meet the significant threshold and thus cannot be considered reliable evidence of a difference in vaccination intention based on gender. Even so, gender hovered right near significance, and merited further scrutiny, since this factor might have finer nuances in larger or more diverse samples. For instance, it has been documented in previous studies that female healthcare workers are likely to be more health conscious, and were therefore expected to have a higher

uptake of vaccines than their male counterparts (Yin et al., 2024). Past studies also revealed mixed evidence regarding gender differences in vaccination behaviors. While some research stated that female healthcare workers were more vaccinated due to higher health awareness (Yin et al., 2024), others suggested that workplace dynamics or cultural norms formed as influencing factors (Goldstein et al., 2021). Others, however, found that males, older people, and those with a medical background had vaccination intentions and uptake higher (Bish et al., 2011). Future studies with larger sample sizes might clarify whether gender played a nuanced role in influencing vaccination intentions among healthcare providers.

The predictors for highest educational attainment (College – High school and Higher Education – High school) had large coefficient estimates, but extremely high standard errors resulted in non-significant p-values ($p$ = 0.991 and $p$ = 0.992, respectively). These findings indicated no significant relationship between educational attainment and vaccination intention. Similarly, cigarette smoking status did not significantly predict vaccination intention (Estimate = -0.159, $p$ = 0.892). Therefore, none of the predictors met the threshold for statistical significance in predicting the outcome variable. The absence of significant effects for variables such as educational attainment and smoking status were, however, notable. Such an association was contrary to some findings in the general population, wherein lower education levels and smoking behaviors were associated with vaccine hesitancy (Paterson et al., 2020). The shared knowledge base and access to health education might mitigate these demographic differences among healthcare professionals, emphasizing the importance of professional context over individual background.

Furthermore, assumptions of the logistic regression model were tested, particularly multicollinearity among the predictors. Variance Inflation Factor (VIF)

values were below 2, and tolerance values exceeded 0.5 for all variables, indicating no multicollinearity issues (Field, 2020). This confirmed that the predictors were not excessively correlated, and their lack of statistical significance was not due to redundancy among the variables. The results indicated that the binomial logistic regression model did not identify any significant predictors of the intention to vaccinate in the upcoming season. At the significance level of $p \leq 0.05$, none of the predictors—age, marital status, gender, highest educational attainment, or cigarette smoking—were statistically significant in influencing the dependent variable. The non-significant Chi-square test for the overall model ($p = 0.510$) and the low McFadden's $R^2$ value (0.0493) further emphasized the model's limited explanatory power. Gender demonstrated a trend toward significance ($p = 0.082$), suggesting the possibility of a relationship, but it did not meet the strict threshold for significance.

The findings suggested that the predictors included in this analysis were insufficient to explain vaccination intention, and the model might benefit from incorporating additional variables. This finding supported earlier studies indicating that intrinsic factors, such as perceived susceptibility to disease, perceived severity of disease, perceived benefits of and cues to action, had more impact or greater influence on one's intention to vaccinate than demographic factors (Brewer et al., 2020). Likewise, the results were consistent with the study conducted by Alhalalesh et al. (2020), suggesting a weak association between socio-demographic factors and healthcare providers' intention for vaccination. Indeed, demographic characteristics influenced overall health behaviors at the population level; however, the much narrower, shared professional environment and occupational exposures suggested that such factors would lose variation among health service professionals.

From a practical perspective, the results highlighted the need to focus on modifiable behavioral and attitudinal factors rather than static socio-demographic characteristics when designing interventions to improve vaccine uptake among healthcare providers. For example, emphasizing organizational policies that would endorse the benefits of immunization or use cues to action could be more productive than targeting interventions by demographic subgroups. These findings from the current study indicated that the general approach can be applied in healthcare, as socioeconomic and demographic differences might have little impact on the intention to vaccinate. This supported the feasibility of broad institutional strategies, like workplace vaccination campaigns or compulsory vaccination policies, which could apply uniformly across different demographic groups without significant risk of alienating specific subgroups (Larson et al., 2020).

Nevertheless, from international health standpoint, it was important to study and include socio-demographic factors concerning flu vaccination uptake to understand the differences in access, acceptance, and coverage in various populations. Examining these factors would help identify targeted interventions, allocate resources properly, and culturally appropriate strategies for increasing uptake among underserved populations. Such a strategy would promote health equity, strengthen pandemic preparedness, and tackle misinformation and vaccine trust-related issues. Along this space laid the foundation for universal health coverage, ensuring adequate policy implementation and eradicating cross-border health risks to international health initiatives, thereby reducing global disease burden by influenza (World Health Organization, n.d.; Health Economics Review, 2021; PLOS ONE, 2022).

Furthermore, the acceptable multicollinearity statistics confirmed that the predictors were independent of each other, and their lack of significance was not

attributable to issues of redundancy. Although socio-demographic factors were not good predictors of intention to vaccinate in this research, the results emphasized the importance of focusing on behavioral and contextual factors that were more directly linked to vaccine uptake. Future research should explore whether subtle interactions between demographic and behavioral factors may contribute to vaccination behavior, especially in larger and more diverse samples (Peng et al., 2021).

**b. Role-related (job description, primary area of assignment, years of clinical experience, past and anticipated flu vaccination behavior).**

**Table 10**

*Binomial Logistic Regression – Intention to Vaccinate and Role-related Factors*

| Predictor | Estimate | SE | Z | p |
|---|---|---|---|---|
| Intercept | -4.4331 | 1.2813 | -3.460 | <.001 |
| Job Description: | | | | |
| Nursing – Physician | 0.5985 | 1.1095 | 0.539 | 0.590 |
| Allied Health – Physician | 1.3103 | 1.1895 | 1.102 | 0.271 |
| Area of Assignment: | | | | |
| Inpatient – Outpatient | 0.4113 | 0.6869 | 0.599 | 0.549 |
| Years of Clinical Experience | 0.0243 | 0.0446 | 0.545 | 0.586 |
| History of Flu Vaccine at the Institution: | | | | |
| No – Yes | 0.7575 | 0.6835 | 1.108 | 0.268 |
| History of Vaccine Uptake in the Past Year: | | | | |
| No – Yes | 1.1211 | 0.6440 | 1.741 | 0.082 |

Note. Estimates represent the log odds of "Intention to Vaccinate in the Upcoming Season = No" vs. "Intention to Vaccinate in the Upcoming Season = Yes"

This data examined the association between healthcare providers' (HCPs) intention to receive the seasonal influenza vaccine (SIV) and role-related factors such as job description, area of assignment, years of clinical experience, and past or anticipated flu vaccination behavior. The overall model test indicated a modest explanatory power, with a deviance of 96.5, AIC of 110, BIC of 133, and McFadden's

pseudo $R^2$ value of 0.0972. The chi-square test result $\chi^2(6) = 10.4$, $p = 0.109$) suggested that the overall model did not achieve statistical significance.

Model coefficients revealed that none of the role-related predictors significantly associated with vaccination intention, as all p-values exceeded the conventional significance threshold of 0.05. While the intercept was statistically significant ($p < 0.001$), indicating that other unmeasured factors that may likely influence vaccination intention, the predictors themselves—job description ($p = 0.590$), area of assignment ($p = 0.549$), years of clinical experience ($p = 0.586$), and history of flu vaccination ($p = 0.268$)—showed no significant contributions to explaining the variance.

The lack of significant associations between role-related factors and intention to vaccinate reflected the potential homogeneity in attitudes and behaviors among healthcare providers, regardless of professional roles, years of clinical experience, or primary area of assignment. This finding aligned with prior research indicating that healthcare workers, as a professional group, often share similar knowledge and attitudes about vaccination, making role-related distinctions less influential than personal beliefs, institutional culture, or external motivators (Larson et al., 2020).

The predictor, History of Vaccine Uptake in the Past Year, nearly approached significance ($p = 0.082$). In a study by Alhalalesh et al. (2020), past vaccination behavior was a powerful predictor of future vaccine acceptance. It also reflected established habits, trust in vaccines, and perceived efficacy (Brewer et al., 2020). While this was not likewise statistically significant to predict behavior in this sample, it afforded a promising target of intervention for future campaigns in the field for prospective individuals with inconsistent vaccination history.

The lack of predictability found between job description or area of assignment and vaccination intent was contrary to some studies suggesting that role-specific risks can influence vaccine uptake rates. For example, frontline workers, including those working in assigned activities such as emergency or critical-care jobs, tend to record higher vaccination rates because of their increased risk of exposure (Nowak et al., 2020). In addition, there were a number of studies that showed variations in compliance whereby in some institutions, nurses are more compliant, while in some other institutions, doctors are showing more compliance (Boey et al., 2018). The absence of such findings here might reflect an institutional culture where vaccination is encouraged universally, mitigating differences between roles or assignments.

From an international health perspective, these findings underscored the importance of focusing on consistent, institution-wide and universal equitable strategies to promote vaccination rather than tailoring campaigns based on role-related factors. Efforts could include workplace campaigns, educational programs, and system-level policies designed to normalize vaccination across all professional roles. Additionally, addressing barriers to vaccine uptake, even among those with a history of vaccination, remained crucial, as small lapses can disrupt herd immunity in healthcare settings (Pfattheicher et al., 2022).

While role-related factors did not significantly influence vaccination intention in this study, the results highlighted the potential of leveraging past vaccination behavior as a predictive tool for targeting interventions. Future studies should explore whether interactions between role-related factors and personal beliefs could reveal nuanced influences on vaccine acceptance, particularly in larger and more diverse samples.

# CHAPTER V

# CONCLUSION AND RECOMMENDATIONS

## Summary of Findings

The data collectively highlighted key determinants and potential influences on healthcare providers' (HCPs) intention to receive the seasonal influenza vaccine (SIV) in a private tertiary hospital in Metro Manila. Several factors, including perceived susceptibility, severity, benefits, barriers, and cues to action, were shown to play significant roles in shaping vaccination intention, whereas socio-demographic and role-related factors exhibited minimal and non-significant influence except for the history of seasonal influenza vaccination (SIV). These findings provided crucial insights for designing targeted interventions and broader health strategies that were geographically relevant to the Philippine setting to improve vaccine uptake among HCPs.

## Problem 1: Specific Intention for SIV Uptake among Healthcare Providers

The study revealed that 90.8% of healthcare providers (HCPs) in a private tertiary hospital in Metro Manila intended to receive the seasonal influenza vaccine (SIV) in the upcoming season, with only 9.2% expressing hesitation. The descriptive analysis showed a mean intention score of 1.09 (on a binary scale where 1 = Yes and 2 = No), with minimal variability (SD = 0.290). This strong consensus underscored the positive vaccination culture within the institution. This means healthcare workers were inclined and willing to receive the seasonal influenza vaccine (SIV). However, the small minority who were hesitant to vaccinate suggested the need for targeted

interventions to address potential barriers such as vaccine hesitancy or logistical and systemic challenges.

**Problem 2: Association between HCPs' Intention to Vaccinate and Perceived Beliefs**

**a. Perceived Susceptibility**

The study found that 90.48% of respondents perceived themselves as highly susceptible, to influenza infection, and this belief was significantly, $x^2(1, N=252) = 165$, $p<.001$, associated with vaccination intention. This result aligned with health behavior theories emphasizing perceived risk as a driver for preventive health actions. Addressing the 9.52% of HCPs with low susceptibility perceptions through education and awareness campaigns could further enhance vaccination rates.

**b. Perceived Severity**

A strong perception of influenza severity was reported by 90.42% of respondents, significantly, $x^2(1, N=262) = 171$, correlating with intention to vaccinate. HCPs' clinical experiences likely influenced this perception, reinforcing their motivation to vaccinate. However, interventions were necessary to address the minority (9.58%) who perceived influenza as a minor illness, potentially undermining the urgency to vaccinate.

**c. Perceived Benefits**

Perceived benefits of the influenza vaccine were reported by 88.6% of respondents, with a significant, $x^2(1, N=262) = 156$, $p<.001$, association observed with vaccination intention. HCPs widely recognized the vaccine's efficacy in preventing

complications and maintaining workforce stability. However, addressing the misconceptions held by the 11.4% of respondents who undervalued the vaccine's benefits remained a priority for increasing uptake.

**d. Perceived Barriers**

Low perceived barriers were reported by 91.45% of respondents, with a significant, $x^2(1, N=402) = 276$, $p<.001$, positive association with intention to vaccinate. Practical and psychological barriers such as concerns about vaccine safety or access were minimal in this cohort, reflecting that healthcare workers do not view significant challenges or obstacles in getting the flu vaccine. However, tailored strategies are necessary for the 8.55% who reported higher barriers, ensuring equitable access and addressing lingering fears or logistical issues.

**e. Cues to Action**

Strong cues to action, including reminders, workplace campaigns, and peer influence, were identified by 89.4% of respondents as influential, significantly, $x^2(1, N=318) = 197$, $p<.001$, correlating with vaccination intention. Institutional or health agency guidelines, public announcements or news about an influenza outbreak, and peer influence effectively bridged the gap between intention and action. Expanding targeted reminders for the 10.6% less influenced by cues could further enhance uptake.

**Problem 3: Association between the HCPs' intention for SIV uptake and the modifying factors**

Notable associations were observed between previous influenza vaccination, at the institution ($p = 0.026$) and the recent year ($p = 0.005$), and intention for flu

vaccine uptake. This suggested that consistent vaccination habits might be useful to reinforce uptake. Using these findings to identify past vaccine experience for targeted interventions might increase the efficacy of such campaigns.

**Problem 4: Modifying Factors that Predict the Likelihood of SIV Uptake**

**a. Socio-Demographic Factors**

Socio-demographic variables, including age, gender, marital status, educational attainment, and smoking status, were not significantly associated with vaccination intention. The weak explanatory power of the regression model (McFadden's $R^2$ value = 0.0493) indicated that the model explained less than 5% of the variance in the intention to vaccinate. When subjected to further tests, the Chi-square for the overall model, $\chi^2(6) = 5.27$, was not statistically significant ($p = 0.510$). This finding highlighted that the factors in the model did not substantially enhance the prediction of vaccination intention over chance even when considered collectively.

**b. Role-Related Factors**

Role-related factors, such as job description, area of assignment and years of clinical experience, showed no significant association with intention to vaccinate. The findings indicated that perceived beliefs, particularly susceptibility, severity, benefits, barriers, and cues to action, significantly influenced HCPs' vaccination intentions, whereas socio-demographic and role-related factors played minimal roles. These results support the implementation of institutional strategies that emphasized behavioral motivators, reduce barriers, and leverage external cues. Education campaigns addressing specific misconceptions and targeted outreach for hesitant HCPs could further enhance uptake. By fostering a robust vaccination culture,

healthcare institutions could protect both providers and patients, contributing to broader health goals.

## Conclusions

This study underscored the essential role of perceived beliefs in affecting the intention of healthcare providers (HCPs) at a private tertiary hospital in Metro Manila to receive the seasonal influenza vaccine (SIV). The high percentage of people intending to vaccinate (90.8%) demonstrated how well an individualized pro-vaccine intention can be achieved, driven by beliefs in one's susceptibility to influenza, a firm understanding of the severity of the disease and benefits of vaccination and the impact of different external cues. Barriers perceived to be low led the majority of respondents to accept the vaccine even more easily.

Amidst these positive findings, the presence of a hesitant minority highlighted the need for targeted interventions. Addressing misconceptions about susceptibility, severity, and vaccine benefits, as well as mitigating logistical and psychological barriers, would be essential to achieving near-universal vaccination coverage. The lack of significant associations between socio-demographic and role-related factors suggested that professional and contextual influences outweighed individual characteristics, supporting the feasibility of broad, institution-wide strategies.

From an international health viewpoint, having a snapshot of the variables and factors leading to the decision of HCP to receive the Seasonal Influenza Vaccine that is geographically grounded is crucial. To enhance SIV uptake, healthcare institutions should implement evidence-based policies that integrate education, accessibility, and consistent cues to action. By leveraging HCPs' strong pro-vaccine behaviors, hospitals

could not only protect their workforce but also position HCPs as role models and advocates for vaccination, contributing to improved health outcomes and reduced influenza transmission.

## Recommendations

**Focus on High-Risk Perceptions**: The district of Tondo, a densely populated area in Metro Manila serving a diverse range of clients, relies on a well-protected healthcare workforce to ensure sufficient manpower for addressing the needs of the community and patients in need of care at any given time. Enhancing messaging to raise healthcare professionals' awareness of their increased vulnerability to influenza due to occupational exposure is crucial. Utilizing data and case studies can highlight the direct benefits of vaccination in safeguarding their health, their families, and their patients.

**Enhance Education Campaigns**: Develop regular and periodic educational initiatives emphasizing the risks, impact and severity of influenza, the benefits of vaccination, and the effectiveness of the influenza vaccine. Focus is paramount in addressing misconceptions among the 9.2% of healthcare providers (HCPs) hesitant to vaccinate by leveraging evidence-based information and real-world data on morbidity and mortality rates.

**Promote Vaccine Benefits**: With this study, the HCPs' are guided to make informed decisions toward seasonal influenza vaccine to protect not only themselves but also their families and patients including those who are highly susceptible to serious flu illness and complications. This can be achieved through workshops and information sessions, emphasizing the protective role of vaccination in preventing

severe complications, maintaining workforce productivity, and protecting vulnerable patient populations. Furthermore, perceived benefits highlighted the role of vaccination in hospitalizations and the reduced healthcare costs associated with these during influenza seasons.

**Reduce Perceived Barriers**: By providing access to vaccinations through onsite and mobile vaccination drives as well as flexible scheduling, barriers would be reduced, not only logistically but also psychologically, to maximize ease of access to vaccination facilitates. Making vaccines free-of-charge and recognizing participation, for instance, through certificates for compliance, publishing unit-based immunization rates, or other incentive programs are possible ways to address these. Tailor such interventions toward specific concerns around vaccine safety and side effects through one-on-one sessions or group discussions with a trusted healthcare professional.

**Leverage Cues to Action**: This includes strengthening institutional cues to action such as automated reminders, policies, and peer testimonials or endorsements. In hospitals where the management and leadership are involved in developing programs and campaigns to increase flu vaccination rates among healthcare professionals, frequent reminders should be present and easily accessible to all staff including people who reported lesser influences from cues. Incorporating vaccination reminders into routine workflows such as digital tools (electronic health record systems, email announcements, or mobile app notifications) and multi-media could serve as practical vehicles to further awareness and action.

**Promote Peer Advocacy**: Advocate the vaccinated HCPs to become vaccine champions and share their experience and decision to get vaccinated with their

colleagues and patients. Peer influence and testimonies from senior staff could reduce hesitancy and cultivate a culture of immunization in an institution.

**Utilize Past Behavior as a Key Determinant**: Identify people with inconsistent records of vaccination and develop tailored approaches to overcoming those barriers or hesitancies associated with that person. Follow-up might be used, for example, to ascertain how she/he would benefit, reinforcing the need for regular vaccinations.

**Institutional Policies**: A few examples of institutional policies that could be introduced are compulsory vaccination of health providers and the opt-out approach which require justifiable reasons for non-vaccination. These approaches have been known to increase vaccination rates in the healthcare setting while still preserving staff's autonomy.

**Expand Research Scope and Study Opportunities:** Conduct further research to explore nuanced factors influencing vaccination intention, such as interactions between socio-demographic and role-related variables and personal beliefs. Use larger, diverse samples to validate findings and refine interventions. Future studies could also benefit from comparing healthcare workers' vaccination intentions with their actual uptake. Moreover, conduct longitudinal research that assesses and evaluates the effectiveness of the pilot interventions suggested in this study to enhance influenza vaccine uptake among healthcare workers and in informing the development of policies at both national and regional levels.

**Resource for Guidelines and Protocols:** By offering an overview of healthcare professionals' acceptance of flu vaccinations, this would lay the groundwork for developing health agency (e.g. Department of Health) advisories, guidance, recommendations, and future research on the topic.

**Monitor and Evaluate Interventions**: Regularly assess the effectiveness of implemented strategies through surveys and feedback mechanisms. Use this data to adjust campaigns and policies dynamically, ensuring that they remain effective in addressing emerging challenges.

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Appendices

# APPENDIX A

## Letter Seeking Permission to Use Questionnaire Tool



UNIVERSITY OF THE PHILIPPINES

**Gabriel Yumul <giyumul@up.edu.ph>**

### ***Letter Seeking Permission to Use Questionnaire Tool

**Gabriel Yumul** <giyumul@up.edu.ph> Sun, Apr 7, 2024 at 11:45 PM
To: Drlanahalaseh@gmail.com, l.halaseh@ju.edu.jo
Cc: Rita Ramos <rita.ramos@upou.edu.ph>

Dear Dr. Lana AlHalaseh,

Greetings of the day, trust that you are doing well.
I am Gabriel Yumul, a master's student at the University of the Philippines completing a thesis in the International Health Promotion Program under the supervision of my Professor, Dr. Rita Ramos. I am inspired by your study on "The Health Belief Model in predicting healthcare workers' intention for influenza vaccine uptake in Jordan" that has sparked my interest to undertake a similar study here in my home country, the Philippines.

I am writing to ask for permission to use the questionnaire/survey tool from your study which will be helpful in determining the intention for flu vaccination uptake of HCWs in my country.

I would also appreciate it if you could share with me copies of your test questionnaire, standard instructions for administering it and scoring procedures. In addition to using the instrument, I also ask your permission to reproduce it in my thesis appendix.

I would like to use the tool under the following conditions:
a. I will use it solely for my research study and will not sell or use it for any other purposes.
b. I will include a statement of attribution and copyright on all copies of the instrument.
c. I will send a copy of my completed research study upon your request and/or provide a hyperlink to the final manuscript.

Hoping for your kind understanding and favorable response.

Sincerely,

Gabriel I. Yumul, CIC©, CPHQ©, MIH(c), DIH, RM, RN
Master in International Health Student/Candidate of the University of the Philippines-Open University
Infection Control and Prevention
Quality Improvement Coach and Patient Safety Specialist
Mob: (+63) 969-631-9412 (Philippines) / (+974) 6605-0543 (Qatar)

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**Gabriel Yumul <giyumul@up.edu.ph>**

## ***Letter Seeking Permission to Use Questionnaire Tool

**Lana Halaseh** <l.halaseh@ju.edu.jo> Tue, Apr 9, 2024 at 2:20 AM
To: Gabriel Yumul <giyumul@up.edu.ph>

Dear Gabriel,

Thank you for your email! I am granting you my permission and approval to use my article as a model to replicate the work and see how your country compares to mine. Please note that the study tool has sociodemographic questions in one part and the other part is including Table 2 which has the exact sentences you want to include in your questionnaire; the question on top of the paper was: "For each question/statement below, please indicate whether you strongly agree, agree, disagree or strongly disagree".

If you still need help, please do not hesitate to contact me.

Good luck!

Lana

Dr. Lana Halaseh, MCFP (COE),FCGS
Associate Professor of Medicine, University of Jordan (UJ)
Consultant Family Physician- Geriatric Specialist and Hospitalist
Program Director of Family Medicine training
Licentiate of the Medical Council of Canada (LMCC)
Member of the American Geriatric Society (AGS)
Member of the Middle East Academy for Medicine of Aging (MEAMA)
@DrLanaHalaseh

Please consider the environment before printing.

There is no planet B!

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**From:** Gabriel Yumul <giyumul@up.edu.ph>
**Date:** Sunday, 7 April 2024 at 6:45 PM
**To:** Drlanahalaseh@gmail.com <Drlanahalaseh@gmail.com>, Lana Halaseh <l.halaseh@ju.edu.jo>
**Cc:** Rita Ramos <rita.ramos@upou.edu.ph>
**Subject:** ***Letter Seeking Permission to Use Questionnaire Tool

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# APPENDIX B

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Apr 23, 2024

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## APPENDIX C

Survey Questionnaire (Alhalaseh et al., 2020)

Name (Optional): _____

Date of Survey: _____

**Part 1: Demographic Information**

Direction: Please tick (check) your answer corresponding to the below questions.

1. Age

☐ 20-29 years old

☐ 30-39 years old

☐ 40-49 years old

☐ +50 years old

2. Marital Status

☐ Single

☐ Married

3. Gender

☐ Male

☐ Female

4. Highest Educational Attainment

☐ High school graduate

☐ College Graduate

☐ Higher Education

5. Cigarette Smoking

☐ Current

☐ Non-smoker

6. Job Description

□ Physician

□ Medical Staff

7. Any history of a previous influenza vaccine uptake while working at the institution?

☐ Yes

☐ No

8. Had a history of vaccine uptake in the past year?

☐ Yes

☐ No

9. Do you have intention or plan of taking the vaccine in the upcoming influenza season 2016/2017?

☐ Yes

☐ No

**Part 2: Perceived Beliefs**

Direction: Please choose the extent to which you agree with each of the following statements relating to the seasonal influenza vaccination (SIV) or flu vaccine. Please choose the corresponding circle for your answer.

| **A. Perceived susceptibility to infection** | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| Being an Healthcare Provider (HCP) increases my risk of contracting influenza compared to the general population. | | | | |
| HCPs can transmit a bad influenza to their elderly & high-risk patients. | | | | |
| **B. Perceived severity of infection** | | | | |
| Influenza infection and its complications maybe serious. | | | | |
| **C. Perceived benefits of influenza vaccine** | | | | |
| HCPs should receive the influenza vaccine to protect themselves against seasonal influenza. | | | | |

| | | | | |
|---|---|---|---|---|
| HCPs should receive the influenza vaccine to protect themselves against pandemic influenza. | | | | |
| HCPs should receive the influenza vaccine to protect their patients against influenza. | | | | |
| The vaccine should be given before pilgrimage | | | | |
| Influenza vaccine decreases absenteeism from work. | | | | |
| Influenza vaccine is a must if I have a chronic disease. | | | | |
| "Would rather get the influenza vaccine than get the flu." | | | | |
| **D. Perceived barriers against vaccination** | | | | |
| "I do not catch flu normally." | | | | |
| "I have a strong immune system." | | | | |
| Influenza vaccine can cause more harm than good. | | | | |
| Side effects of the vaccine are serious. | | | | |
| Unavailability of the vaccine in the right place and time is a barrier against immunization. | | | | |
| Cost of the vaccine is a setback. | | | | |
| **E. Cues to action** | | | | |
| Influenza vaccine is especially protective as it is recommended in most of the guidelines. | | | | |
| The presence of news of a bad influenza season makes me want to get the Influenza vaccine. | | | | |

# APPENDIX D

Study Questionnaire

**Study Survey Questionnaire**

This survey pertains to the study in compliance to the requirements for Masters in International Health (MIH) conducted by the student researcher, Mr. Gabriel I. Yumul. The purpose of this research is to help the researcher examine the intentions of healthcare workers regarding annual/seasonal flu vaccination uptake and to have a better understanding on their beliefs and other factors that may influence their decision.

Thank you for your valuable support.

Name (Optional): _____

Date and Time Started: _____

**Part 1: Demographic Information**

Direction: Please tick (√) your answer corresponding to the below questions.

1. Age

☐ 20-29 years old

☐ 30-39 years old

☐ 40-49 years old

☐ +50 years old

2. Marital Status

☐ Single

☐ Married

3. Gender

☐ Male

☐ Female

4. Highest Educational Attainment

☐ High school graduate

☐ College Graduate

☐ Higher Education

5. Cigarette Smoking

☐ Current

☐ Non-smoker

6. Job Description

☐ Physician

☐ Nursing

☐ Allied Health

7. Primary area of assignment

☐ Out-patient (Emergency Department, OPD, Radiology, Laboratory, Physiotherapy, etc.)

☐ In-patient (Medical, Surgical, Pediatrics, OB-Gyn, ICUs, OR, LR/DR, Etc.)

8. Years of clinical experience (post graduate)

☐ 0-5 years

☐ 6-10 years

☐ 11-15 years

☐ +16 years

9. Any history of a previous influenza vaccine uptake while working at the institution?

☐ Yes

☐ No

10. Had a history of vaccine uptake in the past year?

☐ Yes

☐ No

11. Do you have intention or plan of taking the vaccine in the upcoming influenza season 2024/2025?

☐ Yes

☐ No

**Part 2: Perceived Beliefs**

Direction: Please choose the extent to which you agree with each of the following statements relating to the seasonal influenza vaccination (SIV) or flu vaccine. Please tick (√) your answer corresponding to the below questions.

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| **1. Perceived susceptibility to infection** | | | | |
| a. Being a Healthcare Provider (HCP) increases my risk of contracting influenza compared to the general population. | | | | |
| b. HCPs can transmit a bad influenza to their elderly & high-risk patients. | | | | |
| **2. Perceived severity of infection** | | | | |
| a. Influenza infection and its complications maybe serious. | | | | |
| **3. Perceived benefits of influenza vaccine** | | | | |
| a. HCPs should receive the influenza vaccine to protect themselves against seasonal influenza. | | | | |
| b. HCPs should receive the influenza vaccine to protect themselves against pandemic influenza. | | | | |
| c. HCPs should receive the influenza vaccine to protect their patients against influenza. | | | | |
| d. The vaccine should be given before the flu season starts. | | | | |
| e. Influenza vaccine decreases absenteeism from work. | | | | |
| f. Influenza vaccine is a must if I have a chronic disease. | | | | |
| g. "Would rather get the influenza vaccine than get the flu." | | | | |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| **4. Perceived barriers against vaccination** | | | | |
| a. “I do not catch flu normally.” | | | | |
| b. “I have a strong immune system.” | | | | |
| c. Influenza vaccine can cause more harm than good. | | | | |
| d. Side effects of the vaccine are serious. | | | | |
| e. Unavailability of the vaccine in the right place and time is a barrier against immunization. | | | | |
| f. Cost of the vaccine is a setback. | | | | |
| g. Receiving the shot will produce physical discomfort. | | | | |
| h. “My fear of needles/sharps prohibits me from receiving the flu vaccine.” | | | | |
| **5. Cues to action** | | | | |
| a. On a yearly basis, Influenza vaccine is especially protective as it is recommended in most of the guidelines. | | | | |
| b. The presence of news of a bad influenza season makes me want to get the Influenza vaccine. | | | | |
| c. “I will take the flu vaccine because my family, friends or colleagues got it”. | | | | |

Date and Time Completed: _____

# APPENDIX E

Informed Consent Form for Healthcare Providers in a Private Tertiary Hospital in Metro Manila

**University of the Philippines Open University**
**INSTITUTIONAL RESEARCH ETHICS COMMITTEE**

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**Informed Consent Form for *Healthcare Providers in a Private Tertiary Hospital in Metro Manila***

**Name of Principal Investigator:** Gabriel I. Yumul
**Name of Organization:** Master of International Candidate (MIH), University of the Philippines Open University (UPOU)
**Name of Sponsor:** Asst. Prof. Rita C. Ramos
**Name of Project:** The Intention for Seasonal Influenza Vaccine (SIV) Uptake and the Perceived Beliefs of Healthcare Providers (HCP) in a Private Tertiary Hospital in Metro Manila

## PART I: INFORMATION SHEET

### INTRODUCTION

I, Gabriel I. Yumul, a MIH candidate of UPOU, request you to participate in a study about healthcare worker's intention regarding the uptake of the annual/seasonal flu vaccination and their beliefs about it. You are given enough time to decide whether you want to participate or not. If you do not understand some of the terms, words or concepts, these will be explained and you can ask questions at any time.

### PURPOSE OF THE RESEARCH

The purpose of your participation in this research is to help the researcher examine the intentions of healthcare workers regarding annual/seasonal flu vaccination uptake and to have a better understanding on their beliefs and other factors that may influence their decision.

### TYPE OF RESEARCH INTERVENTION

If you agree to participate in the study, you will be asked to answer a survey that involves a series of yes/no and multiple-choice questions.

### PARTICIPANT SELECTION

You are selected to participate in this study because you are an HCP working in the chosen private tertiary hospital in Metro Manila, delivering direct care its patients.

### VOLUNTARY PARTICIPATION

Your participation in this study is completely voluntary and you may choose to stop participating at any time. Whether you decide to participate or not, the study will not influence nor have any bearing on your job or job-related evaluations.

**PROCEDURES**

After you signed the written informed consent, you will be asked to personally answer a self-directed paper-based questionnaire that involves a series of yes/no and multiple-choice questions. The survey has two parts: demographic information and perceived beliefs. You can ask questions at any time if you do not understand some of the terms, words or concepts.

If you do not wish to answer any of the questions, this may be skipped and you may can proceed to the next question. However, since an answer is required for the question pertaining to "intention for vaccination" (Part 1, Item no. 11), those who have not provided any response to this question will not be counted.

Upon completion, the respondent shall fold and enclose it in the envelope provided, and hand it to the researcher or send it to the drop box located in the Nursing Service Office. The information recorded is confidential, only a letter and number will identify you, and no one else except the researcher will have access to the answers of the survey.

**DURATION**

Your participation will involve a one-time visit, where the survey form is handed over for you to complete whenever it is most convenient but within the allotted two hours.

**RISKS**

Since the study is delivered in survey method and no intervention is introduced, the risk for harm is unlikely. However, if you feel uncomfortable, embarrassed or inconvenienced when answering the survey, you may choose not to complete the survey.

**BENEFITS**

Upon completion of the study, the findings will be presented to you so you may be guided to make an informed decision towards flu vaccination. It will be made available for your hospital, to influence hospital leaders to launch campaigns or programs that will enhance the uptake of it. Being a pioneer on this subject matter, the study is planned to be published so that policymakers and the international community can have an overview of the HCPs' flu vaccination intention and beliefs in the Philippine context.

**REIMBURSEMENTS**

By participating in the study, you will not receive any form of payments, compensation or free services.

**CONFIDENTIALITY**

All data collected for this study will be kept confidential by using codes or identity letters and numbers in exchange for names. Only the researcher will have access to all the data to protect the respondents from potential damages (e.g. identity theft, bullying, guilt, or mental harm like humiliation, etc.). The respondent is assured that no sensitive personal information will be shared, published or presented.

**SHARING THE RESULTS**

Once the study is complete, the research findings will be published in refutable journals and presented in seminars or conferences.

**RIGHT TO REFUSE OR WITHDRAW**

Your participation in this study is voluntary and you have the right to withdraw at any time, without having the need to give any reason. You will have an opportunity to review your answers and change or erase any response to the survey questionnaire, if you decide so.

**DATA MANAGEMENT**

The database can only be handled solely by the researcher and kept securely in a password-protected and encrypted flash drive. Whereas, written and accomplished forms will be safely stored in a locked filing cabinet by the researcher for a span of three years; thereafter, they will be subject to disposal through shredding.

**WHO TO CONTACT**

If you have questions about the research in general or about your role in the study, please feel free to contact Mr. Gabriel I. Yumul either by phone number at 0969-631-9412 or by email giyumul@upou.edu.ph. Alternative contact details are 0969-631-9405 or gabrielyumul@gmail.com. This study has been reviewed and approved by the Ethics and Research Committee (ERC) of the hospital. If you have any questions about this process, or about your rights as participant in the study, please contact ERC of the hospital.

## PART II: CERTIFICATE OF CONSENT

*This section is mandatory*

**I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.**

**Print Name of Participant:** _____

**Signature of Participant:** _____

**Date [MM/DD/YYYY]:** _____

*If Illiterate*

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

**I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.**

**Print name of witness: _____Thumb print of participant:**

**Signature of witness: _____**

**Date [MM/DD/YYYY]: _____**

**STATEMENT BY THE RESEARCHER OR PERSON TAKING CONSENT**

**I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:**

**1.**

**2.**

**3.**

**I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.**

**A copy of this Informed Consent Form has been provided to the participant.**

**Print Name of Researcher or person taking the consent: _____**

**Signature of Researcher or person taking the consent: _____**

**Date [MM/DD/YYYY]: _____**

# APPENDIX F

Curriculum Vitae Form

Gabriel I. Yumul

| | UP OPEN UNIVERSITY<br>Institutional Research Ethics Committee | | |
|---|---|---|---|
| | **CURRICULUM VITAE FORM** | REC Form No. | 1 (B) |
| | | Version No: | 01 |
| | | Date of Effectivity: | |

| General Information | | | |
|---|---|---|---|
| Name: | Gabriel I. Yumul | Date of birth: March 18, 1989 | |
| Address: | 0782 Verbena St., Don Bosco, Brgy. Mabiga, Mabalacat City, Pampanga | Contact number: 0969-631-9412<br>Email address: giyumul@up.edu.ph/ gabrielyumul@gmail.com | |
| Affiliation: | Name of Department:<br>N/A | Name of Institution:<br>N/A | |
| Position: | N/A | Specialty: Infection Prevention and Control | |
| Highest Educational Attainment: | Name of Institution:<br>-University of the Philippines Open University<br><br>-Angeles University Foundation | Course/Degree:<br>-Diploma in International Health<br><br>-Bachelor of Science in Nursing | Year/s attended:<br>-2017 to 2019<br><br>-2005 to 2009 |
| Research Related Trainings including Research Ethics: | Name of Course:<br>1. HMC Social & Behavioral Researchers<br>2. CITI Conflicts of Interest<br>3. HMC Good Clinial Practice and Clinical Trail Investigators<br>4. CITI Health Information Privacy and Security and HMC Biomedical and Social Behavioral Researchers | Offered by:<br>1. Hamad Medical Corporation and Collaborative Institutional Training Initiative (CITI) Program | Year:<br>1. 2021 |

| | |
|---|---|
| Name and signature: Gabriel I. Yumul | Date: June 20, 2024 |

# YUMUL, GABRIEL IBANEZ, CIC, CPHQ, DIH, RM, RN

Infection Prevention and Control Practitioner (CBIC, NYS, QA and Ph-IC)
Healthcare Quality and Patient Safety Specialist (IHI and Joint Commission-QMEP)

**Address:** 0782 Verbena Street, Don Bosco, Mabiga, Mabalacat, Pampanga, Philippines
**Date of Birth:** March 18, 1989 **Citizenship:** Filipino
**Mobile No.:** +63-969-631-9412 (PH) **Email Add.:** gabrielyumul@gmail.com / giyumul@yahoo.com

## OBJECTIVE:

To conscientiously and efficiently utilize and enhance my acquired knowledge, skills and expertise in the practice of my chosen profession in your well – respected institution.

## SPECIALTIES:

- Certified in Infection Control (CIC)
- Quality and Patient Safety Improvement Coach
- Healthcare Leadership and Administration
- Nursing Education
- Medical-Surgical Nursing
- Maternal and Child Nursing
- Psychiatric Nursing
- Stoma and Complex Wound Care

## EDUCATION:

**Post-Graduate Degree: Master of International Health- In Progress**
**School:** University of the Philippines Open University (UPOU)
**Address:** Los Banos, Laguna 4031, Philippines

**Post-Graduate Degree: Diploma in International Health (DIH)- Completed (AY 2017-2019)**
**School:** University of the Philippines Open University (UPOU)
**Address:** Los Banos, Laguna 4031, Philippines

**Collegiate: Bachelor of Science in Nursing-C.Y. 2005-2009**
**School:** Angeles University Foundation (AUF)
**Address:** Mc Arthur Highway, Angeles City
**Date of Graduation:** March 21, 2009
**Awards Received:**
> **Cum Laude, Batch 2009**
> **Outstanding Achievement Plaque and Scholar, Masses Advocate Foundation Inc.,** Los Angeles California
> **College Scholar, C.Y. 2006-2009**
> **Barbara Y. Angeles (BYA) Scholar, C.Y. 2005-2006**

## WORK EXPERIENCES:

**Position: Head of Hospital Infection Control (February 26, 2018 – April 30, 2023)**
Institution: Hazm Mebaireek General Hospital (HMGH), Hamad Medical Corporation, Doha, Qatar
**Key Responsibilities and Achievements:**

- Pivotal role as the lead for the national pandemic preparedness for COVID-19 (2020-2023) in Qatar.
- Pre-construction, commissioning and mobilization of a new branch of hospital in Qatar, HMGH.
- Zero healthcare-acquired infections (HCAI) and device associated infection (DAI) in ICUs for more than 3 years.
- A cornerstone in establishing the IPC department and committee of the hospital while leading and coordinating the activities of the department in identifying priority problems and plan measures to mitigate or control them.
- Maneuver the hospital while closely working with other departments in devising programs and strategies to prevent and control HCAI among patients, staff and other clients.
- Prepare strategic plans, programs and annual reports that will aid the hospital in prioritizing activities and programs like IPC annual recognition, hand hygiene and IPC week, flu/COVID-19 vaccination, outbreak management, etc.
- Active involvement and serve as a resource person and coach not only for infection prevention and control (IPC) but also for quality and patient safety (QPS) initiatives and projects.

**Position: Infection Control Practitioner (February 20, 2013 – February 2018)**
Institution: Hamad General Hospital, Hamad Medical Corporation, Doha, Qatar
**Key Responsibilities and Achievements:**

- Focal person for the national preparedness for Ebola Virus (2014-2016) and MERS-CoV (2013 to 2015) and recognized by the WHO for efforts to prevent MERS-COV among staff.
- Star Winner for IPC (2015) and initiator of several QPS projects.
- 90% improvement of hand hygiene and isolation precaution compliance not only in ICUs but also in-patient wards.
- Investigate and inhibit occurrences of potential infectious disease outbreaks in the different wards and provide alternative solutions and measures to abort and limit the further spread of infections.
- Proactively collects, reviews, analyzes, and interprets surveillance data and recommends appropriate actions to clinicians targeted to reduce or eliminate infectious risks in patients and staff.
- A change agent by developing and implementing infection control measures and policies to improve quality of care and promote zero tolerance to HCAIs.

**Position: Infection Control Officer (May 24, 2010 – September 10, 2012)**
Institution: The Medical City - Angeles, Sto. Entierro St., Angeles City
**Key Responsibilities and Achievements:**

- Successfully commissioned and prepared the hospital for accreditations (e.g. Philhealth).
- Spearheaded activities that will provide evidence for supporting or revision of infection control measures and activities.
- Carry out a practical system of surveillance of healthcare-acquired infection through systemic data collection and consolidation, data analysis and interpretation, data dissemination, and instituting appropriate control measures.
- Investigate occurrences of potential disease outbreaks in the different wards and hospital units and provide solutions and measures to abort and limit the further spread of infections.
- Develop policies and procedures for hospital infection control like standard patient care procedures, especially with communicable diseases, appropriate isolation techniques and precautions, and hospital environmental controls, especially augmented/patient care areas.
- Conduct continuing education of the hospital staff regarding hospital infection control.
- Liaison with department heads from nursing, central supply, housekeeping, maintenance, pharmacy, dietary/kitchen, laboratory, and clinical services to ensure appropriate infection control measures are met.
- Recommend post-exposure management for patients and personnel.
- To evaluate products that may have infection control implications.

**Position: Nurse Supervisor (Assistant Nurse Manager III) (September 01, 2011 – September 10, 2012)**
Institution: The Medical City - Angeles, Sto. Entierro St., Angeles City
**Key Responsibilities and Achievements:**

- Opening and mobilization of the hospital.
- Plan, organize, and lead the nursing service to provide highest quality of nursing care to patients and other clients.
- Collate and review reports and recommendations and provide guidance the nursing service personnel in the investigation of issues and concerns that may exist in the clinical area.
- Actively participate and serve as the key representative of the nursing service while assuming functions of the Chief Nurse (in absence) in meetings and activities of the hospital.
- Conduct nursing audits, quality assurance rounds and recommend policies and procedures that will improve the provision of safe and highest-quality nursing care.
- Dynamic and continuous assessment of the training and in-service and continuing education needs of the nursing department.
- Evaluate the leadership ability and qualities of nursing staff based on skills, knowledge, and attitude.
- Respond to various departments requesting emergency assistance and assign staff accordingly during emergencies.

**Position: Staff Nurse (September 1, 2009 – August 31, 2011)**
Institution: The Medical City - Angeles, Sto. Entierro St., Angeles City
**Key Responsibilities and Achievements:**

- Render professional and quality nursing serive to patients and other clients by ensuring safe care and evidence-based practice.
- Perform therapeutic nursing interventions as established in individual plan-of-care, utilizing the nursing process as a framework for performing comprehensive and systematic health assessment, formulating a plan of care in collaboration with patients and other members of the health team, and evaluating progress towards expected outcomes.
- Administering medication and other health therapeutics by conforming to the 10 golden rules in medication and health management and carrying out doctor's orders accurately and in a timely manner.
- Establishing means of providing continuous patient care and reporting the patient's condition to the appropriate healthcare provider and
- Utilize and ensure the proper functioning of resources to support patient care.

**CORRESPONDING QUALIFICATIONS:**

- Certification Board in Infection Control and Epidemiology (CBIC): **Certified in Infection Control (CIC)**
- New York State Licensure Examination: **Infection Control Certified (ICC)**
- National Association for Healthcare Quality (NAHQ): **Certified Professional in Healthcare Quality (CPHQ)**
- **Completed a post-graduate course,** Diploma in International Health and ongoing Master's degree.
- **Australian OSCE and MCQ Exam – NCLEX AuRN Passer**
- **US Registered Nurse - Unencumbered**
- Professional Regulation Commission **Licensed Registered Nurse and Midwife.**
- **Graduate of Bachelor of Science in Nursing** at Angeles University Foundation.

## LICENSES AND CERTIFICATIONS:

| Examination/Certification taken: | License/Certification No. | Date Issued: |
|---|---|---|
| • **National Council Licensure Examination (NCLEX)-RN** | R221022 | December 23, 2022 |
| Issued by National Council of State Boards of Nursing (NCSBN) | | |
| • **Certified Professional in Healthcare Quality (CPHQ)** | 119980 | December 31, 2020 |
| Issued by National Association for Healthcare Quality (NAHQ) | | |
| • **Improvement Coach Professional Development** | N/A | September 2020 |
| Issued by Institute for Healthcare Improvement (IHI) | | |
| • **Patient Safety Certificate Program** | N/A | September 2019 |
| Issued by American Society for Healthcare Risk Management of the American Hospital Association | | |
| • **Joint Commission International (JCI)-Quality Management Education Program** | HGI-02-MED-P397 & P398 | November 09, 2019 |
| Issued by Department of Medical Education, Hamad Medical Corporation | | |
| • **Lean Six Sigma Black Belt-Project Based** | N/A | November 29, 2018 |
| Issued by Leoron Professional Development Institute | | |
| • **Lean Six Sigma Green Belt-Project Based** | N/A | November 15, 2018 |
| Issued by Leoron Professional Development Institute | | |
| • **Immediate Life Support Provider Course** | 974-15-123986-06-01 | December 14, 2015 |
| Issued by European Resuscitation Council | | |
| • **Infection Control Certification** | CRS-1179500 | November 02, 2019 |
| Issued by New York State Licensure: Infection Control Training Solutions | | |
| • **Certified in Infection Control (CIC) Examination** | 106961 | December 05, 2013 |
| Issued by Certification Board in Infection Control and Epidemiology, Inc. (CBIC) | | |
| • **Certificate of Completion: ICID Basic Provider Course** | ICID-B-08 | September, 2013 |
| Issued by HITC in collaboration with The George Washington University | | |
| • **Certificate of Completion: BCTC for ICN** | n/a | February 24, 2012 |
| Issued by Philippine Hospital Infection Control Nurses Association (PHICNA), Inc. | | |
| • **Certificate of Completion: Stoma and Wound Training** | n/a | November 12, 2011 |
| Issued by Philippine Nurses Association (PNA) | | |
| • **Midwife Licensure Examination** | 0150497 | November 25, 2009 |
| Issued by Professional Regulation Commission (PRC) | | |
| • **Nurse Licensure Examination** | 0578876 | September 11, 2009 |
| Issued by Professional Regulation Commission (PRC) | | |

## PROJECTS INVOLVED

- Presenter: "2nd Dr. Rebecca Parrish Nursing Scientific Conference: Excellence in Holistic Nursing Care, November 11, 2021, Issued by Mary Johnston Hospital, Philippines
- Project Facilitator: Early mobility for COVID-19 ICU patients at HMGH, 2020-2021
- Project Facilitator: Reduce Waiting Time from Arrival to Doctor-seen in HMGH Emergency Department, 2019-2020
- Project Adviser: Observational Study to Analyze Compliance with Infection Control Practices among Emergency Department Nurses during Outbreak of MERS-COV disease in Qatar, 2012 to 2014 Presented in Second Annual Emergency Medicine Symposium
- Project Facilitator: Reduction of CAUTI in Urology Unit, May 2014 to Present, 2014
- Project Member: Promoting Patients' Safety through SBAR Communication, November 2013 to Present, 2014Presented in Second Middle East IHI Forum on Quality and Safety in Healthcare
- Project Member: Reduction of CAUTI in MICU and Emergency Department, 2014
- Presenter: "Imminent Global Health Scare: An Expose on Ebola Virus and the Epidemiological Updates on MERS-COV, September 4, 2014
- Issued by Infection Prevention and Control Program, Hamad Medical Corporation, 3050 Doha, Qatar
- Speaker: "National Infection Prevention and Control Symposium, April 2014Issued by Supreme Council of Health

## AWARDS AND ACCOMPLISHMENTS

- Certificate of Appreciation: COVID-19 Pandemic Lead, October 2020, Hamad Medical Corporation
- Appreciation Award: COVID-19 Pandemic Task Force, October 2020, Hazm Mebaireek General Hospital
- Star Winner for The Infection Control Poster Day, April 06, 2015, Hamad Medical Corporation
- Certificate of Appreciation: Best Care Always-SBAR Program, Hamad General Hospital
- Certificate of Appreciation: Contribution and Dedication to Infection Control Program, Hamad Medical Corporation
- Certificate of Achievement: MICU –Lead Improvement Project in Elimination of CLABSI, Hamad Medical Corporation
- Certificate of Achievement: MICU and ED–Lead Improvement Project in Elimination of CAUTI, Hamad Medical Corporation
- Certificate of Acknowledgement: Poster and Storyboard Competition during the 2015 Middle East Forum on Quality and Safety in Healthcare, Issued by Hamad Medical Corporation and Institute for Healthcare Improvement

## CONFERENCES/SEMINARS/WORKSHOPS

- Addiction Medicine Training Modules for Healthcare Providers, Feb 25, 2024, Issued by Centers for Disease Control and Prevention (CDC)
- Medications for Substance and Opioid Use Disorders Training for Nurses, Feb 24, 2024, Issued by American Psychiatric Nurses Association
- Infection Control Certification for NYS Licensure, December 26, 2023, Issued by ProCEO Inc Division of Infection Control and Patient Safety Education
- APIC 2023 Annual Conference & Exposition, June 26-28, 2023, Issued by the Association for Professionals in Infection Control and Epidemiology (APIC)
- Pioneering Excellence and Advancing Relevant Learnings in IPC, May 25 to 26, 2023, Issued by Philippine Hospital Infection Prevention and Control
- Root Cause Analysis Training (RCA) Workshop, June 13, 2022, Issued by Hamad Medical Corporation
- Infection Prevention & Control During Mass Gathering, July 03 to 04, 2022, Issued by Ministry of Public Health, Qatar
- Point Prevalence Survey of Antimicrobial Use in Hospitals, Aug 28 to 30, 2022, Issued by Ministry of Public Health, Qatar
- Person-Centered Care Virtual Forum 2022, Sep 09 to 10, 2022, Issued by Hamad Medical Corporation
- 4th Qatar Summit for Healthcare Risk Management, Sep 29 to Oct 01, 2022, Issued by Hamad Medical Corporation
- Virtual Middle East Forum on Quality and Safety in Healthcare 2021, Nov 12-14, 2021, Issued by Hamad Medical Corporation
- 3rd Qatar Summit for Healthcare Risk Management, December 9-11, 2011, Issued by Hamad Medical Corporation
- 2nd Qatar Summit for Healthcare Risk Management, Dec 11-12, 2020, Issued by Hamad Medical Corporation
- HMC Patient Safety Awareness Week, CPD 8.7, Sep 18, 2020, Issued by Hamad Medical Corporation
- "Health Care Associated Infection Workshop 2019", CPD 11, Nov 25-26, 2019, Issued by Hamad Medical Corporation
- "1st Infection Control, Cleaning, Disinfection and Sterilization Symposium", CPD 5.5, Jan 21, 2019, Issued by Ministry of Public Health, Qatar
- "4th Qatar Patient Safety Week", CPD 11.75, Sep 16-22, 2018, Issued by Ministry of Public Health, Qatar
- Fundamentals of Patient Safety Workshop, Sep 16, 2018, Issued by Hamad Medical Corporation

(***Other trainings issued prior to the above dates may be provided upon request)

## ORGANIZATIONS AND AFFILIATIONS

**Position/Organization:** International Full Active Member, Association of Professionals in Infection Control and Epidemiology (APIC) **I.D. no.:** 153802
**Position/Organization:** Regular member, International Society for Infectious Disease (ISID)
**Position/Organization:** Regular member, Philippine Hospital Infection Control Society (PHICS), Inc.
**Position/Organization:** Assistant Youth Leader, Youth Department. (yr. 2006-2008), Angeles Worship Center – Seventh-day Adventist Church.

## SKILLS

- Experienced in Electronic Medical Records (Cerner).
- Expert in Microsoft office, encoding and data analysis.
- Proficient in writing and speaking in English and Filipino language.
- Excellent communication skills and efficient public speaking ability.

## REFERENCES

Name: Dr. Walid Al-Wali
Company: Hamad Medical Corporation
Title: Senior Consultant Clinical Microbiology and Chairman of Infection Prevention and Control
Contact#: +974-5081-9279
Email: WAlwali@hamad.qa / walmeeto@hotmail.co.uk

Name: Ms. Joji Abraham
Company: Hamad Medical Corporation
Title: Corporate Manager, Infection Prevention and Control
Contact#: +974-5526-5211
Email: JAbraham@hamad.qa

Name: Mr. Rhyan Hitalla
Company: The Medical City Hospital
Title: Business Operations Manager, Stoma and Complex Wound Care
Contact#: +63977-810-9383
Email: rahitalla@themedicalcity.com

I hereby certify that all representations by me in this document are accurate and true to the best of my knowledge and belief.

**Gabriel I. Yumul, CIC, CPHQ, DIH, RM, RN**

## APPENDIX G

Ethics Research Committee Clearance and Application for Ethics Review of a New Protocol

28 August 2024

**TO:**

Master of International Candidate (MIH),
University of the Philippines Open
University (UPOU)

**RE:** **The Intention for Seasonal Influenza Vaccine (SIV) Uptake and the Perceived Beliefs of Healthcare Providers in a Private Tertiary Hospital in Metro Manila**

**ERC code:** 2024-11-F
**Subject:** Ethical Clearance

**List of recommendation:**

- Include Filipino version or translation of the ICF.
- Add statement under Reimbursement, provision of compensation or services for any untowards accident during the survey participation.
- Adding additional local studies will enhance the relevance and contextual understanding of the research.

Dear **GABRIEL I. YUMUL**

The -Ethics Review Committee acknowledges receipt of your protocol submission last **August 19, 2024** and submitted documents with version number 1 has been assessed and decided to be **APPROVED with minor revisions required.**

Please be reminded of the following investigator's responsibilities after approval:

1. Conduct study in strict accordance with ERC-approved research protocol and/or informed consent forms.
2. Comply with all relevant international and national guidelines and regulations.
3. Abide by principles of good clinical practice and ethical research.
4. Submit document amendment for -ERC review and approval before its implementation
5. Report protocol non-compliance, protocol deviation/violation (if applicable).
6. The researcher must apply for continuing review 4-6 weeks before the expiry date of ethical clearance **(August 28, 2025)**

This ethical clearance is valid until **28 August 2025 .**

Very truly yours,

**Chair- Ethics Review Committee**

| | | | |
|---|---|---|---|
| | | | |
| | **APPLICATION FOR ETHICS REVIEW OF A NEW PROTOCOL** | **ERC Form No.** | **07** |
| | | Version No. | 2 |
| | | Effectivity Date | November 2021 |

Instructions to the Researcher: Please accomplish this form and ensure that you have included in your submission the documents that you checked below (in Section 3. Checklist of Documents).

| **1. General Information** | | | |
|---|---|---|---|
| *Title of Study | The Intention for Seasonal Influenza Vaccine (SIV) Uptake and the Perceived Beliefs of Healthcare Providers in a Private Tertiary Hospital in Metro Manila. | | |
| *REC Code (To be provided by REC) | | *Study Site | |
| Name of Researcher) | Gabriel I. Yumul | Contact Information | *Tel No: N/A |
| | | | *Mobile No: 0969-631-9412 |
| *Co-researcher (if any) | N/A | | Fax No: n/a |
| | | | *Email: giyumul@up.edu.ph / gabrielyumul@gmail.com |
| *Institution | University of the Philippines Open University | | |
| *Address of Institution | National Highway, Brgy. Maahas, Los Baños, Laguna, Philippines. | | |

| | | | |
|---|---|---|---|
| *Type of Study | ☐ Clinical Trial (Sponsored)<br>☐ Clinical Trials (Researcher-initiated)<br>☐ Health Operations Research (Health Programs and Policies)<br>☑ Social / Behavioral Research<br>☐ Public Health /Epidemiologic Research<br>☐ Biomedical research (Retrospective, Prospective and diagnostic studies)<br>☐ Stem Cell Research<br>☐ Genetic Research<br>☐ Others _____<br>☐ Others _____ | | |
| | ☐ Multicenter International ☐ Multicenter (National) ☑ Single-site | | |
| *Source of Funding | ☑ Self-funded<br>☐ Government-funded<br>☐ Scholarship/Research Grant<br>☐ Sponsored by a Pharmaceutical Company Specify: _____<br>☐ Institution-funded<br>☐ Others _____ | | |
| Duration of the Study | Start date: Upon approval (08/28/24)<br>End date: One month | No. of study participants | Total enumeration (all staff who meets the inclusion criteria) |
| *Has the Research undergone Technical Review? | | ☑ Yes (please attach technical review results)<br>☐ No | |
| *Has the Research been submitted to another REC? | | ☐ Yes ☑ No | |

**2. Brief Description of the Study**

The study aims to examine the intention of healthcare providers regarding annual/seasonal flu vaccination uptake and to have a better understanding on their perceived beliefs and other factors that may influence their decision. It entails the target respondent to answer a self-directed survey questionnaire involves a series of yes/no and multiple-choice questions.

**3. Checklist of Documents**

| **Basic requirements:** | **Supplementary Documents:** |
|---|---|
| ☑ Letter request for review | ☑ Questionnaire (if applicable) |
| ☑ Endorsement/Referral Letter/Approval Sheet | ☐ Data Collection Forms (if applicable) |
| ☑ Full proposal / Study protocol | ☐ Product Brochure (if applicable) |
| ☑ Technical Review Approval/Approval Sheet | ☐ Philippine FDA Marketing Authorization or Import License (if applicable) |
| ☑ Curriculum Vitae of Researcher/s | ☐ Permit/s for special populations (please specify) |
| ☑ Informed Consent Form<br>☑ English version ☐ Filipino version | _____ |
| ☐ Others _____ | _____ |
| ☐ Assent Form (if applicable) *N/A<br>☐ English version ☐ Filipino version | ☑ Others (please specify)<br>Pumpt (FDC) |
| ☐ Others: _____ | _____ |

| | | |
|---|---|---|
| Accomplish | Gabriel I. Yumul<br>Signature | August 19, 2024<br>Date Submitted |
| ---------- To be filled by the ERC | | |
| **Completeness of Document** | ☑ **Complete**<br>☐ **Incomplete** | ETHICS REVIEW COMMITTEE<br>RECEIVED<br>9/12/2024<br>(place stamp here) |
| **Remarks** | complete | |
| **Date Received** | 9/12/24 | |
| **Received by** | | |

## APPENDIX H

Filipino Translation of the Study Questionnaire and Informed Consent Form

Republika ng Pilipinas
PAMANTASANG PAMPAMAHALAAN
NG PROBINSYA NG BILIRAN
Naval, Biliran

SENTRO NG WIKA AT KULTURA

BAGONG PILIPINAS

SENTRO NG WIKA AT KULTURA

# SERTIPIKO NG KAWASTUHAN

Pinatutunayan nito na ang salin sa **Talatanungang Sarbey sa Pag-aaral** ng saliksik na *Ang Intensyon sa pagsasagawa ng Panapanahong Bakuna sa Influenza (Trangkaso) (Seasonal Influenza Vaccine SIV) at ang mga Paniniwala ng mga Tagapagbigay ng Pangangalagang Pangkalusugan (Health Care Providers (HCP) sa mga Pribadong Pantersiyaryang Ospital sa Kalakhang Maynila* ay wasto ay kompleto.

Inilabas ang sertipikasyong ito sa kahilingan ni **G. Gabriel I. Yumul**, mananaliksik at mag-aaral sa paaralang gradwado ng University of the Philippines – Open University.

Iginawad ngayong 3 Oktobre 2024 sa tanggapan ng Sentro ng Wika at Kultura, Biliran Province State University, Naval, Biliran, Pilipinas.

**JESON V. VIÑAS, LPT, MAEd**
Direktor, Sentro ng Wika at Kultura

1/P Gusaling Andaya, Main Campus, P. Inocentes St., P.I. Garcia, Naval, Biliran Province, Philippines 6560
Tel. (053) 507-0014 | Telefax. (053) 507-0014
SUC Level III-A (Per DBM-CHED Joint Circular #B dated June 21, 2007
Website: www.bipsu.edu.ph | Email: swk@bipsu.edu.ph | Facebook https://www.facebook.com/BIPSU-Sentro-ng-Wika-at-Kultura

#WOWBIPSU!

| Ingles | Salin sa Filipino |
|---|---|
| **Study Survey Questionnaire**<br><br>This survey pertains to the study in compliance with the requirements for the Masters in International Health (MIH) conducted by the student researcher, Mr. Gabriel I. Yumul. The purpose of this study is to help the researcher examine healthcare workers' intentions regarding annual/seasonal flu vaccination uptake and to understand better their beliefs and other factors that may influence their decision.<br><br>Thank you for your valuable support.<br><br>Name (Optional): _____<br><br>Date and Time Started: _____ | **Talatanungang Sarbey sa Pag-aaral**<br><br>**Ang sarbey na ito ay tungkol sa pag-aaral bilang pagtalima sa mga kahingian ng *Masters in International Health (MIH)* na isinasagawa ng mananaliksik na si G. Gabriel I. Yumul. Ang layunin ng pag-aaral ay para matulungan ang mananaliksik na tasahin ang intensiyon ng mga manggagawa sa alagang pangkalusugan hinggil sa pagsasagawa taunan/panapanahong bakuna sa trangkaso at maunawaang mabuti ang kanilang mga paniniwala at iba pang salik na nakaiimpluwensiya sa kanilang desisyon.**<br><br>**Salamat sa iyong makabuluhang suporta.**<br><br>**Pangalan (opsyonal): _____**<br><br>**Petsa at oras ng pagsisimula: _____** |
| **Part 1: Demographic Information**<br>Direction: Please tick (√) your answer corresponding to the below questions.<br>1. Age<br>□ 20-29 years old<br>□ 30-39 years old<br>□ 40-49 years old<br>□ +50 years old<br><br>2. Marital Status<br>□ Single<br>□ Married<br><br>3. Gender<br>□ Male<br>□ Female<br><br>4. Highest Educational Attainment<br>□ High school graduate<br>□ College Graduate<br>□ Higher Education | **Bahagi 1: Impormayong Demograpik**<br>Panuto: Lagyan ng (√) ang iyong sagot sa mga katanungan sa ibaba.<br>1. Edad<br>□ 20-29 taong gulang<br>□ 30-39 taong gulang<br>□ 40-49 taong gulang<br>□ +50 taong gulang<br><br>2. Katayuan sa Pag-aasawa<br>□ Walang asawa<br>□ Ikinasal / May-asawa<br><br>3. Kasarian<br>□ Lalaki<br>□ Babae<br><br>4. Pinakamataas na natamong Edukasyon<br>□ Natapos sa Hayskul<br>□ Natapos sa Kolehiyo<br>□ Mas mataas na edukasyon<br><br>5. Paninigarilyo<br>□ Naninigarilyo |

SENTRO NG WIKA AT KULTURA

| | |
|---|---|
| 5. Cigarette Smoking<br>□ Current<br>□ Non-smoker<br><br>6. Job Description<br>□ Physician<br>□ Nursing<br>□ Allied Health<br><br>7. Primary area of assignment<br>□ Out-patient (Emergency Department, OPD, Radiology, Laboratory, Physiotherapy, etc.)<br>□ In-patient (Medical, Surgical, Pediatrics, OB-Gyn, ICUs, OR, LR/DR, etc.)<br><br>8. Years of clinical experience (post graduate)<br>□ 0-5 years<br>□ 6-10 years<br>□ 11-15 years<br>□ +16 years<br><br>9. Any history of a previous influenza vaccine uptake while working at the institution?<br>□ Yes<br>□ No<br><br>10. Had a history of vaccine uptake in the past year?<br>□ Yes<br>□ No<br><br>11. Do you have intention or plan of taking the vaccine in the upcoming influenza season 2024/2025?<br>□ Yes<br>□ No | □ Hindi naninigarilyo<br><br>6. Deskripsiyon ng Trabaho<br>□ Physician<br>□ Nursing<br>□ Allied Health<br><br>7. Pangungahing dinidestinohang trabaho<br>□ *Out-patient*<br>*(Emergency Department, OPD, Radiology, Laboratory, Physiotherapy,* at iba pa*)*<br>□ *In-patient*<br>*(Medical, Surgical, Pediatrics, OB-Gyn, ICUs, OR, LR/DR,* at iba pa*)*<br><br>8. Bilang ng taon sa kilinikal na karanasan *(post graduate)*<br>□ 0-5 taon<br>□ 6-10 taon<br>□ 11-15 taon<br>□ +16 taon<br><br>9. May kasaysayan ng nakaraang ibinigay na bakuna sa trangkaso habang nagtatrabaho sa institusyon?<br>□ Oo<br>□ Hindi<br><br>10. May kasaysayan sa ibinigay na bakuna nang nakaraang taon?<br>□ Oo<br>□ Hindi<br><br>11. Mayroon ka bang intensyon o plano na tumanggap ng bakuna sa paparating na panahon ng trangkaso 2024/2025?<br><br>□ Oo<br>□ Hindi |
| **Part 2: Perceived Beliefs**<br><br>Direction: Please choose the extent to which you agree with each of the following statements relating to the seasonal influenza vaccination (SIV) or flu vaccine. Please tick (√) your answer | Bahagi 2: Pinanindigang Paniniwala<br><br>Panuto: Mangyaring piliin kung gaano ang iyong pagsang-ayon sa bawat pahayag kaugnay sa Panapanahong Bakuna sa Influenza (Seasonal Influenza Vaccine [SIV]) o bakuna sa trangkaso.<br><br>Pakilagyan ng (√) ang sagot na naaayon sa bawat tanong sa ibaba. |

| | |
|---|---|
| corresponding to the below questions. | |
| Strongly Agree<br>Agree<br>Disagree<br>Strongly Disagree | Lubos na Sang-ayon<br>Sang-ayon<br>Hindi sang-ayon<br>Lubos na Hindi Sang-ayon |
| **1. Perceived susceptibility to infection** | **1. Pinaniniwalaang suseptabiliti sa impeksyon/ pagkahawa** |
| a. Being a Healthcare Provider (HCP) increases my risk of contracting influenza compared to the general population. | a. Bilang Tagahatid ng Alagang Kalusugan (*Healthcare Provider [HCP]*) tumataas ang aking panganganib na madapuan ng trangkaso kumpara sa pangkalahatang populasyon. |
| b. HCPs can transmit a bad influenza to their elderly & high-risk patients. | b. HCPs ay maaring maghagtid ng malalang trangkaso sa matatanda at namimiligrong (may mataas na *risk* na) pasyente. |
| **2. Perceived severity of infection** | **2. Pinaniniwalaang paglala ng impeksyon** |
| a. Influenza infection and its complications maybe serious. | a. Ang impeksyon ng trangkaso (influenza) at mga komplikasyon ay maaring maging seryoso (delikado o Malubha). |
| **3. Perceived benefits of influenza vaccine** | 3. Pinaniniwalaang benepisyo ng bakuna sa trangkaso (influenza) |
| a. HCPs should receive the influenza vaccine to protect themselves against seasonal influenza. | a. Kinakailangang tumanggap ng bakuna sa trangkaso ang mga HCPs upang maprotektahan sila laban sa panapanahong trangkaso. |
| b. HCPs should receive the influenza vaccine to protect themselves against pandemic influenza. | b. Kinakailangang tumanggap ang HCPs ng bakuna sa trangkaso upang maprotektahan sila laban sa pandemik na trangkaso |
| c. HCPs should receive the influenza vaccine to protect their patients against influenza. | c. Kinakalangang tumanggap ang HCPs ng bakuna sa trangkaso upang maprotektahan ang kanilang pasyente laban sa trangkaso. |
| d. The vaccine should be given before the flu season starts. | d. Ang bakuna ay marapat na maibigay bago ang kapanahunan sa pagsisimula ng trangkaso. |
| e. Influenza vaccine decreases absenteeism from work. | e. Pinaliliit ng bakuna sa trangkaso ang palagiang pagliban sa trabaho. |
| f. Influenza vaccine is a must if I have a chronic disease. | f. Kinakailangan ang bakuna sa trangkaso lalo na kung mayroon akong kronikong karamdaman |

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| g. "Would rather get the influenza vaccine than get the flu." | g. "Mas pipiliin kong makapagpabakuna sa trangkaso kaysa magkaroon ng trangkaso". |
| **4. Perceived barriers against vaccination** | 4. Pinaniniwalaang balakid laban sa pagpapabakuna |
| a. "I do not catch flu normally." | a. "Hindi ako madaling nagkakaroon ng trangkaso". |
| b. "I have a strong immune system." | b. "Malakas ang aking *immune system*". |
| c. Influenza vaccine can cause more harm than good. | c. Nakasasama kaysa nakabubuti ang bakuna sa trangkaso. |
| d. Side effects of the vaccine are serious. | d. Malubha ang epekto ng bakuna. |
| e. Unavailability of the vaccine in the right place and time is a barrier against immunization. | e. Ang hindi pagkakaroon ng bakuna sa tamang lugar at oras ay balakid laban sa pagpapabakuna. |
| f. Cost of the vaccine is a setback. | f. Ang halaga ng bakuna ay isang hadlang. |
| g. Receiving the shot will produce physical discomfort. | g. Ang turok ng bakuna ay nadudulot ng kabalisaan sa katawan. |
| h. "My fear of needles/sharps prohibits me from receiving the flu vaccine." | h. "Ang takot ko sa karayom/matutulis ang pumipigil sa aking tumanggap ng bakuna sa trangkaso". |
| **5. Cues to action** | 5. Hudyat/palatandaan/tanda sa pag-aksyon |
| a. On a yearly basis, Influenza vaccine is especially protective as | a. Kada taon, nagkapagpoprotekta ang bakuna sa trangkaso sapagkat inirekomenda ito ng karamihang patnubay. |

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| it is recommended in most of the guidelines. | |
| b. The presence of news of a bad influenza season makes me want to get the Influenza vaccine. | b. Ang presensiya ng mga balita ukol sa masamang kapanahunan ng trangkaso ang nag-uudyok sa akin na makakuha ng bakuna sa trangkaso. |
| c. "I will take the flu vaccine because my family, friends or colleagues got it". | C. "Tatanggap ako ng bakuna sa trangkaso dahil ang aking pamilya, mga kaibigan o katrabaho ay nagpabakuna." |
| Date and Time Completed: _____ | Petsa at oras na natapos: _____ |

SENTRO NG WIKA AT KULTURA

| Ingles | Salin sa Filipino |
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| **Informed Consent Form for *Healthcare Providers in a Private Tertiary Hospital in Metro Manila*** | **Pormularyo ng May Kaalamang Pahintulot para sa mga Tagapagbigay ng Alagang Pangkalusugan *(Health Care Providers [HCP])* sa isang Pribadong Pantersiyaryang Ospital sa Kalakhang Maynila** |
| **Name of Principal Investigator:** Mr. Gabriel I. Yumul | **Pangalan ng Prinsipal na Imbestigador:** G. Gabriel I. Yumul |
| **Name of Organization:** Master of International Health (MIH), University of the Philippines Open University (UPOU) | **Pangalan ng Organisasyon:** Master of International Health (MIH), University of the Philippines Open University (UPOU) |
| **Name of Sponsor:** Asst. Prof. Rita Ramos | **Pangalan ng Sponsor:** Asst. Prof. Rita C. Ramos |
| **Name of Project**: The Intention for Seasonal Influenza Vaccine (SIV) Uptake and the Perceived Beliefs of Healthcare Providers (HCP) in a Private Tertiary Hospital in Metro Manila. | **Pangalan ng Proyekto:** Ang Intensyon sa pagsasagawa ng Panapanahong Bakuna sa Influenza *(Seasonal Influenza Vaccine [SIV])* at ang Pinanindigang Paniniwala ng mga Tagapagbigay ng Alagang Pangkalusugan (*Health Care Providers [HCP])* sa isang Pribadong Pantersiyaryang Ospital sa Kalakhang Maynila |
| **PART I: INFORMATION SHEET**<br><br>INTRODUCTION<br><br>I, Gabriel I. Yumul, an MIH candidate of UPOU, request you to participate in a study about healthcare providers' intentions regarding the uptake of the annual/seasonal flu vaccination and their beliefs about it. You are given enough time to decide whether you want to participate or not. If you do not understand some of the terms, words, or concepts, these will be explained and you can ask questions at any time. | **BAHAGI I. IMPORMASYON**<br><br>**PANIMULA**<br><br>Ako, si Gabriel I. Yumul, kandidato sa kursong MIH ng UPOU, hinihiling ang iyong paglahok sa pag-aaral tungkol sa Intensiyon ng mga Tagapagbigay ng Alagang Pangkalusugan *(Healthcare Providers)* batay sa pagsasagawa ng panapanahon o taunang bakuna sa trangkaso at ang kanilang mga paniniwala ukol dito. Ikaw ay bibigyan ng sapat na oras upang makapagpasya kung makikilahok o hindi sa pag-aaral. Sakaling mayroong mga termino, mga salita o mga konsepto na hindi mo maintindihan, mangyari lamang na magtanong anumang oras upang ito ay maipaliwanag sa iyo. |
| **PURPOSE OF THE RESEARCH**<br><br>The purpose of your participation in this research is to help the researcher examine the intentions of healthcare providers regarding annual/seasonal flu vaccination uptake and to have a better understanding of their beliefs and other factors that may influence their decision. | **LAYUNIN NG PAGSALIKSIK**<br><br>Ang layunin ng inyong pakikilahok sa saliksik na ito ay para matulungan ang mananaliksik na tayahin ang mga intensyon ng mga tagapagbigay ng alagang pangkalusugan *(Healthcare Providers [HCP])* tungkol sa pagsasagawa ng panapanahon o taunang bakuna sa trangkaso at para magakaroon ng mas mabuting pag-unawa hinggil sa kanilang |

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| | mga paniniwala at sa iba pang mga salik na makaiimpluwensiya ng kanilang desisyon. |
| **TYPE OF RESEARCH INTERVENTION**<br><br>If you agree to participate in the study, you will be asked to answer a survey that involves a series of yes/no and multiple-choice questions. | **URI NG INTERBENSIYON SA PAGSALIKSIK**<br><br>Kung sang-ayon kang makilahok sa pag-aaral, pasasagutin ka ng sarbey na mayroong serye ng mga tanong na tama/mali at katanungang may pagpipilian. |
| **PARTICIPANT SELECTION**<br><br>You are selected to participate in this study because you are an HCP working in the chosen private tertiary hospital in Metro Manila, delivering direct care to its patients. | **PAGPILI SA KALAHOK**<br><br>Ikaw ang napiling kalahok sa pag-aaral dahil isa kang tagapagbigay ng alagang pangkalusugan *(Healthcare Provider [HCP])* na nagtatrabaho sa napiling pribadong tersiyaryang ospital sa Kalakhang Maynila at naghahatid ng direktang pangangalaga sa mga pasyente. |
| **VOLUNTARY PARTICIPATION**<br><br>Your participation in this study is completely voluntary and you may choose to stop participating at any time. Whether you decide to participate or not, the study will not influence nor have any bearing on your job or job-related evaluations. | **BOLUNTARYONG PAKIKILAHOK**<br><br>Ang iyong paglahok sa pag-aaral ay boluntaryo at anumang oras ay maari mong piliing ihinto ang paglahok. Kung iyong mapagpasyahang makilahok o kaya ay hindi ka makikilahok, walang impluwensiya ang pag-aaral sa iyong trabaho at walang kinalaman sa anumang gagawing pagtatasang batay sa iyong trabaho. |
| **PROCEDURES**<br><br>After you sign the written informed consent, you will be asked to personally answer a self-directed paper-based questionnaire that involves a series of yes/no and multiple-choice questions. The survey has two parts: demographic information and perceived beliefs. You can ask questions at any time if you do not understand some of the terms, words, or concepts.<br><br>If you do not wish to answer any of the questions, this may be skipped and you may proceed to the next question. However, since an answer is required for the question about "intention for vaccination" (Part 1, Item no. 11), those who have not provided any response to this question will not be counted. | **PAMAMARAAM**<br><br>Matapos malagdaan ang nakasulat na pormularyo ng may kaalamang pahintulot, pasasagutan sa iyo nang personal ang talatanungang nasa papel at kinapalooban ito ng seryeng tanong na tama o mali at mga tanong na may pagpipilian. May dalawang bahagi ang sarbey: demograpikong impormasyon at pinanindigang paniniwala. Maari kang magtanong anumang oras kung may mga termino, salita o konsepto na hindi mo maintindihan.<br><br>Kung may tanong na hindi mo ibig sagutan, maari itong laktawan at magpatuloy sa susunod na katanungan. Subalit, kinakalingang masagutan ang tanong ukol sa "intensiyon sa pagbabakuna" (nasa bahagi I, bilang 11), iyong hindi magbibigay ng tugon sa tanong na ito ay hindi na kasama sa bibilangin. |

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| Upon completion, the respondent shall fold and enclose it in the envelope provided, and hand it to the researcher or send it to the drop box located in the Nursing Service Office. The information recorded is confidential, a coding system in the form of a letter and number will identify you, and no one else except the researcher will have access to the answers to the survey. | Pagkatapos ay tutupiin at ipapasok sa sobre na ibinigay sa kalahok saka ito ibibigay sa mananaliksik o kaya ay ipapasok sa bagsakang kahon *(drop box)* na matatagpuan sa tanggapan ng *Nursing Services*. Kompidensiyal ang mga nakatalang impormasyon, ang titik at numero ang gagamitin bilang sistemang koda ng iyong pagkakakilanlan at tanging ang mananaliksik lang ang makaakses sa mga sagot ng sarbey. |
| **DURATION**<br><br>Your participation will involve a one-time visit, where the survey form is handed over for you to complete whenever it is most convenient but within the allotted two hours. | **PANAHONG ITATAGAL**<br><br>Kinapalooban ang iyong paglahok ng isang beses na pagbisita kung saan ay ibibigay ang sarbey at kukumpletuhin kung kailan ka bakante ngunit sa loob lamang ng dalawang oras. |
| **RISKS**<br><br>Since the study is delivered through a survey method and no intervention is introduced, the risk for harm is unlikely. However, if you feel uncomfortable, embarrassed, or inconvenienced when answering the survey, or at any stage of the study, you may choose not to complete the survey. | **MGA PANGANIB**<br><br>Ang panganib ay malabong mangyari dahil ang pag-aaral ay sa pamamagitan ng metodong sarbey at walang ipinakilalang interbensiyon. Subalit, kung hindi ka komportable, nahihiya o naaabala tuwing sinasagutan ang sarbey o kahit sa alinmang yugto ng pag-aaral, maari mong hindi na tapusin ito. |
| **BENEFITS**<br><br>Upon completion of the study, the findings will be presented to you so you may be guided to make an informed decision towards flu vaccination. It will be made available for your hospital, to influence hospital leaders to launch campaigns or programs that will enhance the uptake of it. Being a pioneer on this subject matter, the study is planned to be published so that policymakers and the international community can have an overview of the HCPs' flu vaccination intention and beliefs in the Philippine context. | **BENEPISYO**<br><br>Kapag matapos na ang pag-aaral, ihaharap sa iyo ang kinalabasan nito upang maging gabay sa pagdedesisyon ukol sa bakuna ng trangkaso. Magagamit din ito ng iyong ospital, upang makaiimpluwensiya rin sa mga lider ng ospital tungo sa paglulunsad ng kampanya o programa na magpapahusay sa pagkuha nito. Bilang tagapanguna sa paksang ito, ang pag-aaral ay ilalathala upang magkaroon ng pangkalahatang ideya ang mga mambabatas at internasyonal na komunidad sa intensyon at pinaninindigang paniniwala ng mga tagapaghatid ng alagang pangkalusugan (HCP) batay sa konteksto ng Pilipinas. |
| **REIMBURSEMENTS**<br><br>By participating in the study, you will not receive payment or compensation in any form as this is voluntary. | **PAGBAYAD**<br><br>Sa iyong boluntaryong paglahok sa pag-aaral, wala kang tatanggaping bayad o anumang anyo ng suhol. |

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| **CONFIDENTIALITY**<br><br>All data collected for this study will be kept confidential by using codes or identity letters and numbers in exchange for names. Only the researcher will have access to all the data to protect the respondents from potential damages (e.g. identity theft, bullying, guilt, or mental harm like humiliation, etc.). The respondent is assured that no sensitive personal information will be shared, published, or presented. | **PAGIGING KOMPIDENSIYAL**<br><br>Lahat ng datos ng pag-aaral ay sinisigurong kompedinsiyal, gagamit ng mga koda o titik at numero bilang pamalit sa mga pangalan. Ang mananaliksik lamang ang may-akses sa lahat ng datos para maprotektahan ang potensiyal na pinsala (gaya sa pagnanakaw sa identidad, pananakot, pagkakasala, o pinsalang mental gaya sa pamamahiya at iba pa). Makaaasa ang kalahok na walang sensitobong impormasyon ang ibabahagi, ilalathala at ilalahad. |
| **SHARING THE RESULTS**<br><br>Once the study is complete, the research findings will be published in reputable journals and presented at seminars or conferences. | **PAGBAHAGI SA KINALABASAN**<br><br>Kapag natapos na ang pag-aaral, ilalathala ang mga kinalabasan sa marangal na diyornal, at ilalahad sa mga seminar o komperensiya. |
| **RIGHT TO REFUSE OR WITHDRAW**<br><br>Your participation in this study is voluntary and you have the right to withdraw at any time, without having the need to give any reason. Before submitting the accomplished questionnaire, you will have an opportunity to review your answers and change or erase any response to the survey, if you decide so. | **KARAPATANG TUMANGGI O UMURONG**<br><br>Boluntaryo ang iyong paglahon sa pag-aaral na ito at mayroon kang karapatan na umurong anumang oras nang di na kailangang magbigay ng anumang rason. Bago isumite ang nasagutang talatanungan, may pagkakataon kang siyasating muli ang mga sagot at palitan o tanggalin ito, sakaling iyong mapagpasiyahan. |
| **DATA MANAGEMENT**<br><br>The database can only be handled solely by the researcher and kept securely in a password-protected and encrypted flash drive. Whereas, written and accomplished forms will be safely stored in a locked filing cabinet by the researcher for a span of three years; thereafter, they will be subject to disposal through shredding. | **PANGANGASIWA SA DATOS**<br><br>Ang mananaliksik lamang ang mangangasiwa sa *database* at poproteksiyonan ito gamit ang *password* at *encrypted* na *flash drive*. Samantala, ang mga nasulat at nasagutang promularyo ay itatabi sa nakakandadong kabinet sa loob ng tatlong taon, pagkatapos, ito ay itatapon sa pamamagitan pag-*shread* sa mga ito. |
| **WHO TO CONTACT**<br><br>If you have questions about the research in general or about your role in the study, please feel free to contact Mr. Gabriel I. Yumul either by phone number at 0969-631-9412 or by email at giyumul@upou.edu.ph. Alternative | **SINO ANG MAARING KONTAKIN**<br>Kung mayroong katanungan ukol sa saliksik o kaya sa iyong gampanin sa pag-aaral, maaring kontakin si G. Gabriel I. Yumul sa kaniyang numero na 0969-631-9412 o kaya sa email na giyumul@upou.edu.ph. Ang kaniyang alternatibong kontak ay 0969-631-9405 o gabrielyumul@gmail.com. Ang pag-aaral na ito |

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| contact details are 0969-631-9405 or gabrielyumul@gmail.com. This study has been reviewed and approved by the Ethics Research Committee (ERC) of the hospital. If you have any questions about this process, or about your rights as a participant in the study, please contact the ERC of the hospital by telephone number at (02) 5318-6600 local 415. | ay nasuri at aprobado ng Komite sa Etika ng Saliksik ng ospital *(Ethics Research Committee [ERC]).* Kung mayroon kang tanong ukol sa proseso o kaya sa iyong mga karapatan sa pakikilahok nitong pag-aaral, maari mong kontakin ang ERC ng ospital sa kanilang telepono na (02) 5318-6600 lokal 415. |
| **PART II: CERTIFICATE OF CONSENT**<br>*This section is mandatory*<br>**I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.**<br>**Print Name of Participant:**<br>_____<br>**Signature of Participant:**<br>_____<br>**Date [MM/DD/YYYY]:**<br>_____<br>*If Illiterate*<br>A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well. | **BAHAGI II. SERTIPIKO NG PAHINTULOT**<br>*Ang seksyon na ito ay mandatoryo*<br>**Nabasa ko ang mga nakalahad na impormasyon, o ito ay binasa sa akin. Nabigyan ako ng pagkakataong magtanong hinggil dito at ang mga itinanong ko ay maayos na nasagot. Ako ay nagpapahintulot na boluntaryong maging kalahok sa pag-aaral.**<br>**Nakapintang pangalan ng Kalahok:**<br>**Lagda ng Kalahok**<br>**Petsa [Buwan/Araw/Taon]**<br>*Sakaling Di-nakababasa at Di-nakasusulat*<br>Ang nakababasa at nakasusulat na saksi ang lumagda (hangga't maari, ang taong ito ay pinili ng kalahok at walang koneksiyon sa pangkat ng mananaliksik). Ilalakip din ang nakaprintang marka ng hinlalaki ng kalahok na di nakababasa at di nakasusulat. |
| **I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.**<br>**Print name of witness:**<br>**_____Thumb print of participant:** | Nasaksihan ko ang tumpak na pagbasa sa pormularyo ng pahintulot sa potensiyal na kalahok, at ang indibidwal na ito ay nagkaroon ng pagkakataong magtanong. Kinokumpirma ko na ang indibidwal na ito ay malayang ibinigay ang pahintulot.<br>Nakaprintang Pangalan ng Saksi:<br>Marka ng Hinlalaki ng Kalahok: |

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| **Signature of witness:**<br>_____<br>**Date [MM/DD/YYYY]:**<br>_____ | Lagda ng Saksi:<br><br>Petsa[Buwan/Araw/Taon] |
| **STATEMENT BY THE RESEARCHER OR PERSON TAKING CONSENT**<br>**I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:**<br>**1.**<br>**2.**<br>**3.**<br><br>**I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.**<br><br>**A copy of this Informed Consent Form has been provided to the participant.**<br><br>**Print Name of Researcher or person taking the consent:**<br>_____<br>**Signature of Researcher or person taking the consent:**<br>_____<br>**Date [MM/DD/YYYY]:**<br>_____ | **PAHAYAG NG MANANALIKSIK O TAONG KUMUKUHA NG PAHINTULOT**<br><br>Wasto kong binasa ang mga impormasyon sa potensiyal na kalahok at sa pinakamahusay kong kakayahang sinugurong naintindihan ng kalahok na isasagawa ang mga sumusunod:<br>1.<br>2.<br>3.<br><br>Kinukumpirma kong ang kalahok ay nabigyan ng pagkakataong magtanong ukol sa pag-aaral at lahat ng itinanong ng kalahok ay wastong nasagot at ayon sa aking pinakamahusay na kakayan. Kinukumpirma ko ring ang indibidwal na ito ay hindi pinilit na magbigay ng pahintulot at ang panintulot ay naibigay ng malaya at boluntaryo.<br><br>Ang kopya nitong Pormularyo ng May Kaalaman Pahintulot ay naibigay sa kalahok.<br><br>Nakaprintang Pangalan ng Mananaliksik o taong kumukuha ng Pahintulot:<br><br>Lagda ng Mananaliksik o taong kumukuha ng Pahintulot:<br><br>Petsa: [Buwan/Araw/Taon] |