Management College of Southern Africa

Attitudes of Health Care workers to taking the H1N1 Influenza vaccines at East/Boom CHC

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An evaluation of the attitudes of Health Care workers to taking the H1N1 Influenza vaccines at East/Boom CHC

by

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DECLARATION

I, Premilla Govender do hereby declare that this dissertation is the result of my investigation and research and that this has not been submitted in part or full for any degree or for any other degree to any other University.

P. Govender — 2012/09/12

P.Govender — Date

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In everything we do we must give God the honour, praise and thanks. Everything happens in our lives for a reason.

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EXECUTIVE SUMMARY

The study was conducted at East Boom Community Health Centre in Kwa –Zulu Natal. The study was undertaken due to the low uptake of the H1N1 influenza vaccines which are provided free of charge to the Public Health sector. The aim of the study was to evaluate the attitudes of health care workers towards taking the H1N1 Influenza vaccines and thereby make recommendations on how to improve the uptake of vaccines. A descriptive study was carried out using quantitative methods. The research strategy used was that of action research. The target population was limited to 100 Health care workers by collecting information over two days. A sample of 100 was chosen using random probability sampling. The research instrument administered was a questionnaire. The questionnaire consisted of closed ended questions based on demographics and health care workers attitudes to taking the vaccines. The questionnaire was self-administered and there was a 100% response rate. The study findings indicated that 38% of the health care workers stated that they will not get vaccinated, 37% said yes and 25% were undecided. The main reasons for not wanting to get vaccinated were 17% were concerned about adverse reactions to vaccines, 7% do not have the time to go and get vaccinated while 6% preferred to use alternative medicine. Some of the recommendations made were to motivate health care workers about the importance of taking the vaccine to prevent influenza; as this is especially important for them since they are in constant contact with ill patients. To increase acceptance rates by improving access to vaccinations with a mobile unit, addressing common misconceptions through staff education, making vaccinations free of charge, offering small incentives to staff members and looking at compulsory vaccination as a condition of employment for all Health care workers as they are the backbone of the health services. By protecting our health care workers this would reduce illness and absenteeism in the workplace.

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ACRONYMS

H1N1	Haemagglutinin Type 1 and Neuraminidase Type 1 (AKA Swine Flu)
A(H1N1) 2009	Pandemic influenza of 2009
KZN	Kwa-Zulu Natal
WHO	World Health Organisation
A(H3N2)	Seasonal influenza virus
NICD	National Institute for Communicable Diseases
DOH	Department of Health
NDOH	National Department of Health
ICU	Intensive care unit
CCMT	Comprehensive care, management and treatment of HIV and AIDS
CD4	Cluster of differentiation- number of lymphocytes in the body
ARV	Anti- RetroViral treatment
SAMHS	South African Military Services
SAPS	South African Police Services
HIV	Human Immuno Virus
AIDS	Acquired Immune Deficiency Syndrome
GBS	Guillain –Barre Syndrome
TIV	Trivalent Inactivated Vaccine
NAGI	National Advisory Group on Immunisation
SCM	Supply Chain Management
CHC	Community Health Centre
HBM	Health Belief Model

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 Introduction

The National department of Health annually provides H1N1 vaccines for the high risk groups since 2010 following the pandemic H1N1 outbreak in 2009. The on-going problem is the low uptake of these vaccines which are provided free of charge to the Public Health sector. The aim of this study is to determine the attitudes of health care workers towards taking the H1N1 Influenza vaccines. The study will be done at East/Boom Community Health Centre in Kwa-Zulu Natal (KZN). This chapter will focus on the research problem, objectives, research questions, significance of the study and the overall format of the chapters.

1.2 Background

During the 2009 influenza season, a cumulative total of 12 640 influenza A (H1N1) cases and 93 deaths were confirmed in South Africa. In Kwa Zulu Natal (KZN) there were 2258 cases and 22 confirmed deaths. The flu season was on-going with numerous cases of influenza (Influenza B, H3N2 & H1N1 cases) being reported. The predominant strains circulating in South Africa at the time were Influenza B and Influenza A (H3N2).According to recommendations from the World Health Organization (WHO) all countries should immunise their healthcare workers as a first priority in order to protect the vital health infrastructure (Rachiotis and Mouchtour, 2011:1).To mitigate the effect of the influenza pandemic of 2009, the Department of Health had planned for a mass vaccination campaigns since 2010 which was in line with the WHO guidance and coordination.

1.3 Research problem

There were many factors leading to the researcher choosing this topic to conduct research. These factors included the poor uptake of vaccines by health care workers. Previous studies have alluded to the generally low uptake of flu vaccines annually. Following the Pandemic Influenza A/H1N1 of 2009, the National Department of Health (DOH) made available the H1N1 Influenza vaccines free of charge to specific high risk groups in 2010 in view of the upcoming Soccer World cup which was held in South Africa. The overall uptake of H1N1

vaccines in South Africa in 2010 was 36.2% and in KZN it was 48.2% as at the 4th October 2010. Despite the vaccines being provided free of charge by the National DOH for specific high risk groups this was very low. Hence the purpose of this study is to ascertain the attitudes of health care workers to taking the H1N1 vaccines in order to protect themselves against influenza so that shortcomings are identified and recommendations are made to improve the low H1N1 vaccine uptake and improve training of health care workers.

1.4 Aim

The aim of this study is to determine the attitudes of health care workers towards taking the H1N1 Influenza vaccines at East/Boom Community Health Centre. Primary data will be obtained by administering a written questionnaire among health care workers and from their responses recommendations will be made to address the low uptake of flu vaccines annually.

1.5 Objectives

- To investigate the health care workers attitudes towards taking the H1N1 vaccines;
- To determine whether health care workers are aware of the annual H1N1 vaccine campaign;
- To determine whether the low uptake of vaccines are as a result of inadequate training provided to allay anxiety about the vaccines; and
- To make recommendations to improve vaccine uptake for health care workers.

1.6 Research questions

The research questions in the study are the following:

- What are health care workers attitudes towards taking the H1N1 vaccines?
- Are health care workers aware of the annual H1N1 vaccine campaign?
- How training can be aimed at health care workers to motivate them to get vaccinated against H1N1 Influenza?
- What are the measures that can be implemented to improve the uptake of vaccines for health care workers?

1.7 Significance of the study

The study is significant in many ways. The main objective was to ascertain how the attitudes of health care workers to taking the H1N1 vaccines in order to protect themselves against influenza so that shortcomings are identified and recommendations are made to improve the low H1N1 vaccine uptake and improve training of health care workers. The study will provide much needed information on the attitudes of Health care workers towards taking the H1N1 vaccines, the adherence to the H1N1 preventative strategies and treatment. This will assist health managers in identifying areas that can be strengthened to improve the management of H1N1 cases in the province thus preventing deaths and increasing the uptake of vaccines. Protecting our health care workers who are the backbone of the health infra-structure is very important.

1.8 Scope of study

The study was done at East/Boom CHC in Pietermaritzburg, KZN, South Africa. No other public health facilities were considered for this research investigation. The study was conducted at East/Boom CHC. The Health care workers involved were those from the facility.

1.9 Format of the study

Chapter one deals with the introduction to the dissertation, a background to the topic, the problem statement, the aims of the study, the objectives of the study, the research questions, the significance of the study, the scope of the study, a brief literature review, the format of the study and a conclusion.

Chapter two consists of the literature review. This chapter is an overview into the theory behind the research project, analysis of other studies conducted, policies, legislation and other factors that attribute to the research study. Existing information to support the research project and to help analyse the research project is reviewed.

Chapter three is the research methodology and design. It consists of the rationale for the methodology, the research design, research strategies, the target population and sampling, the

research instrument, pilot study, administration and collection of the questionnaires, data analysis, validity and reliability, limitations of the study, elimination of bias and ethical considerations.

Chapter four is the results, discussion and interpretation of findings. This consists of the presentation of the results of the study and a discussion on the findings.

Chapter five is the conclusion of the study and the recommendations based on the findings of the study.

1.10 Conclusion

The research conducted was to evaluate the attitudes of health care workers to taking the H1N1 vaccines in order to protect themselves against influenza and make recommendations based on the findings of the study. The reason why the researcher had chosen this topic of study was multi-factorial which included identifying areas that can be strengthened to improve the management of H1N1 cases in the province thus preventing deaths and increasing the uptake of vaccines.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

According to Hussey and Hussey, (1997:110) a literature review must display a competent examination of earlier research and work in the field of the dissertation topic and a comprehensive review of recent relevant literature. It must contain a synthesis of relevant literature and must simultaneously be a critical analysis of earlier work. A proper literature review allows insight into the chosen topic of research. The study will provide much needed information on the attitudes of Health care workers towards taking the H1N1 vaccines, the adherence to the H1N1 preventative strategies and treatment. This will assist health managers in identifying areas that can be strengthened to improve the management of H1N1 cases in the province thus preventing deaths and increasing the uptake of vaccines. The research will explore and evaluate the attitudes of Health care workers towards taking the H1N1 vaccines at East/Boom CHC, in Pietermaritzburg, KZN.

2.2 What is Influenza?

Influenza, commonly known as the "flu", is an acute viral infection of the respiratory tract caused by influenza viruses. There are three types of seasonal influenza viruses – A, B and C. The 2009 pandemic influenza A(H1N1) virus [hereafter referred to as A (H1N1)2009] which appeared for the first time in 2009 causing a global influenza pandemic, is now a seasonal influenza virus that co-circulates with other seasonal viruses namely influenza A (H3N2) and influenza B viruses [National Institute for Communicable Disease (NICD) 2011:1]

Influenza viruses can cause disease in persons of any age, but overall rates of illness are highest in children. Usually, rates of severe illness and death are highest in persons aged ≥ 65 years, children aged ≤ 2 years, women who are pregnant or postpartum (within 2 weeks after delivery) and persons of any age with underlying medical conditions (risk factors) which increase the risk for influenza-related complications. However, about one third of patients with severe A (H1N1)2009 illness requiring admission to ICU worldwide in 2009 were previously healthy persons with no identified risk factors (NICD, 2011:1).

2.3 Transmission

The virus is spread from person-to-person. It can be passed to other people by exposure to infected droplets expelled by coughing or sneezing that can be inhaled, or that can contaminate hands or surfaces. To prevent spread, people who are ill should:

- Practice cough etiquette by covering their mouth and nose with a disposable tissue when coughing or sneezing, then discarding the tissue in a receptacle and performing hand hygiene (washing hands with soap and water or the use of an alcohol-based hand rub).
- Stay home when they are unwell and keep some distance from healthy people, as much as possible (NICD, 2011:1).

2.4 Incubation period

The incubation period for influenza is 1-4 days (average 2 days). Most persons who are ill with influenza shed the virus from a few days before symptoms begin through 5 to 10 days after illness onset. However, young children can be infectious for > 10 days after illness onset; adults with severe disease may also shed virus for > 10 days, and severely immune-compromised persons can shed virus for weeks or months (NICD, 2010:1).

2.5 Typical symptoms

The symptoms of influenza are non-specific. A spectrum of illness ranging from asymptomatic infection or uncomplicated upper respiratory tract disease to serious complicated illness (which may include exacerbation of other underlying conditions, severe viral pneumonia or multi-organ failure) can occur. The most common symptoms include: cough, fever, sore throat, malaise and headache. In some cases there may be gastrointestinal symptoms (nausea, vomiting and/or diarrhoea); these are more common in children than adults and in those infected with A (H1N1)2009. Among children, otitis media has been reported commonly with influenza illness. Uncomplicated influenza illness resolves after 3 to 7 days in most persons, although cough and malaise can persist for >2 weeks (NICD, 2010:5).

2.6 Preventative strategies

To reduce the opportunity or risk of transmission, the following strategies should be implemented as advocated by the [National Department of Health (NDOH), 2007: 8]:

- Contain the source of infection, contain seasonal flu outbreaks through an effective adult flu immunisation programme;
- improve personal hygiene for example washing hands with soap and water;
- improve infection control practices;
- immediate investigation of suspected cases;
- improve diagnosis, treatment and overall service provision;
- improve human and animal surveillance systems;
- cover your nose and mouth with a tissue when you cough or sneeze;
- dispose of dirty tissues in the trash after you use it;
- avoid close contact with people who might have flu;
- reduce the time spent in crowded settings;
- improve airflow in your home and office by opening windows;
- practise good health habits by getting adequate sleep;
- eat nutritious food and exercise regularly; and
- the use of personnel protective wear e.g. masks, gowns, gloves.

2.7 Attitudes of Health care workers

This study will draw on the diverse approaches to the attitudes of health care workers towards taking the H1N1 vaccines. A look at the attitudes of health care workers indicate that there are several factors that contribute to vaccine uptake which include acceptance of seasonal influenza vaccination, medical profession and age (Rachiotis and Mouchtour, 2011:1).

It is stated that only 45% of health care workers get a seasonal flu shot every year. The main reason for refusal of vaccination was fear of side effects, which was stronger in those who received information on the safety of the vaccine mainly from mass media. Other reasons were lack of time, inertia; perception of not being at risk of serious illness, use of alternative drugs, fear about vaccine safety, for example Guillain-Barrés syndrome, systemic anaphylactic reaction, development of influenza illness and local side effects (Rachiotis and Mouchtour, 2011:1) as well as it is not needed and being afraid of needles (Kalb, 2011:1).

Annual influenza vaccination for health care workers has the potential to benefit health care professionals, their patients, and their families by reducing the transmission of influenza in the health care setting. Furthermore, staff vaccination programs are cost effective for health care institutions because of reduced staff illness and absenteeism. It is generally accepted that vaccinating health care workers against influenza reduces the transmission of the virus in health care settings, decreases staff illness and absenteeism, and indirectly benefits patients by decreasing their chance of being infected. There are also very few risks associated with influenza vaccination, with the most frequently reported side effect being mild pain or swelling at the injection site. Influenza vaccination programs for health care workers are cost-effective in both direct medical costs and indirect costs of staff absenteeism. These findings highlight the fact that, despite the value of vaccination, health care workers are notoriously noncompliant with vaccination regimes. International guidelines recommend annual vaccination for all health care workers with patient contact, but worldwide, rates of influenza immunization among health care workers range between 2% and 60%, well below the 83% to 94% required for the whole population to be resistant to spread of an influenza virus (Anikeeva, 2011:2).

In this CHC fifty three of the 157 health care workers got vaccinated in 2010 which amounted to 34% as reflected in the records of the Occupational Health nurse. This could be attributed to the vaccines being available to more of the high risk groups as South Africa was hosting the 2010 World cup for the first time on African soil. All front line and intensive care staff which included doctors, nurses, emergency medical personnel in casualty and 24 hour centres were to be vaccinated.

Health care workers play an important role in disseminating accurate information and they are also the recipients of the vaccine together with their families. The attitudes and beliefs of the health care workers can play an important role in supporting or blocking the vaccination efforts. A negative attitude towards vaccination possibly may have a negative impact on the decision of other health care workers (Torun & Catak, 2010:5). Some health care workers feel they do not need the vaccines because when they take them they get the flu. Good health education will help dispel this misconception. Others feel it is their right to refuse.

Health care institutions have used a variety of methods to increase immunization rates among employees, including education, reminder notices, small incentives, easy access to free vaccination, active promotion within the workplace, and compulsory vaccination as a condition of employment. Most of these programs have achieved only small increases in

vaccination rates. Many reasons for this low level of acceptance have been proposed; however, it seems most likely that continued resistance to accepting vaccination is largely because of attitudinal barriers. Most health care workers believe that they are healthy and thus will derive no benefit from vaccination or that the risk of adverse events following immunization outweighs the benefits. Alternatively, they are simply unaware of the recommendations for annual influenza immunization. It is possible that some health care workers may be conscientious objectors to vaccination; however, active refusals are unlikely to be a significant contributor to the low levels of vaccination among health care workers (Anikeeva, 2011:3). Training and health education is crucial to motivate and ensure all health care workers understand the importance of the vaccines to prevent illness thereby reducing absenteeism and illness.

According to Halliday, Thompson, Bowen and Mead, (2003:1) the uptake of vaccines are also associated with particular policies and practices of the facilities such as organisation of vaccination for staff, provision of reminders to staff and provision of information on the need for vaccination. Other factors associated with influenza vaccine uptake included previous uptake of vaccines, vaccination arranged by the workplace and awareness of recommendations for staff employed in the facilities.

Health care workers vary considerably in their health care knowledge, educational level, primary work environment, race, and culture. These factors affect the use of vaccination. For example, health care workers 50 years and older, of higher socioeconomic status, and with greater duration of employment at the same institution are more likely to accept vaccination than are those of lower socioeconomic status and shorter duration of employment, suggesting they are more familiar with influenza vaccination recommendations or possible risks and benefits to health care workers and patients. To be effective, interventions to raise immunization rates need to identify specific barriers and concerns expressed by health care workers about influenza immunization and then target them through the implementation of policies, education programs, and improved access to vaccination. Programs that actively target previously identified barriers have had a greater impact than have generic programs on staff vaccination rates. Increases in acceptance rates and reduced staff illness and absenteeism have been achieved by improving access to vaccinations with a mobile unit, addressing common misconceptions through staff education, making vaccinations free of charge, and offering small incentives to staff members who participated in the program (Anikeeva, 2011:4).

Some other researchers (Hochbaum, Rosenstock and Kegels) in the 1970's and 1980's have used theoretical models such as the Health Belief Model (HBM) and the Multidimensional Locus of Control Theory to explain the low proportion of vaccination. The HBM as discussed by University of Twente, (2012:1) was originally developed by Irwin M. Rosenstock in 1966. Since then more studies were done to accommodate evolving evidence generated within the health community about the role that knowledge and perceptions play in personal responsibility. The HBM is a psychological model that attempts to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals. A person's motivation to undertake certain health behaviour relates to individual perceptions, modifying behaviours and likelihood of action. Individual perceptions include factors that affect the perception of illness or disease; they deal with the importance of health to the individual, perceived susceptibility and perceived severity. Modifying factors include demographic variables, perceived threat and cues to action (Raftopoulos, 2011:2).The combination of these factors often manifests into action. The result of this action can be interpreted as certain behaviour. According to the evidence as discussed by University of Twente, (2012:1-2), three of the Health Belief Model dimensions:

- perceived barriers- an individual's assessment of the influences that facilitate or discourage the adoption of the promoted behaviour;
- perceived benefits: an individual's assessment of the positive consequences of adopting the behaviour to reduce risk or seriousness of impact; and
- perceived severity: an individual's assessment of how serious a condition and its consequences are were found to be significant predictors of the acceptance of influenza vaccination among the elderly.

2.8 The 2010 H1N1 vaccination campaign

Following the 2009 H1N1 pandemic outbreak the National Department of Health made available vaccines for the 2010 H1N1 vaccination campaign which coincided with the 2010 world cup. The objectives were to protect the integrity of the healthcare system, reduce morbidity and mortality, protect the vulnerable, reduce transmission of the pandemic virus within communities and limit the burden on the healthcare system. The campaign ran from 6th April 2010 to the 31st of May but was extended right until October 2010 [National Department of Health (NDOH), 2010:5].

2.9 High risk/priority groups

The high risk population was identified as not everyone was at risk for severe disease, and due to limited availability of the vaccine, not everyone needs to be vaccinated against influenza H1N1. The priority groups included (NDOH, 2010:5):

- front-line and intensive care (ICU) clinicians – doctors, nurses and Emergency Medical personnel in Casualty units and 24 Hour Centres;
- pregnant women;
- children under 15 years with HIV and AIDS on CCMT;
- patients attending specialist tertiary care lung clinics;
- patients attending specialist tertiary care heart clinics.
- These high risk groups were extended to cover other health care worker categories as well as essential groups involved in the up-coming FIFA 2010 World cup tournament that was to be held in South Africa:
  - Clerical staff, cleaning staff;
  - Private health care workers;
  - To cover other chronic diseases (only at specialist clinics);
  - HIV positive adults on ARV treatment;
  - SA Military Health Services (SAMHS);
  - SA Police Service (SAPS); and
  - Correctional Services (NDOH, 2010:5).

2.10 Influenza vaccine

The 2010 influenza vaccine was in keeping with the WHO recommendation, of a trivalent, inactivated vaccine consisting of the following strains:

- pandemic influenza A (H1N1);
- influenza A (H3N2); and
- influenza B strains.

This combination included the normal seasonal flu vaccine which comes pre -packed in 0.5ml syringes. The NDOH procured 1.3 million doses of trivalent vaccines through Biovac institute. They received 200 000 doses of Influvac supplied by Solvay and 1.1 million doses of Vaxigrip supplied by Sanofi Pasteur. Although 1.3 million doses were procured, only 1.020 000 doses were supplied due to problems experienced in the manufacturing process and

the high demand for the vaccines. The WHO donated a further 3.5 million doses of monovalent vaccines (NDOH, 2010:3).

Some important facts to remember about the vaccines are that the inactivated influenza vaccine can be given concurrently as other injectable, non-influenza vaccines but administered at different injection sites. It is effective 14 days after vaccination and those infected shortly before 1-3 days or shortly after immunisation can still get the disease.

Protection is expected to last at least 1 year, it cannot cause disease, and people who have received the influenza vaccine can later have an illness caused by other common viruses, not influenza, but which may be mistaken for flu. The vaccines should be stored in the fridge between 2°C and 8°C. The inactivated vaccines are injected into the upper arm for most people. For infants and younger children it is injected into the antero- lateral aspect of the thigh. It is very important that the vaccines are administered correctly for effective prevention of the influenza.

2.11 Vaccine dosages

It is important to ensure optimal efficacy of the vaccines by administering the correct dosage to both adults and children. The vaccine doses are as follows:

- Adults and adolescents 10 years and above receive a single dose;
- Children 3 years to < 10 years receive 2 doses with a 4 weeks interval; and
- Children 6 months to < 3 years receive a half (½) dose (4 weeks interval) (NDOH, 2010: 4).

The pandemic vaccines are as safe as the seasonal influenza vaccines and have the same side effects as the seasonal influenza vaccines. It is safe to use in pregnancy and in children.

2.12 Contra-indications

There are several contraindications where inactivated vaccines should not be administered (NDOH 2010: 5):

- People with a history of anaphylaxis (hypersensitive reactions) following receipt of any vaccine component including neomycin or polymyxin antibiotics.
- People with history of severe reaction to previous influenza vaccination.
- People who developed Guillain-Barre syndrome (GBS) within 6 weeks of getting the influenza vaccine.

- Have severe allergy to eggs - including swelling of lips or tongue, or had acute breathing problems or convulsions after eating eggs.
- Children under 6 months.
- The product package inserts can also be referred to for information regarding other contraindications.

All health care workers at the CHC were asked if they had any of the above reactions before taking the injection, otherwise they would not be a candidate for the vaccines.

2.13 The 2010 Vaccine usage/uptake

Below is a table showing the number of vaccines received (4,520 000) and the number used (1,646 282) which indicates a 36.4% uptake vaccines in South Africa for 2010. In KZN the uptake of the influenza vaccines were 49%.

Table 2.13.1: Indicates the vaccines received and used in 2010

Province	Target population	Vaccine received	Vaccinated	Percentage utilized
Eastern Cape	585 030	504 710	57 685	11%
Free State	583 370	489 940	310 336	63%
Gauteng	627 670	564 320	197 461	35%
KwaZulu-Natal	803 850	721 840	351966	49%
Limpopo	437 930	376 690	175649	47%
Mpumalanga	329 360	277 210	149975	54%
North West	292 090	251 900	151 140	60%
Northern Cape	259 250	218 710	68 629	31%
Western cape	668 740	535 630	94 164	17.6%
Private sector pharmacies		408 180	100 443	25%
Other		119 910	71 945	60%
Total		4,520 000	1,646 282	36.4%

Source: NDOH (2010: 6)

In 2010, three hundred vaccines were provided to this facility for their patients and health care workers. South Africa was hosting the 2010 World cup and the National DOH made available vaccines for the high risk groups which were expanded to include all frontline health care workers in casualty, intensive care and 24 hour units. This included nurse, doctors and emergency medical staff. There was a lot of hype around H1N1 following the 2009 pandemic which saw a number of deaths. In this facility 53 of the 157 health care workers

took the vaccines which comprised 34%. The training for this campaign was to sensitize all health care workers on what is influenza, how is it transmitted, vaccine strains, high risk groups, dosages, contra-indications to the administration of vaccines, preventative strategies and treatment.

3 The 2011 H1N1 campaign

To mitigate the effect of influenza in 2011, the Department of Health planned for a vaccination campaign. The purpose of this is to provide health workers with the necessary guidelines and tools to facilitate implementation of the campaign.

This vaccination campaign commenced in January 2011 and will complete up until all the vaccines are used up or it is the end of the flu season. The influenza vaccination campaign will be implemented alongside other public health measures, both pharmaceutical (for example antivirals) and non-pharmaceutical (for example, personal hygiene, in particular hand washing, cough etiquette, ensuring adequate ventilation and use of personal protective equipment).

3.1 Influenza vaccine for 2011

The WHO has recommended a trivalent inactivated vaccine (TIV) for the 2011 Southern Hemisphere influenza season, which comprises:

- A (H1N1): an A/California/7/2009 (H1N1) - like strain;
- A (H3N2): an A/Perth/16/2009 (H3N2) - like strain; and
- B: a B/Brisbane/60/2008 - like strain.

These trivalent vaccine strains are identical to those recommended for the 2010 Southern Hemisphere vaccine and for the 2010/2011 Northern Hemisphere vaccine (NDOH, 2011:2).

3.2 High risk/priority groups

It is advised that not everyone is at risk for severe disease, and due to limited availability of the vaccine, not everyone needs to be vaccinated against influenza. In consultation with the National Advisory Group on Immunisation (NAGI) for SA and provinces, priority groups for 2011 include:

- Adults or children at high risk for influenza-related complications because of underlying medical conditions including: chronic pulmonary disease (including

asthma), cardiovascular disease (except hypertension), renal, hepatic, neurologic, haematologic or metabolic disorders (including diabetes mellitus), morbid obesity (BMI ≥40), and immunosuppression (including HIV-infected persons with CD4 counts > 100/ mm3);

- Pregnant women – irrespective of stage of pregnancy;
- Children aged 6 months to 4 years (59 months);
- Residents of old-age (nursing) homes and other chronic care or rehabilitation facilities;
- Children aged 6 months to 18 years on long-term aspirin therapy; and
- All persons aged ≥ 65 years.

The strategy will be revised in accordance with availability of vaccines and reprioritization according to vulnerability level of risk for moderate to severe disease.

For those people who do not fall into any one of the above high risk groups; they are advised to get vaccinated at their own cost at their local pharmacies (NDOH, 2011:2).

3.3 Vaccine dosage

It is important to ensure optimal efficacy of the vaccines by administering the correct dosage to both adults and children. The recommended vaccine doses are as follows:

Table 3.3.1: The recommended vaccine dosages for both adults & children are as follows:

Age Group	Dose	Number of doses
Adults and children from 9 years of age	Adult dose (0,5ml) IMI	Single dose
Children 3 years to 8 years	Adult dose (0,5ml) IMI	1 or 2 doses*
Children 6 -35 months	0.25ml (half an adult dose) IMI	1 or 2 doses*
* if receiving the vaccine for the first time, 2 doses should be administered at least 4 weeks apart		

Source: NDOH, (2011:2).

The above table is self- explanatory where adults and children 3-8 years and above will receive a single dose whilst children 6-35 months will get half the adult dose.

3.4 Contra-indications

The contra-indications remained the same for 2010.

3.5 The 2011 Vaccine usage/uptake

The 2011 campaign was post World cup. East/Boom CHC was allocated 420 vaccines of which all were utilized. Only 7 health care workers got vaccinated in 2011 which amounted to 4% as per the records of the Occupational health nurse. The hype around H1N1 was somewhat lowered than in 2010 due to there being very few H1N1 cases. Here the high risk groups were limited to anyone having a chronic medical condition, pregnant women, children who are 6 months to under 59 months, residents of old age homes and all persons above 65 years. All health care workers who were on a medical aid were asked to use it for obtaining their vaccines. It is important for training to be stepped up to reach all health care workers to increase their awareness of the campaign and to motivate them to get vaccinated to prevent illness. Below is a table showing the number of vaccines received in Kwa-Zulu Natal (190 205) and the number used (175 473) which indicates a 92% uptake of vaccines in Kwa-Zulu Natal for 2011.

Table 3.5.1: Indicates the vaccines received and used in Kwa-Zulu Natal as at 11th November 2011

Districts	Vaccines Received	Vaccines Used	Percentage used
Ethekwini	64405	53 260	83
Ugu	11729	11 322	97
Umgungundlovu	14901	14 901	100
Uthukela	8152	8 150	99
Umzinyathi	12126	12 126	100
Amajuba	6825	6 825	100
Zululand	21730	21 730	100
Umkhanyakude	22354	20 653	92
Uthungulu	10000	10 000	100
Ilembe	11270	10 101	90
Sisonke	6713	6 405	94
KZN	190205	175 473	92

Source: NDOH, (2011: 3).

The above table depicts the vaccines received and used in Kwa- Zulu Natal in the 2011 campaign. The following districts achieved 100% usage of vaccines namely Umzinyathi, Umgungundlovu, Amajuba, Zululand and Uthungulu. Overall all districts achieved above 80% usage. All staff must be commended for their phenomenal effort in using up the vaccines for the high risk groups. This has been a remarkable improvement from 2010 where only 49% of the vaccines were utilised as compared to 92% in 2011 for KZN.

3.6 Conclusion

An extensive literature review was done by the researcher that highlighted certain important aspects of the research topic. Researching these aspects has given insight into the research topic and all the factors that pertained or were relevant to it. Many recent studies that were done in the field of uptake of influenza vaccines and attitudes to vaccines were used in the literature review. Information regarding benefits, acceptance, negative attitudes and refusal to take the influenza vaccines were discussed. Vaccine usage /uptake were also compared for 2010 and 2011 indicating a remarkable improvement from 49% to 92%.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

The researcher had decided to do a quantitative study, as opposed to a qualitative study which involves non numerical data. According to Saunders, Lewis and Thornhill (2009:414) quantitative methodology was used to describe relationships amongst measured variables to explain or predict a situation. It involved analysing numerical data and used statistical procedures and relationships to analyse and make recommendations. The advantage of this approach is that it places great emphasis on objectivity and reliability of findings and encourages replication. The researcher had chosen this approach as it was most appropriate for this research study. The study will be done at East/Boom CHC in KZN. A self-administered questionnaire (anonymous) will be administered to health care workers. It would take about 1 to 3 minutes to fill. Confidentiality will be maintained. Verbal consent will be obtained from participants. Permission to conduct the study will be obtained from the KZN Department of Health and the Management College of South Africa. One hundred (100) questionnaires will be issued.

3.2 Research design

There are many types of research that could be carried out and have been briefly discussed as follows as per Saunders et al. (2009:141):

- **Causal comparative**- is mainly used as an experimental or quasi-experimental design to study closely comparable groups to establish differences, reasons for these differences and to uncover causal links among variables;
- **Correlational** - is mainly used to discover relationships between variables through the use of correlational statistics such as the correlational coefficient (r) which measures the strength of this relationship;
- **Exploratory studies** – is mainly used to find out what is happening and discovers new insights about a phenomenon;
- **Explanatory studies** - is mainly used to explain the relationship among variables and identify the connectedness among the components of a phenomenon;
- **Descriptive studies** – is used to describe the characteristics of an existing phenomenon.
-

3.3 The research philosophy

Research paradigms incorporate the fundamental philosophical concepts and values about the nature of reality and the scientific pursuit of knowledge. There are two schools of thought about science and knowledge- positivism and phenomenology which will be discussed as follows:

3.3.1 Positivist (quantitative research)

Positivist research is generally quantitative and involved the use of numerical measurement and statistical analyses of measurements to examine social phenomena. It views reality as consisting of phenomena that can be observed and measured. The advantage of this approach is that it places great emphasis on objectivity and reliability of findings and encourages replication

3.3.2 Phenomenological (qualitative research)

This approach according to Katzenellenbogen, Joubert and Karrim (2004: 176) aims to get a full assessment of how the subjects of research understand their social and material situation and how they perceive their role within this situation. The advantage of this approach is that findings have greater validity and less artificiality as the process of observing phenomena in natural, real life settings often allows researchers to develop a more accurate understanding of those phenomena. There are often problems in the analysis of the information, particularly due to researcher subjectivity and bias.

The researcher conducted a descriptive study. A descriptive study according to Katzenellenbogen et al. (2004:64) "is undertaken to quantify the extent of the problem or seek answers to questions relating to the fundamental characteristics that define the research subject."

3.4 Research strategies

In order to conduct a successful research study it is very important to choose an appropriate research strategy. The research strategy had to be complimentary to the research study in that it had to match the research in terms of design and methodology. The research strategy guides the researcher on how to go about answering the research question and the method used to answer it. Research strategies may be a positivist research strategy, a phenomenological research strategy or a combined research strategy:

3.4.1 Positivist research strategies

- **Surveys**

According to Saunders et al. (2009:144) a sample is a popular and common strategy used and is selected from a population and studied to make inferences about the population. They typically use questionnaires and interviews in order to determine the opinions, attitudes, preferences and perceptions of persons of interest to the researcher. To ensure greater reliability and validity, the researcher must ensure that the questionnaire and interview do not reveal bias in the way that the items and questions are presented.

3.4.2 Phenomenological research strategies

According to Saunders et al. (2009:147) the Phenomenological research strategies were discussed as follows:

- **Case study**

This involves looking at a small group, project, institution or company. Case studies are basically intensive investigation of the factors that contributed to the characteristics of the case under investigation which draws on multiple sources of information to tell a story usually in chronological order. Case studies are most helpful when the researcher is dealing with how or why questions;

- **Action research**

The main focus is to promote change within the organisation. Action research has dual aims of action and research: the action research is a cyclic process which brings about change in some community or organisation and the research seeking to increase understanding in the part of the researcher and /or the target group or community;

- **Grounded theory**

This research is hardly used because of the bias favouring deductive and quantitative approaches and partly because of a critical view that some researchers have. This theory has as its basic tenet the view the theory must be inductively derived from the data. The theory must emerge from and be grounded in the data;

- **Ethnography**

This strategy is not widely used as it is time consuming and generally requires the researcher to immerse himself/herself in the real life context as a participant observer. Over a period of

time the researcher gathers data and applies an inductive methodology to uncover patterns of meaning.

3.4.3 Combined research strategies

Often researchers may develop research designs that combine research strategies from those two paradigms in a single research design. The research strategy used was action research as it was mainly used for change in an organization. Action research allowed for the collection of data from health care workers. The data collected was standardised and there was control over the research process. It allowed for the collection of quantitative data which could be analysed using appropriate statistics.

3.5 Target population

Katzenellenbogen et al. (2004:74) defined a population as a group that you want to gather information and make conclusions about or the full set of elements or cases from which a sample is taken and a population element was the single unit of the sample on which measurement and observations are taken. The study was based at East /Boom CHC which comprises about 157 health care workers which include doctors, nurses, admin staff, finance/SCM, security, human resources, cleaning staff, pharmacy, dental, x-ray/ultrasound. The study will sample about 100 health care workers. The data was collected over two days via a questionnaire.

3.6 Sampling strategy

Sampling is basically selecting some of the elements in a population and focusing research on this finite group which are representative of the whole population and drawing conclusions from the sample, in which we could apply the findings to the whole population of interest. A sample reflects the characteristics of the population. There are two different methods of sampling namely:

- **Probability sampling techniques.**

Probability sampling is based on random selection which ensures that each element is given a known equal chance of being selected. There are many different types of probability sampling techniques as discussed by Katzenellenbogenet al. (2004:75-78):

- Simple random sampling is when each population element has an equal chance of being selected into the sample. The sample drawn uses random number table/generator;
- Systematic sampling technique is when the element of the population is selected at the beginning with a random start and follows the sampling fraction selects every kth element. Often done intuitively;
- Stratified random sampling technique is when the population is divided into sub-populations or strata and use simple random sample on each strata;
- Cluster sampling technique is when the population is divided into groups or clusters of a certain size.

- **Non-probability sampling techniques**.

Non-probability sampling is when the researcher has no way of knowing the exact number of elements in the population is unknown with the result that the likelihood of selecting any one member of the population is not known.

There are many different types of non-probability sampling techniques as discussed by Katzenellenbogen et al. (2004:75-78).

- The haphazard /convenience sampling technique is when the researcher selects a sample that is convenient;
- The quota sampling technique is when a sample in a predetermined group is selected for example age;
- Purposive/judgemental technique is when the researcher selects anyone in a hard to find target population. The selection is left to the interviewer;
- Snowball sampling is when the researcher selects a sample that is connected to one another e.g. rare diseases. Often this sample can be biased;
- Maximum variation sampling is when the researcher identifies the categories of interest in relation to the research topic and then intentionally seeks out subjects or settings which represent the greatest possible range of differences in the phenomena being studied.

As noted above, the reason why sampling was used was because it was not feasible to study the whole population due to budget and time constraints and there was a greater accuracy/adequacy of sample results.

3.7 Selection of the study

The researcher chose a random sample for this study, targeting those staff on duty on the two days the study was done. Each element had an equal chance of being chosen.

A sampling error can occur when the sample differs from the population. With probability sampling techniques the sampling error can be minimized. Research was carried out on this sample and the results obtained were generalized on the target population being the health care workers.

3.8 The Research instrument

There are many different types of data collection instruments such as observation, interviews and questionnaires. The two most commonly used primary data collection methods are the questionnaires and the interviews. The choice of data collection instrument used was a structured questionnaire. There are many different types of questionnaires. According to Bryman and Bell (2007:240-241) a self-administrated questionnaire is when the respondents answer the questions by completing the questionnaire themselves. The questionnaires can be administered electronically, posted to respondents or delivered personally as noted by Saunders et al. (2009:398). In an interview the questionnaire can be administrated and the responses are recorded by the interviewer. This can occur via the telephone or by a structured interview (Saunders et al.; 2009:357). The questionnaire design (Appendix 4) comprised 2 sections namely:

Section A consisted of 5 questions. This covered the socio-demographic items of gender, age, marital status, job title and length of working in the Department of Health.

Section B which consisted of orientation items, behavioural and content questions such as awareness of the H1N1 campaign, attendance of training sessions, vaccination history, reasons for not taking the vaccines, attitudes to how respondents feel about the H1N1 vaccines and the information that they receive about it. The questionnaire which the researcher used was a self-administered questionnaire using the personal method. This was given to each respondent and then collected on completion.

3.9 Pilot Study

Saunders et al. (2009:394) refers to the pilot study as pilot testing the questionnaire before it was administered to the respondents. The purposes of a pilot study are:

- to reveal flaws in some questions;

- suitability of questions;
- refine the questionnaire;
- suggest possible improvements;
- supply a range of possible answers to open-ended questions;
- make amendments necessary to maximise returns and minimise the error rate on answers;
- categorise the open-ended questions to a reasonable degree;
- perform the analysis on the pilot sample and test out all the computational procedures and produce some initial hypotheses;
- evaluate the adequacy of the data for the research questions;
- How long the questions take to complete;
- Clarity of the questions and layout; and
- If there were any important aspects left out.

The pilot study was essentially done to refine the questions so that there will be no problems in the interpretation of the questions during the research. The pilot study was done on a sample of health care workers at the facility. Ten health care workers from the community health centre were randomly chosen for the pilot study. No amendments to the questionnaire were done. The questionnaire was simple and easy to complete. The health care workers understood the questions.

3.10 Administration of questionnaires

The questionnaires were self-administered. The questionnaires were administered by the researcher with the help of the Acting nurse manager. The information sheet (Appendix 5) was handed out with the questionnaire. The questionnaires were collected after two days.

3.11 Data analysis

The data from each response was first captured. The data collected was quantitative, categorical and nominal. The analysis of the results involved the use of SPSS version 15.0 (SPSS Inc., Chicago, Illinois, USA) and Microsoft Excel was used to summarize and present the data in statistical format. A p value <0.05 was considered as statistically significant. The data was summarized in tables and frequency distributions and were presented in tabular format, bar graphs and proportions were shown in pie charts.

3.12. Validity and reliability

The above two concepts are very important in the formation of a good questionnaire.
Validity addresses the issue of whether the researcher is actually measuring what he/she has set out to do. Saunders et al; (2009:157) refers to four specific types of validity - each of which the researcher would ideally want to establish for the research instrument prior to administering it for the actual study namely:

Face validity – requires the research instrument to be relevant to participants in the study. This can be established by asking friends, colleagues and individuals from the target population to comment on the relevance, balance and adequacy of the research instrument in relation to the research objectives. The reason for this is that sometimes respondents become resentful and uncooperative if they think they are being misrepresented to others or if they believe that the researcher is not being honest with them.

Content validity – The researcher must seek the opinion of experts in the field on the adequacy of the research instrument.

Criterion validity – has two distinct forms of validity associated with it. Predictive validity refers to the capacity of a respondent's ratings and responses to items on the instrument to predict behaviour outside the immediate framework of the research instrument in order for accurate predictions.

Concurrent validity – indicates whether the level of responses to items on the research instrument is parallel to other facets of the respondent's overall behaviour.

Reliability addresses the issue of consistency or repeatability of the measurement of some phenomena. The observed score is one of the major components of reliability:
There are three ways of assessing reliability which are:

- **Parallel forms of reliability** which is a measure of equivalence and it involves administering two different forms of measurements to the same group of participants and obtaining a positive correlation between the two forms;
- **Test- retest reliability**- by administering the same research instrument at two different points in time to the same research subjects and obtaining a correlation between the two sets of responses;
- **Inter-rater reliability**-this is a measure of homogeneity which measures the amount of agreement between two people who rate a behaviour, object or phenomena.

There are four threats to reliability according to Saunders et al; (2009:156):

- Subject or participant error
- Subject or participant bias
- Observer error
- Observer bias

3.13 Limitations of the study

Only one facility was chosen for the purpose of this research. It excluded all other facilities. Health care workers from other facilities were not included in the study. This facility has one hundred and fifty seven health care workers. The study questionnaire targeted one hundred health care workers over two days.

3.14 Elimination of bias

Whilst conducting the research study the researcher did not discriminate against gender, race or age. All the various race groups were involved randomly in the study.

3.15 Ethical considerations

Research ethics "relates to questions about how we formulate and clarify a research topic, design the research and gain access, collect, process, store and analyse the data and write up the research findings in a moral and responsible way (Saunders et al. 2009:178)."

A copy of the research proposal was sent to the KZN- [Provincial Health Research & Ethics (PHRC)] committee and the Management college of South Africa (Mancosa) research ethics committee on the 12th July 2011. Both organizations gave their written approvals.

Letters of support was received from the Manager of the Communicable Disease Programme as well as the District Manager: Umgungundlovu for permission to undertake the research at East/Boom CHC. A letter of approval (Appendix 6) was received from the Department of Health to commence the research. All logistical arrangements were made with the Chief Executive Officer and Acting Nurse Manager at East/Boom CHC.

There were a number of key ethical issues that were addressed:

- Informed consent: The health care workers were informed in writing about how the research was being conducted; what information the researcher was seeking and how it will be used; what their involvement in the study was; their roles and

responsibilities, any risk of harm to them and their rights to withdraw from the study (Saunders et al. 2009:181). Health care workers were not pressurized to participate and it was done of their own free will. The Health care workers had a good understanding of the questions. See Appendix 6 for the informed consent form;

- Privacy and confidentiality of the Health care workers- The identities of the Health care workers were not disclosed to other people especially during the reporting of the findings. Health care workers were informed about the anonymity of the research. The researcher ensured that Health care workers were protected and no harm came to them during the course of the study. All the data that will be used in this study was obtained from the responses of health care workers at East/Boom CHC;
- The study database was password protected and can only be accessed by the researcher. Data will be managed in a password protected excel spread-sheet in the researchers laptop. The laptop will be accessed only by the researcher. The data will be backed-up on a CD and an external hard-drive stored in a locked cabinet. There were no names or contact details of respondents filling in the questionnaires which were anonymous. Confidentiality was maintained and ensured.

3.16 Conclusion

The researcher had carried out a descriptive study in order to evaluate the health care workers attitudes to taking the H1N1 vaccines at East/Boom CHC. The study was quantitative and comprised 100 health care workers who provided responses to a questionnaire. A pilot study (sample of 10) was done to detect flaws in the questionnaire. The sample was selected at random. The data collection method used was the personal method using a structured questionnaire. It was self-administered, delivered and personally collected. The questionnaire consisted mainly of closed questions – yes /no. The data collected from the questionnaire was summarized using statistical processes. Validity and reliability were taken into account during the study. Ethical considerations were adhered to.

CHAPTER 4

RESULTS, DISCUSSION AND INTERPRETATION OF FINDINGS

4.1 Introduction

The questionnaire was administered to the health care workers at East/Boom CHC. The response rate of the questionnaire was 100% as the personal method of administration was used. The analysis of the results involved the use of SPSS version 15.0 (SPSS Inc., Chicago, Illinois, USA). A p value <0.05 was considered as statistically significant.

Descriptive statistics in the form of frequency and percentage were computed for the variables. Cross tabulation tables reflect the percentage responses compared to each biographical variable.

4.2 Analysis of results and discussion of findings

Part A - Demographic variables and overall impression

Table 4.1: Frequency distribution of the biographical variables

Q1-5		Table N %
Gender	Male	27.0%
	Female	73.0%
Age	Below 20 years	.0%
	20-29 years	20.0%
	30-39 years	40.0%
	40-49 years	23.0%
	50-59 years	13.0%
	60 years and over	4.0%
Marital Status	Married	41.0%
	Divorced	2.0%
	Widowed	5.0%
	Single	52.0%
Job Title	Doctor	3.0%
	Nurse	48.0%
	Pharmacist	1.0%
	Dentist	2.0%
	Cleaner	6.0%
	Security officer	10.0%
	Clerk	11.0%
	Other	19.0%
Tenure	Below 1 year	23.0%
	1-4 years	13.0%
	5-9 years	28.0%
	10-14 years	11.0%
	More than 15 years	25.0%

Table 4.1 reflects the distribution of the sample according to the different biographical variables. The data is graphically presented in Figures 1 to 5.

4.2.1 Graph- Gender breakdown

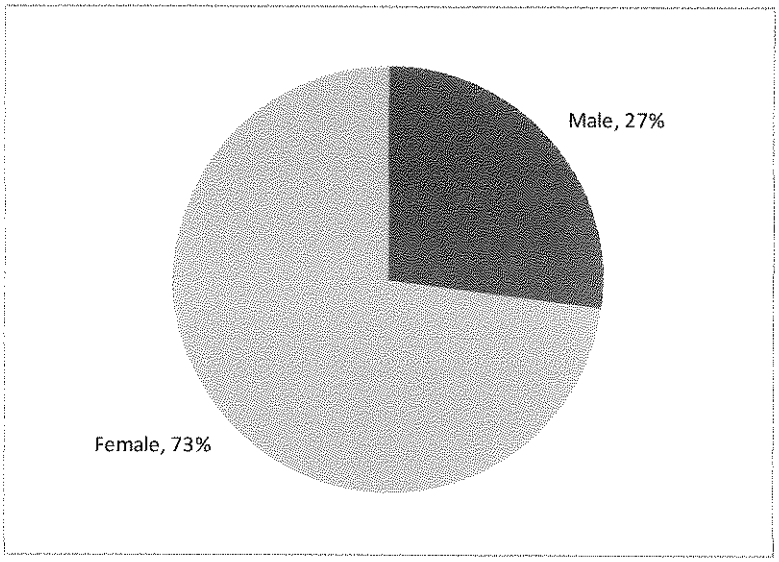

Figure 1 Gender breakdown

The gender breakdown shows that 73% were female and 27% were male.

4.2.2 Graph – Age Group

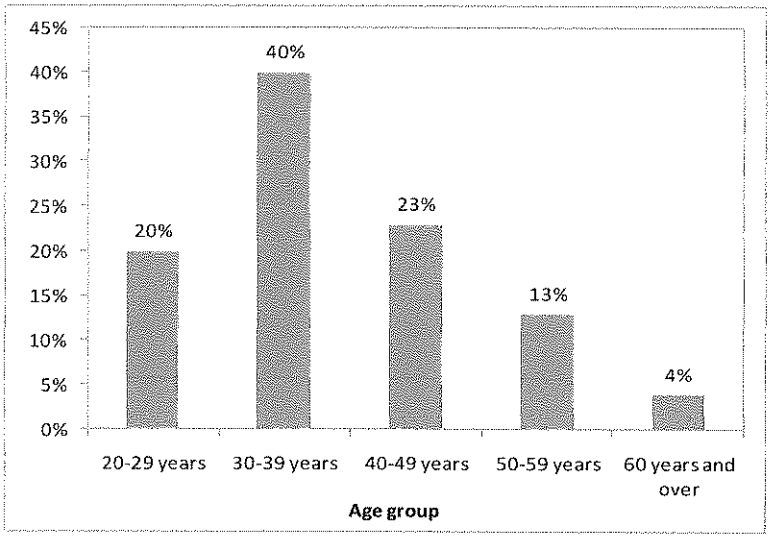

Figure 2

The Age breakdown shows that 20% were between 20-29 years, 40% were between 30-39 years while 36% were between 40-59 years and 4% were over 60 years.

4.2.3 Graph – Marital Status

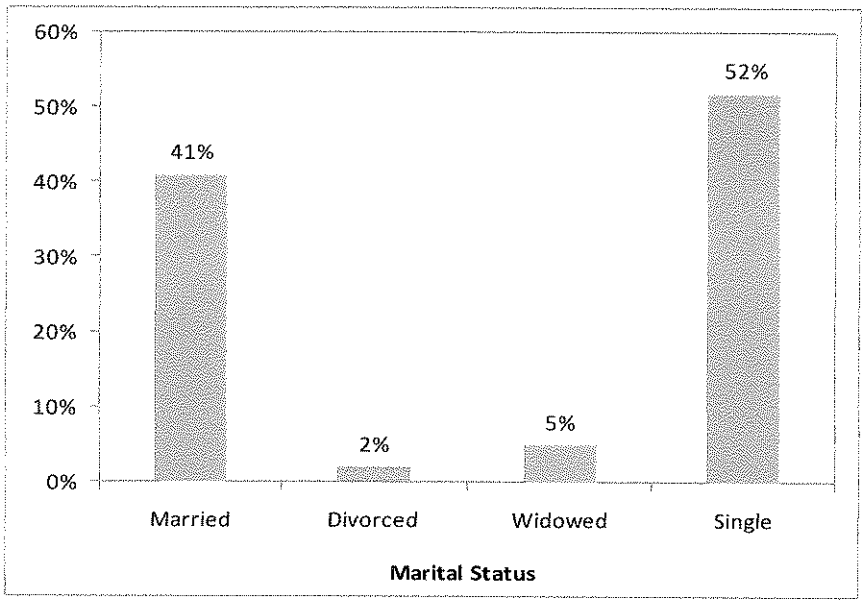

Figure 3

A total of 52% were single, 41% were married, 5% were widowed and 2% were divorced.

4.2.4 Graph – Job titles

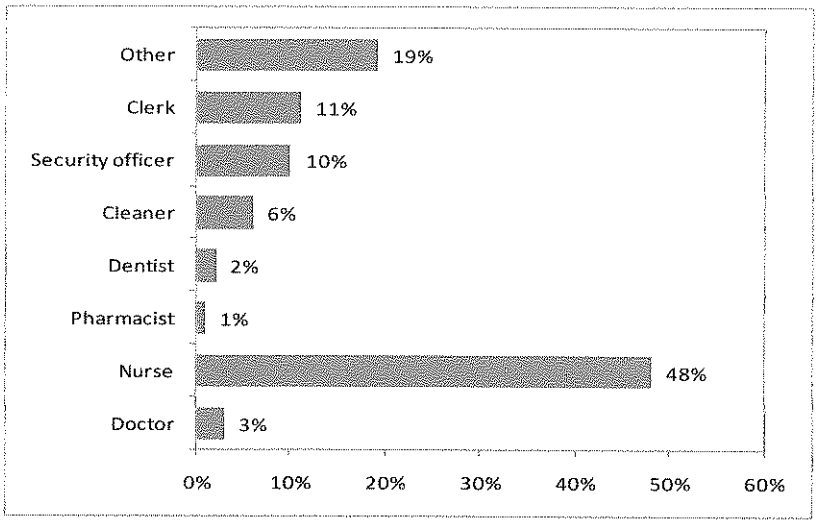

Figure 4

The majority were nurses at 48%. This was followed by other which comprised 19% consisting of counsellors, management, staff at x-ray, ultrasound.

4.2.5 Graph – Length of time working in the Department of Health

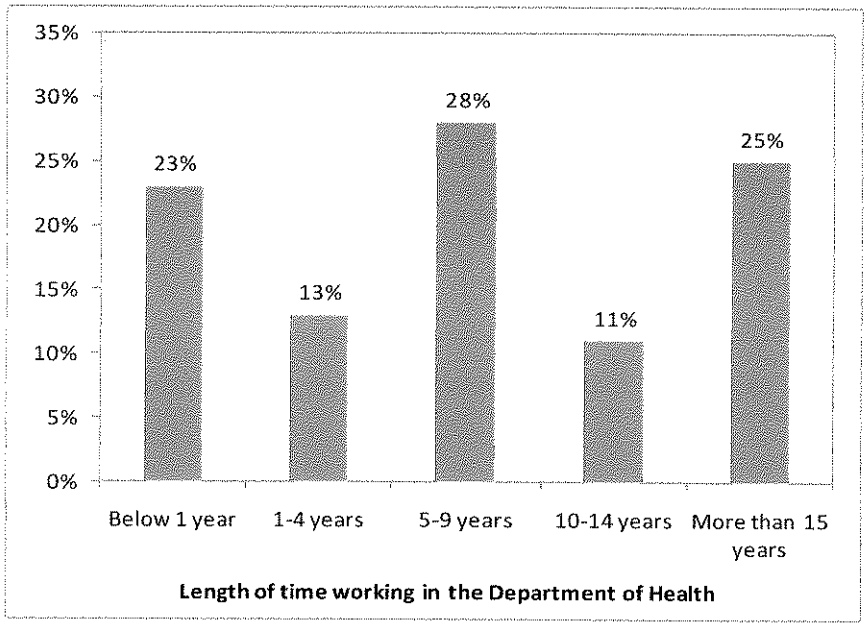

Figure 5

Twenty eight percent (28%) were working between 5 and 9 years while 25% had been working more than 15 years.

Part B – Other variables

4.2.6 Graph- Awareness of the annual H1N1 campaign

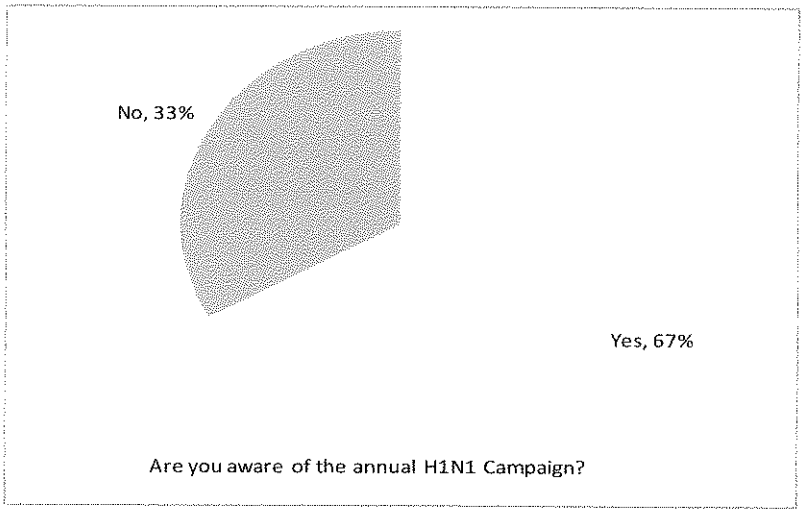

Figure 6

Figure 6 shows that 67% of respondents are aware of the H1N1 campaign whilst 33% are unaware.

This is a very busy CHC that sees over a thousand patients per day. The main reason for 33% of the respondents being unaware of the H1N1 campaign was due to them not attending the on-site training as a result of staff shortage and high patient turnover. The training needs to be repeated several times within the facility to cover all categories of health care workers to increase awareness.

Table 4.2: Awareness of the annual H1N1 campaign

Q6		Are you aware of the annual H1N1 Campaign?		
		Yes	No	Total
Gender	Male	9.0%	18.0%	27.0%
	Female	58.0%	15.0%	73.0%
	Total	67.0%	33.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%
	20-29 years	10.0%	10.0%	20.0%
	30-39 years	30.0%	10.0%	40.0%
	40-49 years	14.0%	9.0%	23.0%
	50-59 years	10.0%	3.0%	13.0%
	60 years and over	3.0%	1.0%	4.0%
	Total	67.0%	33.0%	100.0%
Marital Status	Married	32.0%	9.0%	41.0%
	Divorced	1.0%	1.0%	2.0%
	Widowed	4.0%	1.0%	5.0%
	Single	30.0%	22.0%	52.0%
	Total	67.0%	33.0%	100.0%
Job Title	Doctor	.0%	3.0%	3.0%
	Nurse	40.0%	8.0%	48.0%
	Pharmacist	1.0%	.0%	1.0%
	Dentist	1.0%	1.0%	2.0%
	Cleaner	3.0%	3.0%	6.0%
	Security officer	4.0%	6.0%	10.0%
	Clerk	5.0%	6.0%	11.0%
	Other	13.0%	6.0%	19.0%
	Total	67.0%	33.0%	100.0%
Tenure	Below 1 year	11.0%	12.0%	23.0%
	1-4 years	7.0%	6.0%	13.0%
	5-9 years	20.0%	8.0%	28.0%
	10-14 years	8.0%	3.0%	11.0%
	More than 15 years	21.0%	4.0%	25.0%
	Total	67.0%	33.0%	100.0%

Table 4.2 reflects the comparison with each biographical variable. Amongst the males, 18% were not aware of the campaign as opposed to 15% being unaware amongst the females. Of the 20-29 years, 10% were unaware while 10% were aware. Amongst the 30-39 years, 30% were aware of the campaign. Amongst the married and single respondents, a larger proportion were aware. Amongst the Nurses, 8% were unaware. Amongst those with 5-9 years tenure, 8% were unaware.

4.2.7 Graph – Attendance at H1N1 training sessions

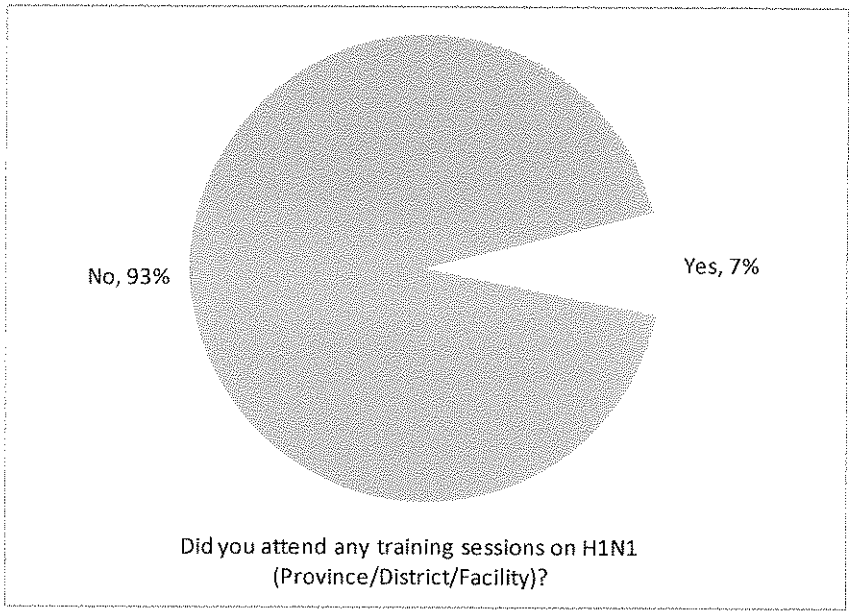

Figure 7

Figure 7 shows that 93% did not attend any training sessions on H1N1 whilst only 7% did and these were nurses. The majority of staff at this 24 hour facility are nurses who render Primary health care services. The poor attendance is attributed to the high patient turnover and at times staff shortage as a result of absenteeism, leave, attending courses. All categories of health care workers need to be motivated to attend the on-site training which should be repeated until all staff have undergone the training.

Table 4.3: Attendance at H1N1 training sessions

Q7		Did you attend any training sessions on H1N1 (Province/District/Facility)		
		Yes	No	Total
Gender	Male	.0%	27.0%	27.0%
	Female	7.0%	66.0%	73.0%
	Total	7.0%	93.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%
	20-29 years	.0%	20.0%	20.0%
	30-39 years	3.0%	37.0%	40.0%
	40-49 years	1.0%	22.0%	23.0%
	50-59 years	3.0%	10.0%	13.0%
	60 years and over	.0%	4.0%	4.0%
	Total	7.0%	93.0%	100.0%
Marital Status	Married	5.0%	36.0%	41.0%
	Divorced	.0%	2.0%	2.0%
	Widowed	.0%	5.0%	5.0%
	Single	2.0%	50.0%	52.0%
	Total	7.0%	93.0%	100.0%
Job Title	Doctor	.0%	3.0%	3.0%
	Nurse	7.0%	41.0%	48.0%
	Pharmacist	.0%	1.0%	1.0%
	Dentist	.0%	2.0%	2.0%
	Cleaner	.0%	6.0%	6.0%
	Security officer	.0%	10.0%	10.0%
	Clerk	.0%	11.0%	11.0%
	Other	.0%	19.0%	19.0%
	Total	7.0%	93.0%	100.0%
Tenure	Below 1 year	.0%	23.0%	23.0%
	1-4 years	.0%	13.0%	13.0%
	5-9 years	1.0%	27.0%	28.0%
	10-14 years	2.0%	9.0%	11.0%
	More than 15 years	4.0%	21.0%	25.0%
	Total	7.0%	93.0%	100.0%

Table 4.3 reflects the comparison with each biographical variable. All males did not attend while amongst the females, only 7% attended, Amongst the 20-29 years, all did not attend while amongst the 30-39 years, only 3% attended. Amongst the Nurses, only 7% attended. All those employed 4 years or below, did not attend.

4.2.8 Graph – Are you going to be vaccinated with the H1N1 influenza vaccine

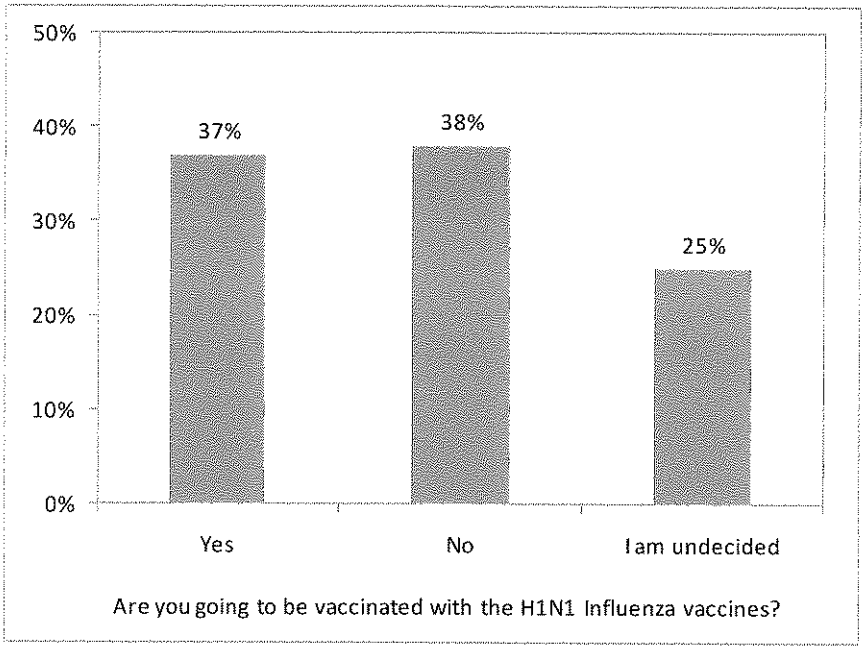

Figure 8

Figure 8 shows that only 37% were going to get vaccinated while 38% indicated no and 25% were undecided. Note that 'not filled' was combined with undecided in the graph but is reflected separately in the table below. The results of the one-sample chi-square indicates that this difference is statistically significant at the 95% level (Chi-square=36.5, df=1, p=0.000).

Sixty seven percent (67%) of the respondents are aware of the campaign yet only 37% have indicated that they are going to get vaccinated. This can then imply that awareness does not always translate into action. Many more interventions need to be implemented to motivate health care workers to take the vaccines to prevent illness. The management at this facility should consider some of the recommendations proposed for example addressing common misconceptions of adverse reactions through staff education, providing vaccines free of charge and within the facility- at the occupational health clinic.

Table 4.4: Are you going to be vaccinated with the H1N1 influenza vaccine

		Are you going to be vaccinated with the H1N1 Influenza vaccines?			
		Yes	No	I am undecided	Total
Gender	Male	10.0%	11.0%	6.0%	27.0%
	Female	27.0%	27.0%	19.0%	73.0%
	Total	37.0%	38.0%	25.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%
	20-29 years	4.0%	11.0%	5.0%	20.0%
	30-39 years	16.0%	11.0%	13.0%	40.0%
	40-49 years	11.0%	7.0%	5.0%	23.0%
	50-59 years	5.0%	7.0%	1.0%	13.0%
	60 years and over	1.0%	2.0%	1.0%	4.0%
	Total	37.0%	38.0%	25.0%	100.0%
Marital Status	Married	15.0%	16.0%	10.0%	41.0%
	Divorced	1.0%	1.0%	.0%	2.0%
	Widowed	2.0%	2.0%	1.0%	5.0%
	Single	19.0%	19.0%	14.0%	52.0%
	Total	37.0%	38.0%	25.0%	100.0%
Job Title	Doctor	.0%	2.0%	1.0%	3.0%
	Nurse	19.0%	17.0%	12.0%	48.0%
	Pharmacist	.0%	1.0%	.0%	1.0%
	Dentist	.0%	2.0%	.0%	2.0%
	Cleaner	5.0%	1.0%	.0%	6.0%
	Security officer	3.0%	4.0%	3.0%	10.0%
	Clerk	4.0%	3.0%	4.0%	11.0%
	Other	6.0%	8.0%	5.0%	19.0%
	Total	37.0%	38.0%	25.0%	100.0%
Tenure	Below 1 year	13.0%	6.0%	4.0%	23.0%
	1-4 years	3.0%	6.0%	4.0%	13.0%
	5-9 years	9.0%	10.0%	9.0%	28.0%
	10-14 years	7.0%	2.0%	2.0%	11.0%
	More than 15 years	5.0%	14.0%	6.0%	25.0%
	Total	37.0%	38.0%	25.0%	100.0%

Table 4.4 reflects that amongst those who did not want to be vaccinated 11% were male and 27% were female. 18% of those who are undecided were female. Twenty two percent (22%) between 20 and 39 years did not want to be vaccinated as compared to 17% in this age group who are undecided. Of those who married, 16% are not going to be vaccinated and 10% are undecided while of those who are single, 19% are not going to get vaccinated and 13% are undecided. Amongst the Nurses, 11% were undecided and 17% did not want to be vaccinated. Amongst those employed more than 15 years, 14% did not want to be vaccinated.

4.2.9 Graph – Place of vaccination

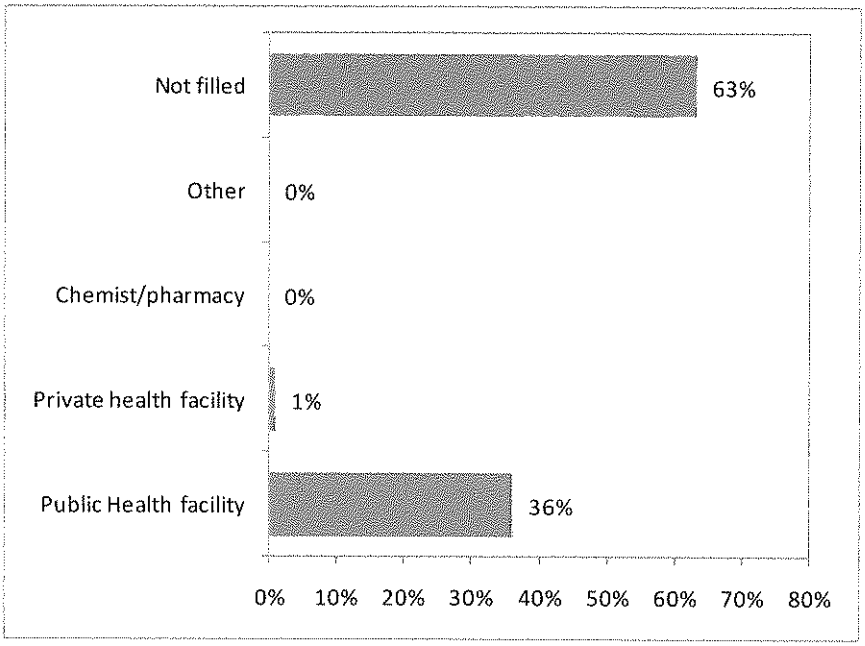

Figure 9 illustrates that 36% of those intending to be vaccinated will do so at a Public Health facility whilst 1% will get vaccinated at a Private health facility.

Many health care workers are comfortable to get their vaccination at a public health facility.

Table 4.5: Place of vaccination

		Place of vaccination					
		Public Health facility	Private health facility	Chemist/ pharmacy	Other-please state	Not filled	Total
Gender	Male	10.0%	.0%	.0%	.0%	17.0%	27.0%
	Female	26.0%	1.0%	.0%	.0%	46.0%	73.0%
	Total	36.0%	1.0%	.0%	.0%	63.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	4.0%	.0%	.0%	.0%	16.0%	20.0%
	30-39 years	16.0%	.0%	.0%	.0%	24.0%	40.0%
	40-49 years	10.0%	1.0%	.0%	.0%	12.0%	23.0%
	50-59 years	5.0%	.0%	.0%	.0%	8.0%	13.0%
	60 years and over	1.0%	.0%	.0%	.0%	3.0%	4.0%
	Total	36.0%	1.0%	.0%	.0%	63.0%	100.0%
Marital	Married	15.0%	.0%	.0%	.0%	26.0%	41.0%
Status	Divorced	.0%	1.0%	.0%	.0%	1.0%	2.0%
	Widowed	2.0%	.0%	.0%	.0%	3.0%	5.0%
	Single	19.0%	.0%	.0%	.0%	33.0%	52.0%
	Total	36.0%	1.0%	.0%	.0%	63.0%	100.0%
Job Title	Doctor	.0%	.0%	.0%	.0%	3.0%	3.0%
	Nurse	18.0%	1.0%	.0%	.0%	29.0%	48.0%
	Pharmacist	.0%	.0%	.0%	.0%	1.0%	1.0%
	Dentist	.0%	.0%	.0%	.0%	2.0%	2.0%
	Cleaner	5.0%	.0%	.0%	.0%	1.0%	6.0%
	Security officer	3.0%	.0%	.0%	.0%	7.0%	10.0%
	Clerk	4.0%	.0%	.0%	.0%	7.0%	11.0%
	Other	6.0%	.0%	.0%	.0%	13.0%	19.0%
	Total	36.0%	1.0%	.0%	.0%	63.0%	100.0%
Tenure	Below 1 year	13.0%	.0%	.0%	.0%	10.0%	23.0%
	1-4 years	3.0%	.0%	.0%	.0%	10.0%	13.0%
	5-9 years	9.0%	.0%	.0%	.0%	19.0%	28.0%
	10-14 years	6.0%	1.0%	.0%	.0%	4.0%	11.0%
	More than 15 years	5.0%	.0%	.0%	.0%	20.0%	25.0%
	Total	36.0%	1.0%	.0%	.0%	63.0%	100.0%

The data in Table 4.5 shows that the 1% who intend attending a Private health facility are females in the 40-49 year age group, divorced with a tenure of 10-14 years.

4.2.10 Graph – Main reason for not taking the H1N1 vaccine

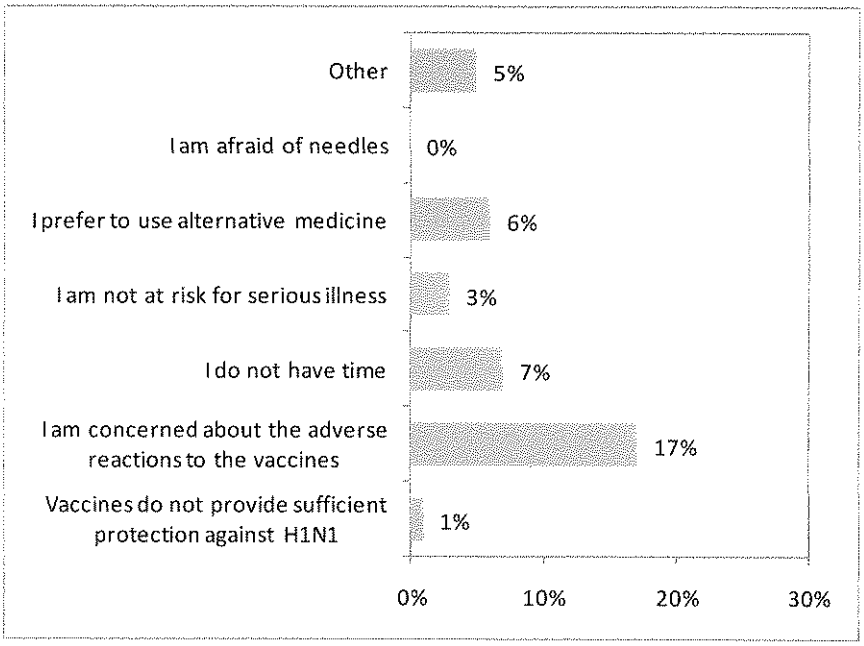

Figure 10

Figure 10 reflects that of those not taking the vaccine, 17% are concerned about the adverse reactions to vaccines, 7% do not have the time to go and get vaccinated whilst 6% prefer to use alternative medicine.

There are very few risks associated with influenza vaccination, with the most frequently reported side effect being mild pain or swelling at the injection site. For the two years that the vaccine campaign was held no adverse reaction/event following immunisation occurred. The safety aspects have been emphasized in pregnant women and children above 6 months of age. This can be overcome by addressing common misconceptions of adverse reactions through staff education as 42% agree/strongly agree that the vaccine is safe. The value of annual vaccination for all health care workers with patient contact should be highlighted. Rates of vaccination among health care workers range between 2% and 60% (Anikeeva, 2009:3) which is well below the 83% to 94% required for the whole population to be resistant to the spread of influenza.

Table 4.6: Main reason for not taking the H1N1 vaccine

		Reason for not taking H1N1 vaccine								
		Vaccines do not provide sufficient protection against H1N1	I am concerned about the adverse reactions to the vaccines	I do not have time	I am not at risk for serious illness	I prefer to use alternative medicine	I am afraid of needles	Other-please state	Not filled	Total
Gender	Male	1.0%	4.0%	3.0%	.0%	1.0%	.0%	2.0%	16.0%	27.0%
	Female	.0%	13.0%	4.0%	3.0%	5.0%	.0%	2.0%	46.0%	73.0%
	Total	1.0%	17.0%	7.0%	3.0%	6.0%	.0%	4.0%	62.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	.0%	6.0%	4.0%	.0%	1.0%	.0%	.0%	9.0%	20.0%
	30-39 years	1.0%	5.0%	2.0%	.0%	3.0%	.0%	.0%	29.0%	40.0%
	40-49 years	.0%	4.0%	.0%	.0%	1.0%	.0%	2.0%	16.0%	23.0%
	50-59 years	.0%	2.0%	.0%	3.0%	.0%	.0%	2.0%	6.0%	13.0%
	60 years and over	.0%	.0%	1.0%	.0%	1.0%	.0%	.0%	2.0%	4.0%
	Total	1.0%	17.0%	7.0%	3.0%	6.0%	.0%	4.0%	62.0%	100.0%
Marital Status	Married	1.0%	9.0%	.0%	.0%	2.0%	.0%	4.0%	25.0%	41.0%
	Divorced	.0%	.0%	.0%	.0%	1.0%	.0%	.0%	1.0%	2.0%
	Widowed	.0%	.0%	.0%	2.0%	.0%	.0%	.0%	3.0%	5.0%
	Single	.0%	8.0%	7.0%	1.0%	3.0%	.0%	.0%	33.0%	52.0%
	Total	1.0%	17.0%	7.0%	3.0%	6.0%	.0%	4.0%	62.0%	100.0%
Job Title	Doctor	.0%	.0%	2.0%	.0%	.0%	.0%	.0%	1.0%	3.0%
	Nurse	.0%	11.0%	.0%	2.0%	3.0%	.0%	1.0%	31.0%	48.0%
	Pharmacist	.0%	1.0%	.0%	.0%	.0%	.0%	.0%	.0%	1.0%
	Dentist	.0%	2.0%	.0%	.0%	.0%	.0%	.0%	.0%	2.0%
	Cleaner	.0%	.0%	.0%	.0%	.0%	.0%	1.0%	5.0%	6.0%
	Security officer	.0%	.0%	4.0%	.0%	.0%	.0%	.0%	6.0%	10.0%
	Clerk	.0%	2.0%	1.0%	.0%	.0%	.0%	.0%	8.0%	11.0%
	Other	1.0%	1.0%	.0%	1.0%	3.0%	.0%	2.0%	11.0%	19.0%
	Total	1.0%	17.0%	7.0%	3.0%	6.0%	.0%	4.0%	62.0%	100.0%
Tenure	Below 1 year	.0%	2.0%	4.0%	.0%	.0%	.0%	.0%	17.0%	23.0%
	1-4 years	.0%	3.0%	2.0%	.0%	1.0%	.0%	.0%	7.0%	13.0%
	5-9 years	.0%	6.0%	.0%	.0%	2.0%	.0%	2.0%	18.0%	28.0%
	10-14 years	.0%	.0%	.0%	.0%	2.0%	.0%	.0%	9.0%	11.0%
	More than 15 years	1.0%	6.0%	1.0%	3.0%	1.0%	.0%	2.0%	11.0%	25.0%
	Total	1.0%	17.0%	7.0%	3.0%	6.0%	.0%	4.0%	62.0%	100.0%

Table 4.6 reflects the stratification across the biographical variables. Amongst those who are concerned about the adverse reactions, majority are female, 6% are in the 20-29 year age group while 5% are in the 30-29 year age group.

4.2.11 Graph – Vaccine safety

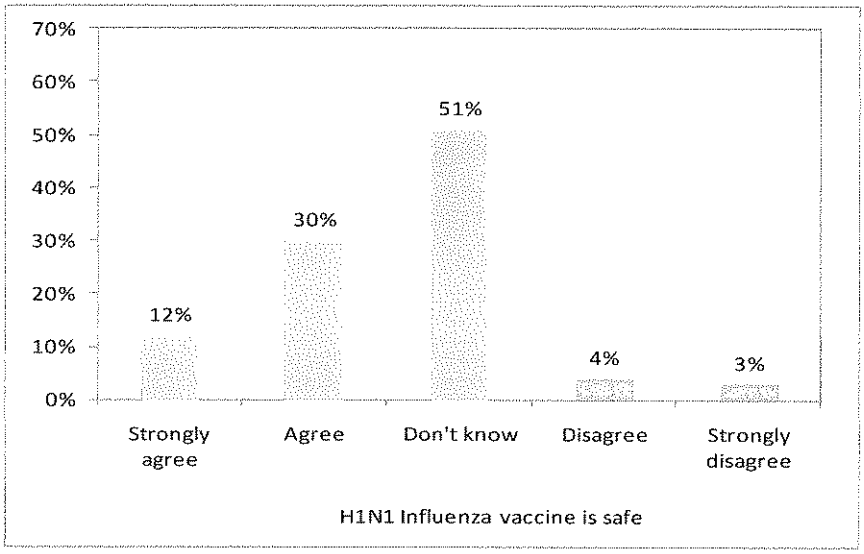

Figure 11

The majority of respondents (51%) indicated do not know to each statement in Question 11. However, around 42% agree/strongly agree that the vaccine is safe. Five percent (5%) not filled was combined with "Do not know".

Table 4.7: Vaccine safety

		H1N1 influenza vaccine is safe					
		Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total
Gender	Male	4.0%	4.0%	16.0%	1.0%	2.0%	27.0%
	Female	8.0%	26.0%	35.0%	3.0%	1.0%	73.0%
	Total	12.0%	30.0%	51.0%	4.0%	3.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	4.0%	1.0%	13.0%	2.0%	.0%	20.0%
	30-39 years	4.0%	16.0%	19.0%	.0%	1.0%	40.0%
	40-49 years	2.0%	7.0%	10.0%	2.0%	2.0%	23.0%
	50-59 years	2.0%	5.0%	6.0%	.0%	.0%	13.0%
	60 years and over	.0%	1.0%	3.0%	.0%	.0%	4.0%
	Total	12.0%	30.0%	51.0%	4.0%	3.0%	100.0%
Marital Status	Married	4.0%	17.0%	16.0%	2.0%	2.0%	41.0%
	Divorced	.0%	1.0%	1.0%	.0%	.0%	2.0%
	Widowed	1.0%	1.0%	3.0%	.0%	.0%	5.0%
	Single	7.0%	11.0%	31.0%	2.0%	1.0%	52.0%
	Total	12.0%	30.0%	51.0%	4.0%	3.0%	100.0%
Job Title	Doctor	.0%	.0%	3.0%	.0%	.0%	3.0%
	Nurse	7.0%	20.0%	19.0%	2.0%	.0%	48.0%
	Pharmacist	.0%	.0%	.0%	1.0%	.0%	1.0%
	Dentist	.0%	.0%	2.0%	.0%	.0%	2.0%
	Cleaner	.0%	.0%	6.0%	.0%	.0%	6.0%
	Security officer	.0%	.0%	9.0%	.0%	1.0%	10.0%
	Clerk	4.0%	3.0%	3.0%	.0%	1.0%	11.0%
	Other	1.0%	7.0%	9.0%	1.0%	1.0%	19.0%
	Total	12.0%	30.0%	51.0%	4.0%	3.0%	100.0%
Tenure	Below 1 year	4.0%	2.0%	17.0%	.0%	.0%	23.0%
	1-4 years	1.0%	3.0%	6.0%	2.0%	1.0%	13.0%
	5-9 years	3.0%	11.0%	13.0%	.0%	1.0%	28.0%
	10-14 years	.0%	7.0%	3.0%	1.0%	.0%	11.0%
	More than 15 years	4.0%	7.0%	12.0%	1.0%	1.0%	25.0%

In Table 4.7, of those that "Do not know", 17% have a tenure below 1 year.

4.2.12 Graph – H1N1 vaccine is effective in preventing the H1N1 influenza

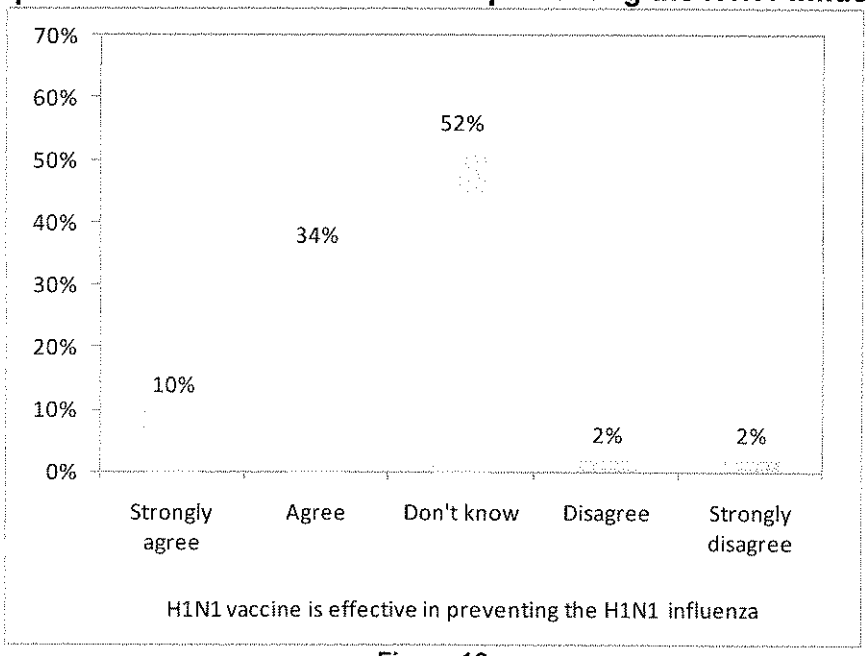

Figure 12

The majority of respondents (52%) indicated do not know to each statement in Question 11. However, around 44% agree/strongly agree that the vaccine is effective in preventing H1N1 influenza and 42% agree/strongly agree that the vaccine is safe. This can be attributed to the fact that there were no adverse reactions following immunisation reported in two years. The vaccine is considered safe to use in pregnant women and children above 6 years of age.

Table 4.8: H1N1 vaccine is effective in preventing the H1N1 influenza

		H1N1 vaccine is effective in preventing the H1N1 influenza					
		Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total
Gender	Male	4.0%	5.0%	15.0%	1.0%	2.0%	27.0%
	Female	6.0%	29.0%	37.0%	1.0%	.0%	73.0%
	Total	10.0%	34.0%	52.0%	2.0%	2.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	2.0%	4.0%	13.0%	1.0%	.0%	20.0%
	30-39 years	3.0%	18.0%	18.0%	.0%	1.0%	40.0%
	40-49 years	4.0%	7.0%	10.0%	1.0%	1.0%	23.0%
	50-59 years	1.0%	4.0%	8.0%	.0%	.0%	13.0%
	60 years and over	.0%	1.0%	3.0%	.0%	.0%	4.0%
	Total	10.0%	34.0%	52.0%	2.0%	2.0%	100.0%
Marital Status	Married	4.0%	17.0%	17.0%	1.0%	2.0%	41.0%
	Divorced	.0%	1.0%	1.0%	.0%	.0%	2.0%
	Widowed	.0%	1.0%	4.0%	.0%	.0%	5.0%
	Single	6.0%	15.0%	30.0%	1.0%	.0%	52.0%
	Total	10.0%	34.0%	52.0%	2.0%	2.0%	100.0%
Job Title	Doctor	.0%	.0%	3.0%	.0%	.0%	3.0%
	Nurse	4.0%	22.0%	21.0%	1.0%	.0%	48.0%
	Pharmacist	.0%	1.0%	.0%	.0%	.0%	1.0%
	Dentist	.0%	.0%	2.0%	.0%	.0%	2.0%
	Cleaner	.0%	.0%	6.0%	.0%	.0%	6.0%
	Security officer	1.0%	.0%	9.0%	.0%	.0%	10.0%
	Clerk	3.0%	4.0%	3.0%	.0%	1.0%	11.0%
	Other	2.0%	7.0%	8.0%	1.0%	1.0%	19.0%
	Total	10.0%	34.0%	52.0%	2.0%	2.0%	100.0%
Tenure	Below 1 year	2.0%	4.0%	17.0%	.0%	.0%	23.0%
	1-4 years	2.0%	4.0%	6.0%	1.0%	.0%	13.0%
	5-9 years	3.0%	12.0%	12.0%	.0%	1.0%	28.0%
	10-14 years	.0%	7.0%	4.0%	.0%	.0%	11.0%
	More than 15 years	3.0%	7.0%	13.0%	1.0%	1.0%	25.0%
	Total	10.0%	34.0%	52.0%	2.0%	2.0%	100.0%

Table 4.8 reflects that amongst the females, 29% agree while 37% indicated do not know. Amongst the males, 15% indicated do not know. Amongst the 20-29 year age group, 13% indicated do not know whilst in the 30-39 year age group, 18% Agreed and 18% indicated do not know. Amongst the Married respondents, 17% indicated Agree and 17% do not know. However, amongst the single group, 30% do not know as compared to 15% who agree.

4.2.13 Graph – Information about H1N1 is clear

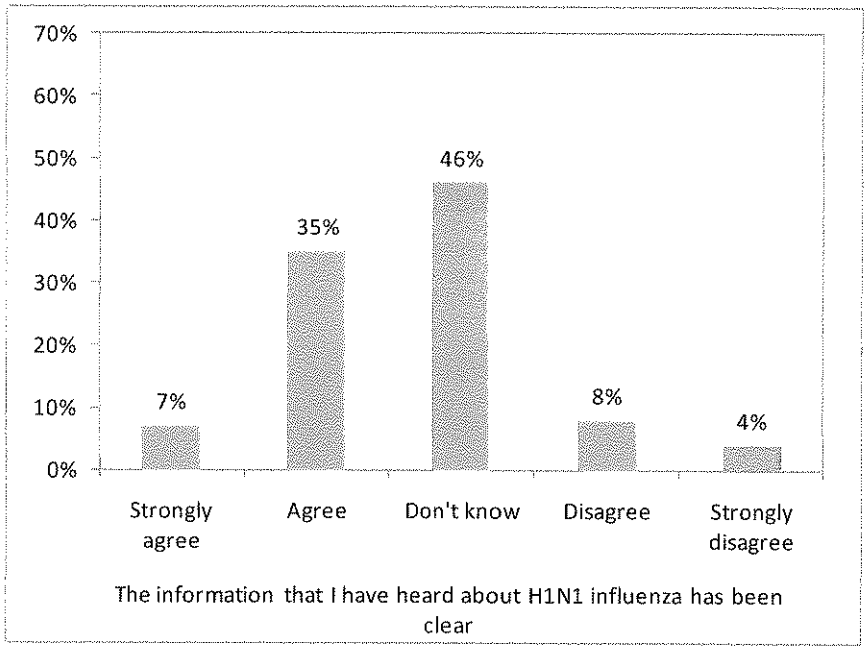

Figure 13

The majority of respondents (46%) indicated don't know to each statement in Question 11. However, around 42% agree/strongly agree that the information on H1N1 is clear.

Many health care workers find the available information on H1N1 easy to understand.

Table 4.9: Information about H1N1 is clear

		The information that I have heard about H1N1 influenza has been clear					
		Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total
Gender	Male	2.0%	5.0%	15.0%	3.0%	2.0%	27.0%
	Female	5.0%	30.0%	31.0%	5.0%	2.0%	73.0%
	Total	7.0%	35.0%	46.0%	8.0%	4.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	3.0%	6.0%	9.0%	2.0%	.0%	20.0%
	30-39 years	3.0%	15.0%	18.0%	2.0%	2.0%	40.0%
	40-49 years	.0%	10.0%	10.0%	2.0%	1.0%	23.0%
	50-59 years	1.0%	4.0%	6.0%	2.0%	.0%	13.0%
	60 years and over	.0%	.0%	3.0%	.0%	1.0%	4.0%
	Total	7.0%	35.0%	46.0%	8.0%	4.0%	100.0%
Marital Status	Married	4.0%	19.0%	14.0%	1.0%	3.0%	41.0%
	Divorced	.0%	1.0%	1.0%	.0%	.0%	2.0%
	Widowed	.0%	1.0%	2.0%	2.0%	.0%	5.0%
	Single	3.0%	14.0%	29.0%	5.0%	1.0%	52.0%
	Total	7.0%	35.0%	46.0%	8.0%	4.0%	100.0%
Job Title	Doctor	.0%	1.0%	.0%	1.0%	1.0%	3.0%
	Nurse	4.0%	24.0%	18.0%	2.0%	.0%	48.0%
	Pharmacist	.0%	1.0%	.0%	.0%	.0%	1.0%
	Dentist	1.0%	1.0%	.0%	.0%	.0%	2.0%
	Cleaner	.0%	.0%	6.0%	.0%	.0%	6.0%
	Security officer	.0%	.0%	8.0%	2.0%	.0%	10.0%
	Clerk	1.0%	4.0%	5.0%	.0%	1.0%	11.0%
	Other	1.0%	4.0%	9.0%	3.0%	2.0%	19.0%
	Total	7.0%	35.0%	46.0%	8.0%	4.0%	100.0%
Tenure	Below 1 year	5.0%	5.0%	11.0%	2.0%	.0%	23.0%
	1-4 years	.0%	4.0%	7.0%	2.0%	.0%	13.0%
	5-9 years	1.0%	10.0%	14.0%	2.0%	1.0%	28.0%
	10-14 years	.0%	6.0%	4.0%	.0%	1.0%	11.0%
	More than 15 years	1.0%	10.0%	10.0%	2.0%	2.0%	25.0%
	Total	7.0%	35.0%	46.0%	8.0%	4.0%	100.0%

The results in Table 4.9 show that amongst the females, 30% Agree that information is clear while 31% do not know. Amongst the 30-39 year age group, 15% agree while 18% do not know. Amongst the Married respondents, a larger proportion agreed when compared to those who do not know. However, amongst the single respondents, 29% do not know while 14% agree.

4.2.14 Graph – Too much exaggeration of H1N1 by the media

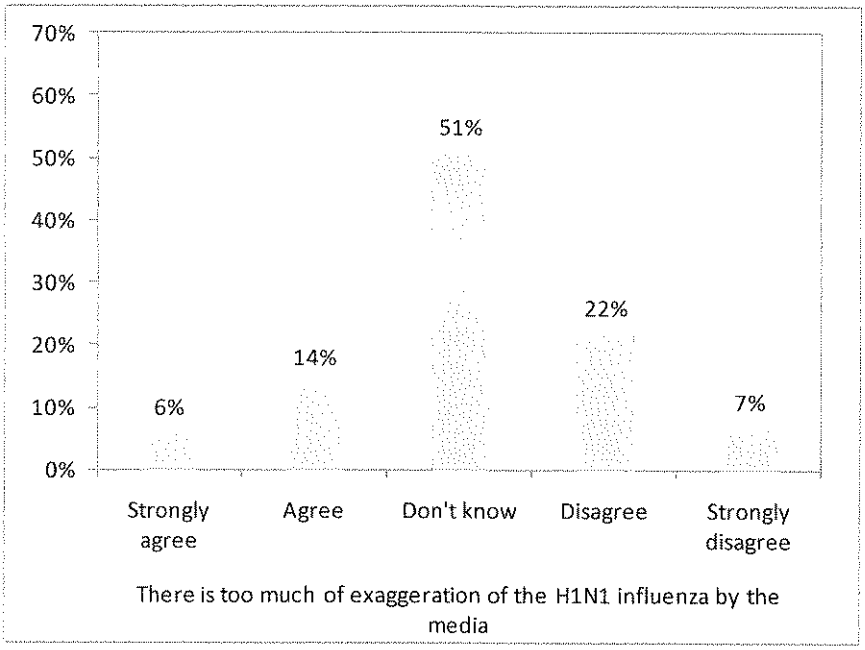

Figure 14

The majority of respondents (51%) indicated do not know to each statement in Question 11. However, around 20% agree/strongly agree whilst 29% disagree/strongly disagree that there is too much exaggeration of H1N1 influenza by the media.

Respondents did not feel that there is too much exaggeration in the media on H1N1 influenza.

Table 4.10: Too much exaggeration of H1N1 by the media

		There is too much of exaggeration of the H1N1 influenza by the media					
		Strongly agree	Agree	Don't know	Disagree	Strongly disagree	Total
Gender	Male	.0%	2.0%	12.0%	8.0%	5.0%	27.0%
	Female	6.0%	12.0%	39.0%	14.0%	2.0%	73.0%
	Total	6.0%	14.0%	51.0%	22.0%	7.0%	100.0%
Age	Below 20 years	.0%	.0%	.0%	.0%	.0%	.0%
	20-29 years	2.0%	4.0%	10.0%	3.0%	1.0%	20.0%
	30-39 years	3.0%	8.0%	21.0%	5.0%	3.0%	40.0%
	40-49 years	.0%	.0%	12.0%	10.0%	1.0%	23.0%
	50-59 years	1.0%	2.0%	5.0%	3.0%	2.0%	13.0%
	60 years and over	.0%	.0%	3.0%	1.0%	.0%	4.0%
	Total	6.0%	14.0%	51.0%	22.0%	7.0%	100.0%
Marital Status	Married	3.0%	4.0%	17.0%	10.0%	7.0%	41.0%
	Divorced	.0%	.0%	1.0%	1.0%	.0%	2.0%
	Widowed	.0%	.0%	3.0%	2.0%	.0%	5.0%
	Single	3.0%	10.0%	30.0%	9.0%	.0%	52.0%
	Total	6.0%	14.0%	51.0%	22.0%	7.0%	100.0%
Job Title	Doctor	.0%	2.0%	1.0%	.0%	.0%	3.0%
	Nurse	4.0%	10.0%	22.0%	11.0%	1.0%	48.0%
	Pharmacist	.0%	.0%	1.0%	.0%	.0%	1.0%
	Dentist	.0%	.0%	.0%	1.0%	1.0%	2.0%
	Cleaner	.0%	.0%	6.0%	.0%	.0%	6.0%
	Security officer	.0%	.0%	8.0%	2.0%	.0%	10.0%
	Clerk	2.0%	1.0%	4.0%	3.0%	1.0%	11.0%
	Other	.0%	1.0%	9.0%	5.0%	4.0%	19.0%
	Total	6.0%	14.0%	51.0%	22.0%	7.0%	100.0%
Tenure	Below 1 year	1.0%	4.0%	14.0%	2.0%	2.0%	23.0%
	1-4 years	1.0%	1.0%	7.0%	4.0%	.0%	13.0%
	5-9 years	2.0%	5.0%	13.0%	6.0%	2.0%	28.0%
	10-14 years	1.0%	2.0%	4.0%	3.0%	1.0%	11.0%
	More than 15 years	1.0%	2.0%	13.0%	7.0%	2.0%	25.0%
	Total	6.0%	14.0%	51.0%	22.0%	7.0%	100.0%

Table 4.10 shows that amongst the females, 39% indicated do not know while only 12% agree. Amongst the 40-49 year age group, 12% indicated do not know while 10% disagree. Amongst the Married respondents, 17% indicated do not know while 10% disagree. Amongst the Single respondents, 10% agree, 30% indicated do not know and 9% disagree. . Amongst the Nurses respondents, 10% agree, 22% indicated do not know and 11% disagree.

4.2.15 Graph - Sources in obtaining information on H1N1 influenza

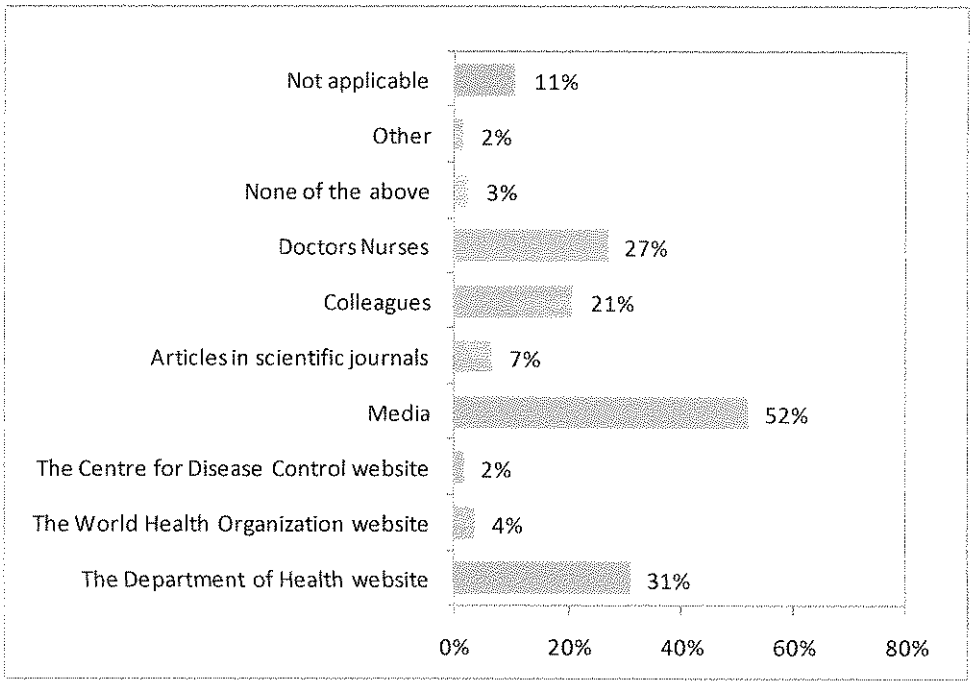

Figure 15

Figure 15 shows that 52% obtain info from the media, 31% from the Department of Health website and 27% from doctors and nurses.

The most reported source of information was media (television, radio, newspapers and magazines). This was followed closely by the Department of Health website and doctors and nurses who are readily available. In most instances media can be accepted as a primary source of information even among nurses and doctors (Tourun and Catak, 2010:6).

Table 4.11: Sources in obtaining information on H1N1 influenza

		Sources										
		The Department of Health website	The World Health Organization website	The Centre for Disease Control website	Media	Articles in scientific journals	Colleagues	Doctors /Nurses	None of the above	Other	Not filled	Not applicable
Gender	Male	6%	1%	0%	12%	1%	3%	9%	1%	0%	1%	1%
	Female	25%	3%	2%	40%	6%	18%	18%	2%	2%	5%	4%
Total		31%	4%	2%	52%	7%	21%	27%	3%	2%	6%	5%
Age	20-29 years	8%	1%	1%	12%	2%	2%	6%	0%	0%	0%	1%
	30-39 years	13%	2%	1%	21%	3%	13%	17%	1%	1%	2%	2%
	40-49 years	6%	0%	0%	12%	1%	3%	2%	1%	0%	2%	1%
	50-59 years	4%	1%	0%	5%	1%	3%	2%	0%	1%	1%	1%
	60 years and over	0%	0%	0%	2%	0%	0%	0%	1%	0%	1%	0%
Total		31%	4%	2%	52%	7%	21%	27%	3%	2%	6%	5%
Marital Status	Married	16%	2%	1%	25%	5%	10%	10%	0%	1%	1%	0%
	Divorced	1%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%
	Widowed	0%	0%	0%	4%	0%	1%	1%	0%	0%	1%	0%
	Single	14%	2%	1%	22%	2%	10%	16%	3%	1%	3%	5%
Total		31%	4%	2%	52%	7%	21%	27%	3%	2%	6%	5%
Job Title	Doctor	0%	0%	0%	2%	1%	1%	1%	1%	0%	3%	0%
	Nurse	17%	3%	2%	26%	5%	15%	17%	1%	2%	4%	0%
	Pharmacist	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
	Dentist	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Cleaner	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	5%
	Security officer	3%	0%	0%	4%	0%	0%	4%	0%	0%	0%	0%
	Clerk	5%	0%	0%	6%	0%	1%	4%	0%	0%	1%	0%
	Other	3%	1%	0%	12%	1%	4%	1%	1%	0%	1%	0%
Total		31%	4%	2%	52%	7%	21%	27%	3%	2%	6%	5%
Tenure	Below 1 year	8%	2%	2%	13%	2%	2%	7%	0%	0%	0%	5%
	1-4 years	4%	0%	0%	7%	1%	3%	4%	0%	0%	0%	0%
	5-9 years	8%	1%	0%	13%	0%	9%	11%	2%	0%	3%	0%
	10-14 years	4%	0%	0%	7%	2%	3%	1%	0%	1%	0%	0%
	More than 15 years	7%	1%	0%	12%	2%	4%	4%	1%	1%	3%	0%
Total		31%	4%	2%	52%	7%	21%	27%	3%	2%	6%	5%

Amongst the males, 12% indicated Media while 9% indicated Doctors/Nurses. Amongst the females, 25% indicated DOH website, 40% indicated Media and 18% indicated Doctors/Nurses. Amongst the 20-29 year age group, the largest proportion indicated Media while in the 30-39 year age group 13% indicated website, 21% Media, 13% Colleagues and 17% Doctors/Nurses. 12% of those in the 40-49 year age group indicated Media. Amongst the Married and Single respondents, website, media & Doctors/Nurses were most popular. Amongst the Nurses, website, media, colleagues and Doctors/Nurses are most popular.

4.3 Conclusion

The results of the study showed that the majority of respondents at East/Boom Community Health Centre had been females (73%). The age breakdown showed 40% were in the age category of between 30-39 years. The majority of the respondents were nurses. A significant majority of respondents (67%) were aware of the H1N1 campaign. 93% did not attend any H1N1 training sessions. 37% indicated that they will be vaccinated, and would do so at a public health facility. Of those not taking the vaccine, 17% are concerned about the adverse reactions to vaccines, 7% do not have the time to go and get vaccinated whilst 6% prefer to use alternative medicine. However, around 40% agree/strongly agree that the vaccine is safe, effective and information is clear. 20% agree/strongly agree that there is too much exaggeration in the media. 52% of respondents obtain information from the media, 31% from the Department of Health website and 27% from doctors and nurses.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the findings, overall conclusion and recommendations for the project study.

5.2 Findings:

5.2.1 The study

The study undertaken was a descriptive study using a quantitative method. The research strategy used was action research. The target population was limited to health care workers from East Boom CHC. A random sample of 100 was chosen using a systematic probability technique. The research instrument chosen was a structured questionnaire. The questionnaire consisted of closed questions in the form of yes/no questions and orientation items, behavioural, content and rating questions. Some of the questions were demographic in nature. The questions were based on the attitudes of health care workers to taking the H1N1 influenza vaccines. The results revealed that the majority of the respondents were female and the most frequent ages were between 30 to 39 years and 40 to 49 years. The majority of the respondents were nurses. A significant majority of respondents (67%) were aware of the H1N1 campaign. Ninety three percent (93%) of the respondents did not attend any H1N1 training sessions. Thirty seven percent (37%) indicated that they will be vaccinated, and would do so at a public health facility. Of those not taking the vaccine, 17% are concerned about the adverse reactions to vaccines, 7% do not have the time to go and get vaccinated whilst 6% prefer to use alternative medicine. However, around 40% agree/strongly agree that the vaccine is safe, effective and information is clear. Twenty percent (20)% agree/strongly agree that there is too much exaggeration in the media. Fifty two percent (52%) of respondents obtain information from the media, 31% from the Department of Health website and 27% from doctors and nurses.

5.2.2 The literature review

This research is in keeping with previous research findings which stated that the main reason for refusal of vaccination was fear of side effects, which was stronger in those who received information on the safety of the vaccine mainly from mass media. Other reasons were lack of time, inertia; perception of not being at risk of serious illness, use of alternative drugs, fear

about vaccine safety, for example, Guillain-Barrés syndrome, systemic anaphylactic reaction, development of influenza illness and local side effects (Rachiotis and Mouchtour,2011:1) as well as it is not needed and being afraid of needles (Kalb, 2011:1). This study found that only 37% of the respondents were going to get vaccinated while 38% indicated no and 25% were undecided. Of those not taking the vaccine, 17% were concerned about the adverse reactions to vaccines, 7% do not have the time to go and get vaccinated whilst 6% prefer to use alternative medicine.

There are also very few risks associated with influenza vaccination, with the most frequently reported side effect being mild pain or swelling at the injection site. For the two years that the vaccine campaign was held no adverse reaction/event following immunisation occurred. The safety aspects have been emphasized in pregnant women and children above 6 months of age.

5.2.3 The primary research

The research questions addressed the following in the study:

- What are the health care workers attitudes towards taking the H1N1 vaccines?

In this study only 37% were going to get vaccinated while 38% indicated no and 25% were undecided. Of those not taking the vaccine, 17% were concerned about the adverse reactions to vaccines, 7% do not have the time to go and get vaccinated whilst 6% prefer to use alternative medicine.

- Are health care workers aware of the annual H1N1 vaccine campaign?

In this study 67% of respondents were aware of the H1N1 campaign. Amongst the males, 18% were not aware of the campaign as opposed to 15% being unaware amongst the females. Of the 20-29 years, 10% were unaware while 10% were aware. Amongst the 30-39 years, 30% were aware of the campaign. A larger proportion amongst the married and single respondents were aware, Amongst the Nurses, 8% were unaware. Amongst those with 5-9 years tenure, 8% were unaware.

- How training can be aimed at health care workers to motivate them to get vaccinated against H1N1 Influenza?

In this study of those not taking the vaccine, 17% are concerned about the adverse reactions to vaccines. On-going education to health care workers that the vaccines are safe and no adverse reactions following immunisation was reported in two years. Also allay anxiety and stress the importance of safety whereby the vaccines can be taken by pregnant women and

children above 6 months of age. Stress the importance of annual influenza vaccination for health care workers which has the potential to benefit health care professionals, their patients, and their families by reducing the transmission of influenza in the health care setting thus contributing to reduced staff illness and absenteeism and indirectly benefits patients by decreasing their chance of being infected (Anikeeva, 2011:2). Ninety three percent (93%) did not attend any training sessions on H1N1 whilst only 7% attended training. All males did not attend while amongst the females, only 7% attended. Amongst the 20-29 years, all did not attend while amongst the 30-39 years, only 3% attended. Amongst the Nurses, only 7% attended. All those employed 4 years or below, did not attend. Some of the reasons about training are that those staff that attend training sessions do not go back and cascade the training to others, few staff attend training sessions due to budgetary constraints, service delivery issues for example patient turnover, short staffed, other meetings.

5.3 Recommendations

There are many suggested recommendations that the researcher had made to enhance the uptake of the H1N1 vaccines for the Health care workers at East Boom CHC. These recommendations can be extended to other facilities within the province.
The following measures that can be implemented to improve the uptake of vaccines for health care workers:

- The DOH should clearly state the amount of vaccines available for people at higher risk of serious influenza complications, and for people who live with or care for high risk individuals on an annual basis. This should be clearly indicated in a circular for all health care workers;
- Training should be provided to all health care workers on the H1N1 vaccination campaign to include their buy in and support. They should be informed of the importance of taking the vaccine to prevent influenza. Health care workers should be well motivated as this is especially important for them since they are in constant contact with ill patients. More emphasis should be placed on the cascading of training at facility level to reach as many if not all health care workers. Management should send out reminder notices for staff training. Training should be repeated several times on site to ensure all healthcare workers are trained;

- The DOH should implement interventions to raise immunization rates to identify specific barriers and concerns expressed by health care workers about influenza immunization and then target them through the implementation of policies, education programs, and improved access to vaccination. Increases in acceptance rates can be achieved by improving access to vaccinations with a mobile unit, addressing common misconceptions through staff education, making vaccinations free of charge, offering small incentives to staff members and looking at compulsory vaccination as a condition of employment for all Health care workers as they are the back-bone of the health services. By protecting our health care workers this would reduce illness and absenteeism in the workplace.
- The DOH should make the vaccines free of charge for all health care workers (irrespective of high risk groups) who are on a daily basis attending to sick people at their place of employment to prevent them from not taking the vaccines.
- The DOH should have the H1N1 vaccine campaign strictly monitored. The usage of vaccines should be known for all high risk groups. Specific protocols and influenza guidelines should be available in all our public hospitals, community health centres and clinics. There should be social mobilisation of the high risk groups from the local communities. It is very important to include other preventative strategies to prevent influenza namely:
    - Wash your hands regularly with clean water and soap;
    - Cover your mouth when you cough or sneeze;
    - Keep your hands away from your face;
    - Always keep common surface areas clean;
    - If you have one or more of the signs and symptoms of influenza seek treatment and stay at home;
    - Get a good night's sleep as fatigue lowers your resistance;
    - Reduce your stress levels and learn how to relax as too much stress impairs your immune system;
    - Stop smoking. It's a huge risk factor;
    - Eat healthily and stay well hydrated; and
    - Have the flu vaccine every year especially if you are at high risk.

5.4 Future research

A more in-depth look at the annual influenza campaigns should be undertaken especially the high risk groups. Research should focus on health care workers perceptions and expectations of the vaccines to prevent influenza. The research should be more wide spread and involve various other health facilities. Interviews should be conducted whereby health care workers

can give their feelings, inputs and suggestions. This would help improve the up-take of vaccines and planning for future campaigns. It is important to know that this is one of the preventative strategies being used to prevent influenza.

5.5 Conclusion

The study was undertaken with the aim of improving the uptake of the H1N1 vaccines which are provided free of charge to the Public Health sector. Through on-going health education and targeting previously identified barriers which would have a greater impact on staff vaccination rates, we hope this would motivate our health care workers to taking the vaccines on an annual basis to prevent influenza.

BIBLIOGRAPHY

Anikeeva, O; Braunack-Mayer, A & Rogers, (2009) Requiring influenza vaccination for health care workers. [online], Available from: http://web.ebscohost.com/ehost/delivery [Accessed 23 March 2011]

Brink, H. (2006). Fundamentals of Research Methodology for Health care Professionals. 2nd Edition. Juta & Co (Pty) Ltd: Cape Town

Bryman, A. and Bell, E. (2007). Bussiness Research Methods. 2nd Edition. Oxford: Oxford University Press.

Coady, H.L; Galea, S. & Blaney, S. (2008). Project VIVA: A multilevel community –based intervention to increase influenza vaccination rates among hard to reach populations in New York city. [online], Available from: Research and practice. [Accessed 20 June 2011]

Cooper, R. and Schindler, P.R. (2006).Business Research Methods.9th Edition.Boston: Irwin/McGraw Hill

Creswell, J.W. (1994). Research design: qualitative and quantitative approaches. London: Sage

European Centre for Disease Prevention and Control (ECDC). Why Health care workers are apriority group for pandemic influenza A (H1N1) vaccination?. [online], Available from: http:// ecdc.europa.eu/ en/ activities/sciadvise/Pages/Activities [Accessed 20 June 2011]

Greenfield, J (2010). Influenza: the 2010/11 (winter) immunisation campaign. [online], Available from: http://web.ebscohost.com/ehost/delivery [Accessed 23 March 2011]

Hussey, J. and Hussey,R. (1997). Business research. A practical guide for undergraduate and postgraduate students. London: Macmillan

Kalb, C. Your doctor may give you swine flu this fall. [online], Available from: http://web.ebscohost.com/ehost/delivery [Accessed 20 June 2011]

Halliday, L; Thompson, L; Bowen, S & Mead, C (2003). Influenza vaccination of staff in aged care facilities in the ACT: how can we improve the uptake of influenza vaccine? [online], Available from: http://web.ebscohost.com/ehost/delivery [Accessed 23 March 2011]

Katzenellenbogen, J.M; Joubert, G. & Abdool Karrim, S.S. (2004). Epidemiology- a manual for South Africa. Oxford University Press Southern Africa: Cape Town

Leedy, P.D. and Ellis, J. (2005). Practical Research, Planning and Design. 8th Edition. New Jersey: Pearson Education Inc.

Mason, R.D. & Lind, D.A (1996). Statistical techniques in business and economics. 9th Edition. Chicago: Irwin

Novel Swine-Origin Influenza A (H1N1) Virus Investigation Team: Emergence of a novel swine-origin influenza A (H1N1) virus in humans. N Engl J Med 2009, 360:2605-15. PubMed Abstract

Jordan, R & Hayward A. Should Health care workers have the swine flu vaccines? BMJ. 2009; 339b3391

National Department of Health (NDOH) (2010). Influenza Vaccination Campaign Guide.

National Department of Health (NDOH) (2011). Influenza Vaccination Campaign Guide.

National Department of Health (NDOH) (2010) Update & Progress on the 2010 Influenza vaccination Campaign

National Institute for Communicable Diseases (NICD) (2010). Healthcare Workers Handbook on Influenza: Last updated May 2011.

Rachiotis, G & Mouchtour V.A. Low acceptance of vaccination against the 2009 pandemic influenza A(H1N1) among health care workers in Greece. [online], Available from: www.eurosurveillance.org. [Accessed 20 May 2011]

Raftopoulos, V. Beliefs, knowledge and attitudes of community dwelling Greek elders towards influenza and pneumococcal vaccination. [online], Available from: http://www.ispub.com/journal/the internet-journal-of-epidemiology/volume-4-number. [Accessed 15 November 2011]

Salgado CD, Farr BM, Hall KK, Hayden FG: Influenza in the acute hospital setting. *Lancet* 2002, 2(3):145-155.

Saunders, M., Lewis, P. & Thornhill, A (2009). Research Methods for Business Students. 5th Edition. Harlow, England: Prentice Hall

Terre Blanche, M; Durrheim, K. & Painter, D. (2006) Research in Practice. 2nd Edition. University of Cape Town Press.

Torun, S.D; Torun, F. & Catak, B. (2010) Healthcare workers as parents: attitudes toward vaccinating their children against pandemic influenza A/H1N1. *BMC Public Health* [online], Available from:http://www.biomedcentral.com/ [Accessed 11 May 2011]

University of Twente Health Belief Model, [online], Available from: http//www.utwente.nl/cw/theorieenoverzicht/theory%20clusters/ [Accessed 6 January 2012]

Viboud C, Boëlle P, Cauchemez S, Lavenu A, Valleron A, Antoine Flahault, Carrat F: Risk factors of influenza transmission in households. 2004, 54:684-689. PubMed Abstract

Welman, J.C. and Kruger, S.J. (2001). Research Methodology. 2nd Edition. Oxford: Oxford University Press.

World Health Organization: WHO recommendations on pandemic (H1N1) 2009 vaccines. Pandemic (H1N1) 2009 briefing note 2. [online], Available from: http:// www.who.int/ csr/ disease/ swineflu/ notes/ h1n1_vaccine_20090713/ en/ index.html [Accessed 13 June 2011]

WHO Pandemic influenza preparedness and response. WHO guidance document April 2009 [online], Available from:

http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html [Accessed 18 June 2010]

Zikmund, W.G. (2000). Business Research Methods. 6th Edition. Fort Worth, Texas: Dryden press

APPENDICES

Appendix 1: Covering letter

Appendix 2: Letter of approval: KZN Provincial Department of Health- immediate supervisor

Appendix 3: Letter of approval: District Manager of Umgungundlovu Health District

Appendix 4: Questionnaire

Appendix 5: Letter to the respondent

Appendix 6: Ethical clearance - KZN- Provincial Health Research & Ethics (PHRC) committee

Appendix 7: Ethical clearance - Management college of South Africa (Mancosa) research ethics committee.

APPENDIX I

Health
Department:
Health
PROVINCE OF KWAZULU-NATAL

COMMUNICABLE DISEASE CONTROL
Postal Address:Private Bag X9051 Pietermaritzburg 3200
Physical Address: 330 Langalibalele Street Pietermaritzburg 3201
Tel: 033 – 3952051 Fax: 033 - 3425830
Email: premi.govender@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries: Miss P Govender
Date: 23rd June 2011

To:
Miss. N.M. Zuma-Mkhonza
District Manager- Umgungundlovu
Private bag X9124
Pietermaritzburg
3200

Re: Permission to undertake research at East/Boom Community Health Centre

Permission is sought to undertake research entitled **"An investigation into the attitudes of health care workers towards taking the H1N1 influenza vaccines at East/Boom Community Health Centre"** sometime in July 2011 once confirmation is received from Provincial Health Research & Ethics (PHRC) committee in the KZN Department of Health.

A self-administered questionnaire will be given to the health care workers (100) at East/Boom Community Health Centre to complete. This would take about 3-5 minutes. Confidentiality and anonymity will be ensured.

The study will provide much needed information on the attitudes of Health care workers towards taking the H1N1 vaccines. This will assist health managers in identifying areas that can be strengthened to improve the management of H1N1 cases in the province thus preventing deaths and increasing the uptake of vaccines as a preventative strategy to all high risk groups.

Feedback on the findings will be provided on completion of the research. No funding will be needed.

The request is made as the research forms part of a study in partial fulfillment of the requirements for the Masters in Business Administration at Management college of South Africa (Mancosa).

You will be kept informed of the exact date and time the research will be done.

Kindly consider my request.

Regards
P Govender

Miss P Govender
Assistant Manager- CDC

APPENDIX 2

HEALTH
KwaZulu-Natal

TB CONTROL PROGRAMME (TBCP)

Private Bag X 9051, Pietermaritzburg, 3200
330 Langalibalele Street, Pietermaritzburg, 3201
Tel.: (033)395 2586/2918 Fax.: (033) 3425830
Cellphone number: 083 457 1185
Email.:bruce.margot@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries : Mr B Margot
Date : 10 June 2011

Ms P Govender
Senior Technical Advisor – CDC

RE: PERMISSION TO UNDERTAKE RESEARCH FOR THE DISSERTATION: MASTERS IN BUSINESS ADMINISTRATION: MANCOSA (STUDENT NO.110888)

Your letter dated 9 June 2011 is acknowledged and refers.

Permission is hereby granted for you to undertake research in the Department of Health to fulfill the requirements for your Masters in Business Administration.

Thank you

MR B MARGOT
CHIEF TECHNICAL ADVISOR
TBCP

APPENDIX 3

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

UMGUNGUNDLOVU HEALTH DISTRICT OFFICE
OFFICE OF THE DISTRICT MANAGER
Private Bag X9124, Pietermaritzburg, 3200
Brasfort House, 262 Langalibalele Street, Pietermaritzburg, 3201
Tel.: 033-8971000,
Fax: 033-897 1078
Email.: thule.kunene@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries: Mrs. N.M. Zuma - Mkhonza
Ref No: 15/16
Date: 24 November 2011

TO: MS P GOVENDER
ASSISTANT MANAGER : CDC

RE: PERMISSION TO CONDUCT A RESEARCH IN AN INVESTIGATION INTO THE ATTITUDES OF HEALTH WORKERS TOWARDS TAKING H1N1 INFLUENZA VACCINES AT EAST/BOOM COMMUNITY CENTRE

Your correspondence regarding the permission to conduct a ***research in an Investigation Into The Attitudes Of Health Workers Towards Taking H1N1 Influenza Vaccines At East/Boom Community Centre***

I have pleasure in informing you that permission has been granted to you by the District Office to conduct your research

PLEASE NOTE THE FOLLOWING

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research will only commence once this office has received confirmation from the Provincial Health Research Committee in the KZN Department.
3. Please ensure that this office is informed before you commence your research.
4. The District Office will not provide any resources for this research.
5. You will be expected to provide feedback on your findings to the District Office.

Thank you

MRS N.M. ZUMA - MKHONZA
DISTRICT MANAGER
UMGUNGUNDLOVU HEALTH DISTRICT

Questionnaire:

Please provide your demographic details below:

Section A

Please tick your response!

1. What is your Sex?

Male	
Female	

2. What is your age?

Below 20 years	
20-29 years	
30-39 years	
40-49 years	
50-59 years	
60 years and over	

3. What is your marital status?

Married	
Divorced	
Widowed	
Single	

4. What is your job title?

Doctor	
Nurse	
Pharmacist	
Dentist	
Cleaner	
Security officer	
Clerk	
Other	

5. How long have you been working in the department of Health?

Below 1 year	
1-4 years	
5-9 years	
10-14 years	
More than 15 years	

Please answer all the questions!
Section B

6. Are you aware of the annual H1N1 Campaign?

Yes	
No	

7. Did you attend any of the training sessions on H1N1 (Province/District/Facility)?

Yes	
No	

8. Are you going to be vaccinated with the H1N1 Influenza vaccines ?

Yes	
No	
I am undecided	

9. If yes, where?

Public Health facility	
Private health facility	
Chemist/pharmacy	
Other-please state	

10. If you answered No to Question 8- What is your main reason for not taking the H1N1 influenza vaccines?

(tick one only)

Vaccines do not provide sufficient protection against H1N1	
I am concerned about the adverse reactions to the vaccines	
I do not have time	
I am not at risk for serious illness	
I prefer to use alternative medicine	
I am afraid of needles	
Other-please state	

11. Please indicate to what level you agree or disagree with **each** of the following statements?

	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
H1N1 Influenza vaccine is safe					
H1N1 vaccine is effective in preventing the H1N1 influenza					
The information that I have heard about H1N1 influenza has been clear					
There is too much of exaggeration of the H1N1 influenza by the media					

12. From which source/sources do you get your information about H1N1influenza? **(Please tick one or more than one option)**

The Department of Health website	
The World Health Organization website	
The Centre for Disease Control website	
Media (TV/radio/newspapers/magazines etc)	
Articles in scientific journals	
Colleagues	
Doctors	
None of the above	
Other- please specify	

NB: This information will be kept strictly confidential
Thank you for your cooperation and time taken to fill the questionnaire!

APPENDIX 5

Information letter to participants

The title of the study is "An investigation into the attitudes of health care workers towards the H1N1 Influenza vaccines at East/Boom Community Health Centre"

Dear respondent

This questionnaire forms part of a study in partial fulfillment of the requirements for the Masters in Business Administration.

The questionnaire was developed as a tool to assess health care workers attitudes to taking the H1N1 vaccines annually. The study will provide much needed information on the attitudes of Health care workers towards taking the H1N1 vaccines, the adherence to the H1N1 preventative strategies and treatment. This will assist health managers in identifying areas that can be strengthened to improve the management of H1N1 cases in the province thus preventing deaths and increase vaccine uptake.

Nature of the research:

- The study will be undertaken by Miss Premilla Govender.
- The health care workers at East/Boom Community Health centre will be asked to participate. The total number of health care workers is approximately 167. The sample size will be 100 health care workers. The sample of health care workers will be chosen randomly.
- The researcher has done a full literature review and once the questionnaires are completed will then analyze the data and make recommendations.

The requirements of taking part:

- The data will be collected via a questionnaire.
- The questionnaire should take each health care worker approximately 1-3 minutes to complete and will only be filled in once by each health care worker.
- The target date to have the questionnaires completed is by the end of December 2011 and the target date to have the research project completed is by the end of March 2012.

The implications of participating and the participants' rights:

- Participation is voluntary.
- The health care worker has the right to decline to answer a question or a set of questions.
- The health care worker may withdraw at any time.
- There are no risks to the health care worker taking part.
- The benefit is that they will be able to contribute to improving the uptake of H1N1 vaccines and thereby assist with the recommendations to be made.
- No information will be disclosed that would reveal your identity or individual answers.

Use of data collected and the way it will be reported:

• The researcher will be the only person who will have access to the data collected.

• The data will be summarized by the researcher and given to a statistician to analyze and interpret.

• The individual health care workers will be anonymous and their individual responses will be kept confidential.

Contact Details for any questions about the research:

- Miss Premilla Govender
- Assistant Manager: Communicable Diseases
- KZN Department of Health
- Address: Natalia, 330 Langalibalele Street, Pietermaritzburg, 3201
    - Tel: 033 395 2501
    - Fax: 033 342 5830
    - Cell: 072 677 5967
    - E-mail: premi.govender@kznhealth.gov.za

Thank you for participating in the research.

P Govender

APPENDIX 6

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

Health Research & Knowledge Management sub-component
10 – 103 Natalia Building, 330 Langalibalele Street
Private Bag x9051
Pietermaritzburg
3200
Tel.: 033 – 3953189
Fax.: 033 – 394 3782
Email.: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

Reference : HRKM106/11
Enquiries : Mrs G Khumalo
Telephone : 033 – 3953189

01 November 2011

Dear Ms P Govender

Subject: Approval of a Research Proposal

1. The research proposal titled **'An investigation into the attitudes of health care workers towards taking the H1N1 influenza vaccines at East/Boom Community Health Centre'** was reviewed by the KwaZulu-Natal Department of Health.

The proposal is hereby **approved** for research to be undertaken at the East/Boom Community Health Centre.

2. You are requested to take note of the following:
   a. Make the necessary arrangement with the identified facility before commencing with your research project.
   b. Provide an interim progress report and final report (electronic and hard copies) when your research is complete.

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

For any additional information please contact Mrs G Khumalo on 033-3953189.

Yours Sincerely

Dr E Lutge
Chairperson, Health Research Committee
KwaZulu-Natal Department of Health
Date: 07/11/2011.

APPENDIX 7

MANCOSA
MANAGEMENT COLLEGE OF SOUTHERN AFRICA

24 October 2011

To whom it may concern:

CONFIRMATION OF ETHICAL CLEARANCE

Title of Study: "*An investigation into the attitudes of health care workers towards taking the H1N1 Influenza vaccines*"

This serves to confirm that Premilla Govender (Student Number: 110888) has been granted ethical clearance for the above study at the Management College of Southern Africa.

Please grant her the necessary permission to collect data from your organization/institution. Please note that all information will be kept confidential and will not be for public consumption.

Should you have any further queries, please do not hesitate to contact us.

Yours faithfully

Dr A. Lowies

Director: Research

Durban: P.O. Box 49494, East End, Durban 4018, South Africa 26 Samora Machel (Alliwal) Street, Durban 4001, South Africa
Tel: +27 31 300 7200 Fax: +27 31 300 7297 e-mail: mba@mancosa.co.za website: www.mancosa.co.za

Johannesburg: P.O. Box 32537, Braamfontein, 2017, South Africa 5th Floor, RSA Centre, 27 Melle Street, Braamfontein, 2001, Johannesburg, South Africa
Tel: +27 11 403 9493 Fax: +27 11 403 0980 e-mail: mancosa@iafrica.com website: www.mancosa.co.za

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