



# Program to Strengthen Health Workforce Education in Papua New Guinea

Deliverable:

Gap Analysis Report: Current Curricula for Diploma of  
General Nursing and Certificate for Community Health  
Worker

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Prepared for WHO & DFAT PATH

**WHO Collaborating Centre  
University of Technology Sydney**

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UTS acknowledges and respects the Aboriginal and Torres Strait Islander custodians of Australia and the Gadigal peoples upon which the UTS City Campus now stands. We continue to value the generations of knowledge Aboriginal and Torres Strait Islander peoples embed within our University and we pay our respects to their Elders past, present and emerging.

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## Abbreviations

CHW	Community Health Worker
DFAT	Department of Foreign Affairs and Trade
DHERST	Department of Higher Education, research, Science and Technology
HCAC	Health Curriculum Advisory Committee
MERL	Monitoring Evaluation Research and Learning
NDoH	National Department of Health
NC	Nursing Council
NCEC	Nursing Council Education Committee
NHEQAAC	National Higher Education Quality Assurance Accreditation Committee
PA	Participatory Action Approach
PATH Program	PNG Australia Transition to Health Program
PHAs	Provisional Health Authority
PNG	Papua New Guinea
SDGs	Sustainable Development Goals
SON	Schools of Nursing
TOR	Terms of Reference
UHC	Universal Health Coverage
UPNG SMHS	University Papua New Guinea, School of Medicine and Health Science
WHO	World Health Organization
WHO CC UTS	World Health Organization Collaborating Centre, University of Technology Sydney
WHO WPRO	World Health Organization, Western Pacific Region

## **Program to Strengthen Health Workforce Education in Papua New Guinea: Gap Analysis Report – Current Curricula For Diploma of General Nursing And Certificate For Community Health Worker**

*Across the globe, many leaders have transformational ambitions for health and healthcare services. The key issue is not whether the potential for safer, more effective care exists, but how to realise that potential across the entire system for every citizen, every service user and every patient. Are the improvement strategies and approaches that have got us to where we are today enough to deliver that different future? (Bibby, et al. 2009: 4).*

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## FORWARD

This report provides the full Gap Analysis to be submitted to WHO and DFAT PATH. The draft Gap Analysis was reviewed by the NDOH Working Group in early August to provide preliminary feedback about the strengths and weaknesses of the existing Diploma of General Nursing and the Certificate IV program for Community Health Workers (CHW). The health experts were from the National Department of Health (NDOH), regulation and government institutes and are acknowledged in report (see Brief: Appendix 5). An extended **Executive Summary of the Gap Analysis, will be provided to the inaugural National Curriculum Steering Committee, for background, discussion and endorsement.**

The data for this report originated from relevant health research literature related to Papua New Guinea (PNG), the Draft National Health Plan (2021- 2030) and the various reports that have been developed over preceding years in relation to the health needs and service gaps for the population of PNG.

This Gap Analysis describes the health priorities for the people of PNG and then summarises and discusses the strengths and weaknesses of the existing curricula for both the nursing and CHW programs. The final portion of the Gap Analysis outlines proposed recommendations and way forward for the *Reviewing and Development of National Curricula for Diploma of General Nursing (DGN) and Certificate for Community Health Workers (CHW) Program* which aims to:

1. Develop a governance framework between stakeholders,
2. Develop national CHW and Nursing curricula frameworks,
3. Carry out national curricula framework consultations accreditation and approvals,
- 4a. Develop and run fast track / capacity building program for educators and clinicians CHWs and nursing,
- 4b. Develop and carry out a curriculum implementation and delivery plan,
5. Review faculty capacity, support and curriculum delivery,
6. Develop a continuing professional development plan,
7. Carry out Monitoring, Evaluation Research and Learning (MERL) as a continuous process.

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## EXECUTIVE SUMMARY

The number and quality of the current health workforce in Papua New Guinea (PNG) are not adequate to meet the needs of the population. The Government of PNG is committed to improving this situation, however, currently there is a ratio of only 0.7 doctors, and 5.3 nurses per 10000 population, (NHP, 2021). The World Health Organization (WHO) recommends that 45 doctors, nurses and midwives per 10,000 will be needed to meet population needs by 2030 (WHO, 2016). Further, WHO states that changes at the education level are fundamental to strengthening health systems (WHO, 2013) and for achieving Sustainable Development Goals (Rumsey et al. 2013).

Nursing and community health workers (CHWs) are the largest cadre of the health workforce in PNG and they are being educated with curricula that are over 15 years old. Given the critical shortage of human resources there is an urgent need to ensure that the graduates from both the Community Health Worker and Nursing programs are able to respond effectively to the current health needs of their local populations. PNG still suffers from high rates of maternal and infant mortality as well as increasing incidence rates for communicable diseases such as tuberculosis and diarrhoeal diseases (Burnet Institute, 2021) in a health system that is poorly resourced. While gender-based violence runs rampant globally, PNG remains particularly inequitable for women with more than two-thirds of women in the nation categorised as victims of domestic violence (Human Rights Watch, 2021).

Quality education requires quality educators; however, a number of audits carried out over several years have found that there is a 28% shortage of nursing educators in PNG (Rumsey et al. 2013; Lock et al. 2013; WHO 2017) with only 50% holding an education qualification, resulting in low quality graduates, and leading to a health workforce under pressure. In addition, there are few opportunities for continuing professional development. Recently, due to changes in public policy, there has been a mushrooming of both DGN nursing schools from 8-13 and CHW schools from 12-19, without a concomitant increase in well-prepared educators to run them. Although there has been some capacity building within the schools there are still significant concerns about the quality of graduates resulting from outdated curriculum, compounded by a significant shortage of skilled and qualified educators. Without urgent action, new schools will further pressure an already stretched educational system for nurses and CHW resulting in graduates who are not fit for purpose.

Developing curricula is the first step in strengthening the health workforce education system in order to improve both the quality and quantity of graduates who will be servicing the health needs of the population. Appropriate and relevant national curricula for both nursing and CHWs is vital for health professionals to acquire knowledge in order to provide relevant high quality health care. Curricula also act as vehicles for participation in inter-professional education and evidence-based practice. They standardize education nationally and teach the competencies required for a quality workforce as well as providing clear career pathways. While a strong regulatory system accredits the institutes and provides registration of practitioners to ensure the public are getting a good service, this can only be done if base line structures are in place first.

This gap analysis reviewed the curricula for Community Health Worker as well as the Diploma of General Nursing. The current CHW curriculum was developed from 2000 and has gradually been adopted across the

country. At present there are 19 CHW training institutes that produce graduates that are currently registered through the PNG Medical Board.

The current nursing curriculum was developed during the late 1990s and is also out of date. At present, there are 13 teaching institutions that offer courses leading to registration as a general nurse with the PNG Nursing Council. While most schools of nursing offer a 3-year diploma of nursing qualification, the Pacific Adventist University (PAU), the University of PNG, Divine Word University, St Mary's, and Goroka also offer a 4-year bachelor's degree and post registration courses.

Reviewing the scope and content of the curricula and taking steps to enhance the teaching methodologies and practices will support the development of a better trained and supported workforce into the future.

The gap analysis outlines priorities for change in the Certificate IV program for CHWs and the Diploma of General Nursing as well as the development needs of teaching and clinical staff.

## Recommendations

The recommendations below identify the key areas that will need to be addressed if program outcomes from the Diploma of General Nursing and the Certificate IV in Community Health are to be improved.

There are 5 key areas of focus:

- educational staff within the institutions,
- the curricula,
- clinical education and to some extent clinical practice,
- regulation in terms of levels of the programs under review and the accreditation of the proposed fast track / capacity building program,
- continuous support and development of faculty as needed and finally a review and update of the competency standards for each program.

Each recommendation is followed by a series of actions that will help meet the identified goals of the program.

The recommendations which follow are in line with the overall program aims which are to:

1. Develop a governance framework between stakeholders,
2. Develop a national CHW and Nursing curriculum framework,
3. Carry out national curricula framework consultations accreditation and approvals,
- 4a. Develop and run fast track / capacity building program for educators and clinicians CHWs and nursing,
- 4b. Develop and carry out a curriculum implementation and delivery plan,
5. Review faculty capacity, support and curriculum delivery,
6. Develop a continuing professional development plan,
7. Carry out Monitoring, Evaluation Research and Learning (MERL) as a continuous process.

**A. Improve educational staff competency in relation to curriculum development and contemporary approaches to teaching & learning (2, 4a)**

**ACTIONS:**

- Identify the education level of local educators and target improvements according to educational need changes to the curriculum,
- Engage with Steering Committee and sub committees to agree on areas of teaching that require strengthening,
- Develop fast track / capacity building educators' program - agree framework, content of program and level of award,
- Agree accreditation body and link the program to PNG qualifications framework,
- Seek approval of the draft outline fast track / capacity building program from the National Steering Committee,
- Submit proposed course documentation to appropriate accreditation authority,
- Pilot first program and review outcomes.

**B. Evaluate current programs, identify gaps in content, process and structure and agree a plan for curriculum renewal (2, 3, 4b).**

**ACTIONS:**

- Include results from the baseline survey being conducted by NDOH to inform ideas about needed curriculum changes,
- Finalise gap analyses of the general nursing and CHW curricula,
- Conduct workshops with CHW and Nursing working groups to develop the curricula in partnership,
- Seek guidance and advice on the accreditation pathways from the National Steering Committee.
- Submit the revised curriculum documents for review and accreditation.
- Conduct a series of workshops and forums to ensure maximum local input into suggested revisions to course content and processes,
- Prioritize revised curricula modules for redevelopment in CHW program and subjects in the Diploma of Nursing.
- Seek local endorsement for suggested changes and identified areas for improvement.
- Develop revised curriculum documents.

### **C. Develop clear guidelines and standards for clinical education (2, 4a, 6)**

Clinical education is and should be at the heart of the nursing and CHW programs. Direct clinical experience is fundamental for learning to take place. Graduates need to be well prepared to ensure they can effectively perform their role as a new nursing or CHW graduate.

#### **ACTIONS:**

- Review clinical preceptorship program,
- Consider developing a national framework and standard for clinical educators, clinicians and preceptors,
- Provide education to upskills educators in the use of the framework and expected standards of assessment,
- Ensure that clinical assessment is holistic, reliable, valid and consistent
- Evaluate the needs for a standardised assessment guideline and tool for national implementation.

### **D. Continuous Faculty Support and Development (3, 5, 6)**

#### **ACTIONS:**

- Faculty development and support program to ensure smooth implementation of curricula (management, programming skills, quality processes, teaching skills, finances, clinical supervisor training, and graduate attributes),
- Develop a framework and standards for auditing the clinical environment that mesh with the national accreditation framework. This will include ensuring adequate teaching support at clinical sites, relevant case mix, specialty practitioners where necessary and a safe environment,
- Review and update competency standards of practice, ensuring continued relationship between teaching, learning, and clinical competency,
- Develop and deliver CPD educational programs as needed.

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## 1. INTRODUCTION

As Papua New Guinea (PNG) works to promote and achieve Universal Health Coverage (UHC), improving the quality of health care services is a key priority. While financing, regulation, accreditation and governance are key pillars to improvement, the quality of the health workforce remains a crucial component of any plan that is designed to improve healthcare quality. It was during the year 2020 (commemorated by the World Health Organization as the International Year of the Nurse and the Midwife) that the role of nurses and other health care workers came to the forefront globally as they responded to a pandemic which has, to date, killed more than 4,000,000 people worldwide. The COVID-19 pandemic exposed inequities in the world in ways that have not been so starkly illustrated before. Nurses were exposed and taxed in ways that had never been fully anticipated with health systems overwhelmed with sick patients, countless deaths, lack of personal protective equipment and the threat to nurses themselves of catching and, in many cases, dying from COVID-19 (National Academies of Science, Engineering and Medicine, 2021). Nurses and other health professionals responded by stepping up and caring for patients and their families despite the personal risk to both themselves and their families. The outbreak continues in PNG and it is causing enormous disruption to the health system and increased pressure on nursing and other health professionals within the country. It is within this context that this report is presented.

Even without COVID the current health status of many in PNG shows considerable cause for concern, with many of its population suffering serious health inequity and adverse health outcomes in comparison to other nations in the Asia Pacific region. As a low middle-income country (World Bank, 2020), PNG is hindered by a critical shortage of human resources for health. This has only been exacerbated in recent years due to poor planning and a lack of effective strategies to retain health workers (World Health Organization, 2021). As a result, major health concerns remain, including high rates of maternal and infant mortality, and increasing rates of communicable diseases such as tuberculosis and diarrhoeal diseases (Burnet Institute, 2021). While gender-based violence runs rampant globally, PNG remains particularly inequitable for women with more than two-thirds of women in the nation categorised as victims of domestic violence (Human Rights Watch, 2021).

These health concerns have only become worse in light of the COVID-19 pandemic which has further exacerbated pressure on the limited resources which are available, placing further pressure on the fragile systems that exist. This has also highlighted the urgent need to strengthen not only the number of health workers available but the quality of workers within the system. Frontline workers, particularly baseline health workers such as nurses (22%), midwives (12%) and community health workers (50%), who make up more than 70% of the health workforce in PNG, (WHO, 2020), need to be adequately prepared to provide effective health care. Quality health care workers are the key to improving the quality of the health care system.

Nurses and community health workers are the largest cadre of the health workforce in PNG and they are being educated with curricula that are over 15 years old. Given the critical shortage of human resources there is an urgent need to ensure that the graduates from both the Community Health Worker (CHW) and Nursing programs are able to respond effectively to the current health needs of their local populations. It is not simply a matter of preparing them to respond to the current health needs of the population, they also need to be able to respond to the community health needs as PNG moves into the future.

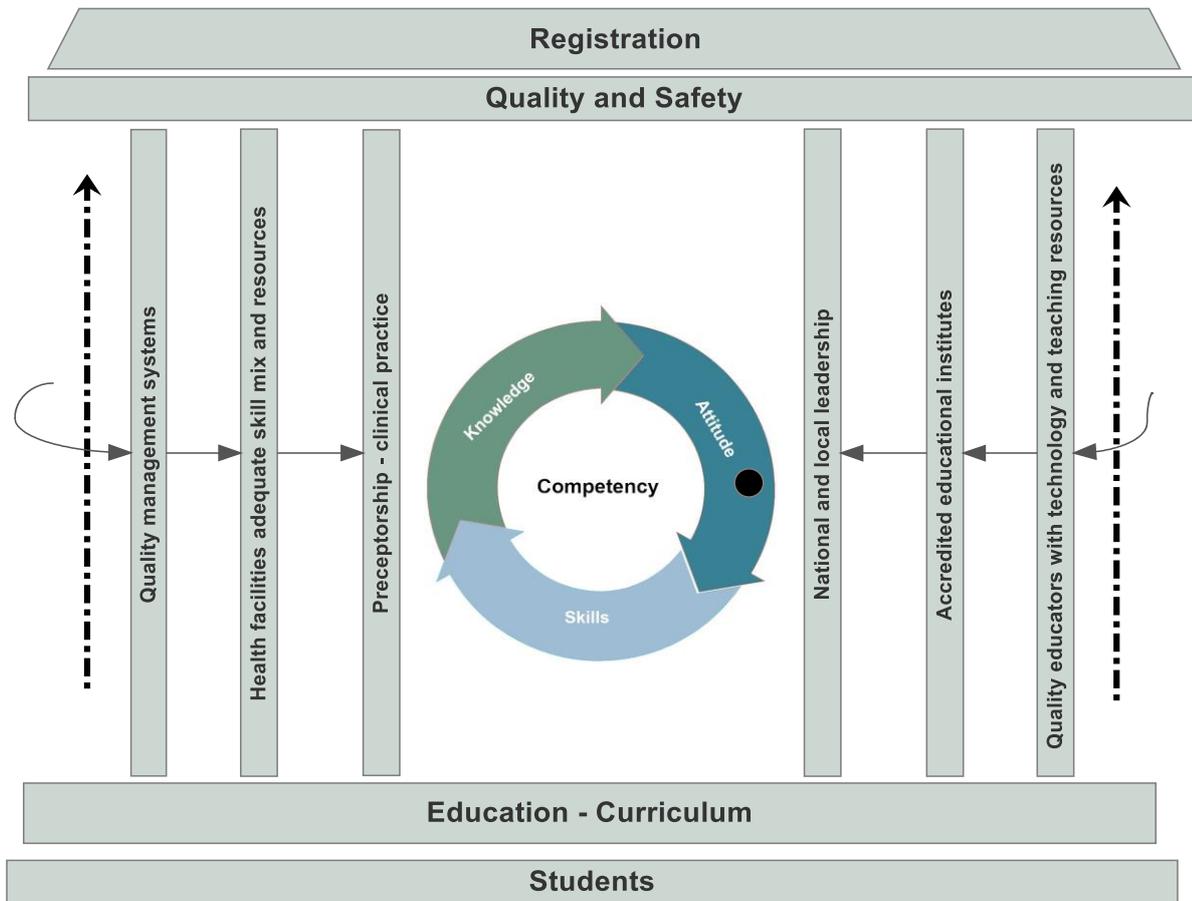
Developing curricula is the first step in strengthening the health workforce as this will lead to better quality of graduates who will be servicing the health needs of the population. Appropriate and relevant national curricula for both nursing and CHWs are vital for health professionals to acquire knowledge to provide relevant high quality health care. Curricula also act as vehicles for participation in inter-professional education and evidence-based practice. They standardise education nationally and teach the competencies required for a quality workforce as well as providing clear career pathways. While a strong regulatory system accredits the institutes and provides registration of practitioners to ensure the public are getting a good service, this can only be done if fundamental structures are in place.

This gap analysis reviews the curricula for Community Health Worker as well as the Diploma of General Nursing currently in use in PNG. The current CHW curriculum was developed from 2000 and has gradually been adopted across the country. The current nursing curriculum was developed during the last 20 years and is also out of date. Reviewing the scope and content of the curricula and taking steps to enhance the teaching methodologies and practices will support the development of a better trained and supported health workforce into the future.

This report identifies and discusses the key health issues facing the population of PNG. It then assesses whether or not these key health issues are considered in the existing curricula and the likely quality of learning outcomes. Finally, the report outlines priorities for change in the curricula for both CHWs and Nurses as well as the development needs of teaching and clinical staff.

It is however, impossible to think about educational standards without also thinking about the context within which teaching, learning and clinical practice occur. While it was beyond the scope of the gap analysis to address the key pillars of regulation, accreditation and governance it is important to recognise that improvements to educational practice do not occur in a vacuum and that the effectiveness of these key pillars will inevitably affect the quality of health care programs and graduates. Figure 1 below illustrates the links between these key concepts.

Figure 1: Relationship between the key healthcare improvement concepts



Because any program which prepares health professionals needs to ensure that it is up to date and responds to the specific needs of the population it serves, the next section of the report outlines the key health priorities of the PNG population. These were reviewed and discussed by an NDOH informal Working Group (Aug. 2021) as well as being assessed against the draft National Health Plan (2021) and the research literature to ensure that key priorities were identified and agreed before considering where and when they should be taught. Following the identification of the key health priorities the two curricula are described and analysed. Finally, the recommendations arising as a result of the analysis are provided.

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## 2. BACKGROUND

As a relatively resource-rich country with abundant fisheries, forestry and the potential to expand agriculture and tourism, PNG's current health inequities and nationwide poverty are a stark contrast to their prospective opportunities. Despite the potential benefits of the existing resources, many of the population continues to rely on subsistence farming and fishing for both food security and overall livelihood (Food and Agriculture Organization of the United Nations [FAO], 2021), with an estimated 40% of PNG's population living in poverty (Human Rights Watch, 2021), and approximately 90% of the population living in rural areas (Burnet Institute, 2021). PNG's population is further characterised by its young age structure (Papua New Guinea, 2019) with limited formal job opportunities. Fifty eight percent of the population are unemployed or underemployed (FAO, 2021). PNG's life expectancy of both sexes fell to approximately 64 years at birth in 2018 (World Bank, 2021), comparatively lower than other nations in the region. There is a difference of 17 years life expectancy across different provinces of PNG (NHP, 2021). Rates of literacy in the population are also significantly low with estimates of only 61.6% of the adult population able to read and write in 2020 (United Nations, 2020), impacting their standard of living and quality of health, particularly in relation to levels of health literacy.

PNG's population is growing at 2.8-3% per year, with approximately 9.9 million people living in the country in 2019 (IHME, 2020). Rural populations continue to have poorer health than others in the community, however, increased levels of urban crowding (Malau, n.d.) have contributed to increased rates of communicable diseases amongst the community, further exhausting the already limited availability of resources. Funding to the health sector has nearly halved in real terms since 2011 (NHP, 2021) which is also likely to have a significant effect on the local population. PNG's health sector operates within a decentralised environment with Provincial Health Authorities (PHAs) having been established in all provinces. Health services and public health programs in PNG are predominantly government-funded with about 20% of funding coming from development partners, but often outside of the NDoH processes (NHP, 2021). The roles and functions of 813 facilities across PNG are governed by the National Health Service Standards. The structural challenges in the health system were recognised in the National Health Plan (NHP) (2011 – 2020) and are identified again as a major deficit in the Draft NHP for 2020-2030 (NHP, 2021).

The lack of resources extends beyond medical facilities to the available health workforce itself. PNG has the lowest ratio of both doctors and nurses per 1,000 population across the Pacific with 0.07 doctors and 0.53 nurses per 1,000 population (NHP, 2021). On top of this, the health workforce in PNG is characterised by an aging workforce and high turnover rates due to poor working conditions and inadequate clinical and technical skills training (WHO, 2008). The NHP (2021) estimates the current vacancy rate across the health sector to be at 27%. While the majority of the population live in remote rural areas many health services exist outside rural districts, often resulting in citizens having to rely on alternative strategies, including self-reliance, where individuals use local resources and people who may not be adequately qualified to support their health care needs (Barcham et al., 2016). Compounding this is the struggle to provide low-cost basic services in these areas due to the lack of infrastructure such as electricity and telecommunications, resources that are necessary for the effective performance of health services. The severity of the situation is exemplified in the capital city of PNG, with Port Moresby lacking any roads or infrastructure to major population centres, (except Kerema,) and with many villages only accessible by foot or aircraft (World Bank, 2015). It is clear that there are significant

structural challenges related to effective delivery of health care services in PNG. These include resources, financing and the quality, distribution and numbers of human resources for health.

The next section describes in some detail the key health priorities identified in the literature and matched to the NHP (2021) to enable a thorough review of the two curriculums that will follow.

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## 3. KEY HEALTH PRIORITIES

### 3.1 Social Determinants of Health

Health is influenced not only by beliefs about health and the choices that individuals, families and communities make but also by the availability of health resources. According to the WHO (CSDH, 2008) the social conditions into which people are born, live and work is the single most important determinant of good or ill health. Factors such as income, education, employment, power, social support networks and the influence of culture will all act to strengthen or undermine the health of individuals and communities. Beliefs about health and health practices are shaped by culture and common practice and these will affect beliefs about disease, treatment and health practices.

PNG has one of the most dispersed and isolated populations in the world with access to healthcare limited by lack of transportation and readily accessible health services affecting health care usage and individual health (Kassens and Rodgers, 2019). It is also likely cultural beliefs and common practices influence health care access and acceptance. However, Kassens and Rogers (2019) found that other factors such as education, socioeconomic status and access to resources had a stronger effect on individual and community health outcomes.

Social determinants are often used to explain the health gap between different groups in society and being able to effectively measure the health gaps in different social groups provides essential information to guide health policy development and health care priorities. It is, however, quite challenging to find this information about the population of PNG. In the main, the research focuses on separate groups stratified by gender and age and disease stream rather than looking at the different outcomes for different groups (eg those with high socio-economic status compared to groups with low socio-economic status).

A key social determinant is that of gender-based violence with more than two thirds of women in PNG having suffered some form of gender-based violence (Human Rights Watch, 2021). Studies have illustrated the widespread and intergenerational impacts of gender-based violence against women, with lasting psychological effects of anxiety and post-traumatic stress disorder as well as higher rates of suicide attempts (Rees & Fisher, 2016). These have significant effects on victims' quality of life and further extend the socioeconomic disadvantages many women in PNG already experience. While there have been numerous attempts to address the high rates of violence against women, such as the implementation of the Family Protection Act 2013 (Human Rights Watch, 2021), the PNG government has little success with finding any real solutions in part, due to their inability to enforce the laws that they have initiated. Such lack of enforcement is again due to the lack of resources and services available to support victims (Putt, 2020), which lowers the rates for conviction, in turn impacting upon victims' confidence in authority.

Other determinants such as education also have a significant influence on health outcomes. World Vision (2021) estimates that only 56.5% of girls attend primary school and with an alarming dropout rate as they go, or fail to go, into high school (Rena, 2011). International studies have shown the significance of education as a protective factor against poorer health outcomes (Li and Powdthavee, 2014), including facilitating healthier

eating behaviours and reducing chronic diseases through increased awareness of the benefits of physical exercise. Improved health outcomes through education extend beyond just physical health, they have the power to address cultural notions that engender gender inequality.

While the evidence shows that social status and power differentials can explain some gender health gaps, when the literature focuses on gender and health it generally means the focus is on women's, rather than men's, health. This means that men's health may be ignored or given a lower priority. And yet we know that globally, men die younger than women, and are generally more burdened by illness during life (Harvard , 2019). In a patriarchal society like PNG, improving men's health, and especially their health literacy, is likely to have flow-on effects to other members of their families and communities. It is really challenging to find good data about the state of men's health in PNG yet improving men's health is a cornerstone to improving the health in families and communities. While the Government of PNG has an overarching responsibility to address these inequities in the social determinants of health individuals (implicit in the goals of the NHP, 2021: "leaving no one behind is everyone's business"), communities and families need the education and agency to be able to start to make changes to improve their own health outcomes.

Identifying the key health issues will enable a constructive review of the curriculums and ensure that any suggested improvements to the CHW and nursing programs are directly linked to the health needs of the PNG population. The following section describes the health needs of different sections of the population derived from the literature and the NHP (2021) which is then followed by a discussion of specific health streams such as communicable and non-communicable diseases to provide a detailed background for the recommendations which are provided at the conclusion to this report.

### **Men's Health & Well-being**

Across the world, men die younger than women, and are generally more burdened by illness during life (Harvard , 2019). The causes are generally unknown, but is thought that a combination of biology, socialisation, risky behaviours and not accessing health care in a timely manner all play a role in increased morbidity and mortality in men (NSW Health, 2018). From adolescence onwards, it tends to be male behaviour that causes men to be sicker and die sooner than women. Men who take risks place themselves in harm's way. It is when that behaviour is expressed as violence that the harm to others becomes more obvious. While men are more likely to die from suicide than women, as the data shows, often their anger is expressed in the form of domestic violence towards women who are their intimate partners. If the incidence of domestic violence is to improve in PNG there seems to be an urgent need to improve men's understanding about the triggers of violence and the way to challenge their feelings in a constructive manner. Strong interpersonal relationships and support

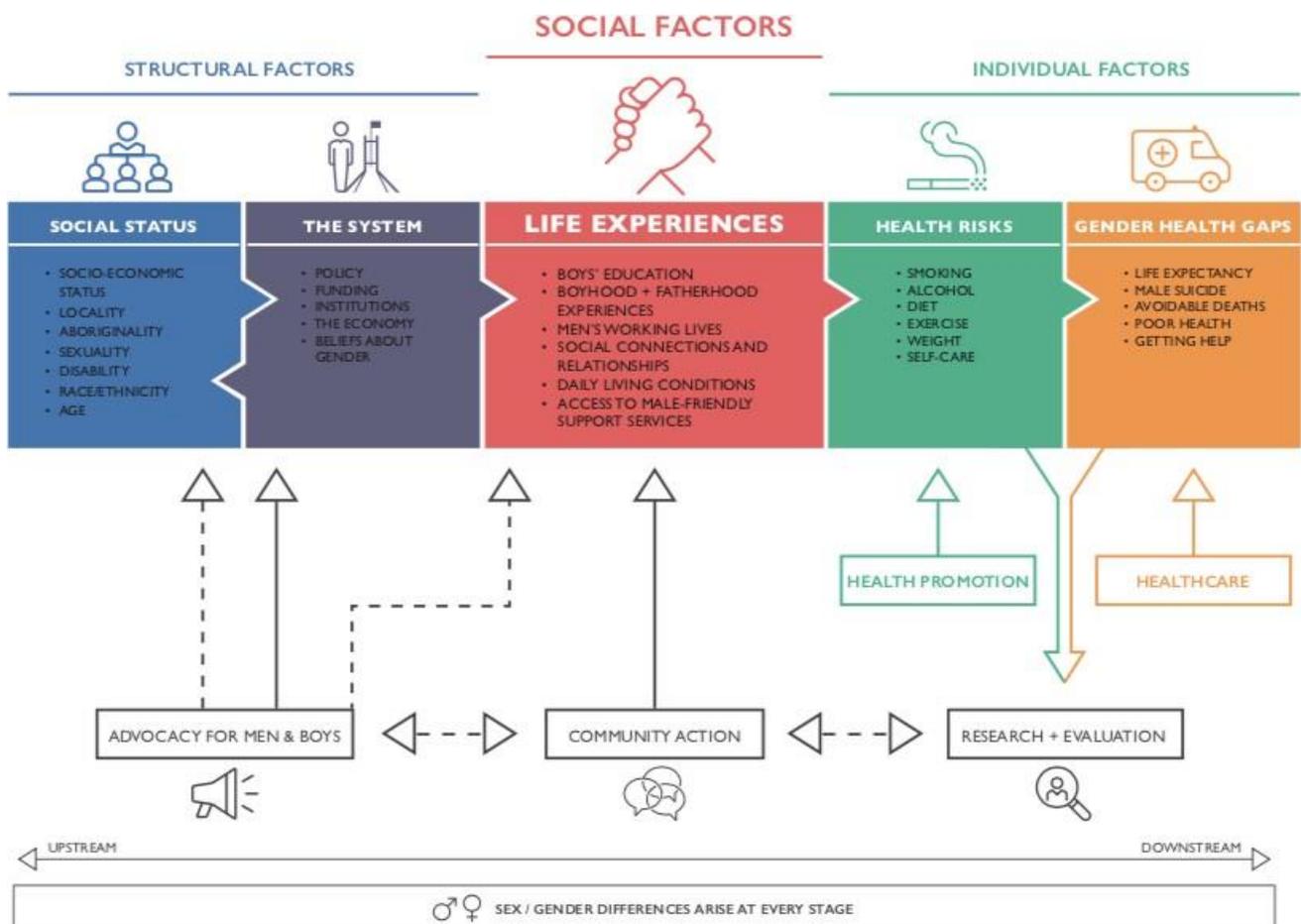
networks have been shown to reduce the risk of many problems, ranging from the common cold and depression to heart attacks and strokes (Harvard, 2019).

The Australian Men’s Health Forum (AMHF, 2018) has developed a framework designed to help give men and boys a healthier future (Fig 1 below). They suggest that four sets of factors shape men and boy’s health:

- Risk factors (how men and boys take care of their own health and wellbeing);
- Life experiences (how men’s living conditions impact their health);
- The system (the resources invested in men and boy’s health);
- Social status (the way men and boys are treated and behave in society (AMHF, 2019: 4).

While this framework is focused on men and boys, the determinants, factors and advocacy strategies are relevant for all sections of the community and might assist in developing a coherent framework for the nursing and CHW curricula which will be discussed in a later section. The following diagram illustrates links between structural, social and individual factors that affect health.

Figure 2: Framework for a Healthier Future (AMHF, 2019)



## Maternal and Child Health & Well-being

Maternal and neonatal health are mutually dependent on one another. Early childhood mortality in PNG has decreased from 159 per 1,000 births in 1967 to 49 in 2018, however of the 313,000 births in 2020, over 15,000 will die before their 5<sup>th</sup> birthday with many dying in the first month of life (Duke et al., 2015; NHP 2021). Early childhood is the most vulnerable period of life, with relatively high levels of mortality and potential lifelong disability if serious illness is encountered. Neonates account for just over a third of all childhood deaths (NHP, 2021).

Maternal mortality has declined from a high in 2006 of 733 per 100,000 to 171:100,000, yet this still means at least one woman dies every day somewhere in PNG due to complications of giving birth (NHP, 2021). Data are limited and sourced from population-based research and routine health facility-based reporting. Both sources are limited in scope due to restrictions of sample size, as well as to selected hospitals (Kituar et al., 2019). These rates are further limited by the number of undetected cases for women who are unable to reach a health facility in time (Bolnga et al., 2014) as well as there being no requirement to register a birth in PNG. These factors indicate current numbers are a best estimate and may not capture the true extent of the burden of morbidity and mortality of maternal and neonatal health on the population of PNG.

A number of reasons have been postulated for the high rates of maternal and neonatal mortality in PNG. Emori et al., (2017) highlight remote locations and poorer socioeconomic status, coupled with the low numbers of skilled health workers having a significant effect on pregnancy and childbirth outcomes. Living in rural areas is likely to increase the vulnerability for both women and their babies. For example, research exploring the difference in death rates across a number of sites found that the mortality rate at Port Moresby General Hospital was 68 deaths per 100,000 live births compared to 200 deaths per 100,000 live births in Modilon Hospital in Madang Province (Bolnga et al., 2017).

While data vary, unsafe abortions have been identified by some as a critical factor in driving maternal mortality rates higher. Valley et al., (2015) identified unsafe abortions as the second leading cause of maternal mortality. Abortion is illegal in PNG except under specific and very tight circumstances, and this is reflected in the views of students where the majority oppose the idea of a woman's right to abortion (Kolodziejczyk & Kuzma, 2020). Despite these views, women are known to turn to unsafe abortions to prevent unwanted pregnancies which results in increased mortality and morbidity (Valley et al., 2015). Effective family planning education delivered while girls (and boys) are at high school may help alleviate some of the need for access to abortion that is being seen across the country.

Valley et al. (2013) found that the average age for sexual debut and the birth of a first child was between 18.7 years and 20.8 years. Family planning is an effective way to reduce the unmet need for contraception amongst women and will also assist in reducing sexually transmitted infections (WHO, 2017). However, discussions of sexuality and family planning may be taboo or censored in PNG, leaving health workers with very little ability to adequately support women with unexpected and or unwanted pregnancies. There is also evidence that parents may be unwilling or unable to teach children about sexual reproduction and contraception, as well as health clinics limiting contraception to married couples only (Hemer, 2019), which further affects the health

status of women. Pham et al. (2020) measured the unmet need of contraception amongst women between the ages of 15 to 49 years and found that the total unmet need for contraception was 35% with the age-group between 15 & 19 having the greatest need. Further Peach et al. (2021) in their investigation of 699 pregnant women in East New Britain found that 55% of the women stated that their pregnancy was unintended. They further found that over half of their participants had never used a family planning method, citing both a lack of knowledge of family planning and how to access this service.

However, Browne (2018) suggests that unmet need for contraception is not only caused by individual factors (Browne, 2018). Culture, law and religion will also affect attitudes towards contraception, programs about sexual health such as condom promotion and the recognition and treatment of sexually transmitted infections. One of the barriers to successful promotion of condom use specifically is the belief that it encourages promiscuity and increases in sexual behaviour (Browne, 2018), something that is not borne out by the research evidence. Further, Hocking et al. (2016) found, in a study of 765 women who attended six antenatal clinics, that 43% were diagnosed with chlamydia, gonorrhoea, and trichomonas infection.

A 2018 study (Hamkim et al. 2018) which explored sexually transmitted infections (STIs) in men who have sex with men (MSM) and transgender women found that 1 in 5 of the participants had *Chlamydia trachomatis* or *Neisseria gonorrhoeae* while more than 1 in 10 had the hepatitis B virus. More than 4 in 5 of the study participants has also been sexually active with women in the previous six months, which points to an urgent need to improve both education about STIs and safe sexual practices.

Andajani-Sutjahjo (2018) suggested that modern family planning may undermine traditional birthing practices in PNG. As a result, women and their partners should be given a wide range of options to choose from in the context of achieving public health goals in a culturally appropriate and ethical manner.

A number of strategies have been implemented to reduce the burden of maternal morbidity and mortality in provincial areas of PNG, including strengthening CHW competence, improving midwifery education, improving access to modern forms of contraception and providing emergency obstetric training (Robbers et al., 2019). While these strategies have indicated some improvement, these solutions tend to focus on responding to problems that already exist and are well known, rather than addressing the social inequities that persist (Williams (2014). The status of women in PNG society remains a concern as the lack of power of women in decision-making about their health can determine, for example, whether a woman will be able to use contraception or indeed have a supervised birth in a health service (Valley et al., 2015). Nevertheless, access to proper health facilities and well-trained health care staff remains a cornerstone of effective support for pregnant women and their babies.

However, Byrne et al. (2015) found that, in relation to health service delivery, more than 40% of all aid posts closed between 1990 and 2000, and a further 781 closed by 2010, most in rural areas. Middleton et al. (2020) found that in 2016, 40% of registered Aid Posts nationally were not operating (1217 of 3074). This lack of community healthcare infrastructure is further compounded by the focus of in-bound aid and other funding focused on health care which tends to give precedence to international disease targets rather than necessarily

focusing on PNG's capacity to control other threats to health which may be local priorities (Middleton et al. 2020).

Outreach clinics to rural and remote villages provide essential immunisation, nutrition monitoring, antenatal care and family planning, however, the reduced numbers of health posts is likely to seriously impact the capacity of PNG to respond to the health needs of its population. Compounding this, the health workforce often has inadequate skills and competence, are low in number and unequally distributed across the country (Byrne, et al. 2014).

### **Early Childhood Morbidity and Mortality**

Good nutrition during the early years of development is essential to ensure cognitive growth and enable a child to reach his or her potential in life. About 10% of all paediatric hospital admissions are children who are severely malnourished. In 2018, about 12.4% of these children died during that admission although this was an improvement on previous years. Stunting is a significant concern with nearly half of children in PNG affected (NHP, 2021).

Maternal and child health outreach has been a feature of the PNG health system for over 60 years. It remains an important function for all levels of facilities, and a critical service for the communities. Not surprisingly, there is a correlation between outreach service and immunisation coverage. As the outreach activity has declined, so too, has immunisation coverage (this is discussed further in a later section).

Pneumonia is the most common reason for children's admission to hospital (21%); other leading causes of admissions to hospitals include diarrhoea (11%), tuberculosis (9%), malaria (4%) and meningitis (3%) (NHP, 2021). In the 2016-17 malaria survey, 9.5% of children under 5 years (<1600 m altitude) were infected with malaria parasites, and the rates of insecticide resistance have increased since 2015 (NHP, 2021). As well, tuberculosis has grown as a concern in children, with increasing case numbers and the emergence of multi-drug resistant strains. However, improvements in management have led to a decreased case fatality rate since 2013.

Mother to child transmission rates of HIV at the PMGH clinic are 25%, with 17% in Mt Hagen. Effective Prevention of Maternal to Child Transmission (PMTCT) programs are able to reduce the rate to <10%, however, most countries achieve 5% (NHP, 2021). A solid focus on reaching mothers, providing treatment where needed and diligent assessment of the at-risk child, will improve the outcomes for this important part of the population (NHP, 2021).

### **Adolescent Health & Well-being**

Adolescents (10-19 years) are 22.65% of the total population. The period of transition from childhood to adulthood, where important physical, physiological, mental and social changes occur in the individual, shapes their future health needs and influences their impact on the community. The WHO estimates that nearly two-thirds of premature deaths and one-third of the total disease burden in adults are associated with conditions or behaviours initiated during adolescence.

Adolescent pregnancy is associated with two to five times higher maternal mortality, as well as a higher neonatal and infant mortality rate among their children, as compared to women in their twenties.” (NHP, 2021, p27). Unintended pregnancy is very high in this group (Pham et al. 2020) which suggests an unmet need for sound family planning and contraceptive advice.

Given the above, there is a clear need to target the health issues for specific sections of the PNG community if the health of all is to improve.

The following section focuses on specific topics rather than specific populations to further explore the important health needs of the population.

## **3.2 Specific Health Concerns**

### **Communicable Diseases**

The burden of communicable diseases on developing countries is significantly worse than in developed countries (Boutayeb & Boutayeb, 2005), with PNG identifying communicable diseases as one of the leading health problems affecting the country (Burnet Institute, 2021). The information provided below is mainly drawn from the Draft NHP (2021).

#### **HIV**

Between 2010 and 2017, the number of people living with HIV in PNG had increased by 26% (NHP, 2021), while annual deaths from AIDS related illness decreased about 26% in the same period, yet this is still equivalent to about 1,000 deaths a year. The HIV burden is concentrated in specific sub-populations and geographic regions.

In 2018 there were 3300 new infections (40 cases for every 100,000 population) and the infection rate was higher in females (45/100,000). This has increased from 2,260 new cases in 2010. The HIV burden in PNG is concentrated in some sub-populations and geographic locations and is highest in the Highland region (NHP, 2021).

Prevention of mother to child transmission requires testing in pregnancy to determine the presence of the virus and providing treatment during pregnancy to minimise risk of vertical transmission (to child). A total of 76 896 women were tested for HIV in ANC and labour ward in 2017. Of these, 593 (0.8%) were confirmed HIV positive. Forty one percent of these were commenced on ART.

#### **Malaria**

The current prevalence is 7.1% of people living below 1600m altitude rising from less than 1% in 2013/14. As well, there has been a 15% increase in malaria presentations to health facilities during the past three years. During 2018, there were 115 presentations to health facilities for every thousand population. Overall, 8.8% of children (less than 5 years) are infected. Two recent surveys IMR Malaria Indicator Survey 2016/17 and the

DHS (2016/18) have examined current usage of Insecticide Treated Nets (ITN). Overall usage of ITN by individuals is 46% (urban) – 51% (rural).

### **Neglected Tropical Diseases**

Neglected Tropical Diseases (NTD) are a collection of infectious diseases that create a high burden for the community. In PNG they include Lymphatic Filariasis, Dengue, Treponematosi, YAWS, congenital syphilis, Trachoma and Buruli ulcers.

Yaws is now entrenched as a public health problem in the Islands region and Madang and Morobe provinces, with an increasing trend over the past 7 years resulting from incomplete initial intervention coverage.

Lymphatic Filariasis is highly endemic in PNG. Mass Drug Administration (MDA) has been implemented in one high endemic island province with plans to cover the rest of Islands region before moving to mainland PNG (NHP, 2021).

### **Tuberculosis**

Tuberculosis (TB) prevalence is determined on a biannual basis through population screening. By international comparison, screening rates are low. In PNG, there have been 0.2% (2011), 0.4% (2014) and 0.4% (2016) of total population screened (in contrast, Cambodia screened 1.1% in 2013). About 15% of those screened were smear positive.

In 2018 the estimated incidence was 432 per 100,000 population (about 37,000 cases smear positive). The cases notified were 74% of this number. Extra-pulmonary TB accounts for 42% of all cases. There is a concentration of TB in several provinces, with NCD, Western, Gulf and West New Britain Provinces each with a case notification rate above 600/100,000.

### **COVID-19**

The first case of COVID-19 was recognised in March 2020. By May 2021 there were approximately 15,133 confirmed cases and 154 confirmed deaths in PNG (WHO, 2021) putting further strain on an already stressed system. The Government of PNG anticipates that the effects of the pandemic will continue to affect the country's budget until 2025 (NHP, 2021).

### **Immunisation**

One of the most effective public health strategies of the 20<sup>th</sup> century was the development of vaccines to deal with and prevent infectious diseases. The urgent rush to develop and deliver successful vaccines to the global population in the current pandemic further attests to the importance of this strategy as a successful means for controlling infectious diseases.

The Global Vaccine Action Plan (GVAP 2011-2020) was developed as a framework to ensure equitable access to vaccines for all communities (WHO, 2012) to help prevent millions of deaths globally from vaccine preventable diseases. While much progress has been made, in 2020, 1 in five children globally still lacked access to all the vaccines identified by WHO. Inadequate coverage has led to multiple disease outbreaks, particularly of measles and vaccine-derived poliovirus.

PNG is one of the more troubling examples with only 60% coverage for the third dose of oral polio vaccine in comparison to the Western Pacific Region average of 97% (Morgan et al., 2020). This is of particular concern given the recent outbreak of polio in 2018 (WHO, 2021) and confirms the need for PNG to update and implement policies that ensure individuals are adequately covered against preventable diseases. The 2019 Sector Performance Annual Review for PNG for the years 2015 – 2019 further highlights the low rate of immunisation in PNG, with a 12% decline over 5 years in immunisation found amongst <1 year old's against measles. This is of particular concern with the prevalence of measles continuing to increase by almost 300% in the first few months of 2019 compared to 2018, and an estimated 362 measles related deaths in PNG over the same period (WHO, 2019). Additionally, there is anecdotal evidence that vaccination rates have been decreased even further as a result of the recent COVID outbreak in PNG.

Rates for immunisation in PNG differ in relation to geographical location, with the lowest rates found in rural and remote regions. This is of particular concern given almost 90% of PNG's population live in rural areas (Burnet Institute, 2021). There is evidence of poor understanding within communities about the importance of vaccination and how they work. Gowin et al., (2021) found almost all women, 90% in their study, had no knowledge of how vaccination worked, and many failed to identify the diseases vaccination could prevent.

### **Noncommunicable Diseases**

There is evidence that NCDs are becoming more common in PNG. Verbal Autopsy (VA) data gathered across three sites from 2009 – 2014 showed a large increase in the number of deaths from 'emerging' NCDs (CVD, diabetes, stroke, lung cancer) (NHP, 2021). The CDC (2019) identified ischaemic heart disease, stroke and COPD amongst the top three causes of death in PNG. Kiture et al (2019) reported that 45% of males and 42% of females are dying as a result of non-communicable diseases.

Obesity in particular, has significantly increased over the years, with approximately 25.8% of women and 16.6% of men living with obesity, both exceeding the global targets by 10% (WHO, 2018). Such rates indicate higher risks for poorer health outcomes, including diabetes, heart disease and stroke, which have been identified as amongst the leading causes of death in PNG. These emerging conditions are largely a result of life-style choices, and hence theoretically amenable to healthcare intervention. CHWs have been shown to be effective in providing education which improves medication adherence and lifestyle changes (Long et al., 2020) underpinning the crucial role of CHWs in improving community health outcomes.

During the period 2016 – 2018, hospital discharge data (incomplete) show that cancers account for about 3% of all discharges (NHP, 2021). PNG has among the highest estimated burdens of cervical cancer globally, with an incidence 6.3 times that of Australia and New Zealand. It is estimated that there are 20,609 people

living with cancer, and about 7,500 deaths each year. PNG has also been found to have the highest incidence of mouth cancer in the world, largely due to the ubiquitous use of betel nut chewing across the population (Chen et al. 2018).

Recent data suggests that injury is increasingly having a major impact in PNG. The Global Burden of Disease modelling shows road trauma as the fifth biggest contributor to Disability Adjusted Life years in PNG (NHP, 2021).

## **Disability**

Statistics on the number of people experiencing any form of disability in PNG is very limited; however, reports have estimated that PNG's disability population match or exceed WHO global estimates of 15% of the population having some form of disability (Department for Community Development and Religion, n.d.). These estimates indicate that approximately 975,500 people in PNG in 2021 have some form of disability (Mary MacKillop Today, 2021) with approximately 2% of disabled people actually receiving adequate care (Mary MacKillop Today, 2021).

The National Policy on Disability 2015-2025 was developed to provide a national strategic plan for the disability sector. It aims to strengthen policy, budget, and legislative components of the disability sector, while also enhancing advocacy for improving service delivery for those with a disability. In recognition of this, the document prioritises the need to improve health, habilitation, and rehabilitation services. This explicitly highlights the need to build the capacity of nurses both in hospitals and in clinics to not only strengthen health and rehabilitation services but also to allow preventable disabilities to be addressed. The increase in NCDs such as stroke are likely to add to the burden of disability in the community, and following the COVID-19 outbreak, it is likely many in the community will be suffering long-COVID which has been found to have a range of symptoms, including long term and quite severe disability.

As the CDC (2020) explain, those with a disability in PNG are more likely to live with poorer health overall, with less access to adequate health care, and also be more prone to poor lifestyle decisions such as smoking and physical inactivity (CDC, 2020). The generally poor access to adequate health care facilities and services that plague the country are likely to be further exacerbated for those with a disability, as health services often do not have the resources necessary to ensure equitable access for such individuals (WHO, 2020). This directly contradicts "the rights of persons with disability to attain the highest standard of healthcare" as outlined in Article 25 of UN Conventions, and health sectors have a responsibility to work to address these concerns. It should be noted that children with disabilities face further systemic disadvantages when trying to access education and other support (Jenkin et al., 2017).

## **Mental Health Concerns**

Despite the likely impact of the COVID-19 pandemic on the mental health of the community the NHP (2021) does not mention mental health or mental illness. Further it is quite difficult to find any good data about the nature and incidence of mental illness in PNG. The WHO World Atlas of Mental Illness (2014) found that there

is 0.1 psychiatrist per 100,000 people, with one mental health hospital and 20 psychiatric facilities in the country staffed with approximately 53 staff for inpatients and 204 for outpatients.

Koka et al (2014) conducted a retrospective study asking 203 health workers their three most recent mental health patients. The survey asked about presenting symptomatology, diagnoses (including culture-bound diagnoses) and treatment approaches. They found that the major presenting mental health problems for men included schizophrenia, substance use disorder, sorcery and spirit possession. Depression was the most common diagnoses for women, followed by sorcery and somatisation. Over 65% of patients were prescribed psychotropic medication, over 50% received some form of psychological intervention and 28% were receiving traditional treatments. They found that schizophrenia and depression were often commonly associated with substance abuse disorder amongst males.

The Minister for Health, PNG, was reported by the National newspaper in April 2021 as saying that mental health service coverage in PNG is 'low' but that mental health issues are increasing in the community and elsewhere. She further stated that mental and behavioural issues are common in society with one in four people expected to have a behavioural or mental health disorder during their lives.

As the previous discussion has briefly discussed, domestic violence is an area of huge concern globally and particularly in PNG. This is described further below as we know that there are widespread and intergenerational impacts of gender-based violence against women which have lasting psychological effects of anxiety and post-traumatic stress disorder as well as higher rates of suicide (Rees & Fisher, 2016). These are significant effects on victims' quality of life and undoubtedly the family and community.

Domestic violence (DV) is the ongoing pattern of violent behaviour between current or former intimate partners that seek to control or exert power over another (Mission Australia, 2020). WHO (2017) has identified this long-standing issue as a global public health concern, categorising DV underneath gender-based violence whereby violence occurs as a result of one's gender or violence that disproportionately affects a particular gender (European Commission, 2020). While DV can affect both men and women, the prevalence of DV against women specifically is disproportionately high, with rates indicating a third of women worldwide having experienced physical and/or sexual violence by an intimate partner (WHO, 2017). This is particularly concerning within PNG, where it has been identified as having one of the highest rates of gender-based violence in the world outside of a conflict zone (International Women's Development Agency [IWDA], 2020). According to the data that is available more than two-thirds of women in PNG have experienced domestic violence (Human Rights Watch, 2021). This data, however, is likely to understate the true extent of the prevalence of violence against women in PNG (Chandler, 2014) and the lack of health workers and resources in the nation further works to shield the true number of victims suffering from violence-related injury and death.

The global and national tragedy of the COVID pandemic is also likely to affect the mental health of the PNG community. It is for these reasons that mental health is included in this report as a national health priority.

## **Substance Use and Abuse**

There are no data from PNG in relation to the use of alcohol and other illicit drugs. However, the use of the psychoactive betel nuts seems to be the main mood changing chemical consumed by the PNG population. Between 10-20% of the world's population chew betel nut in some form which makes it the 4<sup>th</sup> most widely-used psychoactive substance, after nicotine, alcohol and caffeine (Alcohol and Drug Foundation [ADF] 2021), and anecdotal data suggests that more than 50% of the population, including children have chewed betel nut.

Regular, heavy use of betel nut may eventually cause both physical and psychosocial problems (ADF, 2021):

- **Dependence (needing to use more to get the same effect),**
- **Financial, work and social problems,**
- Discolouration of teeth and gums,
- Mouth ulcers and gum disease,
- Oral cancers or sub mucous fibrosis (a pre-cancerous condition),
- Stomach ulcer,
- Heart disease.

No current data about the incidence of smoking in society, nor about illicit use of drugs such a marijuana were found.

### 3.3 Safety and quality

Safety is a cornerstone of quality in health care and its success requires individual and team commitment. Nurses have a major role to play in improving patient safety. Whilst individual professionals including CHW, have a duty to ensure their practice causes no harm, increasingly care is being delivered by teams. Individuals and processes are rarely single causes of errors. Rather, separate elements combine and together produce high-risk situations. Understanding risk in the complex processes of health and medical care requires information about errors and so-called near misses. The World Health Organisation first identified patient safety as a global health priority in 2011 (WHO 2011).

They describe the quality of care in the following way:

*“Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes. It is based on evidence-based professional knowledge and is critical for achieving universal health coverage. As countries commit to achieving Health for All, it is imperative to carefully consider the quality of care and health services. Quality health care can be defined in many ways but there is growing acknowledgement that quality health services should be:*

*Effective – providing evidence-based healthcare services to those who need them;*

*Safe – avoiding harm to people for whom the care is intended; and*

*People-centred – providing care that responds to individual preferences, needs and values.*

*To realize the benefits of quality health care, health services must be:*

*Timely – reducing waiting times and sometimes harmful delays;*

*Equitable – providing care that does not vary in quality on account of gender, ethnicity, geographic location, and socio-economic status;*

*Integrated – providing care that makes available the full range of health services throughout the life course;*

*Efficient – maximizing the benefit of available resources and avoiding waste.” (WHO, 2020)*

Patient safety is fundamental to delivering high quality health services. While there are robust systems of accreditation and national standards in more developed economies it is still estimated that many patients there suffer unnecessary harm while receiving hospital care. The number of adverse events in low- and middle-income countries is less reliably reported, however, it is estimated that there are millions of deaths annually caused through adverse events during healthcare treatment (WHO, 2019). Patient safety therefore is a crucial component of any program which seeks to educate health professionals of the future.

The World Health Organisation (WHO, 2019) has summarised the known burden of harm that already exists and provides a sound justification for an increased focus on quality and safety in both the Diploma of General Nursing and the CHW programs. Table 1 below summarises the most common causes of harm in health care.

Table 1: Common Causes of Harm in Health Care Globally

Item	Data
<b>Medication errors</b>	are a leading cause of injury and avoidable harm in health care systems: globally, the cost associated with medication errors has been estimated at US\$ 42 billion annually (Aitken & Gorokhovich, 2012).  Aitken M, Gorokhovich (2012) L. Advancing the Responsible Use of Medicines: Applying Levers for Change. Parsippany (NJ): IMS Institute for Healthcare Informatics. <a href="https://ssrn.com/abstract=2222541">https://ssrn.com/abstract=2222541</a>
<b>Health care-associated infections</b>	occur in 7 and 10 out of every 100 hospitalized patients in high-income countries and is likely to be at least that high in low- and middle-income countries respectively (WHO, 2011 b).  WHO. (2011b) Report on the burden of endemic health care-associated infection worldwide. Geneva: World Health Organization. <a href="http://apps.who.int/iris/bitstream/handle/10665/80135/9789241501507_eng.pdf?sequence=1">http://apps.who.int/iris/bitstream/handle/10665/80135/9789241501507_eng.pdf?sequence=1</a>
<b>Unsafe surgical care procedures</b>	cause complications in up to 25% of patients. Almost 7 million surgical patients suffer significant complications annually, 1 million of whom die during or immediately following surgery (WHO, 2009).  WHO (2009) Guidelines for safe surgery 2009: safe surgery saves lives. Geneva: World Health Organization. <a href="http://apps.who.int/iris/bitstream/handle/10665/44185/9789241598552_eng.pdf?sequence=1">http://apps.who.int/iris/bitstream/handle/10665/44185/9789241598552_eng.pdf?sequence=1</a>
<b>Unsafe injections practices</b>	in health care settings can transmit infections, including HIV and hepatitis B and C, and pose direct danger to patients and health care workers; they account for a burden of harm estimated at 9.2 million years of life lost to disability and death worldwide (known as Disability Adjusted Life Years (DALYs)) (Jha et al, 2013).  Jha AK, Larizgoitia I, Audera-Lopez C, Prasopa-Plaizier N, Waters H, W Bates D. The global burden of unsafe medical care: analytic modelling of observational studies. <i>BMJ Qual Saf</i> Published Online First: 18 September 2013.

	<p><a href="https://doi.org/10.1136/bmjqs-2012-001748">https://doi.org/10.1136/bmjqs-2012-001748</a>  <a href="https://www.ncbi.nlm.nih.gov/pubmed/24048616">https://www.ncbi.nlm.nih.gov/pubmed/24048616</a></p>
<b>Diagnostic errors</b>	<p>occur in about 5% of adults in outpatient care settings, more than half of which have the potential to cause severe harm. Most people will suffer a diagnostic error in their lifetime (<i>Singh et al, 2014</i>).</p> <p>Singh H, Meyer AN, Thomas EJ. The frequency of diagnostic errors in outpatient care: estimations from three large observational studies involving US adult populations. <i>BMJ Qual Saf.</i> 2014;23(9):727–31. <a href="https://doi.org/10.1136/bmjqs-2013-002627">https://doi.org/10.1136/bmjqs-2013-002627</a> <a href="https://www.ncbi.nlm.nih.gov/pubmed/24742777">https://www.ncbi.nlm.nih.gov/pubmed/24742777</a></p>
<b>Unsafe transfusion practices</b>	<p>expose patients to the risk of adverse transfusion reactions and the transmission of infections (<i>WHO, 2010</i>). Data on adverse transfusion reactions from a group of 21 countries show an average incidence of 8.7 serious reactions per 100 000 distributed blood components (<i>Janssen &amp; Rautmann, 2014</i>).</p> <p>Clinical transfusion process and patient safety: Aide-mémoire for national health authorities and hospital management. Geneva: World Health Organization; 2010 <a href="http://www.who.int/bloodsafety/clinical_use/who_eht_10_05_en.pdf?ua=1">http://www.who.int/bloodsafety/clinical_use/who_eht_10_05_en.pdf?ua=1</a></p> <p>Janssen MP, Rautmann G. The collection, testing and use of blood and blood components in Europe. Strasbourg: European Directorate for the Quality of Medicines and HealthCare (EDQM) of the Council of Europe; 2014</p>
<b>Sepsis</b>	<p>is frequently not diagnosed early enough to save a patient's life. Because these infections are often resistant to antibiotics, they can rapidly lead to deteriorating clinical conditions, affecting an estimated 31 million people worldwide and causing over 5 million deaths per year (<i>Fleischmann, et al. 2016</i>).</p> <p>Fleischmann C, Scherag A, Adhikari NK, et al. Assessment of Global Incidence and Mortality of Hospital-treated Sepsis. Current Estimates and Limitations. <i>Am J Respir Crit Care Med</i> 2016; 193(3): 259-72. <a href="https://doi.org/10.1164/rccm.201504-0781OCh">https://doi.org/10.1164/rccm.201504-0781OCh</a><a href="https://www.ncbi.nlm.nih.gov/pubmed/26414292">https://www.ncbi.nlm.nih.gov/pubmed/26414292</a></p>
<b>Venous thromboembolism (blood clots)</b>	<p>is one of the most common and preventable causes of patient harm, contributing to one third of the complications attributed to hospitalization. Annually, there are an estimated 3.9 million cases in high-income countries and 6 million cases in low- and middle-income countries (<i>Raskob et al</i>).</p> <p>Raskob E, Angchaisuksiri P, Blanco N, Buller H, Gallus A, Hunt B, et al. Thrombosis: A major contributor to global disease burden. <i>Thrombosis Research.</i> 2014; 134(5): 931–938 <a href="https://www.sciencedirect.com/science/article/pii/S0049384814004502">https://www.sciencedirect.com/science/article/pii/S0049384814004502</a></p>

Anecdotal evidence points to nurses already working in the health system having low or poor understanding of patient safety and causes of iatrogenic harm. Given the staffing ratios in the PNG health system (the University of PNG reports a ratio on one nurse to 60 patients), it is crucial that nursing students are provided with the background and knowledge to recognise and respond to potential harms to patients when they see them. However, it is not enough to simply recognise potential harm when it occurs. Nurses need to be given the tools and confidence to act on problems when they see them and to be able to effectively fulfill their role as patient advocates. The role of CHW in preventing harm to patients is also crucial. They oversee medication administration in the community and have a key role in assessing and referring sick patients appropriately for higher level care. It is therefore crucial for them to have a key understanding of priority safety and quality concerns and the capacity to act appropriately.

### 3.4 Emergency and disaster response

Since the adoption of the Hyogo Framework for disaster mitigation (UN, 2015), much work has been done to mitigate the effects of disasters on global communities. However, despite this, disasters have continued to exact a heavy toll and, as a result, the well-being and safety of individuals, communities and countries continues to be affected (UN, 2015). This is particularly a problem in PNG which is disproportionately affected by natural disasters

(UNOCHA, 2019a). Hospitals and health services are key components of an effective disaster response, and hospital and health service failure in disaster results in increased death and injury, delay in the treatment of the injured and sick, as well as increasing the chances of outbreaks of disease and may delay the recovery effort (Mulyasari et al 2013).

In February 2018 an earthquake the largest earthquake recorded in the Papuan Fold Belt since 1900 (Zhang et al., 2020) occurred in PNG. The earthquake was 7.5 in magnitude and killed many individuals (WHO, 2018). More than 190 aftershocks were recorded, and more than 125 people died. Hela, Southern Highlands, Western and Enga Provinces were most affected. The PNG Government declared a state of emergency on March 1st for Hela, Southern Highlands, Western and Enga provinces. Not only that, the PNG Government announced a 450-million kina relief fund and the establishment of an Emergency Restoration Team to manage and coordinate all restoration activities (Mori, 2018).

As a result of the earthquake, landslides were triggered, people were killed and buried, houses were buried, debris affected water sources and destroyed crops. The earthquake caused devastating landslides and destruction across four provinces and increased vulnerability in an already precarious food situation (UNICEF, 2018a). Access to clean water, food, shelter, medicine and health services were significantly affected. Over 554,000 people were affected, including 270,000 in need of immediate assistance. Damaged airfields, bridges and roads, coupled with security threats related to inter-communal violence, complicated the response in some affected areas. Eighteen thousand people were transferred to informal camps and other evacuation facilities (WHO, 2018). The PNG Government approved the establishment of an authority to manage restoration over the next four years on March 1st 2018 (Mori, 2018). A 15 person Australia Medical Assistance Team (AUSMAT) arrived on March 26th 2018, and was deployed to Mendi Hospital (UNOCHA, 2018). The AUSMAT team treated approximately 1025 patients, inclusive of 37 surgeries and assisted 5 births.

In Hela and Southern Highland Provinces, approximately 65% of health facilities suffered severe damage due to the earthquake and the subsequent tremors (UNICEF, 2018b). Not only that, more than a third of all health facilities were closed as a result of this earthquake (WHO, 2018), including the Mendi School of Nursing.

When the earthquake struck Papua New Guinea in February 2018, the nursing school collapsed (Papua New Guinea Today, 2018a). The majority of the students and staff at the college were safe, however, few people were injured. After the earthquake, students of this school were homeless for nearly a week due to their dormitories, classrooms and toilets being damaged (Papua New Guinea Today, 2018b). Some of the students were staying in the other buildings of the campus to sleep at night. According to a student leader, 'Most buildings have major gaps and could fall at any second. Apart from cracks, there has not been much damage to the girl's dormitories. The boys are housed in classrooms that were not damaged.' (Wama, 2018).

In July 1998, an earthquake of 7.0 Magnitude struck PNG, afterwards three tsunami waves crashed down with a peak height of 15.03 metres, the highest height recorded in PNG (NOAA, 2021b). The tsunami hit most severely along a 45 km stretch of coast, particularly along a localised, central, 14 km-long sector bordering Sissano Lagoon (Johnson, 2018). The tsunami's impact was devastating, with over 10,000 displaced, more than 1,000 injured and confirmed deaths reaching over 1,600 (NOAA, 2021b). However, estimates of the number of fatalities are around 2,205 (WorldData.info, 2018).

PNG has the most active volcanoes in the South-West Pacific. PNG has 77 volcanos, 20 of which are active and have the potential to erupt (Geoscience Australia, 2020). Mount Ulawun is the highest and steepest of all the volcanoes in PNG. Not only that, it is considered to be one of the six 'high-risk' volcanoes in the country and part of the list of the most dangerous volcanoes (Shelton, 2019). On June 26th 2019, PNG's Mount Ulawun volcano erupted (AFP, 2019). According to Satellite imagery, the eruption reached heights between 13-15kms (Shelton, 2019). Within the same week, on June 28th 2019, the Manam volcano also erupted, although on a smaller scale (UNOCHA, 2019c). As a result of both of the disasters, according to the International Federation of the Red Cross and Red Crescent Societies (IFRC), by June 30th, 3,775 people had fled the Manam eruption and 11,047 people from the Mount Ulawun eruption (Bevege, 2019). Fortunately, no one is believed to have died as a direct result of the volcano. However, people died indirectly due to landslides that occurred due to the volcanic eruptions.

Tropical cyclones affect southern PNG and occur between November and April (Gardaworld, 2021). Within Port Moresby alone, in the 41 years between 1969 and 2010, 23 tropical cyclones passed within 400 km of PNG. Tropical cyclones in PNG are predicted to grow in intensity; to date, the nation averages 15 cyclones every ten years (UNCCC, 2017).

PNG is impacted by the El Niño-Southern Oscillation (ENSO) and La Niña. As a result, there are severe rainfall deficits, leading to significant drought conditions in PNG (Kuleshov et al., 2019). This was demonstrated in 2015-2016, where an El Niño-induced drought led to crop failures, impacting around 40% of the population, with almost half a million people suffering severe food shortages (Kuleshov et al., 2019). La Niña has the opposite climatic impact combined with severe implications such as heavy rainfall, flooding and mudslides/landslides (Kuleshov et al., 2019).

PNG is a country amongst those with the least access to a safe water supply in the world (UNICEF, 2018d). Even though PNG has had poor access to a safe water supply, there has been little improvement. In over two decades since 1990, there has been a 6% increase in access to safe drinking water, and improved sanitation coverage has dropped by 1% in 2015 (Galing, 2016). PNG launched its very first National Water, Sanitation and Hygiene (WASH) policy in 2015. The Government's WASH Policy 2015 - 2030 indicates that 89% of people in urban areas and 33% in rural areas have access to safe water and that 57% of urban dwellers and only 13% of the rural population have access to basic sanitation (UNICEF, 2018d).

Due to rising temperatures in PNG, droughts are occurring more frequently, leading to water tanks running dry, and residents are often left with no freshwater. Not only that, most schools are equipped with rainwater tanks

and thus depend on rainwater to meet students' drinking and hygiene needs (UNICEF, 2018d). However, during the El Nino season, droughts are common, and rainwater is scarce. As a result, many schools close early because they cannot provide students with clean water to drink. According to the WaSH in Schools (WinS) Policy 2018-2023, 51% of schools in PNG have access to water, and only 28% have access to sanitation. Not only that, simply 10% of all schools promote handwashing with soap (UNICEF, 2018d).

PNG's surrounding sea levels have risen by 7 mm per year since 1993, more than double the global average (UNCCC, 2017). Residents rely on the government to supply fresh food within the smaller islands, such as the Carteret Islands. This is due to the fact that rising sea levels and increased ferocity of floods routinely inundate the islands' food gardens, creating difficulties in sustainable living (UNCCC, 2017).

The Covid-19 pandemic has further caused problems for an already stretched health system. Fewer than 6% of the PNG population had been fully vaccinated (Whiting, 2021). The majority of those fully vaccinated are from Port Moresby, which has around 60,000 fully vaccinated people. Vaccine hesitancy is a significant issue in PNG. Health workers have received death threats, and a CEO's car was stoned, followed by workers walking off the job in opposition to the company's mandatory vaccine policies (Fox & Faa, 2021).

As the above summary has illustrated, PNG has had to cope with numerous natural and human-made disasters. Effective responses by health workers and other first responders are key to mitigating the effects of disasters on local communities. Health workers who are trained in managing major incidents will help to minimise the negative effects that disasters can have on the health and well-being of individuals and communities. It is important that health workers have the knowledge and skills to lead and manage responses to major incidents.

Major incidents are defined with regards to their size and effect on the health services, in other words any occurrence that presents a serious threat to the health of the community, disruption to the health services, or causes (or is likely to cause) numbers or types of casualties that mean that regular health services will be overwhelmed. Providing information that will allow healthworkers to understand and apply well tested command and control structures, scene assessment, triage sieve and sort, treatment and transportation will improve outcomes for all. Including disaster response into courses which teach nurses and community health workers will allow them to understand their roles in response to a major, mass casualty incidents and other disasters.

### **3.5 Conclusion and next steps**

This section has described in some detail the key health priorities facing the population of the PNG using the following framework:

1. Men's health;
2. Women's health;
3. Child and adolescent health;
4. Communicable diseases;
5. Non-communicable diseases;
6. Mental health;
7. Disability;
8. Substance use and abuse;
9. Safety and quality.

It is clear from the analysis that the burden of illness and disability in PNG is very large. However, the analysis has identified key health concerns that will need to be addressed in any curriculum which is designed to educate health professionals for the future. Developing curricula is the first step in strengthening health workforce quality. Appropriate and relevant national curricula for both nursing and CHWs is vital for health professionals to acquire the knowledge and skills needed to provide relevant high quality health care. Curricula also act as vehicles for participation in inter-professional education and evidence-based practice. They standardize education nationally and teach the competencies required for professional practice. While a strong regulatory system accredits the institutes and provides registration of practitioners to ensure the public are getting a good service, this can only be done if base-line structures are in place first.

The following sections provide a summary and overview of the curricula currently being used to educate CHWs and nurses. Each curriculum is briefly described and then analysed against recognised international standards with consideration about the unique needs of the PNG workforce. Finally, recommendations arising from the discussion are provided.

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## 4. CURRICULUM DESIGN

The following section provides a review of contemporary literature on teaching, learning and curriculum development in order to provide a framework against which to evaluate the two curricula for CHW and DGN.

The three pillars of a curriculum are **content**, the **nature of the teaching and learning encounters** and **assessment**. A course or program needs to guide students towards more complex thinking and practice where high-quality learning results from interaction between student learning efforts, the curriculum material, teaching methods & assignments.

Ideally curriculum content must provide the kinds of theoretical & practical experiences needed for registration, as well as enable students to develop higher order skills such as reasoning, problem-solving, critical thinking and creativity. At the same time students need to understand and absorb the values and standards of the profession. Content should also be integrated as far as possible, with good links between theory & practice, encouraging students' intellectual development, encouraging a deep, rather than surface approach to learning, and recognising and acknowledging the health needs of all members of society.

If education is about changes in student's thinking, knowledge and skills, ie a change in understanding about the world, then it is what *students do*, rather than what *teachers do*, that determines if education and changes in understanding actually occur (Ramsden, 2003).

### 4.1 Issues in Curriculum Design

In the past, approaches to teaching and learning were based on an industrial model of acquiring new knowledge. That is, students were moved along a line from the beginning of school to the end and on the way filled up with the knowledge and skills that would serve them for the rest of their lives. Nursing programs were also based on a similar model: students were taught skills and practices that tended to be based on custom and practice rather than evidence and research and they were not really expected to need any further education for the rest of their careers.

Over time this has changed, and as is well known now, knowledge is increasing at a very rapid rate: it is said that knowledge in medicine is changing so quickly that what is taught in one week can easily be superseded by new knowledge, based on new research in the next week. This means that it is now impossible to teach students everything they need to know for their future.

Indeed, across the world, change is happening at a faster rate than ever before; futurists are predicting that we are moving into a post-industrial millennium. As a result, approaches to learning and education are changing fundamentally. New approaches which lead to innovation and change are required. In other words, we need to prepare learners to deal with an uncertain world, encourage life-long learning and ensure that we harness and apply their interests. This requires a fundamentally different approach to designing and delivering educational programs that will educate health practitioners of the future.

The following section explores contemporary ideas about curriculum, teaching and learning and assessment strategies in order to provide a further background to the evaluations of the two course documents which follows.

## 4.2 Ideas about Teaching and Learning and the Goals of Professional Education

The fourth of the seventeen Sustainable Development Goals (UN, 2015) takes education as its focus with a primary emphasis on universal numeracy and literacy and includes a goal that states quality education will 'promote lifelong learning opportunities for all'. This goal takes us from the basics of education to that which includes education for professional practice. The question is, how is professional education achieved or what are the teaching/learning methods and practices that underpin education for a specific career path? In other words, two central issues drive the provision of professional education; what do students need to know and how will this be learnt?

**One way of thinking about the goal of professional education and the objectives of learning and teaching for professional practice is to define it as “Supporting students and professional practitioners to *develop and hone their skills and abilities* through continuing professional development and personal development planning”.** This statement emphasises the need for students themselves to become active learners who are refining their skills of and for professional practice. It is a change away from more traditional ideas about teaching and learning where students were passive learners 'receiving' knowledge from their teachers. More recent ideas about learning emphasise that learners need to be active participants in the acquisition knowledge from which professional practice grows.

Ramsden (2003), a major thinker in the research of learning, described learning as a process where students learn through interpreting and understanding situations in different ways and that learning involves comprehending the world in a new or different way. Knowledge is developed and renewed through the processes students use to learn. This is influenced by the teacher's approach, the types of assessment that is offered and the student's motivation for learning. The position of a student therefore is that of one who goes beyond the acquisition of technical skills and subject knowledge to one who analyses what is new to her/him and, critically reflecting, proposes possible solutions to the situations with which she/he is confronted. In this way students are no longer passive recipients of information but active makers of meaning and problem solvers.

Seminal work undertaken by Marton and Saljo (1976) and Entwistle (1988) which examined how students go about learning information in tertiary level courses has remained a key to examining teaching and learning strategies in curricula and individual subjects.

These researchers found that students will go about learning in their programs in ways that respond to the learning environment they find themselves in. They described these as **student approaches to learning** and found that students adopted what they called *deep, surface and strategic* approaches to their courses and assessment depending on the nature of the assessment, the content load and their goals for learning the information. What subsequent research has shown (eg Ramsden, 2003, Na Li, 2012) is that course and

assessment design and teaching methods all play an important role in fostering deep, surface and strategic learning.

A brief description of each of the approaches is described below as understanding these is important if we are to consider the types of learning likely to be fostered by the two curricula under discussion.

### Surface learning

Students who adopt a surface approach to learning focus up details of topics deemed important. There is an emphasis upon memorising information in a way to signify enough comprehension to complete the assignment or pass an exam. Surface learning is focused on ‘what do I need to do to pass?’ Learning may be more superficial and may not promote understanding, further it may be difficult for students to apply this knowledge to later parts of the course as they’ve either forgotten it, or do not have the skills to apply it to new situations.

### Deep learning

Students who adopt a deep approach to learning try and make sense of the topic and to link it to previous knowledge or practice. They integrate the meaning into their new understanding and in this way find it easier to recall what has been taught and learned previously. Deep learning develops critical analysis and encourages long term retention of concepts. In programs that teach health care professionals, deep learning will encourage students to seek out new knowledge and also to have the skills for linking this with previously held understandings, and thus ensure continuing professional growth.

### Strategic learning

Students who adopt a strategic approach organise their learning with the objective of achieving a high grade or positive outcome. Strategic learning can involve a combination of both deep and surface learning strategies depending on the tasks at hand. There are times in a learner’s life when it may serve them to be a strategic learner, for example, when they have large chunks of information to learn or when they are time-poor. Strategic learning when closely allied with deep approaches to learning can deliver both success and a good understanding of a subject.

The table below summarises the two types of learning described by educational researchers.

*Table 2: Student approaches to learning*

<b>Deep learning</b>	<b>Surface learning</b>
Actively seek to understand the material/the subject	Try to learn in order to repeat what they have learned
Interact vigorously with the content	Memorise information needed for assessments
Make use of evidence, inquiry and evaluation	Take a narrow view and concentrate on detail
Relate new ideas to previous knowledge	Fail to distinguish principles from examples
Tend to read and study beyond the course requirements	Tend to stick closely to the course requirements

Are motivated by interest	Are motivated by fear of failure
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As teachers, it is important to foster deep and/or strategic learning so that students can engage with a subject and program. The design of learning activities and assessment tasks are fundamental. The following strategies are known to engage students:

1. *The relevance of subject matter:* The more relevant a subject appears to a student the more likely they are to engage in it. Authentic assessments have considerable influence in deep engagement.
2. *Higher-order objectives:* Ensure that learning objectives, assessment tasks and marking criteria require higher-order thinking - apply, synthesise, solve, analyse.
3. *Appropriate questions and questioning:* Students know immediately what calls for surface learning and what calls for more. Ensure that activities encourage higher-order thinking associated with using, applying or evaluating content rather than reproducing information alone.
4. *A reasonable workload:* Students need to have time to think deeply. It is important to think clearly about the workload in programs and subjects to determine if the learning and assessment workload across each semester is reasonable.
5. *Choice over learning tasks:* While this can be challenging for teachers, allowing students some choice in learning activities or assessment tasks can encourage students to adopt a deeper approach to their study.

The challenge for teachers is to recognise that students are, and must be, active learners. Current students are learning at a time when knowledge is developing at an increasing pace, a pace so marked that specific pieces of information are often replaced by new knowledge that is of increased relevance to the situation being addressed (Glasby, 2015).

The argument above related to the transitory nature of knowledge does not mean that the curricula used by educational institutions are no longer relevant. What it does mean is that curricula and their related objectives are concerned with levels of knowledge where understanding is of prime importance. Verbs such as 'being able to hypothesise' or 'apply understanding' are crucial in statements of learning objectives (Biggs, 1999). Further, nursing and CHW are practice-based disciplines in which there is a constant interplay between theoretical and practical knowledge. Clinical nursing involves the registered nurse in a complex situation that requires the integration of judgement, clinical action, and the appraisal of its effect. CHW will need the skills to make independent assessments and decide on plans of care within their community settings. This will require practitioners to be able to effectively problem-solve and analyse health concerns in a difficult and constantly changing environment.

Development of these skills requires courses that provide students with these explicit opportunities through the structure of the course, the teaching practices used, and the assessment tasks undertaken. In this way of thinking, assessment is no longer seen simply as verification knowledge and skills to be mastered but rather an opportunity where students stretch understanding, or grow new knowledge through situational application (Na Li, 2012). This is discussed in more detail below.

### 4.3 Ideas about the role of assessment in learning

Assessment is a decisive aspect of any formal learning experience, and a highly significant consideration in curriculum development and teaching and learning (Sewagegn & Diale, 2020). There are many stakeholders in assessment in higher education including students, teachers, institutions, and nations. A student's aspirations, career and understanding of learning may be influenced by assessment. A teacher may be judged on their teaching abilities and pedagogical understanding based on assessment outcomes, and the credibility of courses and institutions impacted. Furthermore, for a nation to thrive it is essential that higher education prepares a workforce, through the development and assessment of critical competencies, to be not only competent professionals but also 'good citizens' (Katoue & Schwinghammer, 2020; Villarroel et al., 2018; Fukada, 2018). With so much at stake it is not surprising that research and academic literature regarding assessment in higher education has proliferated over the past 30 years.

Definitions of assessment and its role in education have evolved over time (Musuku, Jili & Sabela, 2021; Boud, 2007). Assessment is no longer seen only as assessment *of* learning, but increasingly and importantly as a powerful process *for* learning. In other words, assessment is both measurement and pedagogy (Musuku, Jili & Sabela, 2021) and its purpose therefore more than simply the measurement of achievement (Randlusk, 2018). Based on the work of Angelo (1995), Massa and Kasimatis (2017, p.6) suggest the following definition of assessment, 'a systematic process for understanding and improving student learning'. They explain that assessment is systematic, in that it is not an isolated event, but should have meaning and connection to an entire program of study. Understanding is explained as more than student knowledge, experience and actions, and includes how assessment outcomes were achieved and whether intentions were met. Furthermore, understanding must be continuously and cyclically interrogated so that improvements can be made (Massa & Kasimatis, 2017).

The need for assessment to be systematic is evident in competency-based education programs such as those typically developed for prospective professional roles. Programs developed for the health care workforce are useful examples. These programs clearly articulate the desired performance characteristics of health graduates, expressed as 'multiple component dimensions or competencies' (Fitzgerald et al., 2016 p. 482). All assessments in these programs are aimed at contributing to the achievement of desired competencies and should be explicitly mapped across a program of study. In addition, other goals such as subject learning outcomes, course learning outcomes and graduate abilities, that reflect the intentions of the curriculum and institution, ideally should be included. Together these form the goals, mission and objectives of teaching and learning that inform the assessment process and target desired graduate characteristics that can be developed over and beyond the period of study (Boud, 2007).

While the pedagogy related to assessment is strong and curricula recognition has been strengthened, the individual teacher is pivotal to successful application. As has been reported for many years assessment is influenced greatly by the way teachers conceptualise teaching and learning (Deneen & Brown, 2016; Trigwell, Prosser & Waterhouse, 1999). Pereira, Flores and Niklasson (2016) suggest that teachers have largely two ways of thinking about teaching. Those that see teaching as a layering of information, will concentrate on providing that information and will be most focused on themselves as teachers, whereas teachers that see themselves as facilitators of learning are more likely to be student-focused and seek to encourage active

learning. Unsurprisingly this dichotomy results in differing approaches to assessment (Bearman et al., 2017; Trigwell, Prosserm & Waterhouse, 1999).

The teacher with a focus on information sharing will be satisfied when that information is reproduced, while the teacher who is a facilitator of learning will support and guide the active work of students to transform knowledge using abilities such as judgement, analysis, and critical thinking. Where students are actively involved in meeting the learning requirements of the teacher as expressed in assessment criteria, this focuses learning on process rather than outcome (Camacho-Minano et al., 2020; Kantor, 2014). Assessment is therefore rightly a reflection on both the progress of student learning and the ability of the teacher. While it is still common practice to use tests and examinations to evaluate learning in higher education this practice is likely to encourage surface learning (Musuku, Jili & Sabela, 2021). As suggested by Ghaicha, (2016) the restating of facts will not activate the deeper levels of learning required to become a competent professional.

A common justification for the overuse of tests and examinations is that they are utilised as summative assessment at the end of a unit of study (Randlusk 2018). This contrasts with the role of formative assessment which is more closely aligned with assessment for learning. Through formative assessment students are introduced to the key elements of a subject and can clarify what is important to learn, thereby student engagement is encouraged. Also, feedback on formative assessment has the potential to guide and improve student thinking and performance (Randlusk 2018). Carless (2017) however would argue that all assessment, even summative assessment, can be for learning depending on the quality and appropriateness of feedback and the feedforward of outcomes.

The contemporary literature discusses several ways to improve the quality and efficacy of assessment or rather, 'assessment for learning'. These ideas are summarised and defined by Carless (2016) and include: productive assessment task design; effective feedback processes; developing student understanding of the nature of quality: and students practicing making judgements. *Productive assessment design* is aimed at developing assessments that encourage deep approaches to real-world problems, for example 'authentic assessments' that are mindful of the desired learning outcomes and competencies. When assessment methods are authentic, and closely aligned to competencies and learning outcomes, deep learning is more likely realised (Sewagegn and Diale, 2020). *Effective feedback processes* suggest a strengthening of the role of feedback in learning so that feedback is accessible to students and is utilised in future learning and assessment. Feedback is a topic of immense interest in the academic literature presently. *Developing student understanding of the nature of quality* refers to guiding student understanding of the criteria for marking and the way rubrics are constructed. Discussion of exemplars with students have an increasing role in this area. *Students practising making judgements* is connected to the last strategy and entails making judgements about the work of self and peers. Student peer review is a significant activity in advancing this strategy.

## Conclusion

To guide students to create increasingly complex knowledge structures requires us to progressively scaffold their thinking throughout their program. This includes a dynamic approach to teaching, course structure and assessment that comes from a logical relationship between the rapidly developing or changing nature of professional knowledge and what is practised today. Encouraging students to become active learners and the nature of curricula content are crucial for the education of nurses and community health workers in Papua New Guinea.

Classroom teachers are pivotal to the way assessment is understood and utilised by students and actioned in higher education (Randlusk, 2018). Despite the volume of research and information to draw on, reform is impossible without the assistance of informed teachers. To make positive and innovative changes to teaching, learning and assessment practices teachers need the support of their workplace and all levels of leadership across their institution. The culture of the institution and the available resources can also be influential (Bearman et al., 2017; Deneen & Boud, 2014). The development of curriculum literacy (including assessment) for teachers needs to be supported through embedded education and training that provides information on successful practices in assessment design, effective feedback and developing student capacities in understanding assessment criteria and feedback (Carless 2017). Mentoring and peer review and communities of practice could be concurrent means of developing assessment literacy (Carless, 2017).

However, despite the extensive research on ways to improve teaching and learning there is also evidence that teachers are still focused on teaching content and assessing knowledge acquisition (Kanter, 2014). The structure of the curriculum provides a framework to design and develop courses differently so that both students and teachers are able to move from a content-driven program, to one that embeds the key ideas described above. The following section outlines some more ideas about curriculum design for health professionals to provide a guide for thinking about ways in which the CHW and Nursing curricula could be improved.

### 4.4 Ideas about Curriculum Design for Health Professionals

As the previous discussion has illustrated, ideas about curriculum are contested in the literature and reflect different beliefs about the nature of knowledge, the student's role, the teacher's role, desired outcomes, the nature of assessment and the purpose of education itself. Table 3 below briefly summarises the key differences in approaches to curriculum design. While, in many ways, course development and curriculum design might be almost taken-for-granted, there are clear differences between the two main approaches which are summarised below. The argument here is not about which is right, and which is wrong, but rather, what the consequences for students and teachers are if one or the other is adopted in a course which teaches health professionals.

Table 3: Different approaches to curriculum design

<b>Traditional/technical/vocational</b>	<b>Liberal/transformational</b>
<ul style="list-style-type: none"><li>• Teachers are the expert,</li><li>• Hierarchical relationship, teacher in authority</li></ul>	<ul style="list-style-type: none"><li>• Teachers may be experts, but do not know everything,</li></ul>

<ul style="list-style-type: none"> <li>• Students receive the knowledge... 'empty vessel/jug of knowledge'</li> <li>• Content and knowledge is fixed and sufficient,</li> <li>• Assessment tests for mastery &amp; skills,</li> <li>• Course prepares students for existing society, they are 'trained' in the current system and are not expected to challenge authority or practice.</li> </ul>	<ul style="list-style-type: none"> <li>• Relationship is more about building student autonomy &amp; problem-solving capacity... 'guide on the side rather than sage on the stage'...</li> <li>• Students increase their knowledge and skills through active involvement, self-direction &amp; reflection,</li> <li>• Assessment allows students to grow &amp; develop over time,</li> <li>• Goal is to prepare an 'educated' person &amp; one who is able to challenge norms &amp; practices.</li> </ul>
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If we want graduates to be independent, life-long learners as well as able to function effectively as competent health professional on graduation, curriculum and courses need to be developed in a manner that has been shown in the literature to provide the best possible outcome for students and the health services they will serve on graduation. A curriculum designed to achieve these goals is likely to be more liberal/transformational than technical, though, inevitably, health courses will require some rote learning and technical skills. This can create a tension between differing goals of a course. However, the aim of any course that educates health practitioners has, as its primary aim, a focus of developing practitioners who will be able to provide safe, effective health care and have the skills of, and commitment to, life-long learning.

The following are the characteristics of a curriculum that will help meet the objectives identified above.

- ✓ The document needs to be specific enough to provide clear guidance to teachers about both the content, underlying philosophy and assessment strategies,
- ✓ There needs to be consistency between the overall purpose of the course and the aims and goals as expressed in individual subjects,
- ✓ Ideally, student learning/activity, not content will be the main focus,
- ✓ The nature of the student/teacher relationship will be apparent,
- ✓ The different approaches to teaching and assessment will be explicit and educationally justified,
- ✓ Key events will be readily noted,
- ✓ The central emphasis of the course must be nursing/health work,
- ✓ Theory and practice need to be integrated as far as possible,
- ✓ There should be explicit opportunities for students to develop and practice higher order skills such as reflection, reasoning, problem solving and critical and creative thinking.

## Conclusion

The three pillars of a curriculum are content, the nature of the teaching and learning encounters and assessment. Assessment and teaching are intertwined and reciprocally related and are strongly influenced by teacher's beliefs about teaching and student learning. It is therefore crucial that all these aspects are considered in the evaluation of the two curricula which follows.

The following section briefly describes each curriculum and then analyses it against evidence-based standards for best practice. Strengths and weaknesses are discussed to provide a sound rationale for the recommendations which follow.

## 4.5 Community Health Worker Curriculum: Summary

The curriculum summary and brief evaluation framework is included in Appendix 2. Overall, the CHW curriculum adopts a wellness to illness approach and is structured around five major themes that reflect this approach. These themes are:

- Professional practice
- Administration
- Health education and promotion
- Health protection
- Disease control

Twenty-five competencies have been identified from the CHW role. From these competencies and the overall structure of the curriculum a series of modules has been developed. Each of the modules focuses on one of the themes referred to above and has a related set of competencies. Forty-nine modules have been prepared which vary in length and the suggested time required for their implementation. There are 7 Foundation Modules, 21 First Year Modules and 21 Second Year Modules. Suggested times given in the curriculum document for the modules vary from 1 to 20 days and 2 to 7 related clinical placement weeks. The curriculum requires 46 pre-service weeks, 18 first year clinical placement weeks, and 29 second year clinical placement weeks. It should be noted that the curriculum document does make the statement that these time divisions are suggested times as to mandate times is contrary to the overall intent of a competency curriculum where students will vary in the overall time each requires to achieve competency.

A detailed annual timetable has been prepared. This prepared timetable includes suggested instructional times and sequencing for classroom work as well as sequence and times for each clinical placement. In conjunction with the curriculum document a working group prepared learning materials for each of the modules. There is a Facilitator's Guide (FG) and a Learner's Guide (LG) for each module.

The comprehensive nature of both the LG and FG has a number of advantages including consistency of learning by the CHW students across the CHW schools as well as reducing the potential workload for facilitators in preparing the topics to be taught and in preparing and marking assessment pieces. The LGs also mean that students are able to work at their individual pace. For example, competent learners are able to read ahead in preparation for classroom activities. As well as the LGs and FG, each student has a prepared Skills Logbooks (SLB) which contains a record of the placements completed along with clinical assessments undertaken while on placements.

Each of the scheduled clinical placements has related skills to be completed during the placement with assessments linked to specific modules. A Skills Checklist has been developed by the CHW teachers which lists the skills required for competency and allows for an ongoing record of skills assessment. Once

competency has been achieved the assessor completes the Skills Logbook assessment form and signs the assessment record. Skills Logbooks are open to examination by the Medical Board at the completion of the educational program.

An additional document, the Assessment Record Book (ARB), has been prepared for each student. The ARB contains a record of knowledge assessments of a range of types. The list of possible types includes group work, written assessments, oral presentations, assignments, and written tests taken at the end of each module.

At the completion of their course Community Health Workers are registered to practise by the Medical Board. The usual process is for the teaching institution to submit to the Medical Board annually a list of names of students completing the CHW program. The Medical Board then randomly selects two names from this list. The Evidence Portfolio, the ARB and the SLB of each of the selected students are then forwarded by the teaching institution to the Medical Board who then examine the documents. Their confirming of the registration of the specific student group is based on this representative portfolio of evidence.

Learning hours are an expression of the overall adequacy of a curriculum as well as the level of educational achievement. The current CHW curriculum is made up of 1595 theoretical hours and 1645 practical hours, a total of 3430 learning hours. The PNG Qualifications Framework gives **hours required to achieve a Certificate 4 as between 400-2400** whereas *students who undertake the CHW course complete 3430 course hours*. In the PNG Qualifications framework hours for a diploma are given as between 2400-3200 suggesting that students taking the CHW certificate program with 3430 learning hours exceeds even those required by the Department of Higher Education, Research, Science and Technology for a diploma.

Cathy Lepi Pilang (Head of Kumin Community Health Worker School, Mendi) undertook a PhD study which examined the development of professional identity in CHW in PNG (Pilang 2019). As part of the study she gained feedback from current students, graduates, clinicians and key stakeholders. She found that, despite the introduction of a competency-based curriculum the majority of schools are using the 49 modules for teaching and learning as they say that they are expressed in the modules and further, that the modules ensure consistency or approach and standards. However, there was general feedback that the content is out of date and needs reviewing. In the main students and graduates felt well prepared for practice. In particular, they felt they were able to cope well with working in communities with different languages and cultures. They also felt that they were adequately prepared to identify community health needs.

There were a number of areas for improvement identified in Pilang's thesis. In the main, the students were concerned about **the amount of content in the course**. They felt they had forgotten the information given in first year when they were in second year due to the amount of information they need to learn. Their other major concern related to the quality of their clinical learning: specifically they felt that there was **inadequate supervision on clinical practice with delays in feedback**. There was a lack of clarity about the role of preceptors in the clinical field, with some clinicians avoiding becoming actively involved as they were unsure

about what was needed. There was a **strong recommendation in relation to tutor training**, in particular their capacity to answer student questions and providing guidance to students and preceptors whilst on clinical. While all groups involved in the research (Pilang, 2019) were generally satisfied with the program some gaps were identified which were common across all groups. These include: infection prevention and control, dealing effectively with infectious diseases, disability care, care of the elderly, dealing with trauma related injuries eg fractures, drowning, fights, falls. While the stakeholder group did not provide a lot of feedback in relation to curriculum improvements and seemed mainly to be satisfied with the program, as were the students, there is a question about whether or not more of the same is adequate to meet the health needs of the local PNG communities in the 21<sup>st</sup> century.

## Summary

The CHW program provides very detailed information about content, structures, processes, hours and clearly links the competency standards to the educational goals of participants. Given that the feedback from the CHW program is largely positive it is important that any improvement program does not result in major changes to the focus and structure of the program (except as suggested in the recommendations below), or content (in so far as the topics remain relevant), but rather focuses on assisting teachers to think critically and creatively about their approaches to teaching and assessment. As the number of hours in the program and the feedback from the students indicates, the program is loaded with content which, as has consistently been demonstrated across much educational research, will tend to limit the quality of learning outcomes. It is probably better therefore, that any curriculum improvement project is focused on using the existing program and in particular the assessment record document (updated in 2006) to examine where content can be consolidated and assessed at the highest possible cognitive level.

It is clear from the research data, that health outcomes in PNG have not improved significantly over the last few years, which means that the CHW program may need to be somewhat re-focused to ensure that it responds effectively to the health needs of the community. Improving clinical teaching and assessment will ensure that the learning that occurs on clinical will be targeted to ensure that students adopt a deeper approach to their learning.

There is no flexibility in the learning approaches or structure of the CHW program, however, given the context and the health needs of the PNG community, it is suggested that there are some relatively minor changes that could help address this deficit in the short term, for example consolidating and integrating the anatomy and physiology modules in first year to encourage more holistic learning. As teaching staff improve their educational levels and improve their knowledge and skills in designing and delivering programs, it is anticipated that they will be more easily be able to critique and improve approaches to teaching, learning and assessment. It is important that the oversight provided by accreditation authorities is maintained however to ensure consistency of standards and outcomes across the country.

The number of teaching/learning hours and the quality and processes associated with clinical learning will need to be reviewed and consideration be given to the level of the program. For example, would it serve the needs of the population better to have a Certificate IV qualification (400-2400 hours) that provides some basic

knowledge and competence and then a diploma level qualification that provides more specific and advanced competency in the specific health streams identified in the NHP (2021), this gap analysis and the current program, for example maternal and child health.

#### **4.6 Diploma of General Nursing**

The Diploma of General Nursing (DGN) programs are six semesters in length and consist of between five and six subjects in each semester including at least one clinical subject which is related to the content that students are taught in the theoretical portion of the course. There are generally 3 assessment pieces associated with each theoretical subject and a number of skill assessments related to each clinical subject. Each course clearly links the subject content to the development of the competencies expected of beginning registered nurses in PNG. The burden of gaining clinical experience and competence across the wide range of practice expected of a nurse means that, as with the CHW program, it is loaded with content. While it is clear that the programs are focused on identified health needs the philosophical frameworks of the program tend to focus on the needs of the students as adult learners and their need to understand the history and development of the profession of nursing in PNG rather than identifying the latest health data from PNG and examining how best to address the to the health needs of the population in a targeted manner.

Appendix 3 summarises each of the three curriculum documents examined. It outlines the subject topics and the objectives of each. Appendix 4 provides more detail from a single document and illustrates the subjects alongside the assessments required for each.

Appendix 3 summarises each of the three curriculum documents examined. It outlines the subject topics and the objectives of each. Appendix 4 provides more detail from a single document and illustrates the subjects alongside the assessments required for each.

The DGN documents tend to show a linear view of knowledge and competency development ie the course moves from wellness to illness but does not demonstrate opportunities to revisit previous knowledge, nor opportunities for students to reflect on experiences in clinical practice which would explicitly enable them to relate theoretical knowledge to practical knowledge.

The curriculum documents, while outlining a pedagogical approach designed to encourage self-directed learning, do not really have a visible structure that would ensure students' development as independent learners. Appendix 5 provides a brief overview of the key aspects of the Diploma of Nursing curriculum against criteria which have been shown (Leibbrant et al. 2005) to provide a thorough analysis of nursing curriculum against evidence-based and recognised international standards. Both programs are clearly and explicitly linked to the relevant professional competency standards. However, the focus on specific clinical skills (whilst crucial) may not effectively build a holistic approach to competency and may reduce the capacity of graduates to effectively and holistically assess and respond to the health needs of individuals, families and communities. Table 4, below provides a brief summary of the key concerns in the two curricula.

Table 4: Brief Summary: Issues of concern in the two curricula

	<b>Community Health Worker</b>	<b>Diploma of Nursing</b>
<b>Content</b>	<p>Will need updating to reflect health needs of population.</p> <p>Decisions will need to be made about prioritising health concerns as there is likely to be constant pressure to increase the content in the programs which is likely to lead to poorer learning outcomes. Content needs to be developed in a way that will enable it to be updated as knowledge in science and healthcare changes.</p>	
<b>Structure</b>	<p>The modularised structure is a real strength of this program, however, there may be some benefit in eg. reviewing and consolidating the anatomy &amp; physiology modules in first year to foster a more integrated approach. Other topics could also potentially benefit from integration as it may assist students to see eg health assessment in a more holistic way that enables them to respond to the whole person's needs rather than offering specific services eg seeing family planning as separate to postnatal care.</p>	<p>There is a clear structure to the program which outlines basic skills &amp; knowledge which is built on each year to become more complex eg fundamentals of nursing in first year builds into specialty areas of practice in second year. It uses a wellness/health to illness approach based on students also undertaking basic science and communication subjects to provide an underpinning for clinical care. The links between clinical and theoretical learning are explicit as is the structure of the clinical program. However, there appears to be limited opportunities for students to revisit, revise &amp; consolidate their knowledge and review its application for clinical practice.</p>
<b>Theoretical teaching</b>	<p>This is very structured with little opportunity for variation amongst teachers. This is both a strength &amp; a potential weakness. The Facilitator's Guides for each module ensure consistency of approach and range of content, however, their use may result in staff teaching the same content year after year, rather than getting into the habit of regularly reviewing &amp; updating information. Professional development of teaching staff may encourage them to develop more student-centred approaches to teaching and learning</p>	<p>It difficult to tell from the curriculum documents the form of teaching that occurs. Lectures, discussions, tutorials, practical sessions are all identified as potential teaching strategies. The curriculum for nursing does not provide the same standardisation of program development as the CHW program and there may be some merit in considering whether or not there is a benefit to introducing clear standards and guidelines for some areas eg care of people with NCDs or care of mothers &amp; babies that could be adopted nationally to ensure best practice across the</p>

	and to build their skills in effectively guiding students to integrate knowledge, skill and competence.	country. Professional development of staff would encourage regional adaptation of different topics.
<b>Assessment strategies</b>	A variety of assessment strategies are suggested, but it is not clear which are used. Developing teachers' competence and confidence both in the classroom and in clinical settings may serve to improve this aspect. The assessment strategies, particularly in clinical seem to all be at the same level with little opportunity to build on, or revisit previous clinical competencies.	A variety of assessments are suggested, however, the number required will tend to push students to reproductive/surface learning. Students are expected to demonstrate competence across a range of clinical skills. The number of skills listed for assessment in the various clinical subjects are likely to result in a surface and atomistic (un-integrated) approach to learning. There seems to be little opportunity for reflection and revisiting key competencies and skills.
<b>Development of generic skills</b>	It is clear that CHW need to be creative and critical thinkers when they move into the practice setting. They often work in extremely low-resourced settings so need to be clever in how they respond to the health needs of the populations they serve. Building creativity, problem-solving and effective communication skills into the program may assist them in their transition to practice when they graduate.	While the curriculum specifically focuses on the students being adult learners the structure of the program & the assessment strategies do not provide clear opportunities for building students' independence in deciding on their learning goals or assessment. While there is a research subject in third year & the explicit goal of developing clinical skills, the development of clinical reasoning, critical thinking, problem solving and the higher order skills needed for success in the modern world, are not explicitly addressed or visible in the curriculum document.
<b>Specific links to competency standards</b>	Both programs are clearly and explicitly linked to the relevant professional competency standards. However, the focus on specific clinical skills (whilst crucial) may not effectively build a holistic approach to competency and may reduce the capacity of graduates to effectively and holistically assess and respond to the health needs of individuals, families and communities.	

## **4.7 Summary of Strengths and Potential Areas for Improvement**

### **Community Health Worker Program**

#### **Program strengths:**

The program is clearly linked to the health needs of the population. The learning guides are really clear and consistently presented. The clinical learning guide and assessment is linked explicitly to the content of the program and the competency standards of CHWs. A major study conducted to evaluate the program indicated overall it is well received and that graduates in general feel well prepared for practice in particular they feel well prepared to work across the diverse communities of PNG.

#### **Potential areas for improvement:**

The main weaknesses of the program relate to the amount of content in the program (3430 hours which exceeds those required by DHERST for a diploma level course), the lack of understanding about competency-based assessment in teachers and inconsistencies in approaches to clinical assessment. The atomised approach to teaching and learning with numerous small modules makes it challenging for both students and staff to integrate relevant theoretical knowledge. Opportunities for intellectual growth and development (all topics are taught at the same level) are limited and the level of tutor training in relation to questioning and assessment and understanding seems to need further development.

### **Diploma of General Nursing**

#### **Strengths of the program:**

Each course clearly links the subject content to the development of the competencies expected of beginning registered nurses in PNG. The content is directly related to the health needs of the population. Clinical learning is linked to theoretical content. The curriculum explicitly ensures that the program familiarises students with the PNG Nurses' Code of Conduct and Code of Ethics.

#### **Potential areas for improvement:**

The burden of gaining clinical experience and competence across the wide range of practice expected of a nurse means that, as with the CHW program, it is loaded with content. Teaching & learning encounters that are described are varied, but it is hard to tell from the document which are used. The assessment is not very varied and doesn't show an increase in intellectual demand across the program. The form of assessment is likely to foster a surface or strategic approach to learning as there are approximately 15 theory pieces of assessment in each semester not including any assessment of clinical skills or other clinical learning. The structure and frequency of clinical learning is clear. There is a list of clinical skills to be attempted and assessed in each semester. It is difficult to assess the likely quality of student learning on clinical, but the focus on skills as opposed to holistic competence is likely to drive students to a more surface approach to learning.

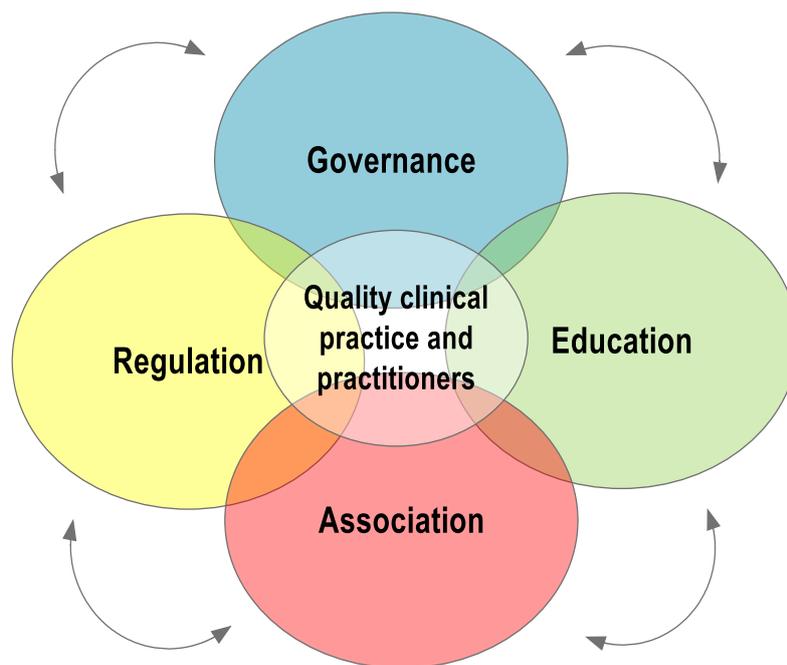
There is not much evidence of generic skill development in students who need to be given guided opportunities to develop their critical thinking, problem-solving and clinical judgement competencies along with being

provided with specific and explicit opportunities to self-directed learning. These opportunities are not evident in the way that the program is currently structured.

## Conclusion

Developing curricula is the first step in strengthening the health workforce education system for better quality and quantity of graduates who will be servicing the health needs of the population. Appropriate and relevant national curricula for both nursing and CHWs is vital for health professionals to acquire knowledge to provide relevant high quality health care. While improving educational standards and practices will assist in improving the quality of the health workforce it is crucial that this goes hand-in-hand with the intergrated approach to quality improvement (Fig 2 below). These include linkages to regulation, ministerial governance establishment of a NDOH Chief Nurse and Midwifery Officer, regulation and associations support. In particular, and of key importance in relation to this project, is the quality of the clinical environment and the quality of the clinical teachers who will support the students. The recommendations which follow summarise the key priorities from this Gap Analysis Executive Summary in line with the overall program aims.

Figure 3: Components of an integrated approach for a quality health service



Rumsey, M (2020). Global Health and Nursing.

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## 5. RECOMMENDATIONS

The recommendations below identify the key areas that will need to be *addressed* if program outcomes from the Diploma of General Nursing and the Certificate IV in Community Health are to be improved.

There are 5 key areas of focus:

- educational staff within the institutions,
- the curricula,
- clinical education and to some extent clinical practice,
- regulation in terms of levels of the programs under review and the accreditation of the proposed fast track / capacity building program,
- continuous support and development of faculty as needed and finally a review and update of the competency standards for each program.

Each recommendation is followed by a series of actions that will help meet the identified goals of the program.

The recommendations which follow are in line with the overall program aims:

1. Develop a governance framework between stakeholders
2. Develop a national CHW and Nursing curriculum framework
3. National curricula framework consultations accreditation and approvals
- 4a. Develop and run fast track / capacity building program for educators and clinicians CHWs and nursing
- 4b. Develop and carry out a curriculum implementation and delivery plan
5. Review faculty capacity, support and curriculum delivery
6. Develop a continuing professional development plan
7. Carry out Monitoring, Evaluation Research and Learning (MERL) as a continuous process

<b>A. Improve educational staff competency in relation to curriculum development and contemporary approaches to teaching &amp; learning (2, 4a)</b>
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### **ACTIONS:**

- Identify the education level of local educators and target according to educational need changes to the curriculum,
- Engage with Steering Committee and sub committees to agree on areas of teaching that require strengthening,
- Develop fast track / capacity building educators' program - agree framework, content of program and level of award,
- Agree accreditation body and link the program to PNG qualifications framework,
- Seek approval of the draft outline fast track / capacity building program from the National Steering Committee,
- Submit proposed course documentation to appropriate accreditation authority,
- Pilot first program and review outcomes.

**B. Evaluate current programs, identify gaps in content, process and structure and agree a plan for curriculum renewal (2, 3, 4b).**

**ACTIONS:**

- Include results from the baseline survey being conducted by NDOH to inform ideas about needed curriculum changes,
- Finalise gap analysis of the general nursing and CHW curricula,
- Conduct workshops with CHW and Nursing working groups to develop the curricula in partnership,
- Seek guidance and advice on the accreditation pathways from the National Steering Committee.
- Submit the revised curriculum documents for review and accreditation.
- Conduct a series of workshops and forums to ensure maximum local input into suggested revisions to course content and processes,
- Prioritization of revised curricula modules for redevelopment in CHW program and subjects in the Diploma of Nursing.
- Seek local endorsement for suggested changes and identified areas for improvement.
- Develop revised curriculum documents.

**C. Develop clear guidelines and standards for clinical education (2, 4a, 6)**

Clinical education is and should be at the heart of the nursing and CHW programs. Direct clinical experience is fundamental for learning to take place. Graduates need to be well prepared to ensure they can perform their role as a new nursing or CHW graduate effectively.

**ACTIONS:**

- Review clinical preceptorship program,
- Consider developing a national framework and standard for clinical educators, clinicians and preceptors,
- Provide education to upskills educators in the use of the framework and expected standards of assessment,
- Ensure that clinical assessment is holistic, reliable, valid and consistent
- Evaluate the needs for a standardised assessment guideline and tool for national implementation.

**D. Continuous Faculty Support and Development (3, 5, 6)**

**ACTIONS:**

- Faculty development and support program to ensure smooth implementation of curricula (management, programming skills, quality processes, teaching skills, finances, clinical supervisor training, and graduate attributes),

- Develop a framework and standards for auditing the clinical environment that mesh with the national accreditation framework. This will include ensuring adequate teaching support at clinical sites, relevant case mix, specialty practitioners where necessary and a safe environment,
- Review and update competency standards of practice, ensuring continued relationship between teaching, learning, and clinical competency,
- Develop and deliver CPD educational programs as needed.

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## 7. APPENDIXES

### Appendix 1: Extended Executive Summary

Extended Executive Summary:

Gap Analysis of Current Curricula for Diploma of General Nursing and Certificate for Community Health Worker in Papua New Guinea

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*Across the globe, many leaders have transformational ambitions for health and healthcare services. The key issue is not whether the potential for safer, more effective care exists, but how to realise that potential across the entire system for every citizen, every service user and every patient. Are the improvement strategies and approaches that have got us to where we are today enough to deliver that different future? (Bibby, et al. 2009: 4)*

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## Forward

This Executive Summary is provided to the Steering Committee for background, discussion and endorsement. The full Gap Analysis report will be submitted to WHO and PATH at the end of August. The draft Gap Analysis was reviewed by the NDOH Working Group to provide preliminary feedback about the strengths and weaknesses of the existing Diploma of General Nursing and the Certificate IV program for Community Health Workers (CHW). The health experts were from the National Department of Health (NDOH), regulation and government institutes and are acknowledged in the Brief attached to this documentation (see Brief). The Executive Summary provided is more extensive than would normally be expected, but hopefully provides sufficient information to assist in the Steering Committees decision-making. The data for the report originated from relevant health research literature related to Papua New Guinea (PNG), the Draft National Health Plan (2021- 2030) and the various reports that have been developed over preceding years in relation to the health needs and gaps for the population of PNG.

The Summary briefly outlines the health priorities for the people of PNG and then briefly summarises the strengths and weaknesses of the existing curricula for both the nursing and CHW programs. The final portion of the Summary outlines proposed recommendations and way forward for the *Reviewing and Development of National Curricula for Diploma of General Nursing (DGN) and Certificate for Community Health Workers (CHW) Program* which aims to:

4. Develop a governance framework between stakeholders,
5. Develop a national CHW and Nursing curriculum framework,
6. National curricula framework consultations accreditation and approvals ,
  - 4a. Develop and run fast track / capacity building program for educators and clinicians CHWs and nursing,
  - 4b. Develop and carry out a curriculum implementation and delivery plan,
5. Review faculty capacity, support and curriculum delivery,
6. Develop a continuing professional development plan,
7. Carry out Monitoring, Evaluation Research and Learning (MERL) as a continuous process.

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## Executive Summary

The number and quality of the current health workforce in Papua New Guinea (PNG) are not adequate to meet the needs of the population. The Government of PNG is committed to improving this situation, however, currently there is a ratio of only 0.7 doctors, and 5.3 nurses per 10000 population, (NHP, 2021). The World Health Organization (WHO) recommends that 45 doctors, nurses and midwives per 10,000 will be needed to meet population needs by 2030 (WHO, 2016). Further, WHO states that changes at the education level are fundamental to strengthening health systems (WHO, 2013) and for achieving Sustainable Development Goals (Rumsey et al. 2013).

Nursing and community health workers (CHWs) are the largest cadre of the health workforce in PNG and they are being educated with curricula that are over 15 years old. Given the critical shortage of human resources there is an urgent need to ensure that the graduates from both the Community Health Worker and Nursing programs are able to respond effectively to the current health needs of their local populations. PNG still suffers from high rates of maternal and infant mortality as well as increasing incidence rates for communicable diseases such as tuberculosis and diarrhoeal diseases (Burnet Institute, 2021) in a health system that is poorly resourced. While gender-based violence runs rampant globally, PNG remains particularly inequitable for women with more than two-thirds of women in the nation categorised as victims of domestic violence (Human Rights Watch, 2021).

Quality education requires quality educators; however, a number of audits over carried out over several years have found that there is a 28% shortage of nursing educators in PNG (Rumsey et al. 2013; Lock et al. 2013; WHO 2017) with only 50% holding an education qualification, resulting in low quality graduates, and leading to a health workforce under pressure. In addition, there are few opportunities for continuing professional development. Recently, due to changes in public policy, there has been a mushrooming of both DGN nursing schools from 8-13 and CHW schools from 12-19, without a concomitant increase in well-prepared educators to run them. Although there has been some capacity building within the schools there are still significant concerns about the quality of graduates resulting from outdated curriculum, compounded by a significant shortage of skilled and qualified educators. Without urgent action, new schools will further pressure an already stretched educational system for nurses and CHW resulting in graduates who are not fit for purpose.

Developing curricula is the first step in strengthening the health workforce education system In order to improve both the quality and quantity of graduates who will be servicing the health needs of the population. Appropriate and relevant national curricula for both nursing and CHWs is vital for health professionals to acquire knowledge to provide relevant high quality health care. Curricula also act as vehicles for participation in inter-professional education and evidence-based practice. They standardize education nationally and teach the competencies required for a quality workforce as well as providing clear career pathways. While a strong regulatory system accredits the institutes and provides registration of practitioners to ensure the public are getting a good service, this can only be done if base line structures are in place first.

This gap analysis reviewed the curricula for Community Health Worker as well as the Diploma of General Nursing. The current CHW curriculum was developed from 2000 and has gradually been adopted across the

country. At present there are 19 CHW training institutes that produce graduates that are currently registered through the PNG Medical Board.

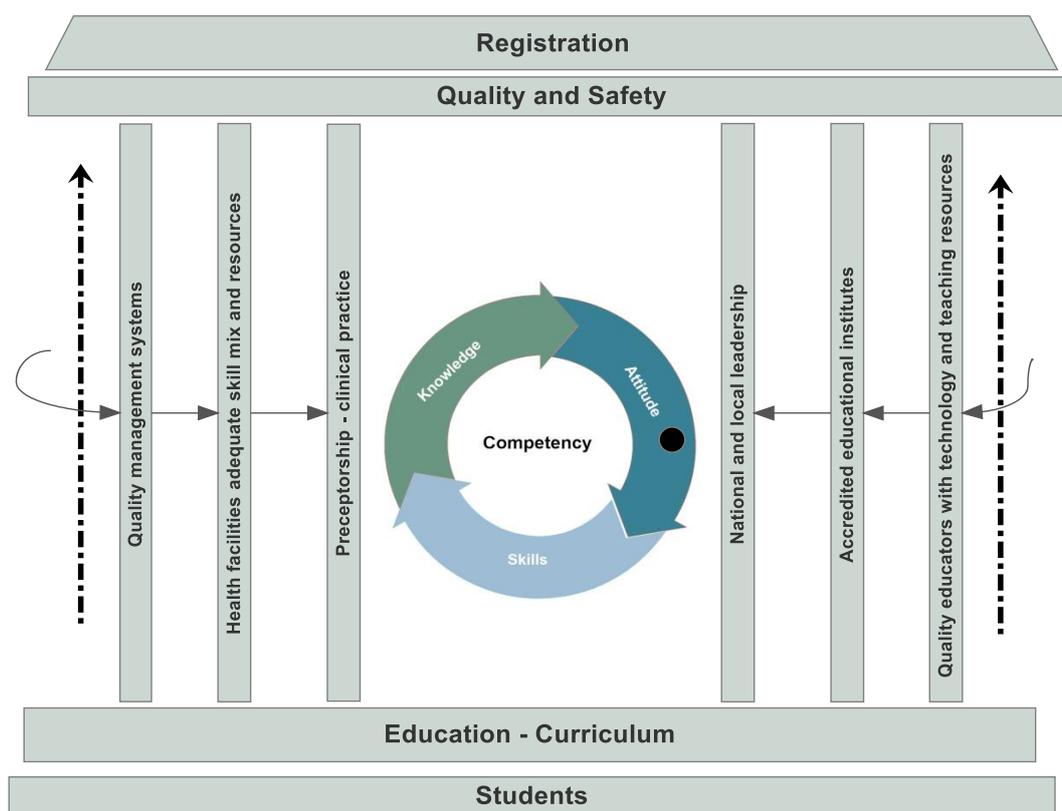
The current nursing curriculum was developed during the late 1990s and is also out of date. At present, there are 13 teaching institutions that offer courses leading to registration as a general nurse with the PNG Nursing Council. While most schools of nursing offer a 3-year diploma of nursing qualification, the Pacific Adventist University (PAU), the University of PNG, Divine Word University, St Mary's and Goroka also offer a 4-year bachelor's degree and post registration courses.

Reviewing the scope and content of the curricula and taking steps to enhance the teaching methodologies and practices will support the development of a better trained and supported workforce into the future.

This gap analysis outlines priorities for change in the Certificate IV program for CHWs and the Diploma of General Nursing as well as the development needs of teaching and clinical staff.

It is impossible to think about educational standards without also thinking about the context within which teaching, learning and clinical practice occur. However, while it was beyond the scope of the gap analysis to address the key pillars of regulation, accreditation and governance it is important to recognise that improvements to educational practice do not occur in a vacuum and that the effectiveness of these key pillars will inevitably affect the quality of health care programs and graduates. Figure 1 below illustrates the links between these key concepts.

**Figure 1: Relationship between the key healthcare improvement concepts**



Because any program which prepares health professionals needs to ensure that it is up to date and responds to the specific needs of the population it serves, the next section of the Executive Summary briefly outlines the key health priorities of the PNG population. These were reviewed and discussed by an NDOH informal Working Group (Aug. 2021) as well as being assessed against the draft National Health Plan (2021) and the research literature to ensure that key priorities were identified and agreed before considering where and when they should be taught.

## Key Health Priorities

### Social Determinants of Health

Health is influenced not only by beliefs about health and the choices that individuals, families and communities make but also by the availability of health resources. Access to education, socioeconomic status and access to resources have been shown to have a stronger effect on individual and community health outcomes than cultural influences. There are four major population groups whose health needs will need to be considered in any program which educates health professionals in PNG:

- ***Men's Health & Well-being***
- ***Women's Health & Well-being***
- ***Early Childhood Health & Well-being***
- ***Adolescent Health & Well-being***

Alongside social determinants of health there are a number of specific health concerns that will also need to be included in any curriculum that educates health workers. These are listed below.

## Specific Health Concerns

### Communicable Diseases:

HIV, malaria, neglected tropical diseases, TB, COVID-19 remain major health concerns in PNG, though tend to be limited to different provinces rather than endemic across the country.

### Immunisation:

Remains a key health concern: a 2019 review found a 12% decline over 5 years in immunisation found amongst <1 year old's against measles. The prevalence of measles increased by almost 300% in the first few months of 2019 compared to 2018. There is anecdotal evidence that vaccinations rates have been decreased even further as a result of the recent COVID outbreak in PNG.

### Noncommunicable Diseases:

There is evidence that NCDs are becoming more common in PNG. The draft National Health Plan (2021) found a large increase in the number of deaths from 'emerging' NCDs (CVD, diabetes, stroke, lung cancer). Kiture et al (2019) report that 45% of males and 42% of females are dying as a result of non-communicable diseases.

### Disability:

Statistics on the number of people experiencing any form of disability in PNG is very limited; however, reports have estimated that PNG's disability population match or exceed **the** WHO global estimates of 15% of the population having some form of disability (Department for Community Development and Religion, n.d.). These estimates indicate that approximately 975,500 people in PNG in 2021 have some form of disability (Mary MacKillop Today, 2021) with approximately 2% of disabled people actually receiving adequate care (Mary MacKillop Today, 2021).

### Mental Health Concerns:

It is quite difficult to find any good data about the nature and incidence of mental illness in PNG. The Minister for Health, PNG was reported by the National newspaper in April 2021 as saying that mental health service coverage in PNG is 'low' but that mental health issues are increasing in the community and elsewhere. She further stated that mental and behavioural issues are common in society with one in four people expected to have a behavioural or mental health disorder during their lives.

### Substance Use and Abuse:

There is no data from PNG in relation to the use of nicotine, alcohol or illicit drugs. The psychoactive betel nut seems to be the main mood changing chemical consumed by the PNG population. Anecdotal data suggests that more than 50% of the population, including children have chewed betel nut.

### Safety and Quality:

Safety is a cornerstone of quality in health care and its success requires individual and team commitment. Nurses have a major role to play in improving patient safety. Whilst individual professionals including CHW, have a duty to ensure their practice causes no harm, increasingly care is being delivered by teams. Individuals and processes are rarely single causes of errors. Rather, separate elements combine and

together produce high-risk situations. Understanding risk in the complex processes of health and medical care requires information about errors and so-called near misses.

### **Do Existing Programs Address Key Health Priorities of the PNG Population?**

Both of the existing programs show strong evidence of addressing the key health priorities which existed in PNG when the programs were developed. While a number of new topics have been identified (eg men's health, quality and safety), many of the key health priorities identified previously continue to exist. The challenge for programs educating health professionals is the amount of information a competent practitioner needs to absorb to be effective. There often is a temptation to simply keep increasing the amount of content in programs such as these in order to 'cover' what is needed for practice. However, because knowledge about health-related topics is increasing so quickly and changing rapidly, there needs to be a balance between giving students/graduate essential knowledge and competence and preparing them to become life-long learners. Contemporary curricula need to ensure they are able to meet these two goals, that is, graduates are safe and sufficiently competent to practice effectively on graduation, but they also need generic skills of critical thinking and critical appraisal to be able to effectively direct their own learning and truly become life-long learners.

The following section provides a brief review of the assessment of two curricula CHW and DGN in order to justify the recommendations which follow.

The three pillars of a curriculum are **content**, the **nature of the teaching and learning encounters** and **assessment**. A course or program needs to guide students towards more complex thinking and practice where high-quality learning results from interaction between student learning efforts, the curriculum material, teaching methods & assignments.

Ideally curriculum content must provide the kinds of theoretical & practical experiences needed for registration, as well as enable students to develop higher order skills such as reasoning, problem-solving, critical thinking and creativity. At the same time students need to understand and absorb the values and standards of the profession. Content should also be integrated as far as possible, with good links between theory & practice, encouraging students' intellectual development, encourage a deep, rather than surface approach to learning, and recognise and acknowledge the health needs of all members of society.

If education is about changes in student's thinking, knowledge and skills, ie a change in understanding about the world then it is what *students do*, rather than what *teachers do*, that determines if education and changes in understanding actually occur (Ramsden, 2003).

The following section briefly summarises the curriculum documents of the CHW and DGN Nursing programs.

### **Community Health Worker Program**

The curriculum adopts an overall wellness to illness approach and is structured around five major themes that reflect this approach. These themes are:

- Professional practice
- Administration

- Health education and promotion
- Health protection
- Disease control

### **Program Strengths:**

The program is clearly linked to the health needs of the population. The learning guides are really clear and consistently presented. The clinical learning guide and assessment is linked explicitly to the content of the program and the competency standards of CHWs. A major study conducted to evaluate the program indicated overall it is well received and that graduates in general feel well prepared for practice in particular they feel well prepared to work across the diverse communities of PNG.

### **Potential Areas for Improvement:**

The main weaknesses of the program relate to the amount of content in the program (3430 hours which exceeds those required by DHERST for a diploma level course), the lack of understanding about competency-based assessment in teachers and inconsistencies in approaches to clinical assessment. The atomised approach to teaching and learning with numerous small modules makes it challenging for both students and staff to integrate relevant theoretical knowledge. Opportunities for intellectual growth and development (all topics are taught at the same level) are limited and the level of tutor training in relation to questioning and assessment and understanding seems to need further development.

## **Diploma of General Nursing**

The Diploma of Nursing programs are six semesters in length and consist of between five and six subjects in each semester including at least one clinical subject which is related to the content that students are taught in the theoretical portion of the course. There are generally 3 assessment pieces associated with each theoretical subject and a number of skill assessments related to each clinical subject to be conducted and assessed in clinical practice.

### **Strengths of the Program:**

Each course clearly links the subject content to the development of the competencies expected of beginning registered nurses in PNG. The content is directly related to the health needs of the population. Clinical learning is linked to theoretical content. The curriculum explicitly ensures that the program familiarises students with the PNG Nurses' Code of Conduct and Code of Ethics.

### **Potential Areas for Improvement:**

The burden of gaining clinical experience and competence across the wide range of practice expected of a nurse means that, as with the CHW program, it is loaded with content. Teaching & learning encounters that are described are varied, but it is hard to tell from the document which are used. The assessment is not very varied and doesn't show an increase in intellectual demand across the program. The form of assessment is likely to foster a surface or strategic approach to learning as there are approximately 15 theory pieces of assessment in each semester not including any assessment of clinical skills or other clinical learning. The structure and frequency of clinical learning is clear. There is a list of clinical skills to be attempted and assessed

in each semester. It is difficult to assess the likely quality of student learning on clinical, but the focus on skills as opposed to holistic competence is likely to drive students to a more surface approach to learning. There is not much evidence of generic skill development in students who need to be given guided opportunities to develop their critical thinking, problem-solving and clinical judgement competencies along with being provided with specific and explicit opportunities to self-directed learning. These opportunities are not evident in the way that the program is currently structured.

### Link Between Program Goals and Professional Competency Standards

Both programs are clearly and explicitly linked to the relevant professional competency standards. However, the focus on specific clinical skills (whilst crucial) may not effectively build a holistic approach to competency and may reduce the capacity of graduates to effectively and holistically assess and respond to the health needs of individuals, families and communities. Table 1, below provides a brief summary of the key concerns in the two curricula.

**Table 1 Brief summary of the key concerns in the two curricula.**

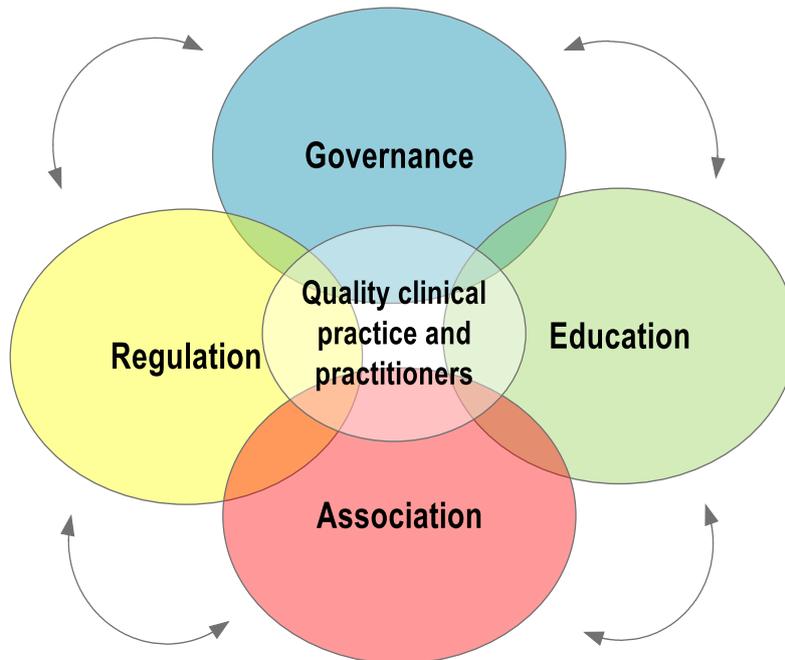
	<b>Community Health Worker</b>	<b>Diploma of Nursing</b>
<b>Content</b>	Will need updating to reflect health needs of population. Decisions will need to be made about prioritising health concerns as there is likely to be constant pressure to increase the content in the programs which is likely to lead to poorer learning outcomes. Content needs to be developed in a way that will enable it to be updated as knowledge in science and healthcare changes.	
<b>Structure</b>	The modularised structure is a real strength of this program, however, there may be some benefit in eg. reviewing and consolidating the anatomy & physiology modules in first year to foster a more integrated approach. Other topics could also potentially benefit from integration as it may assist students to see eg health assessment in a more holistic way that enables them to respond to the whole person's needs rather than offering specific services eg seeing family planning as separate to postnatal care.	There is a clear structure to the program which outlines basic skills & knowledge which is built on each year to become more complex eg fundamentals of nursing in first year builds into specialty areas of practice in second year. It uses a wellness/health to illness approach based on students also undertaking basic science and communication subjects to provide an underpinning for clinical care. The links between clinical and theoretical learning are explicit as is the structure of the clinical program.
<b>Theoretical teaching</b>	This is very structured with little opportunity for variation amongst teachers. This is both a strength & a potential weakness. The Facilitator's Guides for each module ensure consistency of approach and range of	It difficult to tell from the curriculum documents the form of teaching that occurs. Lectures, discussions, tutorials, practical sessions are all identified as potential teaching strategies. The curriculum for nursing does not provide

	<p>content, however, their use may result in staff teaching the same content year after year, rather than getting into the habit of regularly reviewing &amp; updating information. Professional development of teaching staff may encourage them to develop more student-centred approaches to teaching and learning and to build their skills in effectively guiding students to integrate knowledge, skill and competence.</p>	<p>the same standardisation of program development as the CHW program and there may be some merit in considering whether or not there is a benefit to introducing clear standards and guidelines for some areas eg care of people with NCDs or care of mothers &amp; babies that could be adopted nationally to ensure best practice across the country. Professional development of staff would encourage regional adaptation of different topics.</p>
<b>Assessment strategies</b>	<p>A variety of assessment strategies are suggested, but it is not clear which are used. Developing teachers' competence and confidence both in the classroom and in clinical settings may serve to improve this aspect. The assessment strategies, particularly in clinical seem to all be at the same level with little opportunity to build on, or revisit previous clinical competencies.</p>	<p>A variety of assessments are suggested, however, the number required will tend to push students to reproductive/surface learning. Students are expected to demonstrate competence across a range of clinical skills. The number of skills listed for assessment in the various clinical subjects are likely to result in a surface and atomistic (un-integrated) approach to learning. There seems to be little opportunity for reflection and revisiting key competencies and skills.</p>
<b>Development of generic skills</b>	<p>It is clear that CHW need to be creative and critical thinkers when they move into the practice setting. They often work in extremely low-resourced settings so need to be clever in how they respond to the health needs of the populations they serve. Building creativity, problem-solving and effective communication skills into the program may assist them in their transition to practice when they graduate.</p>	<p>While the curriculum specifically focuses on the students being adult learners the structure of the program &amp; the assessment strategies do not provide clear opportunities for building students' independence in deciding on their learning goals or assessment. While there is a research subject in third year &amp; the explicit goal of developing clinical skills, the development of clinical reasoning, critical thinking, problem solving and the higher order skills needed for success in the modern world, are not explicitly addressed or visible in the curriculum document.</p>
<b>Specific links to competency standards</b>	<p>Both programs are clearly and explicitly linked to the relevant professional competency standards. However, the focus on specific clinical skills (whilst crucial) may not effectively build a holistic approach to competency and may</p>	

reduce the capacity of graduates to effectively and holistically assess and respond to the health needs of individuals, families and communities.
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Developing curricula is the first step in strengthening the health workforce education system for better quality and quantity of graduates who will be servicing the health needs of the population. Appropriate and relevant national curricula for both nursing and CHWs is vital for health professionals to acquire knowledge to provide relevant high quality health care. While improving educational standards and practices will assist in improving the quality of the health workforce it is crucial that this goes hand-in-hand with the intergrated approach to quality improvement (Fig 2 below). These include linkages to regulation, ministerial governance establishment of a NDOH Chief Nurse and Midwifery Officer, regulation and associations support. In particular, and of key importance in relation to this project, is the quality of the clinical environment and the quality of the clinical teachers who will support the students. The recommendations which follow summarise the key priorities from this Gap Analysis Executive Summary in line with the overall program aims.

**Figure 2: Components of an integrated approach for a quality health service**



Rumsey, M (2020). Global Health and Nursing.

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## Recommendations

The recommendations below identify the key areas that will need to be addressed if program outcomes from the Diploma of General Nursing and the Certificate IV in Community Health are to be improved.

There are 5 key areas of focus:

- educational staff within the institutions,
- the curricula,
- clinical education and to some extent clinical practice,
- regulation in terms of levels of the programs under review and the accreditation of the proposed fast track / capacity building program,
- continuous support and development of faculty as needed and finally a review and update of the competency standards for each program.

Each recommendation is followed by a series of actions that will help meet the identified goals of the program.

The recommendations which follow are in line with the overall program aims:

8. Develop a governance framework between stakeholders
9. Develop a national CHW and Nursing curriculum framework
10. National curricula framework consultations accreditation and approvals
- 4a. Develop and run fast track / capacity building program for educators and clinicians CHWs and nursing
- 4b. Develop and carry out a curriculum implementation and delivery plan
8. Review faculty capacity, support and curriculum delivery
9. Develop a continuing professional development plan
10. Carry out Monitoring, Evaluation Research and Learning (MERL) as a continuous process

<b>1. Improve educational staff competency in relation to curriculum development and contemporary approaches to teaching &amp; learning (2, 4a)</b>
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### **ACTIONS:**

- Identify the education level of local educators and target according to educational need changes to the curriculum,
- Engage with Steering Committee and sub committees to agree on areas of teaching that require strengthening,
- Develop fast track / capacity building educators' program - agree framework, content of program and level of award,
- Agree accreditation body and link the program to PNG qualifications framework,
- Seek approval of the draft outline fast track / capacity building program from the National Steering Committee,
- Submit proposed course documentation to appropriate accreditation authority,
- Pilot first program and review outcomes.

## **2. Evaluate current programs, identify gaps in content, process and structure and agree a plan for curriculum renewal (2, 3, 4b).**

### ***ACTIONS:***

- Include results from the baseline survey being conducted by NDOH to inform ideas about needed curriculum changes,
- Finalise gap analysis of the general nursing and CHW curricula,
- Conduct workshops with CHW and Nursing working groups to develop the curricula in partnership,
- Seek guidance and advice on the accreditation pathways from the National Steering Committee.
- Submit the revised curriculum documents for review and accreditation.
- Conduct a series of workshops and forums to ensure maximum local input into suggested revisions to course content and processes,
- Prioritization of revised curricula modules for redevelopment in CHW program and subjects in the Diploma of Nursing.
- Seek local endorsement for suggested changes and identified areas for improvement.
- Develop revised curriculum documents.

## **3. Develop clear guidelines and standards for clinical education (2, 4a, 6)**

Clinical education is and should be at the heart of the nursing and CHW programs. Direct clinical experience is fundamental for learning to take place. Graduates need to be well prepared to ensure they can perform their role as a new nursing or CHW graduate effectively.

### ***ACTIONS:***

- Review clinical preceptorship program,
- Consider developing a national framework and standard for clinical educators, clinicians and preceptors,
- Provide education to upskills educators in the use of the framework and expected standards of assessment,
- Ensure that clinical assessment is holistic, reliable, valid and consistent
- Evaluate the needs for a standardised assessment guideline and tool for national implementation.

#### 4. Continuous Faculty Support and Development (3, 5, 6)

##### **ACTIONS:**

- Faculty development and support program to ensure smooth implementation of curricula (management, programming skills, quality processes, teaching skills, finances, clinical supervisor training, and graduate attributes),
- Develop a framework and standards for auditing the clinical environment that mesh with the national accreditation framework. This will include ensuring adequate teaching support at clinical sites, relevant case mix, specialty practitioners where necessary and a safe environment,
- Review and update competency standards of practice, ensuring continued relationship between teaching, learning, and clinical competency,
- Develop and deliver CPD educational programs as need

## Appendix 2: Community Health Worker Certificate Program Learning Modules

YEAR 1				
DISEASE CONTROL STREAM	DC101	Apply knowledge of basic anatomy and physiology learner's guide	<ol style="list-style-type: none"> <li>1. Identify the gross structure of the human body</li> <li>2. Identify the structure and describe the function of a simple cell</li> <li>3. Describe the relationship between cells, tissues, and organs</li> <li>4. Identify the structure and describe the function of the skin</li> <li>5. Identify the structure and describe the function of the respiratory system</li> <li>6. Identify the structure and describe the function of the cardiovascular system</li> <li>7. Identify the structure and describe the function of the lymphatic system and body defences</li> <li>8. Identify the structure and describe the function of the digestive system</li> <li>9. Identify the structure and describe the function of the musculoskeletal system</li> <li>10. Identify the structure and describe the function of the urinary system</li> <li>11. Identify the structure and describe the function of the reproductive system</li> <li>12. Identify the structure and describe the function of the endocrine system</li> <li>13. Identify the structure and describe the function of the nervous system</li> <li>14. Identify the structure and describe the function of the special sense organs</li> </ol>	203
DISEASE CONTROL STREAM	DC103	Prevent the spread of infection learner's guide	<ol style="list-style-type: none"> <li>1. Identify the potential for the spread of infection in the workplace</li> <li>2. Use standard precautions to prevent the spread of infection</li> <li>3. Use additional precautions to prevent the spread of infection</li> <li>4. Clean the aid post and surrounding area to prevent the spread of infection</li> </ol>	99
DISEASE CONTROL STREAM	DC104	Control disease learner's guide	<ol style="list-style-type: none"> <li>1. Identify the factors that affect health status and control disease in PNG</li> <li>2. Explain the environmental, legislative, and behavioural mechanisms used to control disease</li> <li>3. Demonstrate how to collect and analyse aid post or health centre records</li> <li>4. Demonstrate how to suspect, report, and respond to an epidemic</li> <li>5. Demonstrate how to carry out a simple survey about a disease in the aid post catchment area, and make a community profile</li> </ol>	172
DISEASE CONTROL STREAM	DC105	Take patient history, and examine, diagnose, and treat patient learner's guide	<ol style="list-style-type: none"> <li>1. Demonstrate how to take a patient history using standard procedures</li> <li>2. Demonstrate how to examine a patient and take the patient's observations using standard procedures</li> <li>3. Identify how to diagnose common illnesses using standard procedures</li> <li>4. Identify how to provide treatment and continuing care to patients using standard procedures</li> <li>5. Explain how to advise patients on the use of home and traditional remedies appropriate to their condition</li> </ol>	111

DISEASE CONTROL STREAM	DC106	Perform basic procedures learner's guide	<ol style="list-style-type: none"> <li>1. Demonstrate how to bandage and dress wounds using standard procedures</li> <li>2. Demonstrate how to provide eye care using standard procedures</li> <li>3. Demonstrate how to provide basic ear, nose, and throat care using standard procedures</li> <li>4. Demonstrate how to provide nasogastric care using standard procedures</li> <li>5. Demonstrate how to perform basic chest physiotherapy using standard procedures</li> <li>6. Demonstrate how to give injections using standard procedures</li> <li>7. Demonstrate how to suture minor cuts and lacerations using standard procedures</li> <li>8. Demonstrate how to insert an IV drip and give IV fluids in an emergency</li> <li>9. Demonstrate how to clear and maintain an airway</li> <li>10. Demonstrate how to position a patient correctly according to the patient's condition</li> </ol>	186
DISEASE CONTROL STREAM	DC107	Provide basic patient care learner's guide	<ol style="list-style-type: none"> <li>1. Identify people who require basic care and describe the types of care provided</li> <li>2. Demonstrate how to administer care to a patient in the home, using standard procedures</li> <li>3. Demonstrate how to administer care to a patient in the aid post and health centre, using standard procedures</li> </ol>	118
DISEASE CONTROL STREAM	DC108	Manage common diseases of the skin learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the skin</li> <li>2. Explain how to examine the skin, and diagnose common diseases, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a skin disease (other than leprosy), using Standard Treatment</li> <li>4. Explain how to treat and educate the patient with leprosy, using Standard Treatment</li> </ol>	118
DISEASE CONTROL STREAM	DC109	Manage common diseases of the ear, nose and throat learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of the common diseases of the ear, nose, and throat in PNG</li> <li>2. Explain how to examine the ear, nose, and throat, and diagnose common diseases, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with an ear, nose, and throat disease, using Standard Treatment</li> </ol>	74
DISEASE CONTROL STREAM	DC110	Manage common diseases of the eye learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the eye</li> <li>2. Explain how to examine the eye, and diagnose common diseases, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with an eye disease, using Standard Treatment</li> </ol>	83

DISEASE CONTROL STREAM	DC111	Manage common diseases of the respiratory system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of the common diseases of the respiratory system in PNG</li> <li>2. Explain how to examine and diagnose common diseases of the respiratory system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a respiratory system disease, using Standard Treatment</li> </ol>	99
HEALTH PROTECTION STREAM	HP101	Implement hygienic disposal of waste learner's guide	<ol style="list-style-type: none"> <li>1. Describe different types of waste and waste disposal systems</li> <li>2. Assess the community waste disposal site, using standard inspection procedures</li> <li>3. Explain how waste is stored and disposed of in the home</li> </ol>	102
HEALTH PROTECTION STREAM	HP102	Implement vector control learner's guide	<ol style="list-style-type: none"> <li>1. Explain the relationship between vectors and disease transmission</li> <li>2. Explain how to control mosquitoes</li> <li>3. Explain how to control flies</li> <li>4. Explain how to control cockroaches</li> <li>5. Explain how to control rats</li> <li>6. Participate in a vector control program in the community</li> </ol>	125
HEALTH PROTECTION STREAM	HP103	Implement safe housing learner's guide	<ol style="list-style-type: none"> <li>1. Explain the relationship between housing and health</li> <li>2. Identify the characteristics of safe housing for rural and urban communities</li> <li>3. Demonstrate how to raise community awareness about space and ventilation in housing</li> </ol>	80
HEALTH PROTECTION STREAM	HP104	Implement safe water and sanitation learner's guide	<ol style="list-style-type: none"> <li>1. Explain the link between water, sanitation, and good health</li> <li>2. Assist in the assessment of the safety of the water supply</li> <li>3. Conduct water sampling according to recognised procedures</li> <li>4. Assist the community to plan and install a water supply appropriate to the needs</li> <li>5. Assist the community to plan and install sanitation appropriate to the needs</li> </ol>	171
HEALTH PROTECTION STREAM	HP105	Deliver Health care appropriate to people's needs learner's guide	<ol style="list-style-type: none"> <li>1. Describe the effects of traditional and current practices in relation to gender and appropriate health care</li> <li>2. Explain how to provide appropriate health care to adolescents</li> <li>3. Explain how to provide appropriate health care to those suffering violence and abuse</li> <li>4. Explain how to provide appropriate health care to the elderly</li> <li>5. Explain how to provide appropriate health care to people with physical disabilities</li> </ol>	109
HEALTH PROTECTION STREAM	HP106	Protect child health and prevent childhood diseases learner's guide	<ol style="list-style-type: none"> <li>1. Identify factors that affect the health of children in PNG</li> <li>2. Explain how to assess development in children</li> <li>3. Demonstrate how to monitor growth for children under 5 years of age</li> <li>4. Demonstrate how to immunise infants and children under 5 years of age</li> <li>5. Demonstrate how to advise parents/guardians on ways to promote child health</li> </ol>	126

HEALTH PROTECTION STREAM	HP107	Provide school health care learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to assist with the assessment of school buildings and the school environment</li> <li>2. Demonstrate how to assist with the physical examination of schoolchildren</li> <li>3. Demonstrate how to immunise schoolchildren</li> <li>4. Demonstrate how to give health education to teachers and children on appropriate topics</li> </ol>	91
HEALTH PROTECTION STREAM	HP108	Manage tuberculosis learner's guide	<ol style="list-style-type: none"> <li>1. Explain the National Tuberculosis Control Program</li> <li>2. Identify people suspected of having tuberculosis, and collect specimens for analysis</li> <li>3. Explain how to treat and educate the adult patient with tuberculosis, using Standard Treatment</li> <li>4. Explain how to treat the child patient with tuberculosis, and educate the parents/guardians, using Standard Treatment</li> <li>5. Maintain the supply of drugs and other materials, and report to the National Tuberculosis Control Program</li> </ol>	104
HEALTH EDUCATION AND PROMOTION STREAM	HE101	Promote health awareness learner's guide	<ol style="list-style-type: none"> <li>1. Explain the function of health awareness programs</li> <li>2. Describe the role of IEC material in health awareness programs</li> <li>3. Describe the role of media in health awareness programs</li> <li>4. Participate in a health awareness program</li> <li>5. Follow-up and report on the health awareness program</li> </ol>	127
HEALTH EDUCATION AND PROMOTION STREAM	HE102	Provide health education learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to apply learning and training principles to health education</li> <li>2. Identify methods that could be used in health education</li> <li>3. Plan and deliver a health education session for a group</li> <li>4. Use unexpected opportunities to provide health education to individuals and families</li> </ol>	119
HEALTH EDUCATION AND PROMOTION STREAM	HE103	Promote personal and home hygiene learner's guide	<ol style="list-style-type: none"> <li>1. Identify links between personal and home hygiene, and disease prevention</li> <li>2. Encourage personal and home hygiene in the home and community</li> </ol>	67
HEALTH EDUCATION AND PROMOTION STREAM	HE104	Promote nutritious food learner's guide	<ol style="list-style-type: none"> <li>1. Identify nutritious food locally available for a balanced diet</li> <li>2. Select local food and prepare a nutritious balanced diet for a family for one day</li> <li>3. Provide advice on budgeting</li> <li>4. Discuss the relationship between nutrition, lifestyle, and disease</li> <li>5. Implement a community food and nutrition program</li> </ol>	108
HEALTH EDUCATION AND PROMOTION STREAM	HE105	Promote food safety learner's guide	<ol style="list-style-type: none"> <li>1. Explain the importance of safe preparation and handling of food</li> <li>2. Discuss the storage of food in the home</li> <li>3. Demonstrate how to raise community awareness of preparation, storage, and presentation of food for sale.</li> </ol>	72

HEALTH EDUCATION AND PROMOTION STREAM	HE106	Live and work with the community learner's guide	<ol style="list-style-type: none"> <li>1. Identify the target community in the aid post catchment area and build good relationships</li> <li>2. Develop a community map, using basic research techniques (including interviewing and focus groups) to gather data</li> <li>3. Assist the community to identify health needs and plan health promotion activities</li> <li>4. Assist the community to implement and evaluate health promotion activities</li> </ol>	205
PROFESSIONAL PRACTICE STREAM	PP101	Identify the role of a Community Health Worker learner's guide	<ol style="list-style-type: none"> <li>1. Describe the history of the CHW movement in Papua New Guinea</li> <li>2. Explain the role of the CHW in PNG today</li> <li>3. Demonstrate responsible behaviour as a trainee CHW</li> <li>4. Demonstrate professional and ethical practice as a trainee CHW</li> </ol>	110
PROFESSIONAL PRACTICE STREAM	PP102	Communicate in the workplace learner's guide	<ol style="list-style-type: none"> <li>1. Identify and use communication channels within the organisation, according to protocols and procedures</li> <li>2. Explain the communication processes in the workplace</li> <li>3. Use effective communication techniques and accepted language</li> <li>4. Use available equipment to communicate in acceptable language</li> <li>5. Use written communication according to workplace standards</li> </ol>	110
PROFESSIONAL PRACTICE STREAM	PP103	Work as a member of the health team learner's guide	<ol style="list-style-type: none"> <li>1. Identify the relevant organisational guidelines, policies, and procedures</li> <li>2. Establish a working relationship with community members</li> <li>3. Strengthen teamwork with fellow workers of the health team and community</li> </ol>	90
YEAR 2				
DISEASE CONTROL STREAM	DC201	Manage common diseases of the mouth learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of the common oral diseases</li> <li>2. Explain how to examine the mouth and diagnose common oral diseases, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with an oral disease, using Standard Treatment</li> </ol>	77
DISEASE CONTROL STREAM	DC202	Manage common diseases of the digestive system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of the common diseases of the digestive system</li> <li>2. Explain how to examine and diagnose common diseases of the digestive system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the digestive system, using Standard Treatment</li> </ol>	99
DISEASE CONTROL STREAM	DC203	Manage common diseases of the cardiovascular system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of the common diseases of the cardiovascular system</li> <li>2. Explain how to examine and diagnose common diseases of the cardiovascular system, using Standard Treatment</li> </ol>	86

			3. Explain how to treat and educate the patient with a disease of the cardiovascular system, using Standard Treatment	
DISEASE CONTROL STREAM	DC204	Manage care of sick children learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to assess and treat the 'too sick' child or infant, using Standard Treatment</li> <li>2. Explain how to assess the condition of a sick child or infant, using Standard Treatment</li> <li>3. Explain how to assess and treat the child for pneumonia, using Standard Treatment</li> <li>4. Explain how to assess and treat the child for dehydration, using Standard Treatment</li> <li>5. Explain how to assess and treat the child for malaria, meningitis, and other infections, using Standard Treatment</li> <li>6. Explain how to assess and treat the child for measles, using Standard Treatment</li> <li>7. Explain how to assess and treat the child for anaemia, using Standard Treatment</li> <li>8. Explain how to assess and treat the child for ear infection, using Standard Treatment</li> <li>9. Explain how to assess and treat the child for malnutrition, using Standard Treatment</li> <li>10. Explain how to assess the feeding of a child aged less than 2 years, and a child with anaemia or malnutrition, using Standard Treatment</li> <li>11. Explain how to assess and immunise children, using Standard Treatment</li> <li>12. Explain how to identify and treat common skin diseases and injuries in children, using Standard Treatment</li> </ol>	342
DISEASE CONTROL STREAM	DC205	Manage common diseases of the musculoskeletal system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the musculoskeletal system</li> <li>2. Explain how to examine and diagnose common diseases of the musculoskeletal system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the musculoskeletal system, using Standard Treatment</li> </ol>	78
DISEASE CONTROL STREAM	DC206	Manage common diseases of the urinary system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the urinary system</li> <li>2. Explain how to examine and diagnose common diseases of the urinary system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the urinary system, using Standard Treatment</li> </ol>	99
DISEASE CONTROL STREAM	DC207	Manage common diseases of the	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the reproductive system</li> </ol>	122

		reproductive system learner's guide	<ol style="list-style-type: none"> <li>2. Explain how to examine and diagnose common diseases of the reproductive system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the reproductive system, using the Standard Treatment</li> </ol>	
DISEASE CONTROL STREAM	DC208	Manage obstetric emergencies learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to recognise and provide first aid in obstetric emergencies</li> <li>2. Explain how to refer obstetric emergencies by the fastest route</li> </ol>	94
DISEASE CONTROL STREAM	DC209	Manage common diseases of the endocrine system learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the endocrine system</li> <li>2. Explain how to examine and diagnose common diseases of the endocrine system, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the endocrine system, using Standard Treatment</li> </ol>	78
DISEASE CONTROL STREAM	DC210	Manage common diseases of the nervous system, and mental illnesses learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms of common diseases of the nervous system, and mental illnesses</li> <li>2. Explain how to examine and diagnose common diseases of the nervous system, and mental illnesses, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a disease of the nervous system, or mental illness, using Standard Treatment</li> </ol>	138
HEALTH PROTECTION STREAM	HP201	Manage malaria learner's guide	<ol style="list-style-type: none"> <li>1. Identify the causes, and describe the signs and symptoms, and the mechanism of the spread of malaria</li> <li>2. Explain how to examine and diagnose uncomplicated malaria, severe malaria, and treatment failure malaria, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with malaria, using Standard Treatment</li> </ol>	115
HEALTH PROTECTION STREAM	HP202	Manage sexually transmitted infections using the syndromic approach learner's guide	<ol style="list-style-type: none"> <li>1. Use the syndromic approach to describe sexually transmitted infections (STIs)</li> <li>2. Explain how to examine the external genitalia, and diagnose STIs, using Standard Treatment</li> <li>3. Explain how to treat and educate the patient with a sexually transmitted infection, using Standard Treatment</li> </ol>	114
HEALTH PROTECTION STREAM	HP203	Deliver family planning services learner's guide	<ol style="list-style-type: none"> <li>1. Describe cultural aspects of family planning and the NDOH priorities</li> <li>2. Explain how to assess client needs for family planning services, using Standard Treatment</li> <li>3. Describe how to use counselling skills to assist clients to make contraceptive choices</li> <li>4. Explain how to administer contraceptives according to client's choice, using Standard Treatment</li> </ol>	135

HEALTH PROTECTION STREAM	HP204	Provide care for pregnant women learner's guide	<ol style="list-style-type: none"> <li>1. Describe cultural aspects of pregnancy, and the policy directives on safe motherhood in the National Health Plan</li> <li>2. Describe the processes of fertilisation, conception, and foetal development</li> <li>3. Describe the physiology of pregnancy</li> <li>4. Explain how to manage pregnancy using Standard Treatment</li> </ol>	150
HEALTH PROTECTION STREAM	HP205	Provide care for women in labour and childbirth learner's guide	<ol style="list-style-type: none"> <li>1. Describe each stage of normal labour</li> <li>2. Explain how to manage the first stage of labour, using Standard Treatment</li> <li>3. Explain how to manage the second stage of labour, using Standard Treatment</li> <li>4. Explain how to manage the third stage of labour, using Standard Treatment</li> <li>5. Explain how to care for the newborn and mother, using Standard Treatment</li> <li>6. Explain how to manage complications of childbirth, using Standard Treatment</li> </ol>	254
HEALTH PROTECTION STREAM	HP206	Provide care for mother and newborn learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to care for the mother during puerperium, using Standard Treatment</li> <li>2. Explain how to identify and manage maternal complications, using Standard Treatment</li> <li>3. Explain how to care for newborn during the puerperium, using Standard Treatment</li> <li>4. Explain how to examine the newborn, using Standard Treatment</li> </ol>	141
HEALTH PROTECTION STREAM	HP207	Prevent lifestyle diseases learner's guide	<ol style="list-style-type: none"> <li>1. Describe the lifestyle diseases in Papua New Guinea</li> <li>2. Identify the risk factors and prevention measures for lifestyle diseases</li> <li>3. Identify the 'at-risk' groups in the community for developing lifestyle diseases</li> <li>4. Assist in the design and delivery of a health awareness and education program for an 'at-risk' group</li> </ol>	138
HEALTH PROTECTION STREAM	HP208	Provide care for people living with HIV/AIDS learner's guide	<ol style="list-style-type: none"> <li>1. Describe HIV/AIDS</li> <li>2. Explain how to raise community awareness about preventing HIV/AIDS</li> <li>3. Explain how to provide support and education to people living with HIV/AIDS (PLWHA) and their caregivers, using Standard Treatment</li> </ol>	128
HEALTH EDUCATION AND PROMOTION STREAM	HE201	Provide basic counselling learner's guide	<ol style="list-style-type: none"> <li>1. Explain effective counselling</li> <li>2. Explain the origins of counselling in Papua New Guinea</li> <li>3. Explain the relationship between communication and effective counselling</li> <li>4. Describe the stages of counselling</li> <li>5. Explain how to assess the counselling needs of individuals and the community</li> <li>6. Demonstrate how to provide basic counselling</li> </ol>	104
PROFESSIONAL PRACTICE STREAM	PP201	Manage the aid post learner's guide	<ol style="list-style-type: none"> <li>1. Explain how to plan aid post activities and write submissions to meet community needs</li> <li>2. Demonstrate how to manage drugs and medical supplies for the aid post, using standard procedures</li> <li>3. Demonstrate how to manage aid post finances, supplies, and equipment, using standard procedures</li> </ol>	168

			4. Demonstrate how to liaise with the community for law and order problems and land disputes	
PROFESSIONAL PRACTICE STREAM	PP202	Practise as a qualified Community Health Worker learner's guide	<ol style="list-style-type: none"> <li>1. Explain the roles, responsibilities, and functions of a qualified Community Health Worker</li> <li>2. Identify the procedures for registration with the Medical Board, Nursing Council, and CHW Association</li> <li>3. Identify employment opportunities and career pathways for CHWs</li> <li>4. Develop a responsible attitude for dealing with difficulties and stressful situations</li> </ol>	141

### Appendix 3: Diploma of General Nursing Curriculum Summary Table

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
St Barnabas School of Nursing – Diploma in General Nursing	<ul style="list-style-type: none"> <li>• Provide students with coherent and detailed knowledge of contemporary nursing practice, principles and concepts that underpin that practice as well as enabling them to think critically, to reflect on their practice and to make sound clinical judgments based on evidence. This prepares the students with the knowledge, skills and attitudes to enable them to function effectively as health workers in any setting.</li> <li>• Provide an educational and professional basis for advanced education in nursing practice, teaching, administration and research.</li> <li>• Gain a coherent and detailed knowledge of contemporary nursing practice and know and understand the principles and concepts that underpin that practice.</li> <li>• Demonstrate the ability to critically evaluate evidence, concepts, arguments and assumptions about the practice</li> </ul>	<u>DGN111 Applied Principles and Practices in Nursing</u>	Theory: 70 SDL: 20 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Outline the historical development of the nursing profession.</li> <li>2. Identify nursing roles and responsibilities in addressing ethical and legal issues within the health service industry. (1.1)</li> <li>3. Develop a holistic perspective to nursing assessment and care therefore acknowledging the complexities of the patient/client as a unique individual within the broader context of family and community.</li> <li>4. Outline strategies for controlling micro-organisms in the clinical environment.</li> <li>5. Demonstrate competency in performing basic nursing skills at a beginner's level in a variety of health care settings.</li> </ol>
		<u>DGN112 Science in Nursing: Anatomy and Physiology I</u>	Theory: 70 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Explain how basic chemistry is applied in nursing</li> <li>2. Explain the body systems and processes</li> <li>3. Describe the cell and its division</li> <li>4. Describe the different tissues and their functions, type of glands and their functions</li> <li>5. Describe the anatomy and physiology of the integumentary, sensory and respiratory systems</li> <li>6. Demonstrate understanding of the principles of microbiology, the microbial world and the interaction between microbes and host</li> <li>7. Explain immunity and the defence mechanism.</li> </ol>
		<u>DGN113 Pharmacology</u>	Theory: 60 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Describe the use of traditional medicine and value</li> <li>2. Appreciate and know the history of pharmacology including the pharmacology of traditional herbal medications and demonstrate the preparation of different herbal medications available in PNG to treat common diseases</li> <li>3. Identify and discuss, with examples, sources and forms of drugs, commonly used drug names, drug classification, administration, storage and handling as well as the legal aspects of drug administration</li> <li>4. Discuss pharmacokinetic principles of drug action and describe the different effects drug action may have on the body as well as the factors affecting medication actions</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<p>of nursing and can make clinical judgments on the basis of their evaluation of the data, evidence and ideas.</p>			<ol style="list-style-type: none"> <li>Identify and classify the frequently used antimicrobial drugs, and describe correctly the use, action, side effects, precautions, contra-indications, and storage of antibiotics</li> <li>Demonstrate ability to perform drug calculation and use of the standard treatment books when administering medications to patients.</li> </ol>
	<ul style="list-style-type: none"> <li>Are able to function as nurses in any health setting, competently, professionally and with empathy and understanding.</li> <li>Have the skills to review, consolidate, extend, apply and teach the knowledge and techniques that they have acquired.</li> <li>Perform preventive and therapeutic activities to promote, maintain and restore health</li> <li>Demonstrate accountability for his/her nursing practice</li> <li>Demonstrate the ability to assume a leadership and consultative role within the health team and community</li> </ul>	<p><u>DGN114</u> <u>Communication</u> <u>Studies</u></p>	<p>Theory: 50 SDL: 15 Clinical: -</p>	<ol style="list-style-type: none"> <li>Demonstrate good learning and study skills as an adult learner</li> <li>Find and use books and information efficiently and responsibly</li> <li>Use medical terminology at a beginning level</li> <li>Use writing skills, appropriate for written assignments, taking notes from a lecture, writing official letters and reports</li> <li>Communicate both verbally (including over the radio and telephone) and non-verbally with tutors, health workers, peers and patients</li> <li>Understand how to apply the dynamics of communication in health care settings</li> <li>Develop and demonstrate effective communication skills including interviewing and basic counselling skills.</li> </ol>
		<p><u>DGN115 Health</u> <u>Socio Culture</u></p>	<p>Theory: 55 SDL: 15 Clinical: -</p>	<ol style="list-style-type: none"> <li>Define health, sociology and culture and describe aspects of a healthy individual and community</li> <li>Identify their own cultures, cultural values and the effects of these on living and health</li> <li>Identify the roles of women and men within these settings and explore the impact of child rearing practices on health care</li> <li>Describe the effects of urbanisation, population growth and unemployment in PNG</li> <li>Identify the effects of socio-economic change on their own communities</li> <li>Identify common health problems resulting from changes in lifestyle</li> <li>Identify and appreciate the effects of gender and cultural practices on health care</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<ul style="list-style-type: none"> <li>• Demonstrate a positive attitude towards, and respect for, people regardless of race, culture, economic circumstances and/or beliefs</li> <li>• Apply a problem-solving approach to caring for individuals, families and communities in any setting</li> <li>• Mobilise, teach and provide support for individuals, families, groups and communities to care for their own health</li> <li>• Use a primary health care approach to help meet the basic health needs in the community Be responsible for his/her self-development and awareness of changing health care trends.</li> </ul>			8. Apply understanding and sensitivity to helping individuals and communities in crisis.
		<u>DGN121</u> <u>Fundamentals of Nursing and First Aid</u>	Theory: 60 SDL: 20 Clinical: 6 weeks	<ol style="list-style-type: none"> <li>1. Perform drug administration and drug documentation procedures competently</li> <li>2. Perform basic nursing skills competently in a variety of settings</li> <li>3. Use common laboratory techniques</li> <li>4. Recognise an emergency situation and perform basic first aid skills competently</li> <li>5. Arrange for transport and transport casualty to the nearest health facility.</li> </ol>
		<u>DGN122 Science in Nursing: Anatomy and Physiology II</u>	Theory: 55 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Identify and explain the structure and function of the circulatory and lymphatic systems and their disorders in the body</li> <li>2. Identify and explain the structure and function of the muscular skeletal and gastrointestinal systems and their disorders in the body</li> <li>3. Identify and explain the structure and function of the urinary and reproductive systems and their disorders in the body</li> <li>4. Identify and explain the structure and function of the endocrine and nervous systems and their disorders in the body.</li> </ol>
		<u>DGN123 Nursing Calculation</u>	Theory: 60 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Perform basic mathematics calculations of whole numbers, decimal numbers, fractions as well as conversions in the metric system and to apply the knowledge correctly in nursing calculations</li> <li>2. Calculate time correctly and to apply this knowledge to the calculation of drug times, length of labour, dates of clinic visits, expected dates of delivery, ages of neonates and children</li> <li>3. Fill in, read and interpret weight graphs, observation charts, cervico-graphs and iv fluid balance charts correctly in either assessing growth of children or monitoring a patient's condition</li> <li>4. Calculate mortality and morbidity / immunization rates.</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
		<u>DGN124 Health Education and Promotion</u>	Theory: 55 SDL: 15 Clinical: 1 week	<ol style="list-style-type: none"> <li>1. Explain the Healthy Island Concept and how this is used to keep the community healthy</li> <li>2. Explain what is meant by primary health care and community based health care and what effects they have on health in the communities</li> <li>3. Explore and assess the effect of the environment on the health of the community</li> <li>4. Demonstrate an understanding of health promotion, maintenance and disease prevention</li> <li>5. Demonstrate understanding of health promotion and disease prevention through teaching</li> <li>6. Demonstrate ability to provide health education in a variety of settings.</li> </ol>
		<u>DGN125 Safe Motherhood</u>	Theory: 35 SDL: 20 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Define conception and describe the process of fetal growth &amp; development</li> <li>2. Describe the fetal skull and its relationship to the mother</li> <li>3. Diagnose pregnancy and describe the physiological changes during pregnancy</li> <li>4. State the aims of care during pregnancy</li> <li>5. State the care given during pregnancy</li> <li>6. Provide appropriate advice and supply available methods of family planning.</li> </ol>
		<u>DGN211 Medical Surgical Nursing I</u>	Theory: 55 SDL: 25 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Describe physiological and pathophysiological changes that occur in disease and injury</li> <li>2. Demonstrate problem solving approaches in patient care and management</li> <li>3. Demonstrate clinical practical skills in assessment, care and management of individuals with physiological and pathophysiological disorders</li> <li>4. Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals.</li> </ol>
		<u>DGN212 Nursing Practice I</u>	Theory: 0 SDL: 20 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Demonstrate clinical practice skills in assessment, care and management of individuals with physiological and pathophysiological disorders</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
		<u>DGN213 Obstetric Nursing I</u>	Theory: 35 SDL: 20 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Diagnose and treat complications during pregnancy</li> <li>2. Define normal labour</li> <li>3. Describe the physiology in each of the three stages of labour</li> <li>4. Describe the signs &amp; symptoms in each of the labour stages</li> <li>5. Describe the care and management given to women in labour</li> <li>6. Describe the physiological changes of the neonate at birth and the immediate care and assessment of the neonate</li> <li>7. Demonstrate the skills of examination of the neonate at birth in sequence to detect abnormalities</li> <li>8. Demonstrate the skill of post natal care given to both mother and neonate during the puerperium.</li> </ol>
		<u>DGN214 Child Health</u>	Theory: 40 SDL: 25 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Explore and compare theories of growth and development across the life span.</li> <li>2. Demonstrate an understanding of normal growth and development and the care children need to aid healthy development</li> <li>3. Monitor growth and nutritional status of infants and children</li> <li>4. Demonstrate clinical practice skills in the assessment of sick children</li> <li>5. Understand common procedures in Paediatric Nursing</li> <li>6. Diagnose and treat different types of malnutrition.</li> </ol>
		<u>DGN215 Community, Family and Child Health</u>	Theory: 35 SDL: 20 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Understand the application of the Healthy Islands Concept to empower the community</li> <li>2. Outline strategies for controlling micro-organisms in the community</li> <li>3. Participate in conducting and evaluating a 'well baby clinic'</li> <li>4. Participate in community projects designed to promote and maintain the health of the family and community</li> <li>5. Participate in school health and home visits</li> <li>6. Describe how to care for equipment used in community health programs.</li> </ol>
		<u>DGN221 Medical Surgical Nursing II</u>	Theory: 55 SDL: 25	<ol style="list-style-type: none"> <li>1. Demonstrate understanding of the physiological and patho physiological changes that occur in disease and injury</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
			Clinical: 4 weeks	<ol style="list-style-type: none"> <li>2. Demonstrate clinical practice skills in assessment, care, and management of individuals with physiological and pathological</li> <li>3. Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals.</li> </ol>
		<u>DGN222 Obstetrics Nursing II</u>	Theory: 35 SDL: 20 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Recognise and manage complications of labour and puerperium</li> <li>2. Discuss criteria for deciding to refer patients with complications</li> <li>3. Outline referral procedures</li> <li>4. Outline the nurse's responsibilities when assisting with obstetric procedures.</li> <li>5. Recognise, manage and prevent disorders of newborn</li> </ol>
		<u>DGN223 Paediatrics Nursing</u>	Theory: 55 SDL: 25 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Discuss disease &amp; disorders of young children by body system</li> <li>2. Demonstrate problem-solving approaches to the care and management of sick children</li> <li>3. Demonstrate clinical practice skills in assessment, care, and management of sick children.</li> <li>4. Discuss the nurse's roles in the child health care team</li> <li>5. Demonstrate the importance of interdisciplinary approaches to the care of sick children.</li> </ol>
		<u>DGN224 Nursing Practice II</u>	Theory: 0 SDL: 20 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Demonstrate clinical practice skills in assessment, care and management of individuals with physiological and patho physiological disorders</li> </ol>
		<u>DGN225 Integral Human Development</u>	Theory: 35 SDL: 15 Clinical: -	<ol style="list-style-type: none"> <li>1. Demonstrate a basic knowledge of the Bible</li> <li>2. Apply Christian teachings in their interaction with patients</li> <li>3. Identify and appreciate the basic moral and Christian values and recognize the importance especially of the moral value of respect for all life, especially human life</li> <li>4. Appreciate the importance of living their life in the Church and the spiritual blessings and growth they receive through the word of God, worship, liturgy and prayer</li> <li>5. Understand and believe that natural gifts, and, acquired knowledge and skills are strengthened by spiritual gifts to care for the patients</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
		<u>DGN311 Medical Surgical Nursing III</u>	Theory: 55 SDL: 25 Clinical: 10 weeks	<ol style="list-style-type: none"> <li>1. Demonstrate understanding of the physiological and pathophysiological changes that occur in disease and injury</li> <li>2. Demonstrate clinical practice skills in assessment, care and management of individuals with physiological and pathological disorders</li> <li>3. Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals</li> <li>4. Understand the importance of an interdisciplinary approach to the care of patients.</li> </ol>
		<u>DGN312 Sexual Reproductive Health</u>	Theory: 35 SDL: 20 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Diagnose and manage specific sexual reproductive health problems of both male and female</li> <li>2. Understand the criteria for deciding to refer patients with complications</li> <li>3. Perform gynaecological procedures</li> <li>4. Understand local birth practices.</li> </ol>
		<u>DGN313 HealthCare in PNG</u>	Theory: 35 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Explain how the health care system in PNG is organised and operated at various levels</li> <li>2. Critically analyse the current health situation in the country</li> <li>3. Name and explain goals and priorities of the current National Health Plan</li> <li>4. Discuss the importance of the Health Information systems</li> <li>5. Discuss epidemiology and how to control epidemics.</li> </ol>
		<u>DGN314 Nursing Research I</u>	Theory: 35 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Define research and associated terminology</li> <li>2. Understand research and its relevance and application in any health setting</li> <li>3. Outline the different types and methods of research</li> </ol>
		<u>DGN315 Christian Professional Ethics</u>	Theory: 35 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Discuss the relevance of the messages from the epistles and Revelations to nursing</li> <li>2. State the responsibility of the Christian nurse toward the patient</li> <li>3. Discuss ethical issues from a Christian point of view</li> <li>4. Identify and appreciate the basic moral and Christian values and recognize the importance especially of the moral value of respect for all life, especially human life</li> <li>5. Value the Christian vision of the human person as well as the person-centered morality in which love is the highest</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<p>moral value and the service of life the basis of ethics for nurses</p> <ol style="list-style-type: none"> <li>Understand and apply the different Christian and basic assessment principles that form the basis for moral assessment and respect the sanctity of the personal conscience</li> <li>Make moral assessments and decisions related to the nurse-to-patients and nurse-to-other-staff relationship as well as the problems related to the service of life.</li> </ol>
		<u>DGN321 Medical Surgical Nursing IV</u>	Theory: 50 SDL: 25 Clinical: 10 weeks	<ol style="list-style-type: none"> <li>Demonstrate understanding of the physiological and patho-physiological changes that occur in disease and injury</li> <li>Demonstrate clinical practice skills in assessment, care, and management of individuals with physiological and pathological</li> <li>Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals</li> <li>Understand the importance of an interdisciplinary approach to the care of patients</li> <li>Discuss the basic concept of mental illness and the signs and symptoms of different types of mental illnesses</li> <li>Identify the roles and functions of mental health nursing in the hospitals</li> <li>Assess and care for individuals with mental illness or intellectual or physical disability.</li> </ol>
		<u>DGN322 Nursing Management/Administration</u>	Theory: 40 SDL: 25 Clinical: -	<ol style="list-style-type: none"> <li>Define the basic skills required in managing a health care facility</li> <li>Demonstrate leadership in setting and achieving the goals and priorities required to organise work, time and supplies</li> <li>Discuss the roles of the nurse in maintaining standards in patient care</li> <li>Apply leadership and management skills in the workplace in various setting eg. conflict prevention and management, financial budgeting and control, obtaining of donor funds.</li> </ol>
		<u>DGN323 Community Health</u>	Theory: 55 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>Identify the roles of the nurse and of the different sectors of the community in planning, implementing and evaluating the development of community health activities and programs</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>Understand the relevance of primary health care to sustainable development</li> <li>Have knowledge of the applications of the Healthy Islands Concept to empower the community</li> <li>Describe the relationship between physical and mental health and what causes mental stress</li> <li>Identify the roles and functions of mental health nursing in the community</li> <li>Recognise forms of crises in the community and advice on appropriate interventions</li> <li>Identify and work with resource people to promote and participate in primary health care programs</li> <li>Evaluate the effectiveness of specific primary health care programs</li> <li>Participate in community based health care and its related activities.</li> </ol>
		<u>DGN324 Professional Ethics</u>	Theory: 40 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>Define professionalism and discuss the professional code of conduct</li> <li>Discuss the Papua New Guinea Constitution, human rights issues and the legal and ethical implications of patient care</li> <li>Outline the roles and functions of national and international medical and nursing councils and associations relevant to nursing in Papua New Guinea</li> <li>Maintain professional services, equipment and supplies in wards and administration areas.</li> </ol>
		<u>DGN325 Nursing Research II</u>	Theory: 35 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>Describe the basic steps in the research process</li> <li>Demonstrate skills in preparing a research proposal and writing up of final research findings.</li> </ol>
<b>TOTAL HOURS</b> <b>YEAR ONE:</b> Theory – 570 SDL – 185 Clinical – 560 <b>YEAR TWO:</b> Theory – 380 SDL – 195 Clinical – 704 <b>YEAR THREE:</b> Theory – 380 SDL – 195 Clinical – 770 <b>OVERALL TOTAL:</b> Theory – 1,905 Clinical – 2,034				
Proposed – Diploma in General Nursing	•To prepare basic nurses with a sound educational programme in	DGN111 Applied principles and practice in nursing	Theory: 70 SDL: 20	

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<p>nursing to enable them to function as efficient members of the health team, beginning with the competencies for first level positions in all kinds of health care settings.</p> <ul style="list-style-type: none"> <li>•To help nurses develop and ability to co-operate and co-ordinate with member of the health team in the prevention of disease, promotion of health and rehabilitation of the sick.</li> <li>•To help nurses in their personal and professional development, so that they are able to make maximum contribution to the society as useful and productive individuals, citizens as well as efficient nurses.</li> <li>•To serve as a base for further professional education and specialization in nursing.</li> <li>•To prepare nurses to keep pace with latest professional and technological developments and use these for providing nursing care services.</li> <li>•Assess the nursing need of clients from birth to death.</li> </ul>		Clinical: 4 weeks	
		DGN112 Science in nursing	Theory: 70 SDL: 20 Clinical: -	
		DGN113 Nursing calculation	Theory: 60 SDL: 20 Clinical: -	
		DGN114 Communication studies	Theory: 50 SDL: 15 Clinical: -	
		DGN115 Health socio culture	Theory: 55 SDL: 15 Clinical: 1 week	
		DGN121 Fundamentals of Nursing and First Aid	Theory: 60 SDL: 20 Clinical: 6 weeks	<ol style="list-style-type: none"> <li>1. Describe the physical mental and social adjustment required of a sick individual and his family.</li> <li>2. Carry out basic nursing techniques and care with the application of sound scientific principles.</li> <li>3. Explain the concept of comprehensive nursing care.</li> <li>4. Develop skills in assessment, planning, implementation and evaluation of the nursing care rendered to the patients.</li> <li>5. Communicate effectively and establish good interpersonal relationship with the patients, their relatives and other health team members.</li> <li>6. Demonstrate skills in observation, recording and reporting.</li> <li>7. Recognize and utilize opportunities for planning and implementing need based health teaching programme(s) for individuals, groups, families and communities.</li> <li>8. Describe the rules of first aid.</li> <li>9. Demonstrate skill in rendering first aid in case of emergencies.</li> </ol>
		DGN122 Anatomy and Physiology	Theory: 55 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Describe in general the structure and the function of human body</li> <li>2. Describe in detail the structure and function of different organs and systems in the human body</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<ul style="list-style-type: none"> <li>●Plan and carry out appropriate action to meet nursing needs.</li> <li>●Provide effective nursing care for maintaining best possible level of health in all aspects.</li> <li>●Promote self care in people under their care.</li> <li>●Apply problem solving techniques in nursing practice.</li> <li>●Evaluate effectiveness of nursing care.</li> <li>●Apply knowledge from the humanities, biological and behavioural sciences in functioning as a nurse.</li> <li>●Function effectively with members of the health team and community applying the knowledge of human relations and communication skills in her work.</li> <li>●Participate as member of the health team in delivery of curative preventive, promotive</li> </ul>			3. Apply the anatomical and physiological principles in the practice of nursing
		DGN123 Pharmacology	Theory: 60 SDL: 20 Clinical: -	
		DGN124 Health Education and Promotion	Theory: 55 SDL: 15 Clinical: -	
		DGN125 Integral Human Development	Theory: 35 SDL: 15 Clinical: 1 week	
		DGN211 Medical surgical nursing I	Theory: 55 SDL: 25 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Describe the causes, symptoms, treatment and prevention of medical surgical diseases.</li> <li>2. Demonstrate skills in carrying out nursing technique and procedures with the application of scientific principles.</li> <li>3. Discuss nursing process and provide nursing care to patients with medical surgical/ diseases.</li> </ol>
		DGN212 Nursing practice	Theory: 35 SDL: 20 Clinical: 4 weeks	
		DGN213 Safe motherhood	Theory: 55 SDL: 20 Clinical: 2 weeks	
		DGN214 Child health	Theory: 40 SDL: 25 Clinical: -	
		DGN215 Christian ethical principles	Theory: 35 SDL: 20 Clinical: -	
		DGN221 Medical surgical nursing II	Theory: 55 SDL: 25 Clinical: 4 weeks	1. Describe the causes, symptoms, signs, treatment and prevention of diseases classified under medical surgical specialities.

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	and rehabilitative health care services.			<ol style="list-style-type: none"> <li>2. Demonstrate skill in carrying out nursing techniques and procedures with the application of scientific principles.</li> <li>3. Prepare nursing care plan using nursing process and provide care to patients with these diseases.</li> </ol>
	<ul style="list-style-type: none"> <li>•Mobilize community resources and their involvement in working with the communities.</li> </ul>	DGN222 Mental health	Theory: 35 SDL: 20 Clinical: 2 weeks	<ol style="list-style-type: none"> <li>1. Describe the concept of mental health and mental illness and the emerging trend in psychiatric nursing.</li> <li>2. Explain the causes and factors of mental illness, its prevention and control.</li> <li>3. Identify the symptoms and dynamics of abnormal human behaviour in comparison with normal human behaviour.</li> <li>4. Demonstrate a desirable attitude and skills in rendering comprehensive nursing care to the mentally ill.</li> </ol>
	<ul style="list-style-type: none"> <li>•Demonstrate use of ethical values in their personal and professional life.</li> </ul>	DGN223 Paediatric nursing	Theory: 55 SDL: 25 Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Explain the concept of child health, the principles underlying child care and trends in paediatric nursing.</li> <li>2. Describe normal growth and development of children, so as to recognize deviation(s) from normal health.</li> <li>3. Demonstrate skill in meeting the needs of the sick as well as health children.</li> </ol>
	<ul style="list-style-type: none"> <li>•Demonstrate interest in activities of professional organizations.</li> </ul>	DGN224 Community family child health	Theory: 35 SDL: 20 Clinical: 2 weeks	
	<ul style="list-style-type: none"> <li>•Recognize the need of continuing education for professional development.</li> </ul>	DGN225 Health care in PNG	Theory: 35 SDL: 20 Clinical: -	
	<ul style="list-style-type: none"> <li>•Demonstrate basic skills in teaching patients and giving nursing care to them.</li> </ul>	DGN311 Medical surgical III	Theory: 55 SDL: 25 Clinical: 10 weeks	
	<ul style="list-style-type: none"> <li>•Demonstrate basic skills in administration and leadership while working with other members of health team and community.</li> </ul>	DGN312 Obstetrics	Theory: 35 SDL: 20 Clinical: 2 weeks	
	<ul style="list-style-type: none"> <li>•Assist in research activities.</li> </ul>	DGN313 Nursing management	Theory: 40 SDL: 25 Clinical: -	

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
		DGN314 Nursing research	Theory: 35 SDL: 20 Clinical: -	
		DGN315 Christian perspective in nursing	Theory: 35 SDL: 20 Clinical: -	
		DGN321 Medical surgical IV	Theory: 50 SDL: 25 Clinical: -	
		DGN322 Sexual reproductive health	Theory: 35 SDL: 20 Clinical: -	
		DGN323 Community health	Theory: 55 SDL: 20 Clinical: -	<ol style="list-style-type: none"> <li>1. Describe the concept of health, community health and community health nursing.</li> <li>2. State the principles of epidemiology and epidemiological method of community health nursing practice.</li> <li>3. Explain the various services provided to the community and the role of the nurse</li> <li>4. Demonstrate skills to practice effective nursing care of the individuals and families in the clinics as well as in their homes, using scientific principles.</li> </ol>
		DGN324 Professional studies	Theory: 40 SDL: 20 Clinical: -	
		DGN325 Practicum	Theory: - SDL: - Clinical: -	
		DGN326 Rural remote	Theory: - SDL: - Clinical: -	
<b>TOTAL HOURS</b>				
<b>YEAR ONE:</b> Theory – 570 SDL – 180 Clinical – 420 <b>YEAR TWO:</b> Theory – 415 SDL – 220 Clinical – 770 <b>YEAR THREE:</b> Theory – 380 SDL – 195 Clinical – 840 <b>OVERALL TOTAL:</b> Theory – 1,960 Clinical – 2,030				

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
Highlands Regional College of Nursing: Goroka – Diploma in General Nursing	<ul style="list-style-type: none"> <li>•To prepare nurses with knowledge, skills and attitudes that will enable them to function competently and effectively in the health care delivery system</li> <li>•To prepare nurses who can accept responsibility for their own professional judgments and continuing professional development</li> <li>•To provide an educational and professional basis for further career developments in nursing practice, nursing education, management and research</li> <li>•To prepare nurses who can work collaboratively with other health professionals to promote and maintain individual, family and community health in Papua New Guinea</li> <li>•The students will acquire knowledge, skills and attitudes on health, wellness and basic science</li> <li>•Students will have an understanding and awareness of</li> </ul>	DGN101 Fundamental skills for nursing practice 1	Total: 100	<ol style="list-style-type: none"> <li>1. To equip students with essential knowledge and skills to provide basic nursing care</li> <li>2. Demonstrate an ability to assess a patient and record findings</li> <li>3. Perform appropriate nursing procedures for the care of patients hygiene, temperature regulation, comfort, mobility and elimination needs, safety and protection, fluid/nutrition</li> <li>4. Implement infection prevention procedures and practice</li> <li>5. Understand the place of nursing observations in the care of the sick</li> <li>6. Make nursing care plans for patients and execute the plan as required</li> <li>7. Demonstrate the correct method of collecting specimens, recording reports carrying out urinalysis</li> <li>8. Describe the importance of First Aid Care</li> <li>9. Prioritise (triage) first aid care for the injured</li> <li>10. Demonstrate practical first aid skills</li> </ol>
		DGN111 Nursing practice 1A	Total: 150	<ol style="list-style-type: none"> <li>1. To explore the concept of health and wellness in daily life of individuals and community</li> <li>2. To observe and apply knowledge of human growth and development in different settings</li> <li>3. Identify the human growth and development pattern across the lifespan</li> <li>4. Discuss the importance of play and activities in development of social skills of the children</li> <li>5. Identify the resources for health promotion and health education in the community</li> </ol>
		DGN152 Family and child health	Total: 100	<ol style="list-style-type: none"> <li>1. To equip the student with essential knowledge and skills to promote health in the communities</li> <li>2. To have the basic understanding of human growth and development</li> <li>3. To equip the student with necessary knowledge and skills to improve the community's nutritional status</li> <li>4. Actively involve in providing appropriate assistance to families and communities to maintain hygiene and sanitation at all times</li> <li>5. Recognize the family structure and the role of the parents</li> <li>6. Generate motivation and vigor in families and communities for self help in thriving to maintain health</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<p>the concepts of health and wellness in nursing</p> <ul style="list-style-type: none"> <li>•Students will begin to develop skills of self-directed learning</li> </ul>			<ol style="list-style-type: none"> <li>7. Describe the stages of growth and development from conception to old age</li> <li>8. Recognize different milestones of children at different developmental stages</li> <li>9. Discuss the impact of the environment on the health of individuals and community</li> <li>10. Outline nutritional values of different foods and their relationship to health and diseases</li> </ol>
	<ul style="list-style-type: none"> <li>•Students understand the concept of primary health care and develop effective teaching strategies</li> <li>•Students will acquire communication skills and understanding of interpersonal relationship</li> <li>•Students will begin to develop assessment skills, basic-nursing skills and skill of obtaining information to enhance nursing practice</li> <li>•Students will acquire knowledge, skills to recognise disease and disease process and their nursing management</li> </ul>	<p>DGN161 Health sciences – anatomy, physiology and microbiology</p>	<p>Total: 150</p>	<ol style="list-style-type: none"> <li>1. To equip students with knowledge and skills to compare and contrast malfunctioning of the body structures with the normal functions</li> <li>2. Provide students the avenue to explore the different microorganisms responsible for causing different diseases</li> <li>3. Confidently discuss the comprehension of basic biological principles</li> <li>4. Defined basic anatomical, physiological and microbiological terminology</li> <li>5. Demonstrate a knowledge of the structure and functions of cells, tissues, body fluids and organ system</li> <li>6. Use the available forms of biological resource materials with understanding</li> <li>7. Demonstrate a knowledge of the microbial world and the interaction between microbes and host</li> <li>8. Appreciate the complex workings of the immune system</li> <li>9. Plan strategies for the control of micro-organisms in the community and clinical environment</li> <li>10. Discuss with confident the transmission and control of infection</li> <li>11. Collection of specimens and preparation for examination</li> <li>12. Demonstrate the ability to use microscope efficiently</li> <li>13. Have discuss the importance of: Identifying casual organisms and sensitive antibiotics, sterilizing of equipments, taking universal precautions</li> <li>14. Discuss and explain the changes to the human body in relation to health and disease</li> <li>15. Understand and appreciate the importance of homeostasis and the body's coping mechanisms</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<ul style="list-style-type: none"> <li>•Students will develop skills of holistic assessment and practice in a variety of settings</li> <li>•Students will develop an understanding of the legal and ethical issues that affect nursing practice</li> <li>•Students will begin to appreciate the importance of research in nursing practice</li> <li>•Students will acquire further knowledge and skills to recognise disease and disease process and their management</li> <li>•Student will begin to incorporate research findings to improve their nursing practice</li> </ul>	DGN191 Communication and introduction to information technology	Total: 100	<ol style="list-style-type: none"> <li>1. To equip the students with appropriate communication skills needed to communicate effectively in the work environment using language that is easy to understand</li> <li>2. To assist students with oral and written English language needed in professional practice</li> <li>3. To introduce the students to the use of information technology</li> <li>4. Be confident with basic grammar and usage of everyday terms/words in verbal and written communication</li> <li>5. Show confident to use the library, take notes at lectures, demonstrate study skills, write assignments and reports</li> <li>6. Describe the learning theories and the important principles of adult learning and teaching</li> <li>7. Demonstrate the characteristics of a good teacher and good learner</li> <li>8. Confidently and professionally use both the telephone and two way radio</li> <li>9. Demonstrate knowledge of types of communication and application</li> <li>10. Understand the importance of listening and demonstrate listening skills</li> <li>11. Demonstrate appropriate communication skills when interacting with peers, tutors and clinical staff</li> <li>12. Begin to develop skills of becoming a self-directed learner</li> <li>13. Name basic parts of the computer describe its function</li> <li>14. Use a computer as a tool for word processing and managing data</li> <li>15. Accurately record information</li> </ol>
	<ul style="list-style-type: none"> <li>•Students will gain knowledge and skills of leadership and management in health practice</li> <li>•Students will apply their teaching skills for health promotion and education in wider community and rural health</li> </ul>	DGN122 Nursing practice B	Total: 200	<ol style="list-style-type: none"> <li>1. To integrate basic nursing knowledge and skills competently into practice in community and hospital setting</li> <li>2. Confidently perform nursing procedures at basic level</li> <li>3. Identify correct resources prior to performing procedures</li> <li>4. Demonstrate basic understanding of infection control</li> <li>5. Participate in rural/village activities</li> <li>6. Plan health promotion activities with the councillors and other village leaders</li> <li>7. Deliver a health promotion activity in the community</li> <li>8. Identify the health education needs of the community</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<ul style="list-style-type: none"> <li>• Demonstrate accountability and responsibility for their nursing practice</li> <li>• Demonstrate an ability to assume a leadership and consultative role within the health team</li> <li>• Demonstrate a positive attitude and respect for people regardless of race, gender, culture, economic circumstances and or beliefs</li> <li>• Perform preventive and therapeutic activities at high standards to promote maintain and restore health</li> <li>• Uphold the Papua New Guinea Nursing Competency Standards stated by the PNG Nursing Council</li> <li>• Implement the goals and policies of the National Health Plan 2001 – 2010</li> </ul>	DGN142 Healthy living	Total: 100	<ol style="list-style-type: none"> <li>1. To provide students with knowledge and skills to differentiate between well and sick</li> <li>2. To provide students the opportunity to participate in the health promotion activities</li> <li>3. Define the terms 'wellness' and 'sickness' with accuracy</li> <li>4. Identify the fundamental needs of a well person/individual</li> <li>5. Discuss the responsibility each individual person had towards self healing and self control</li> <li>6. Identify and plan ways of promoting and maintaining good health</li> <li>7. Discuss the concept of Primary Health Care</li> <li>8. Discuss the complementary health available in PNG such as herbology</li> <li>9. Discuss the effect of alcohol, smoking, betel-nut and drug</li> </ol>
		DGN131 Context of nursing	Total: 100	<ol style="list-style-type: none"> <li>1. Provide the avenue for students to explore the historical developments of nursing in Papua New Guinea</li> <li>2. Provide opportunity for students to discover legal implications on nursing</li> <li>3. Provides students with guidelines to practice nursing in the spheres of code of ethics</li> <li>4. Outline and explain the historical developments of nursing profession in Papua New Guinea</li> <li>5. Become aware of the role of the nurses as the patient's advocate</li> <li>6. Discuss the role of the nurse in resolving important ethical issues within the health service industry</li> <li>7. Describe the roles and functions of the nursing council in PNG</li> <li>8. Discuss the implications of Civil and Criminal law as it relates to safe nursing practice in Papua New Guinea</li> <li>9. Understand the unique political characteristics of PNG that affect the delivery of health services</li> <li>10. Understand the procedures and policy of sexual harassment</li> </ol>
		DGN172 Pharmacology and mathematics in nursing 1	Total: 100	<ol style="list-style-type: none"> <li>1. To provide students with essential knowledge and skills to apply mathematical calculations on required areas of nursing</li> <li>2. To provide students with the basic principles of pharmacology in nursing practice</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
	<ul style="list-style-type: none"> <li>●Skilfully apply a problem solving approach to care for individuals, families and communities in any setting</li> <li>●Use the primary health care approach to mobilize, teach and provide support for individuals, families, groups and community to care for their own health</li> <li>●Be responsible for own professional development with an awareness of changing health care needs</li> <li>●Demonstrate an understanding of the contribution of information technology and research to the body of nursing knowledge and health</li> </ul>			<ol style="list-style-type: none"> <li>3. Apply basic mathematics in calculating drug dosages and IV drip rates</li> <li>4. Demonstrate skills of graphing and charting of medication</li> <li>5. Demonstrate knowledge of general drug classification</li> <li>6. Demonstrate knowledge of specific storage and handling</li> <li>7. Demonstrate ability to administer medication safely</li> <li>8. Develop awareness of the principles of drug actions, side effects and administration</li> </ol>
		DGN182 Health sociology, psychology and culture	Total: 100	<ol style="list-style-type: none"> <li>1. Provide student the opportunity to explore different cultures, attitude and practices in Papua New Guinea and their relationship to health</li> <li>2. Provide the basic psychology knowledge and assessment to use as a tool for problem solving</li> <li>3. Effectively discuss past, present and changing social and cultural values and the impact they have on the people's life</li> <li>4. Respond to the changing roles of males, females and children in the developing social structure of Papua New Guinea</li> <li>5. Discuss factors influencing the psychological development of a person</li> <li>6. Outline the process of crisis and stress intervention</li> </ol>
		DGN201 Fundamental skills for nursing practice 2	Total: 150	<ol style="list-style-type: none"> <li>1. To enable students to consolidate and integrate previous knowledge and basic nursing skills to more advance nursing skills</li> <li>2. To equip students with essential knowledge and skills to provide optimal nursing care</li> <li>3. Demonstrate the ability to competently utilize a variety of appropriate skill to meet the clients needs in different setting</li> <li>4. Discuss the rational underlining the safe practice of skills in nursing laboratory and practice setting</li> <li>5. Integrate nursing theory and related principles for implementing of nursing skills</li> </ol>
		DGN221 Nursing practice - paediatrics	Total: 100	<ol style="list-style-type: none"> <li>1. To develop knowledge and competency in meeting basic needs for paediatric clients</li> <li>2. To apply basic skills in health education in paediatrics setting</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>3. Promote health and prevent common childhood diseases through health education/teaching and interaction with the family</li> <li>4. Identify and apply nursing intervention for common medical/surgical conditions affecting children</li> <li>5. Implement the nursing process as a tool to assess, plan, implement and evaluate nursing practice.</li> <li>6. Document information, interpret and report prompt accurate data (subjective/objective) to supervisors in written and verbal forms of communication</li> <li>7. Demonstrate the skills in administering immunization</li> <li>8. Demonstrate understanding of pharmacology and its relation to the child</li> <li>9. Discuss legal, ethical and advocacy issues as they relate specifically to the child and family.</li> </ol>
		DGN231 Nursing practice – medical surgical 1	Total: 150	<ol style="list-style-type: none"> <li>1. To become competent in the assessment and diagnosis of medical surgical conditions</li> <li>2. To become competent in implementation of nursing care and evaluation of the outcome in Medical/Surgical settings</li> <li>3. Perform holistic assessment based on nursing process</li> <li>4. Diagnose medical and surgical problems from the assessment</li> <li>5. Apply specific medical and surgical nursing interventions</li> <li>6. Discuss specific medications used for Med/Surg conditions</li> <li>7. Understand the different diagnostic procedures related to medical surgical nursing</li> <li>8. Apply nursing process when addressing identified problems</li> <li>9. Evaluate the effectiveness of nursing care given to determine the future direction of care</li> <li>10. Apply the medical surgical knowledge for patient education</li> </ol>
		DGN251 Paediatric nursing	Total: 100	<ol style="list-style-type: none"> <li>1. To equip the students with the essential knowledge and skills in paediatric nursing</li> <li>2. Gain insight to the health needs of PNG children</li> <li>3. Become aware of the common causes of deaths among young children in Papua New Guinea</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>4. Utilize problem solving skills to assess and determine signs and symptoms of common health problems among young children and manage them accordingly</li> <li>5. Utilize communication skills to obtain subjective and objective data, including various histories to help establish the diagnosis</li> <li>6. Provide necessary information/counselling to prevent further attacks of similar episode in the future</li> <li>7. Provide health education/promotion opportunities</li> </ol>
		DGN261 Medical and surgical nursing 1	Total: 100	<ol style="list-style-type: none"> <li>1. To equip the students with the knowledge and skills to assess and manage medical surgical problems</li> <li>2. To provide the students with the knowledge and skills to execute appropriate care to medical and surgical conditions</li> <li>3. To provide the students with the knowledge and skills for patient education in medical surgical context</li> <li>4. Describe common medical and surgical problems such as cancer, TB, typhoid fever, diabetes, infectious diseases and cardiovascular diseases</li> <li>5. Discuss the cause of each problems where it is known</li> <li>6. Utilize problem solving skills to assess signs and symptoms and determine diagnosis</li> <li>7. Understand the different diagnostic procedures related to medical surgical nursing</li> <li>8. Identify nursing interventions associated with medical surgical conditions</li> <li>9. Apply nursing process when addressing identified problems</li> <li>10. Evaluate the effectiveness of nursing care given to determine the future direction of care</li> <li>11. Apply the medical surgical knowledge for patient education</li> </ol>
		DGN281 Pharmacology and nursing 2	Total: 100	<ol style="list-style-type: none"> <li>1. To provide the student with essential knowledge and skills to calculate the drugs and administer them correctly</li> <li>2. To provide specific knowledge and skills regarding different medications used in nursing practice</li> <li>3. Have the clear knowledge of different groups of medications such as penicillin, and other antibacterial, anti-tuberculosis, antimalarials</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>4. Demonstrate the knowledge on the action of each drug, common side effects, and important interaction with other common medications</li> <li>5. Be familiar with drug catalogues and be able to use it effectively</li> <li>6. Have the knowledge of administering and recording of dangerous drugs</li> <li>7. Identifying the common traditional/herbal drugs</li> <li>8. Understand the legal issues related to administration of medication</li> </ol>
		DGN212 Nursing practice – women’s health	Total: 100	<ol style="list-style-type: none"> <li>1. To equip the nurse with clinical application of skills in obstetric, family planning and care of the newborn</li> <li>2. Utilize nursing process as a tool for assessing, planning, managing and evaluating nursing care for antenatal mothers, prenatal and postnatal mothers</li> <li>3. Apply theoretical skills related to antenatal, prenatal and postnatal care in this practice</li> <li>4. Utilize opportunities for health education and promotion with clients and their families</li> <li>5. Use problem solving skills in managing care</li> <li>6. Assist the clients and provide accurate information regarding choices on family planning</li> <li>7. Participate in the care of the new born babies</li> </ol>
		DGN272 Community family health services practice	Total: 150	<ol style="list-style-type: none"> <li>1. To apply nursing knowledge and skills in a specific rural settings</li> <li>2. Promote and plan health education program specific to the needs of the rural health setting</li> <li>3. Apply Knowledge and skills of assessment, planning, implementation and evaluation of Primary Health Care and health Island Concept in specific settings</li> <li>4. Initiate and organize community development programs</li> <li>5. Liase and work collaboratively with other social organizations such as churches to teach and promote health in the community</li> <li>6. Develop health promotion program to promote immunization</li> <li>7. Develop the health promotion program for awareness of the specific community in relation to STD/HIV/AIDS</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				8. Liaise with the women group of a specific community to develop series of health promotion/health education programs
		DGN292 Research in nursing 1	Total: 50	<ol style="list-style-type: none"> <li>To enable the students to understand the value of research in nursing and its application in nursing practice</li> <li>Define research</li> <li>Discuss its relevance and application in nursing practice</li> <li>Describe the common terminologies in conducting research</li> <li>Learn how to review a research report</li> <li>Describe the basic steps in doing research</li> </ol>
		DGN2001 Professional issues in nursing	Total: 100	<ol style="list-style-type: none"> <li>To provide students with the necessary information on the nursing profession and its practices both nationally and internationally</li> <li>To provide the students with knowledge and skills in dealing with ethical issues in nursing practice</li> <li>To provide students with information regarding new trends in nursing practice</li> <li>Discuss own philosophy of nursing</li> <li>Recognize the roles and functions of PNG Nursing Council and Nurses Association and their contribution in each of these organisations</li> <li>Demonstrate knowledge of specific Acts that has an impact on nursing practice in PNG</li> <li>Discuss the politics in nursing and health care</li> <li>Demonstrate knowledge and understanding of PNG Code of Ethics and Code of Conduct</li> <li>Demonstrate knowledge of ethics and solving ethical problems</li> <li>Demonstrate knowledge of International Nursing Council's roles and responsibilities</li> </ol>
		DGN242 Women's health and care of newborn	Total: 100	<ol style="list-style-type: none"> <li>To prepare student nurses with knowledge, skills and attitudes to: Appreciate maternal health care during normal pregnancy, normal labour, delivery and postnatal period. Appreciate the needs of newborn babies</li> <li>Demonstrate knowledge of the physiological changes and the process of normal pregnancy, birth and puerperium</li> <li>Demonstrate knowledge of antenatal care; provide nutrition advice, hygiene, activities and rest</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>4. Provide educational support and preparation for parenthood</li> <li>5. Use the nursing process to assess, plan and manage normal delivery</li> <li>6. Demonstrate the skill in monitoring mother and foetus during normal labour including detecting and reporting any abnormalities in the process in foetus or mother</li> <li>7. Demonstrate the skills required in caring for the neonate after birth</li> <li>8. Provide postnatal care</li> <li>9. Provide education for infant breast feeding</li> <li>10. Provide advise on optional methods of family planning</li> </ol>
		DGN301 Fundamental skills for nursing practice 3	Total: 50	<ol style="list-style-type: none"> <li>1. To equip the students with essential knowledge and skills to provide advance nursing care</li> <li>2. Apply communication skills in assessing needs of the mentally ill clients</li> <li>3. Demonstrate knowledge and skills in conducting group therapy for mentally ill clients</li> <li>4. Implement the nursing process in a nursing care plan for identified conditions</li> <li>5. Apply knowledge and skills of suctioning and CPR for care of new born</li> </ol>
		DGN311 Nursing practice – women’s health	Total: 150	<ol style="list-style-type: none"> <li>1. To broaden the skills and knowledge to provide antenatal care and assist in abnormal delivery</li> <li>2. To apply knowledge and skills for different women’s health problem</li> <li>3. To have the opportunity to see the effect of social structure on women’s health in PNG</li> <li>4. Utilize problem solving skills in clinical practice</li> <li>5. Apply theoretical knowledge and skills related to antenatal, prenatal and postnatal care in this care</li> <li>6. Assist unit manager with administrative duties</li> <li>7. Admit and manage complicated cases under the supervision of trained graduate staff</li> <li>8. Utilize PNG Nursing Competency Standards as the basis for the practice</li> <li>9. Utilize opportunity for health education and promotion with clients and their families</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				10. Discuss and provide counselling to couples on women's health issues 11. Assess and transfer women with obstetric or gynaecological conditions to doctor
		DGN331 Nursing practice – mental health and mental illness	Total: 150	1. To enhance student's knowledge, comprehension and advance nursing communication skills with clients who are experiencing mental illness 2. Identify and differentiate various mental disorders 3. Demonstrate the ability to accurately assess clients' needs 4. Assess and manage different mental health problems effectively 5. Implement legal and ethical knowledge to professional practice in Mental Health settings 6. Develop knowledge of specific medication used for mental illness 7. Examine the application of specific Acts and policies in mental illness settings 8. Participate in group therapy in mental health/illness settings
		DGN341 Women's health and care of new born 2	Total: 100	1. To equip students with essential knowledge and skills in providing care for women experiencing abnormal pregnancy, labour, and delivery 2. To equip students with essential knowledge and skills in providing care for the neonate 3. To have knowledge of psychosocial impact on the health of women in PNG 4. Apply nursing process to identify health problems that can arise for the expectant women during pregnancy, delivery and in the postnatal period 5. Discuss ways of caring for the neonate and addressing problems that may develop 6. Discuss ways in which the nursing process can be used as a tool for solving problems relating to pregnancy, delivery and neonate 7. Manage abnormal delivery effectively 8. Recognize abnormalities/problems of newborn babies early and manage accordingly 9. Utilize the previously gained medical surgical knowledge in dealing with women's health issues such as:

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<p>Hysterectomy, dilatation, and curettage, ectopic pregnancy etc</p> <p>10. Discuss the impact of power imbalance and social structure in PNG on women's health</p> <p>11. Analyse the psychosocial and mental health needs of mother after giving birth</p>
		DGN361 Mental health and mental illness	Total: 100	<ol style="list-style-type: none"> <li>To enable students to develop appropriate knowledge and skills for mental illness</li> <li>To enable students to understand the accepted standard and expected competency when caring for mental ill clients</li> <li>Identify the development and presentation of major mental health disorders</li> <li>Utilize nursing process as a tool for assessing, planning, implementing, and evaluating care in a mental illness setting</li> <li>Provide care and information that is accurate, appropriate and acceptable to the patient and the patient's family</li> <li>Demonstrate knowledge of pharmacology and routine medications used for mentally ill clients</li> <li>Identify the legal and ethical issues in relation to admission, discharge, and transfer of mental ill patients</li> <li>Analyse the scope of nursing practice including advocacy role as well as legal issues that impact on nursing in mental health setting</li> <li>Demonstrate understanding of principles and process involving with communication with person expecting mental illness</li> </ol>
		DGN322 Nursing practice – medical and surgical 2	Total: 150	<ol style="list-style-type: none"> <li>To implement problem solving technique in holistic assessment of the client</li> <li>To enable students to gain further experience of specific medical surgical context</li> <li>To enable students to apply rehabilitation knowledge into practice</li> <li>To enable students to apply management skills in medical surgical context</li> <li>Utilize problem-solving technique to assess, plan and provide care in specific medical surgical settings</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>6. Demonstrate advance knowledge of medical/surgical conditions and their nursing interventions</li> <li>7. To utilize PNG Nursing Competency standards as the basis for practice</li> <li>8. Utilize research finding to improve medical/surgical nursing practice</li> <li>9. Evaluate nursing care in relation to ethical and legal issues in medical surgical setting</li> <li>10. Apply knowledge of rehabilitation in practice</li> </ol>
		DGN352 Medical and surgical nursing 2	Total: 100	<ol style="list-style-type: none"> <li>1. To enable students to consolidate and integrate the previous knowledge and skills to develop the understanding of medical and surgical conditions and their interventions</li> <li>2. To enable students to gain further knowledge and skills of medical surgical conditions</li> <li>3. To enable students to learn knowledge and skills of rehabilitation process</li> <li>4. To enable students to learn organizational management of a medical surgical settings</li> <li>5. Assess specific medical and surgical conditions</li> <li>6. Identify the life style changes due to disease process and discuss the management and rehabilitation of each</li> <li>7. Evaluate the current rehabilitation knowledge and process and their application in PNG context</li> <li>8. Evaluate the current organizational management in medical surgical settings</li> <li>9. Discuss new strategies for managing medical surgical settings</li> </ol>
		DGN372 Community/rural health (theory and practice)	Total: 100	<ol style="list-style-type: none"> <li>1. To equip students the knowledge and skills to monitor, assess and evaluate the community health services and the community development programs in rural and urban settings</li> <li>2. To promote safe environment for good quality life of individuals and communities</li> <li>3. Describe the standards for district health services</li> <li>4. Review effectiveness of fixed and mobile maternal and child health clinics</li> <li>5. Participate in healthy island concept to schools and communities</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				<ol style="list-style-type: none"> <li>6. Set up network to participate and monitor the activities of the community health services</li> <li>7. Initiate proposals to address community health issues like water supply in collaboration with other government agencies</li> <li>8. Utilise research findings in addressing community health issues</li> <li>9. Work with and through village leaders to bring about changes in the community</li> <li>10. Demonstrate the ability to plan school health programs and conduct school health visits/examinations</li> <li>11. Identify school children with complications and refer to specialist for specialist treatment</li> </ol>
		DGN382 Research in nursing	Total: 50	<ol style="list-style-type: none"> <li>1. To provide the opportunity for students to integrate the previous knowledge and skills into practice</li> <li>2. To learn the skills of reviewing literature</li> <li>3. To learn the skills of applying the research findings in practice</li> <li>4. Describe the skills required for reviewing literature</li> <li>5. Review a selection of research reports</li> <li>6. Apply new research findings in specific practice setting</li> <li>7. Have the knowledge and understanding of ethical issues in research</li> </ol>
		DGN392 Nursing management and leadership (theory and practice)	Total: 250	<ol style="list-style-type: none"> <li>1. To equip the students with the essential knowledge and skills in leadership, management and quality assurance as basis for performing at managerial role in a variety of settings</li> <li>2. To apply previously gained nursing knowledge and skills in a chosen practice setting</li> <li>3. Demonstrate basic management and leadership theories/skills</li> <li>4. Discuss the application of management theories in nursing practice</li> <li>5. Apply problem solving skills in assessing needs, planning and implementing care for clients</li> <li>6. Utilise research findings to improve quality of care for clients</li> <li>7. Identify the importance of quality assurance system in care of clients</li> </ol>

Course	Program Aims and Objectives	Program Structure	Course Hours	Subject Aims and Objectives
				8. Apply the management skills to improve health care outcome 9. Discuss the skills of managing emergency and disaster
<b>TOTAL HOURS</b> <b>YEAR ONE:</b> Theory – 850 Clinical – 350 <b>YEAR TWO:</b> Theory – 650 Clinical – 550 <b>YEAR THREE:</b> Theory – 500 Clinical – 700 <b>OVERALL TOTAL:</b> Theory – 2000 Clinical – 1600				

**Appendix 4: Example of topics, assessment and clinical skills for one curriculum**

Course	Program Aims and Objectives		Course Hours	Subject Aims and Objectives	Assessment																			
St Barnabas School of Nursing – Diploma in General Nursing	<ul style="list-style-type: none"> <li>•Provide students with coherent and detailed knowledge of contemporary nursing practice, principles and concepts that underpin that practice as well as enabling them to think critically, to reflect on their practice and to make sound clinical judgments based on evidence. This prepares the students with the knowledge, skills and attitudes to enable them to function effectively as health workers in any setting.</li> <li>•Provide an educational and professional basis for advanced education in nursing practice, teaching, administration and research.</li> <li>•Gain a coherent and detailed knowledge of contemporary nursing practice and know and understand the principles and concepts that underpin that practice.</li> <li>•Demonstrate the ability to critically evaluate evidence, concepts, arguments and assumptions about the</li> </ul>	<p align="center"><b><u>DGN111 Applied Principles and Practices in Nursing</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	L: 40 T/L: 30 Theory = 70  SDL: 20  Clinical: 4 weeks	<ol style="list-style-type: none"> <li>1. Outline the historical development of the nursing profession.</li> <li>2. Identify nursing roles and responsibilities in addressing ethical and legal issues within the health service industry. (1.1)</li> <li>3. Develop a holistic perspective to nursing assessment and care therefore acknowledging the complexities of the patient/client as a unique individual within the broader context of family and community.</li> <li>4. Outline strategies for controlling micro-organisms in the clinical environment.</li> <li>5. Demonstrate competency in performing basic nursing skills at a beginner's level in a variety of health care settings.</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 Essay 1220 – 1500 words.</td> <td>1 &amp; 2</td> <td>30%</td> </tr> <tr> <td></td> <td>Mid semester test (block test)</td> <td>2, 3 &amp; 4</td> <td>30%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1, 2, 3, 4, 5</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 Essay 1220 – 1500 words.	1 & 2	30%		Mid semester test (block test)	2, 3 & 4	30%	S	Final semester examination	1, 2, 3, 4, 5	40%			
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	<p align="center"><b><u>DGN112 Science in Nursing: Anatomy and Physiology I</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	L: 45 T/L: 25 Theory=70  SDL: 20  Clinical: 0	<ol style="list-style-type: none"> <li>1. Explain how basic chemistry is applied in nursing</li> <li>2. Explain the body systems and processes</li> <li>3. Describe the cell and its division</li> <li>4. Describe the different tissues and their functions, type of glands and their functions</li> <li>5. Describe the anatomy and physiology of the</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 (essay or research and discussion)</td> <td>6,7</td> <td>20%</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3</td> <td>20%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>4,5</td> <td>20%</td> </tr> <tr> <td>S</td> <td>Final examination</td> <td>1, 2, 3, 4 &amp; 5</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 (essay or research and discussion)	6,7	20%		Block test 1	1,2,3	20%		Block test 2	4,5	20%	S	Final examination	1, 2, 3, 4 & 5	40%
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<p>practice of nursing and can make clinical judgments on the basis of their evaluation of the data, evidence and ideas.</p> <ul style="list-style-type: none"> <li>•Are able to function as nurses in any health setting, competently, professionally and with empathy and understanding.</li> <li>•Have the skills to review, consolidate, extend, apply and teach the knowledge and techniques that they have acquired.</li> <li>•Perform preventive and therapeutic activities to promote, maintain and restore health</li> <li>•Demonstrate accountability for his/her nursing practice</li> <li>•Demonstrate the ability to assume a leadership and consultative role within the health team and community</li> </ul>			<p>integumentary, sensory and respiratory systems</p> <ol style="list-style-type: none"> <li>6. Demonstrate understanding of the principles of microbiology, the microbial world and the interaction between microbes and host</li> <li>7. Explain immunity and the defence mechanism.</li> </ol>																									
	<p><b><u>DGN113 Pharmacology</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L: 25 T/L: 35 Theory: 60</p> <p>SDL: 20</p> <p>Clinical: 0</p>	<ol style="list-style-type: none"> <li>1. Describe the use of traditional medicine and value</li> <li>2. Appreciate and know the history of pharmacology including the pharmacology of traditional herbal medications and demonstrate the preparation of different herbal medications available in PNG to treat common diseases</li> <li>3. Identify and discuss, with examples, sources and forms of drugs, commonly used drug names, drug classification, administration, storage and handling as well as the legal aspects of drug administration</li> <li>4. Discuss pharmacokinetic principles of drug action and describe the</li> </ol>	<table border="1"> <thead> <tr> <th style="background-color: #00FF00;">T</th> <th style="background-color: #00FF00;">Task</th> <th style="background-color: #00FF00;">LO</th> <th style="background-color: #00FF00;"></th> </tr> </thead> <tbody> <tr> <td rowspan="4">F</td> <td>Assignment 1</td> <td>4</td> <td>15%</td> </tr> <tr> <td>Assignment 2</td> <td>3</td> <td>15%</td> </tr> <tr> <td>Mid semester test 1</td> <td>1, 2, 3</td> <td>15%</td> </tr> <tr> <td>Mid semester test 2</td> <td>4, 5, 6</td> <td>15%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1, 2, 3, 4,5 &amp; 6</td> <td>40%</td> </tr> <tr> <td>C</td> <td>Doing a stock take</td> <td>3</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1	4	15%	Assignment 2	3	15%	Mid semester test 1	1, 2, 3	15%	Mid semester test 2	4, 5, 6	15%	S	Final semester examination	1, 2, 3, 4,5 & 6	40%	C	Doing a stock take	3
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	<ul style="list-style-type: none"> <li>•Demonstrate a positive attitude towards, and respect for, people regardless of race, culture, economic circumstances and/or beliefs</li> <li>•Apply a problem-solving approach to caring for individuals, families and communities in any setting</li> <li>•Mobilise, teach and provide support for individuals, families, groups and communities to care for their own health</li> <li>•Use a primary health care approach to help meet the basic health needs in the community Be responsible for his/her self-development and awareness of changing health care trends.</li> </ul>			<p>different effects drug action may have on the body as well as the factors affecting medication actions</p> <ol style="list-style-type: none"> <li>5. Identify and classify the frequently used antimicrobial drugs, and describe correctly the use, action, side effects, precautions, contra-indications, and storage of antibiotics</li> <li>6. Demonstrate ability to perform drug calculation and use of the standard treatment books when administering medications to patients.</li> </ol>																																			
	<p style="text-align: center;"><b><u>DGN114 Communication Studies</u></b></p> <p style="text-align: center;"><b><u>CP=8</u></b></p>	<p>L=35 T/L: 15 Theory: 50</p> <p>SDL: 15 Clinical: 0</p>	<ol style="list-style-type: none"> <li>1. Demonstrate good learning and study skills as an adult learner</li> <li>2. Find and use books and information efficiently and responsibly</li> <li>3. Use medical terminology at a beginning level</li> <li>4. Use writing skills, appropriate for written assignments, taking notes from a lecture, writing official letters and reports</li> <li>5. Communicate both verbally (including over the radio and</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 Essay 1200 – 1500 words.</td> <td>1,2</td> <td>25%</td> </tr> <tr> <td></td> <td>Assignment 2 Research</td> <td>6,7</td> <td>25%</td> </tr> <tr> <td></td> <td>Assignment 3 Script Writing</td> <td>7</td> <td>10%</td> </tr> <tr> <td>S</td> <td>End of semester test</td> <td>1-7</td> <td>40%</td> </tr> <tr> <td>C</td> <td>CONDUCTING WARD ROUNDS</td> <td>5</td> <td></td> </tr> <tr> <td>C</td> <td>TAKING WARD REPORTS</td> <td>4</td> <td></td> </tr> <tr> <td>C</td> <td>WRITING WARD REPORTS</td> <td>4</td> <td></td> </tr> <tr> <td>C</td> <td>PRESENTING WARD REPORTS</td> <td>5</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 Essay 1200 – 1500 words.	1,2	25%		Assignment 2 Research	6,7	25%		Assignment 3 Script Writing	7	10%	S	End of semester test	1-7	40%	C	CONDUCTING WARD ROUNDS	5		C	TAKING WARD REPORTS	4		C	WRITING WARD REPORTS	4		C	PRESENTING WARD REPORTS	5
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				<p>telephone) and non-verbally with tutors, health workers, peers and patients</p> <p>6. Understand how to apply the dynamics of communication in health care settings</p> <p>7. Develop and demonstrate effective communication skills including interviewing and basic counselling skills.</p>	<table border="1"> <tr> <td>C</td> <td>DISCHARGING A PATIENT</td> <td>5</td> <td></td> </tr> <tr> <td>C</td> <td>REFERRING A PATIENT</td> <td>5</td> <td></td> </tr> <tr> <td>C</td> <td>USING A TWO-WAY RADIO</td> <td>5</td> <td></td> </tr> <tr> <td>C</td> <td>CONDUCTING A MEETING</td> <td>5 &amp; 7</td> <td></td> </tr> </table>	C	DISCHARGING A PATIENT	5		C	REFERRING A PATIENT	5		C	USING A TWO-WAY RADIO	5		C	CONDUCTING A MEETING	5 & 7	
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	<p><b><u>DGN115 Health Socio Culture</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L: 35 T/L: 20 Theory: 55</p> <p>SDL: 15</p> <p>Clinical: 0</p>	<ol style="list-style-type: none"> <li>1. Define health, sociology and culture and describe aspects of a healthy individual and community</li> <li>2. Identify their own cultures, cultural values and the effects of these on living and health</li> <li>3. Identify the roles of women and men within these settings and explore the impact of child rearing practices on health care</li> <li>4. Describe the effects of urbanisation, population growth and unemployment in PNG</li> <li>5. Identify the effects of socio-economic change on their own communities</li> <li>6. Identify common health problems resulting from changes in lifestyle</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 Essay 1500 words</td> <td>2,3,</td> <td>30%</td> </tr> <tr> <td></td> <td>Assignment 2 Research</td> <td>5,6,7, 8</td> <td>40%</td> </tr> <tr> <td></td> <td>Block test</td> <td>1, 4, 6, 7 &amp; 8</td> <td>30%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 Essay 1500 words	2,3,	30%		Assignment 2 Research	5,6,7, 8	40%		Block test	1, 4, 6, 7 & 8	30%	
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			<p>7. Identify and appreciate the effects of gender and cultural practices on health care</p> <p>8. Apply understanding and sensitivity to helping individuals and communities in crisis.</p>																																																					
		<p>L: 30 T/L: 30 Theory: 60</p> <p>SDL: 20</p> <p>Clinical: 6 weeks</p>	<p>1. Perform drug administration and drug documentation procedures competently</p> <p>2. Perform basic nursing skills competently in a variety of settings</p> <p>3. Use common laboratory techniques</p> <p>4. Recognise an emergency situation and perform basic first aid skills competently</p> <p>5. Arrange for transport and transport casualty to the nearest health facility.</p>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 Research and discussion</td> <td>2</td> <td>40%</td> </tr> <tr> <td></td> <td>Mid semester test</td> <td>1,2,3</td> <td>20%</td> </tr> <tr> <td></td> <td>Practical skills assessment</td> <td>4,5</td> <td>40%</td> </tr> <tr> <td>C</td> <td>ADMINISTERING DRUGS</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING INTRA-MUSCULAR INJECTIONS</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING SUBCUTANEOUS INJECTIONS</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING INTRA-DERMAL INJECTIONS</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING INTRAVENOUS INJECTIONS</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING AN INSULIN INJECTION</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING ORAL MEDICATION</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>ADMINISTERING ORAL MEDICATION TO A CHILD</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>INSERTION OF A RECTAL SUPPOSITORY</td> <td>1</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 Research and discussion	2	40%		Mid semester test	1,2,3	20%		Practical skills assessment	4,5	40%	C	ADMINISTERING DRUGS	1			ADMINISTERING INTRA-MUSCULAR INJECTIONS	1			ADMINISTERING SUBCUTANEOUS INJECTIONS	1			ADMINISTERING INTRA-DERMAL INJECTIONS	1			ADMINISTERING INTRAVENOUS INJECTIONS	1			ADMINISTERING AN INSULIN INJECTION	1			ADMINISTERING ORAL MEDICATION	1			ADMINISTERING ORAL MEDICATION TO A CHILD	1			INSERTION OF A RECTAL SUPPOSITORY	1	
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			<p>of the urinary and reproductive systems and their disorders in the body</p> <p>4. Identify and explain the structure and function of the endocrine and nervous systems and their disorders in the body.</p>																					
	<p><b><u>DGN123 Nursing Calculation</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L: 40 T/L: 20 Theory: 60</p> <p>SDL: 20</p> <p>Clinical: 0</p>	<p>1. Perform basic mathematics calculations of whole numbers, decimal numbers, fractions as well as conversions in the metric system and to apply the knowledge correctly in nursing calculations</p> <p>2. Calculate time correctly and to apply this knowledge to the calculation of drug times, length of labour, dates of clinic visits, expected dates of delivery, ages of neonates and children</p> <p>3. Fill in, read and interpret weight graphs, observation charts, cervico-graphs and iv fluid balance charts correctly in either assessing growth of children or monitoring a patient's condition</p> <p>4. Calculate mortality and morbidity / immunization rates.</p>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="4">F</td> <td>Assignment 1</td> <td>3</td> <td>20%</td> </tr> <tr> <td>Assignment 2</td> <td>1</td> <td>10%</td> </tr> <tr> <td>Block test 1</td> <td>1</td> <td>10%</td> </tr> <tr> <td>Block test 2</td> <td>2</td> <td>20%</td> </tr> <tr> <td>S</td> <td>Final examination</td> <td>1, 2, 3 &amp; 4</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1	3	20%	Assignment 2	1	10%	Block test 1	1	10%	Block test 2	2	20%	S	Final examination	1, 2, 3 & 4
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		<p align="center"><b><u>DGN124 Health Education and Promotion</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	<p>L: 35 T/L: 20 Theory: 55</p> <p>SDL: 15</p> <p>Clinical: 1 week</p>	<ol style="list-style-type: none"> <li>1. Explain the Healthy Island Concept and how this is used to keep the community healthy</li> <li>2. Explain what is meant by primary health care and community based health care and what effects they have on health in the communities</li> <li>3. Explore and assess the effect of the environment on the health of the community</li> <li>4. Demonstrate an understanding of health promotion, maintenance and disease prevention</li> <li>5. Demonstrate understanding of health promotion and disease prevention through teaching</li> <li>6. Demonstrate ability to provide health education in a variety of settings.</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="3">F</td> <td>Assignment 1 Research and report writing</td> <td>3</td> <td>20%</td> </tr> <tr> <td>Assignment 2 Essay on village experience</td> <td>1,2, &amp; 3</td> <td>30%</td> </tr> <tr> <td>Assignment 3 Health talk</td> <td>4, 5 &amp; 6</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test</td> <td>1, 2 &amp; 3</td> <td>20%</td> </tr> <tr> <td>C</td> <td>HEALTH TALK TO THE COMMUNITY</td> <td>5</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 Research and report writing	3	20%	Assignment 2 Essay on village experience	1,2, & 3	30%	Assignment 3 Health talk	4, 5 & 6	30%		Block test	1, 2 & 3	20%	C	HEALTH TALK TO THE COMMUNITY	5	
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		<p align="center"><b><u>DGN125 Safe Motherhood</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	<p>L: 25 T/L: 10 Theory: 35</p> <p>SDL: 20</p> <p>Clinical: 4 weeks</p>	<ol style="list-style-type: none"> <li>1. Define conception and describe the process of fetal growth &amp; development</li> <li>2. Describe the fetal skull and its relationship to the mother</li> <li>3. Diagnose pregnancy and describe the</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Scenario</td> <td>4,5,6</td> <td>10%</td> </tr> <tr> <td></td> <td>Assignment – Family Planning</td> <td>6</td> <td>10%</td> </tr> <tr> <td></td> <td>Assignment – Antenatal Care</td> <td>3,4,5</td> <td>10%</td> </tr> </tbody> </table>	T	Task	LO		F	Scenario	4,5,6	10%		Assignment – Family Planning	6	10%		Assignment – Antenatal Care	3,4,5	10%						
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				physiological changes during pregnancy 4. State the aims of care during pregnancy 5. State the care given during pregnancy 6. Provide appropriate advice and supply available methods of family planning.	<table border="1"> <tr> <td></td> <td>Mid semester test 1</td> <td>1,2</td> <td>15%</td> </tr> <tr> <td></td> <td>Mid semester test 2</td> <td>1,2</td> <td>15%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1,6</td> <td>40%</td> </tr> <tr> <td>ICS</td> <td>Role play scenario – counselling skills (scenario and checklist to be developed)</td> <td>6</td> <td></td> </tr> <tr> <td>C</td> <td>ENROLMENT OF AN ANTENATAL WOMAN ON HER 1<sup>ST</sup> VISIT</td> <td>5</td> <td></td> </tr> <tr> <td></td> <td>PHYSICAL EXAMINATION OF ANTE NATAL MOTHER</td> <td>5</td> <td></td> </tr> <tr> <td></td> <td>ABDOMINAL PALPATION</td> <td>5</td> <td></td> </tr> <tr> <td></td> <td>ANTE-NATAL TESTS – URINE, BLOOD ETC</td> <td>5</td> <td></td> </tr> <tr> <td></td> <td>CONDUCTING A FAMILY PLANNING CLINIC</td> <td>6</td> <td></td> </tr> <tr> <td></td> <td>ROUTINE ANTE NATAL CLINICS</td> <td>5</td> <td></td> </tr> <tr> <td></td> <td>PERFORM BREAST EXAMINATION</td> <td>5</td> <td></td> </tr> </table>		Mid semester test 1	1,2	15%		Mid semester test 2	1,2	15%	S	Final semester examination	1,6	40%	ICS	Role play scenario – counselling skills (scenario and checklist to be developed)	6		C	ENROLMENT OF AN ANTENATAL WOMAN ON HER 1 <sup>ST</sup> VISIT	5			PHYSICAL EXAMINATION OF ANTE NATAL MOTHER	5			ABDOMINAL PALPATION	5			ANTE-NATAL TESTS – URINE, BLOOD ETC	5			CONDUCTING A FAMILY PLANNING CLINIC	6			ROUTINE ANTE NATAL CLINICS	5			PERFORM BREAST EXAMINATION	5	
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	<p align="center"><b><u>DGN211 Medical Surgical Nursing I</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	L: 35 T/L: 20 Theory: 55 SDL: 25	1. Describe physiological and pathophysiological changes that occur in disease and injury 2. Demonstrate problem solving approaches in	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Oral presentation – 30 minutes</td> <td>1,2,3,4</td> <td>10%</td> </tr> </tbody> </table>	T	Task	LO		F	Oral presentation – 30 minutes	1,2,3,4	10%																																					
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		Clinical: 4 weeks	<p>patient care and management</p> <p>3. Demonstrate clinical practical skills in assessment, care and management of individuals with physiological and pathophysiological disorders</p> <p>4. Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals.</p>	<table border="1"> <tr> <td></td> <td>Assignment - written report on clinical case study</td> <td>1,2,3,4</td> <td>20%</td> </tr> <tr> <td></td> <td>Mid semester test</td> <td>1,2,3,4</td> <td>30%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1,2,3,4</td> <td>40%</td> </tr> <tr> <td>C</td> <td>HISTORY TAKING</td> <td>2, 3</td> <td></td> </tr> <tr> <td>Clinical</td> <td>SKIN ASSESSMENT AND TREATMENT</td> <td>2,3</td> <td></td> </tr> <tr> <td>Clinical</td> <td>HEALTH TALK</td> <td>3</td> <td></td> </tr> </table>		Assignment - written report on clinical case study	1,2,3,4	20%		Mid semester test	1,2,3,4	30%	S	Final semester examination	1,2,3,4	40%	C	HISTORY TAKING	2, 3		Clinical	SKIN ASSESSMENT AND TREATMENT	2,3		Clinical	HEALTH TALK	3																					
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<p><b><u>DGN213 Obstetric Nursing I</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L: 20 T/L: 15</p> <p>Theory: 35</p> <p>SDL: 20</p> <p>Clinical: 2 weeks</p>	<ol style="list-style-type: none"> <li>1. Diagnose and treat complications during pregnancy</li> <li>2. Define normal labour</li> <li>3. Describe the physiology in each of the three stages of labour</li> <li>4. Describe the signs &amp; symptoms in each of the labour stages</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment – case study</td> <td>1</td> <td>20%</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>2,3,4,5</td> <td>20%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>6,7,8</td> <td>20%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1-8</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment – case study	1	20%		Block test 1	2,3,4,5	20%		Block test 2	6,7,8	20%	S	Final semester examination	1-8	40%																														
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			<p>5. Describe the care and management given to women in labour</p> <p>6. Describe the physiological changes of the neonate at birth and the immediate care and assessment of the neonate</p> <p>7. Demonstrate the skills of examination of the neonate at birth in sequence to detect abnormalities</p> <p>8. Demonstrate the skill of post natal care given to both mother and neonate during the puerperium.</p>	C	LABOUR WARD ADMISSION	5	
					PERFORMING VAGINAL EXAMINATION	5	
					PERFORMING ARTIFICIAL RUPTURE OF MEMBRANES	5	
					PERFORMING NORMAL VAGINAL DELIVERY	5	
					EXAMINATION OF THE NEW BORN BABY (APGAR SCORE)	7	
					ACTIVE MANAGEMENT OF THE THIRD STAGE (MEASURING PV LOSS)	5	
					DELIVERY & EXAMINATION OF THE PLACENTA AND MEMBRANES	5	
					EXAMINATION & REPAIR OF TEARS (EPISIOTOMY)	5	
					DAILY EXAMINATION OF THE NEONATE & CORD CARE	6	
					PERFORMING POST-NATAL CHECKS	8	
					GIVING BREAST FEEDING ADVICE	8	

	<p style="text-align: center;"><b><u>DGN214 Child Health</u></b></p> <p style="text-align: center;"><b><u>CP=8</u></b></p>	<p>L: 25 T/L: 15 Theory: 40</p> <p>SDL: 25</p> <p>Clinical: 2 weeks</p>	<ol style="list-style-type: none"> <li>1. Explore and compare theories of growth and development across the life span.</li> <li>2. Demonstrate an understanding of normal growth and development and the care children need to aid healthy development</li> <li>3. Monitor growth and nutritional status of infants and children</li> <li>4. Demonstrate clinical practice skills in the assessment of sick children</li> <li>5. Understand common procedures in Paediatric Nursing</li> <li>6. Diagnose and treat different types of malnutrition.</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment – Research</td> <td>1,2,3,4,5,6</td> <td>40%</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3,</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>4, 5, 6</td> <td>30%</td> </tr> <tr> <td>c</td> <td>ASSESSMENT OF A CHILD</td> <td>4</td> <td></td> </tr> <tr> <td></td> <td>USE OF THE EIGHT STEP CHECKLIST</td> <td>4</td> <td></td> </tr> <tr> <td></td> <td>USE OF THE TEN STEP CHECKLIST</td> <td>4</td> <td></td> </tr> <tr> <td></td> <td>MODIFYING A NURSING CARE PLAN</td> <td>4</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment – Research	1,2,3,4,5,6	40%		Block test 1	1,2,3,	30%		Block test 2	4, 5, 6	30%	c	ASSESSMENT OF A CHILD	4			USE OF THE EIGHT STEP CHECKLIST	4			USE OF THE TEN STEP CHECKLIST	4			MODIFYING A NURSING CARE PLAN	4	
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<p style="text-align: center;"><b><u>DGN215 Community, Family and Child Health</u></b></p> <p style="text-align: center;"><b><u>CP=8</u></b></p>	<p>L: 20 T/L: 15 Theory: 35</p> <p>SDL: 20</p> <p>Clinical: 2 weeks</p>	<ol style="list-style-type: none"> <li>1. Understand the application of the Healthy Islands Concept to empower the community</li> <li>2. Outline strategies for controlling micro-organisms in the community</li> <li>3. Participate in conducting and evaluating a 'well baby clinic'</li> <li>4. Participate in community projects designed to promote and maintain the health</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment (report from village experience)</td> <td>4</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>3,5, 6</td> <td>40 %</td> </tr> <tr> <td>C</td> <td>ASSESSING A HEALTHY BABY</td> <td>3</td> <td></td> </tr> <tr> <td></td> <td>RURAL HEALTH GENERAL</td> <td>3, 4 &amp; 5</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Assignment (report from village experience)	4	30%		Block test 1	1,2,3	30%		Block test 2	3,5, 6	40 %	C	ASSESSING A HEALTHY BABY	3			RURAL HEALTH GENERAL	3, 4 & 5										
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		<p><b><u>DGN225 Integral Human Development</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L:25 T/L:10 Theory: 35</p> <p>SDL: 15 Clinical: 0</p>	<ol style="list-style-type: none"> <li>1. Demonstrate a basic knowledge of the Bible</li> <li>2. Apply Christian teachings in their interaction with patients</li> <li>3. Identify and appreciate the basic moral and Christian values and recognize the importance especially of the moral value of respect for all life, especially human life</li> <li>4. Appreciate the importance of living their life in the Church and the spiritual blessings and growth they receive through the word of God, worship, liturgy and prayer</li> <li>5. Understand and believe that natural gifts, and,</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 (Essay 1500 words)</td> <td>1,2</td> <td>20%</td> </tr> <tr> <td></td> <td>Assignment 2 (Research &amp; discussion)</td> <td>3,4</td> <td>20%</td> </tr> <tr> <td></td> <td>Mid semester test 1</td> <td>1,2,3,4</td> <td>20%</td> </tr> <tr> <td>S</td> <td>End of semester test</td> <td>1,2,3,4,5</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 (Essay 1500 words)	1,2	20%		Assignment 2 (Research & discussion)	3,4	20%		Mid semester test 1	1,2,3,4	20%	S	End of semester test	1,2,3,4,5	40%				
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			acquired knowledge and skills are strengthened by spiritual gifts to care for the patients																										
		<p><b><u>DGN311 Medical Surgical Nursing III</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L:35 T/L:20 Theory: 55</p> <p>SDL: 25</p> <p>Clinical: 10 weeks</p>	<ol style="list-style-type: none"> <li>1. Demonstrate understanding of the physiological and pathophysiological changes that occur in disease and injury</li> <li>2. Demonstrate clinical practice skills in assessment, care and management of individuals with physiological and pathological disorders</li> <li>3. Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals</li> <li>4. Understand the importance of an interdisciplinary approach to the care of patients.</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Case Study : Research, Discussion &amp; Report</td> <td>1,2,3,4</td> <td>30%</td> </tr> <tr> <td></td> <td>Mid semester test</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td>S</td> <td>Final examination</td> <td>1,2,3</td> <td>40%</td> </tr> <tr> <td>C</td> <td>NEUROLOGICAL – GLASGOW COMA SCALE</td> <td>3</td> <td></td> </tr> <tr> <td></td> <td>PATIENT CLINICAL HISTORY TAKING &amp; ANALYSIS &amp; DIAGNOSIS &amp; TREATMENT PLAN</td> <td>1, 2</td> <td></td> </tr> </tbody> </table>	T	Task	LO		F	Case Study : Research, Discussion & Report	1,2,3,4	30%		Mid semester test	1,2,3	30%	S	Final examination	1,2,3	40%	C	NEUROLOGICAL – GLASGOW COMA SCALE	3			PATIENT CLINICAL HISTORY TAKING & ANALYSIS & DIAGNOSIS & TREATMENT PLAN	1, 2	
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	PATIENT CLINICAL HISTORY TAKING & ANALYSIS & DIAGNOSIS & TREATMENT PLAN	1, 2																											
		<p><b><u>DGN312 Sexual Reproductive Health</u></b></p> <p><b><u>CP=8</u></b></p>	<p>L:20 T/L:15 Theory: 35</p> <p>SDL: 20</p> <p>Clinical: 2 weeks</p>	<ol style="list-style-type: none"> <li>1. Diagnose and manage specific sexual reproductive health problems of both male and female</li> <li>2. Understand the criteria for deciding to refer patients with complications</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment – case study</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test</td> <td>1 &amp; 4</td> <td>30%</td> </tr> <tr> <td>S</td> <td>Final semester examination</td> <td>1,2,3,4</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment – case study	1,2,3	30%		Block test	1 & 4	30%	S	Final semester examination	1,2,3,4	40%								
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			<ol style="list-style-type: none"> <li>3. Perform gynaecological procedures</li> <li>4. Understand local birth practices.</li> </ol>	<table border="1"> <tr> <td>C/S</td> <td>UNDERSTAND HOW TO PERFORM A SPECULUM EXAMINATION</td> <td>3</td> <td></td> </tr> </table>	C/S	UNDERSTAND HOW TO PERFORM A SPECULUM EXAMINATION	3													
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	<p><b><u>DGN313 HealthCare in PNG</u></b></p> <p><b><u>CP=8</u></b></p>	L:20 T/L:15 Theory: 35  SDL: 20  Clinical: 0	<ol style="list-style-type: none"> <li>1. Explain how the health care system in PNG is organised and operated at various levels</li> <li>2. Critically analyse the current health situation in the country</li> <li>3. Name and explain goals and priorities of the current National Health Plan</li> <li>4. Discuss the importance of the Health Information systems</li> <li>5. Discuss epidemiology and how to control epidemics.</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment – research &amp; discussion</td> <td>1,2,3,4</td> <td>40 %</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>4,5</td> <td>30%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment – research & discussion	1,2,3,4	40 %		Block test 1	1,2,3	30%		Block test 2	4,5	30%
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	Block test 1	1,2,3	30%																	
	Block test 2	4,5	30%																	
	<p><b><u>DGN314 Nursing Research I</u></b></p> <p><b><u>CP=8</u></b></p>	L:20 T/L:15 Theory: 35  SDL: 20  Clinical: 0	<ol style="list-style-type: none"> <li>1. Define research and associated terminology</li> <li>2. Understand research and its relevance and application in any health setting</li> <li>3. Outline the different types and methods of research</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>O</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 – 2,500 word essay</td> <td>3</td> <td>40 %</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>1,2,3</td> <td>30%</td> </tr> </tbody> </table>	T	Task	O		F	Assignment 1 – 2,500 word essay	3	40 %		Block test 1	1,2,3	30%		Block test 2	1,2,3	30%
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	Block test 2	1,2,3	30%																	
	<p><b><u>DGN315 Christian Professional Ethics</u></b></p> <p><b><u>CP=8</u></b></p>	L:20 T/L:15 Theory: 35  SDL: 20  Clinical: 0	<ol style="list-style-type: none"> <li>1. Discuss the relevance of the messages from the epistles and Revelations to nursing</li> <li>2. State the responsibility of the Christian nurse toward the patient</li> <li>3. Discuss ethical issues from a Christian point of view</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment - 1500 word essay</td> <td>1,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Assignment – research and discussion</td> <td>4,5,6, 7</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment - 1500 word essay	1,3	30%		Assignment – research and discussion	4,5,6, 7	40%				
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F	Assignment - 1500 word essay	1,3	30%																	
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				<ol style="list-style-type: none"> <li>4. Identify and appreciate the basic moral and Christian values and recognize the importance especially of the moral value of respect for all life, especially human life</li> <li>5. Value the Christian vision of the human person as well as the person-centered morality in which love is the highest moral value and the service of life the basis of ethics for nurses</li> <li>6. Understand and apply the different Christian and basic assessment principles that form the basis for moral assessment and respect the sanctity of the personal conscience</li> <li>7. Make moral assessments and decisions related to the nurse-to-patients and nurse-to-other-staff relationship as well as the problems related to the service of life.</li> </ol>	<table border="1"> <tr> <td></td> <td>Block test</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>2,3,4,7</td> <td>30%</td> </tr> </table>		Block test					2,3,4,7	30%
		Block test											
		2,3,4,7	30%										
	<p align="center"><b><u>DGN321 Medical Surgical Nursing IV</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	L:30 T/L:20 Theory: 50  SDL: 25	<ol style="list-style-type: none"> <li>1. Demonstrate understanding of the physiological and patho-physiological changes that occur in disease and injury</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Case Study: research, discussion &amp; report</td> <td>1,2,3</td> <td>20%</td> </tr> </tbody> </table>	T	Task	LO		F	Case Study: research, discussion & report	1,2,3	20%	
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F	Case Study: research, discussion & report	1,2,3	20%										

			Clinical: 10 weeks	<ol style="list-style-type: none"> <li>Demonstrate clinical practice skills in assessment, care, and management of individuals with physiological and pathological</li> <li>Utilize the nursing process as a problem solving approach in managing patients during illness and recovery and in maintaining and promoting health in healthy individuals</li> <li>Understand the importance of an interdisciplinary approach to the care of patients</li> <li>Discuss the basic concept of mental illness and the signs and symptoms of different types of mental illnesses</li> <li>Identify the roles and functions of mental health nursing in the hospitals</li> <li>Assess and care for individuals with mental illness or intellectual or physical disability.</li> </ol>	<table border="1"> <tr> <td></td> <td>Role play on assessment &amp; treatment of mental illness</td> <td>5,6,7</td> <td>10%</td> </tr> <tr> <td></td> <td>Mid semester test</td> <td>5,6,7</td> <td>30%</td> </tr> <tr> <td>S</td> <td>Final examination</td> <td>1,2,3,4,5,6,7</td> <td>40%</td> </tr> <tr> <td>C</td> <td>PATIENT CLINICAL HISTORY TAKING, ANALYSIS, DIAGNOSIS &amp; TREATMENT PLAN</td> <td>1, 2</td> <td></td> </tr> </table>		Role play on assessment & treatment of mental illness	5,6,7	10%		Mid semester test	5,6,7	30%	S	Final examination	1,2,3,4,5,6,7	40%	C	PATIENT CLINICAL HISTORY TAKING, ANALYSIS, DIAGNOSIS & TREATMENT PLAN	1, 2	
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<p align="center"><b><u>DGN322 Nursing Management/Administration</u></b></p> <p align="center"><b><u>CP=8</u></b></p>	L:25 T/L:15  Theory: 40 SDL: 25 Clinical: 0	<ol style="list-style-type: none"> <li>Define the basic skills required in managing a health care facility</li> <li>Demonstrate leadership in setting and achieving the goals</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1 1500 word essay</td> <td>4</td> <td>30%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1 1500 word essay	4	30%										
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F	Assignment 1 1500 word essay	4	30%																		

				<p>and priorities required to organise work, time and supplies</p> <p>3. Discuss the roles of the nurse in maintaining standards in patient care</p> <p>4. Apply leadership and management skills in the workplace in various setting eg. conflict prevention and management, financial budgeting and control, obtaining of donor funds.</p>	<table border="1"> <tr> <td>Assignment 2 Research &amp; discussion</td> <td>1</td> <td>30%</td> </tr> <tr> <td>Block test</td> <td>1,2,3,4</td> <td>40%</td> </tr> </table>	Assignment 2 Research & discussion	1	30%	Block test	1,2,3,4	40%									
	Assignment 2 Research & discussion	1	30%																	
Block test	1,2,3,4	40%																		
	<p><b><u>DGN323 Community Health</u></b></p> <p><b><u>CP+8</u></b></p>	<p>L:30 T/L:25 Theory: 55</p> <p>SDL: 20</p> <p>Clinical: 0</p>	<p>1. Identify the roles of the nurse and of the different sectors of the community in planning, implementing and evaluating the development of community health activities and programs</p> <p>2. Understand the relevance of primary health care to sustainable development</p> <p>3. Have knowledge of the applications of the Healthy Islands Concept to empower the community</p> <p>4. Describe the relationship between physical and mental health and what causes mental stress</p>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment – rural village project report</td> <td>7,8,9</td> <td>40%</td> </tr> <tr> <td></td> <td>Block test 1</td> <td>1,2,3</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test 2</td> <td>4,5,6</td> <td>30%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment – rural village project report	7,8,9	40%		Block test 1	1,2,3	30%		Block test 2	4,5,6	30%
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	Block test 2	4,5,6	30%																	

			<ol style="list-style-type: none"> <li>5. Identify the roles and functions of mental health nursing in the community</li> <li>6. Recognise forms of crises in the community and advice on appropriate interventions</li> <li>7. Identify and work with resource people to promote and participate in primary health care programs</li> <li>8. Evaluate the effectiveness of specific primary health care programs</li> <li>9. Participate in community based health care and its related activities.</li> </ol>																
	<p style="text-align: center;"><b><u>DGN324 Professional Ethics</u></b></p> <p style="text-align: center;"><b><u>CP=8</u></b></p>	L:25 T/S:15 Theory: 40  SDL: 20  Clinical: 0	<ol style="list-style-type: none"> <li>1. Define professionalism and discuss the professional code of conduct</li> <li>2. Discuss the Papua New Guinea Constitution, human rights issues and the legal and ethical implications of patient care</li> <li>3. Outline the roles and functions of national and international medical and nursing councils and associations relevant to nursing in Papua New Guinea</li> </ol>	<table border="1"> <thead> <tr> <th>T</th> <th>Task</th> <th>LO</th> <th></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Assignment 1500 word essay</td> <td>2</td> <td>30%</td> </tr> <tr> <td></td> <td>Assignment – research &amp; discussion</td> <td>4</td> <td>30%</td> </tr> <tr> <td></td> <td>Block test</td> <td>1,2,3</td> <td>40%</td> </tr> </tbody> </table>	T	Task	LO		F	Assignment 1500 word essay	2	30%		Assignment – research & discussion	4	30%		Block test	1,2,3
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	Assignment – research & discussion	4	30%																
	Block test	1,2,3	40%																

				4. Maintain professional services, equipment and supplies in wards and administration areas.				
	<b><u>DGN325 Nursing Research II</u></b>	L:20 T/L:15  Theory: 35  SDL: 20  Clinical: 0	<b><u>CP=8</u></b>	1. Describe the basic steps in the research process 2. Demonstrate skills in preparing a research proposal and writing up of final research findings.	<b>T</b>	<b>Task</b>	<b>LO</b>	
					<b>F</b>	Block test 1	1,2	30%
						Block test 2	1,2	30%
						Research Design Proposal	1,2	40%
<b>TOTAL HOURS</b>								
<b>YEAR ONE:</b> Theory – 570 SDL – 185 Clinical – 560 <b>YEAR TWO:</b> Theory – 380 SDL – 195 Clinical – 704 <b>YEAR THREE:</b> Theory – 380 SDL – 195 Clinical – 770 <b>OVERALL TOTAL:</b> Theory – 1,905 Clinical – 2,034								



**Reviewing and Development of National Curricula Review of the Diploma of General Nursing and Certificate for Community Health Workers**

**Informal Workshop**

**Lamana Hotel Wednesday to Friday 4 August – 6 August**

**Background**

In the past the approach to teaching and learning was based on an industrial model of acquiring new knowledge. That is, students were moved along a line from the beginning of school to the end and on the way filled up with the knowledge and skills that would serve them for the rest of their lives. Nursing programs were also based on a similar model: students were taught skills and practices that tended to be based on custom and practice rather than evidence and research and they were not really expected to need any further education for the rest of their careers.

Over time this has changed, and as is well known knowledge is now increasing at a very rapid rate: it is said that knowledge in medicine is changing so quickly that what is taught in one week can easily be superseded by new knowledge, based on new research in the next week. This means that it is now impossible to teach students everything they need to know for their future.

Indeed, across the world, change is happening at a faster rate than ever before; futurists are predicting that we are moving into a post-industrial millennium. As a result, approaches to learning & education are changing fundamentally. New approaches which lead to innovation and change are required. In other words, we need to prepare learners to deal with an uncertain world, encourage life-long learning and ensure that we harness and apply their interests.

As Papua New Guinea (PNG) works to promote and achieve Universal Health Coverage (UHC), improving the quality of health care services

is a key priority. While financing, regulation, accreditation and governance are key pillars to improvement, the quality of the health workforce remains a crucial component of any plan that is designed to improve healthcare quality.

This informal workshop for revision and development of the National Curricula Review of the Diploma of General Nursing and Certificate for Community Health Workers was requested by National Department of Health (NDOH) to establish early thinking regarding these complex issues. It was carried out at the Lamana Hotel from the 4th to the 6<sup>th</sup> of August 2021. Among the attendees were advisors, key stakeholders from NDOH, DHERST, CCHS, nursing and medical registration boards (see attendance list).

**The purpose of this informal workshop is to:**

1. Enable participants to understand critical review of curriculum.
2. Re-evaluate and review the expectations of graduates from the CHW and Nursing programs. Consider what is needed for the health care of the future, and how we can better prepare practitioners to meet that need,
3. Consider if the competencies identified for each cadre of workers are still fit for purpose,
4. Examine a match between the health priorities in the draft National Health Plan (2021) and in the draft Gap Analysis prepared by WHOCC and identify the specific needs of students to enable them to practice safely and effectively in the PNG health system of the future,
5. Use the curriculum documents to evaluate the likely outcomes of students from the two programs and



**WORLD HEALTH ORGANIZATION COLLABORATING  
CENTRE FOR NURSING, MIDWIFERY & HEALTH DEVELOPMENT**  
BUILDING HEALTH LEADERSHIP AND CAPACITY IN THE WESTERN PACIFIC REGION

consider whether or not they match the expectations identified by the team,

6. Review the base-line survey in the light of the workshop and consider the key questions to be explored.

### Workshop Day 1 – 4<sup>th</sup> of August 2021

At the start of day 1, participants introduced themselves and described their roles. Lina P Wam NDOH HR Manager spoke about the need for an updated curriculum and expresses optimism regarding the results from the informal workshop. Ray Krai, Manager, Sexual & Reproductive Health program of PATH, also shared the importance of this work and the expectation from a grant management perspective and further highlighted the funding support provided by DFAT for the review over the next 3 years. He also thanked all for their support.

Anna Maalsen, AWR, Officer-in-Charge at WHO PNG, highlighted the importance of improving health education to help PNG to achieve the commitments outlined in the new National Health Plan 2021-2030. She also mentioned the need for a transformation of the roles of frontline health workers in order to achieve these commitments. Finally, Anna shared expectations concerning the new curricula and discussed the need for the new curricula to reflect the country's health priority areas.



*Workshop draft competency framework. Can competency and registration be achieved if pillars are weak?*



*Participants on Day 1 of workshop at Lamana Hotel*

Discussions on day 1 started around the positive aspects of the current curricula and identifying what can be improved. Participants highlighted the recent increase in numbers of Higher Education Institutes that offer Nursing and Community Health Worker qualifications. Participants were able to identify potential areas for improvement in both the development and delivery of Nursing and CHW curricula.

The following discussions were centred around participants' expectations regarding the outcomes of the workshop.

Participants discussed the scope of practice of nurses and CHWs and identified the areas of overlap. This discussion led to a brainstorming session to help identify the priority areas of improvement for CHWs and nurses. These priority areas were discussed in line with relevant social determinants of health, National Health Plan 2021-2030 and specific health concerns in PNG.

After establishing priority areas for their health education, participants discussed which behaviours, skills and attitudes they would like nursing and CHW graduates to embody.

At the end of the first day, participants analyzed a framework for curriculum evaluation and then reviewed and discussed the Diploma of General Nursing curriculum in order to identify areas for improvement. Participants were also asked to reflect upon the discussions and to provide their feedback on the following session.

An article and the gap analysis were shared for evening reflection and discussion.



*Participants on Day 2 of workshop*

### **Workshop Day 2 – 5<sup>th</sup> of August 2021**

Discussions on day 2 started with feedback and elaboration upon the dialogues carried out on day 1. Participants expressed how the first session was helpful in raising necessary attention to priority areas and expectations.

In the following discussion, the presenters invited the attendees to have a deeper conversation regarding CHWs scope of practice. Participants reflected on what skills and knowledge CHWs are expected to have, in which settings they are working and whom they report.

After setting the expectations for CHWs, attendees carried out an engaging dialogue covering the strengths and weaknesses of the current Community Health Worker Program.

Presenters then followed up with brief feedback and an analysis of options for modifications of the CHW program, which was then succeeded by a discussion surrounding the likely outcomes now and in the future.

Finally, participants conducted an overall review of the CHW program and identified priorities for its improvement. Attendees were able to have profound discussions regarding how the roles and skills expected from CHWs should be a reflection of the curriculum taught in CHW educational institutions.

A critical review of curriculum using a comparative evaluation tool was shared for evening reflection and discussion.

### **Workshop Day 3 – 6<sup>th</sup> of August 2021**

Day 3 started with a reflection on the discussions carried out in day 2. Attendees provided feedback and expressed how the previous session encouraged a reassessment of priority areas and needs for improvement in the current program for CHW education.

Subsequently, presenters facilitated a review and discussion of competency standards. They encouraged participants to reflect on whether the competency statements reflect the desirable graduate outcomes discussed previously.



*Participants on Day 3 of workshop*

The afternoon of the third day consisted of compiling the results of previous discussions, finding common themes and considering possible next steps. The presenters discussed approaches to assessing the quality of the programs, refinement of the questionnaires and identifying target audiences.

#### **Recommendations and plan for future action**

1. Finalise Steering Committee TOR and membership,
2. Setting up sub working groups for nursing curriculum, CHW curriculum and fast track program,
3. Establishing regular meetings at a relevant location,
4. WHO CC to support local Adviser Mary Roroi and administrator.

#### **Acknowledgment of workshop support from:**

- the PNG-Australia Partnership
- WHO Office PNG
- National Department of Health

**Attendees:**

**Mary Kililo Samor - TA/ Training HR, National Department of Health (NDOH)**

**Dr Nina Joesph - Registrar, PNG Nursing Council**

**Lengi Derring - Coordinator CHS Training Institutions, Christian Health Service (PNG) Secretariat**

**Thelma Ali - Medical Standards, NDOH**

**Dr. Russel Kitau – Medical Board, PNG**

**Julie Dopsie - Education Officer, Pre Service Training**

**Sulpain Passangan - Education Officer, In Service Training**

**Mary Roroi - Interim Chairperson, PNG NGO Nursing and Allied Health Alliance Association**

**Dr Cathy Pilang – Principal, Kumin CHW School (via Zoom)**

**Elsie Vincent - Manager Teacher and Health Education Quality Assurance Division Policy & Quality Assurance Division, Department of Higher Education, Research, Science & Technology**

**Julie Kep - A/Registrar, PNG Nursing Council, NDOH (via Zoom)**

**WHO CC UTS – Support**

**Ms Michele Rumsey – Director, WHO CC UTS, Faculty of Health**

**Di Brown – Academic Lead, WHO CC UTS**

**Lin Lock – Academic and research leader WHO CC UTS**

**Suzanne Rochester- Senior lecturer WHO CC UTS**

**Caroline Havery- Senior lecturer WHO CC UTS**

**Ali Moloney – TAFE curriculum advisor WHO CC UTS**

**Nathalia Rodrigues – WHO CC UTS**

**Tasnuva Tisha – WHO CC UTS**

**Opening remarks**

**Lina P Wam - Technical Adviser HR Policy & Planning, National Dept of Health**

**Anna Maalsen – Acting WHO Representative / Officer-in-Charge, WHO PNG**

**Ray Krai - Manager, Sexual & Reproductive Health Program, PATH program, DFAT**

