COMBINED CONCERTED RESPONSE TO HIV/AIDS PANDEMIC STATUS IN PAPUA NEW GUINEA

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INTRODUCTION

This literature review aims to understand the scope of the HIV/AIDS impact in Papua New Guinea (PNG), and the implications for rural and urban communities, through analysing the HIV/AIDS status. Also, the review will analyse the strengths and weaknesses of the current approaches. The paper will then conclude with a suggested pastoral care and counselling framework that could be adopted by caregivers with individuals, and in community contexts.

Although a lot of work has been put into addressing the HIV/AIDS epidemic, PNG continues to experience gender imbalance, and the crumbling of family and community networks, resulting in increasingly risky behaviours. The Hon. Kela M. Smith, a prominent leader, has said, "While so much aid money has been spent on workshops, conferences, and seminars, nothing seems to be changing. Rather than changing the trends, there seems to be an increase in statistics" (*Post-Courier*, nd).

As well as being a post-graduate student, the researcher is also a pastor in the Baptist Union of Papua New Guinea (BUPNG), which is a stakeholder

in responding to the HIV/AIDS pandemic. BUPNG is a spiritual organisation. However, we have a philosophy that encompasses both the spiritual and the physical, which is expressed in this motto: "Loving God is Serving Holistically". This philosophy defines the scope of our mission, which is to express our love for God, and to endeavour to love the people, and serve them spiritually, morally, and socially, through the following programs:

- Health services;
- Education;
- Community development programs;
- HIV/AIDS;
- Women's programs;
- Youth programs;
- Training;
- Church ministry.

This paper is based on a literature review that will define the HIV/AIDS status in PNG, and analyse the current combined responses from all stakeholders. It will reflect on the lessons from the world scene, and will challenge the prevailing social and cultural trends in PNG. The review will also suggest a counselling framework, and make some recommendations to conclude.

HIV/AIDS STATUS IN PNG

WHAT IS HIV/AIDS?

A good understanding of the nature and effects of the human immunodeficiency virus (HIV) in our immune system, which eventually leads to an acquired immunodeficiency syndrome (AIDS), is necessary in order for caregivers to assist individual victims, families, and the community's well-being (Aggleton, et al, 1994, p.13). Most people of PNG only react to the physical and the social implications of HIV/AIDS, but are still in the dark about the scientific aspects of HIV, and its effect

on the immune system. Care and effort must be taken to make clear presentations in explaining HIV, the immune system, and AIDS, in order for illiterate people to have a clear understanding of the pandemic, and its implications. It will also help to minimise misinterpretation and misunderstanding of HIV, and of people dying from AIDS (Dundon, 2005a; Dundon, 2007).

According to Scott and Diggle (1994), the immune system defends the human body against harmful organisms like viruses, bacteria, or fungi, together with the skin and the mucous membranes (tissues). Special cells are assigned in our blood stream to inactivate these harmful bacteria (pathogen micro-organisms) in the body.

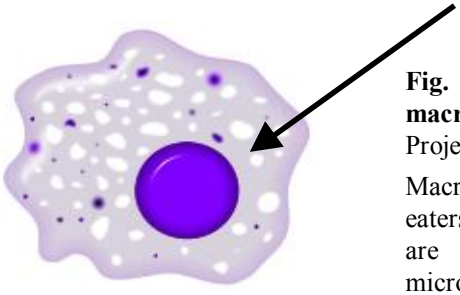
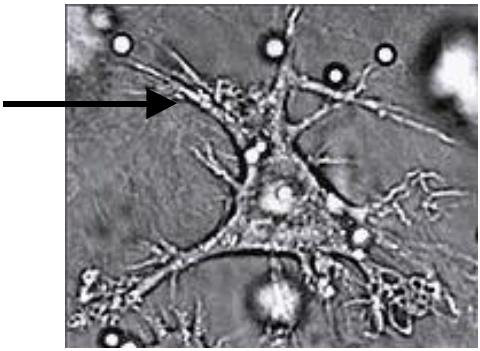


Fig. 1: Microscopic image of a macrophage immune cell (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

Macrophage immune cells are called big eaters (Gk *macro*=big, *phage*=eat). They are placed at strategic points where microbials invade the body. Different names apply to the specific roles they play in parts of the body (See Appendix 2: Fig. 9.

Fig. 2: Microscopic image of macrophage immune cells stretching out to capture harmful foreign microbial organisms in the blood system (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)



However, research has discovered that, when the immune system breaks down, the body becomes vulnerable to infectious bacteria, and this is

called immunodeficiency.[1] As Sheldon (2009) explains, HIV, on entering the body, attacks the other cells, after penetrating the host cell and slowly destroying it (See Appendix 2: Fig. 5). However, it may remain dormant with a window period of perhaps five to 12 years, depending on the character of the virus, or the immunity level of the host cell (Aggleton, et al, 1994; McPherson, 2008). This is said to be a more dangerous period, because there are no symptoms of infection, and the virus can be transmitted to unsuspecting partners within this period (UNGASS, 2008; ADF, 2000).

AIDS is the progressive infectious condition caused by HIV. HIV can be transmitted through contaminated body fluids, such as, blood from childbirth, blood transfusion or other blood products, semen, or vaginal secretions, and by use of needles or syringes that are contaminated (Hutchinson, 2001).

HIV, itself, does not kill, but it destroys the immune system, making the body vulnerable to opportunist bacteria, like tuberculosis and flu viruses. As HIV attacks the cells of the immune system, the virus damages the cells' function. As a result, the immune system gradually deteriorates, making it vulnerable to infections and disease.[2]

THE EFFECTS OF HIV/AIDS IN PNG

Since the first detection of HIV in 1987 (AusAid Evaluation of PNG NHASP, 2005, p. viii; Dundon and Wilde, 2007, p. 4), PNG today faces the daunting experience of an exponential growth in the HIV/AIDS pandemic (ANHASP, 2005, pp. 1-3; Benton, 2008, pp. 314-315; Cullen, 2006, p. 155). The generalised status was declared after HIV prevalence exceeded 1.5 percent in Port Moresby General Hospital (Luker, 2003; UNDASS, 2008). The growth within three years (2003-2006) was 18,484 (46 percent males, 48 percent female, 6 percent unknown). By the end of 2007, it was estimated there were between 59,537 to 100,000 infections (UNGASS, 2008). The infected were among the most sexually-active

[1] See Appendix 2: Fig. 7.
[2] See Appendix 2: Fig. 7.

group of people within the range of 15-49-year-olds, however 60 percent of those infected people did not know their status.

The urban centres have an estimated 7,000 to 8,000 people with HIV/AIDS, with the prevalence rate of 1.38 percent. But the majority (an estimated 51,594 infections) is to be found in the rural areas, with the prevalence rate of 1.65 percent (AusAid Evaluation of PNG NHASP, 2005; Cullen, 2006, p. 155; Luker, 2003; O'Reilly, 2006; UNGASS, 2008; Wardlow 2007, p. 1007). This is where 85 percent of PNG's total population lives, and these areas are faced with a lack of basic services in health, education, and transportation (Dundon and Wilde, 2007; O'Reilly, 2006; UNGASS, 2008; Wardlow, 2007). With the current trend, it is predicted that, by 2015, PNG will reach one million infections (Cullen, 2006, p. 155; Dundon and Wilde, 2007; Gray, et al, 2009, p. 656; Hammer, 2007, p. 72). This will have devastating social and economic impacts on households, businesses, and the government (Cullen, 2006, p. 164; Lewis, et al, 2008; Odu, et al, 2008, pp. 91, 184; Sladden, T., 2005, pp. 23-37). It is, therefore, important that the current trend may be reversed. To do this will involve addressing prevailing social trends and sexual attitudes.

According to medical and social empirical data, the main routes of HIV infection are through heterosexual and same-sex activities. STI/STD infections are said to also increase the risk of HIV infection (Cullen, 2006; Luker, 2003; Nattrass, 2009; Nyanzi, et al, 2008). Loon (2008) asserts that when the sexually-transmitted infections (STIs) (STD = sexually-transmitted diseases) are untreated, the physical body becomes vulnerable to HIV. Nattrass (2009) adds that malnutrition also weakens the immune system, thereby creating more opportunities for HIV/STI infection. For instance, genital herpes[3] is said to enhance HIV prevalence in Sub-Saharan Africa (Abu-Raddad, L., et al, 2008; Ngozi, 2007). According to Malau (1999, p. 70) similar trends were seen in PNG with STD/STI cases. For example, in 1987, for every 10,000 people, 106 people were infected with STI/STD, and this infection trend is now repeated with the HIV/AIDS

[3] See Appendix 1: Word and Term Definitions.

pandemic. PNG is fourth in the Asia Pacific region after Thailand, Cambodia, and Myanmar, with its fast-growing HIV/AIDS infection prevalence rate (Dundon and Wilde, 2007, p. 4; UNGASS 2008, p. 10).

The HIV/AIDS phenomenon, according to Pep (in Cullen, 2006, p. 155) "is a time bomb that is already exploding", affecting the core social fabric of the nation: the youth, women, and family units, eventually, the economy and the government. However, studies show that the focus of interventions is currently concentrated in the urban centres, and not much awareness, surveillance, education, and training are reaching the rural populous, where 85 percent of the people are ignorant and uninformed of the risks (Cullen, 2006, pp. 155-157; Dundon and Wilde, 2007, p. 2; Hammer, 2007, p. 72; UNGASS, 2008).

According to Lewis, et al (2008, p. 183), "The spread of HIV in Papua New Guinea is influenced by social (*economic*)[4] and cultural context." Therefore we need the political will, and a whole-hearted commitment, in making resources available, through effective and applicable national strategies (UNGASS, 2008; KwaZulu Natal University Symposium Report, 1999). Unless immediate preventive and effective palliative measures are collectively developed and implemented by all stakeholders, PNG will be overwhelmed by the epidemic.

NEED FOR COMBINED RESPONSE FROM ALL STAKEHOLDERS

PNG needs a concerted, combined, and multifaceted response from all stakeholders, at all levels, to combat the HIV/AIDS threat (Cullen, 2006, p. 155; Hammers, 2007; O'Reilly, 2006, p. 12). Through programs to minimise the infection rates, and in providing palliative care for those that are impacted by HIV/AIDS, all our resources and strategies would be synergised to achieve the desired results (Cullen, 2006; Dundon and Wilde, 2007; Hammer, 2007; Lewis, et al, 2008; Renault, 2004; Wardlow, 2007).

To effectively respond, we need strong, committed leadership, and workable long-term innovative strategies (Cullen, 2006, p. 156; Piot,

[4] Italics mine.

2005; Malau, 2005) from the political leadership, government line-agencies, corporate and private sectors, educational institutions, disciplinary forces, NGOs, donor agencies, churches, and the communities, both in rural and urban settings (Aggleton, et al, 1994). As Tricket and Schensul (2009, p. 377) suggest, "Change can be hastened by multiple, simultaneous, carefully-planned actions that independently and synergistically result in movement towards the desired end."

PNG GOVERNMENT'S RESPONSE

The government, in its national response to the HIV/AIDS pandemic, has developed certain policies and strategies. It passed a bill for the National AIDS Council Secretariat (NACS), and legislated its roles and responsibilities in 1998 (NGASS, 2008; PNGNHASP, 2007). The NACS board members[5] oversee five advisory committees: behavioural change, medical experts, legal and ethical advice, research, and sectoral response. Also in its GoPNG Medium-term Development Strategy (MTDS) for 2005-2010, the government placed HIV/AIDS as one of the six expenditure priorities (PNGNHASP, 2007; UNGASS, 2008).

However, according to reports, in implementing the programs, through NACS and PNG National HIV/AIDS Support Project (PNGNHASP), the government's overall oversight, control, and funding commitments have being minimal (UNGASS, 2008). For instance, in NACS's six-year multi-sectoral advocacy and prevention programs from 2000-2006, the government only provided 10 percent of a total budget of K59 million. Out of this budget, 90 percent came from the donor agencies, and AusAid provided 95 percent of the donor funds (PNGNHASP, 2005). As the other developing nations demonstrated, one of the major factors in reducing and controlling the spread of HIV/AIDS is the government's sustained commitment to increase funding from the budget. This is the means of taking ownership (Commonwealth Universities Response Symposium Report, 1999; Cullen, 2006; Gusman, nd).

[5] See Appendix 1:7 for the make up of NACS board members.

With other new policies[6] and program initiatives (O'Reilly, 2006; Patrick, 2005; UNGASS, 2008, p. 11;), and the outsourcing process in decentralising key implementation functions to other stakeholders, the government needs to show continued leadership and commitment in funding, and aptitude in management and control over the following multi-sectoral programs (PNGNHASP, 2005):

- Education and training;
- Care and counselling;
- Peer education, monitoring, and surveillance;
- Advocacy and prevention (through information, education, and communication – IEC).

The multi-sectoral approach does build capacity, confidence, and trust, as seen in other developing nations, where governments partner with NGOs and the churches, and thus make positive inroads in the HIV/AIDS war (Dundon, 2007; Gusman, nd; PNGNHASP, 2005; Yankah and Aggleton, 2008).

However, to engage the whole nation (Cullen, 2007; NHASP, 2005; UNGASS), preventive and palliative care programs have to be contextual and relevant (Patterson and Reimer, 2004), and informed by qualitative and quantitative research data. Programs need to take into account the rugged geography and diverse traditional, socio-economic, and cultural issues (Cullen, 2007; PNGNHASP, 2005; UNGASS, 2008), so that the value-systems, attitudes, practices, and lifestyles that encourage the HIV/AIDS spread, will be specifically addressed (Cullen, 2006; Dundon and Wilde, 2007; Hammer, 2007; Lepani, 2008; O'Reilly, 2006; PNGNHASP, 2005; Wardlow, 2007).

Seven priority areas in the National Strategic Plan (NSP) on HIV/AIDS for 2006-2010 have been adopted, but, unless there is leadership and commitment by the appointed stakeholders, like the PNG Business

[6] See Appendix 1:6 for government policy details.

Coalition Against HIV/AIDS (BAHA), and PNG Alliance of Civil Society Organisations (PASCO), the diverse traditional, cultural, and social issues cannot be effectively addressed (PNGNHASP, 2005; UNGASS, 2008). These priority areas include:

- Treatment, counselling, care, and support;
- Education and prevention;
- Epidemiology and surveillance;
- Social and behavioural change research;
- Leadership-partnership coordination;
- Family and community;
- Monitoring.

Gusman (nd), in his qualitative ethnographic research, argues that the type of commitment the leadership provides in response to HIV/AIDS will influence the major drivers of the HIV/AIDS pandemic, because policies on support, care, and treatment is followed up by action. As Maxwell (1995, p. 5) said, "Leaders determine the level of an organisation's influence." The HIV/AIDS response is determined by the leadership, and their personal commitment to concrete action (KwaZulu Natal University Symposium Report NUSP, 1999; UNDP, 2005; UNGASS, 2008). For instance, when the leadership of Namibia, in 2007, responded by doubling their domestic spending on HIV/AIDS programs, there was effective mobilisation of the public sector, which improved their multi-sectoral responses on prevention, education, research, support, and care. This changed the behavioural and epidemiological trends in communities (UN Report on the Global AIDS Epidemic, 2008, p. 99).

RESPONSE OF NGOS AND THE CHURCHES TO HIV/AIDS IN PNG

Non-government organisations (NGOs) and faith-based organisations (churches) in PNG, according to Benton (2008, p. 314), have been the major drivers of the National Strategic Plan (NSP) on HIV/AIDS prevention and education, volunteer counselling and testing, care and

support, with only minimal operational budgets for NGOs and churches working with different sectors of society. The scope of their programs is holistic, focusing on physical, spiritual, social, and economic governance. While some partner with international networks, the majority have to raise their own funds to run their programs. The external donor agencies like AusAid, Australian Baptist World Aid, Canada Fund, and NZ Fund have been the main funding sources for the NGOs and the church HIV/AIDS response programs (NHASP, 2007; Benton, 2008).

The NGO's contribution to a holistic response in different areas of the HIV/AIDS epidemic is worth acknowledging (HIV/AIDS Stakeholder Mapping in PNG, 2004; UNGASS, 2008). Examples of this include:

- Igat Hope's focusing on People Living With HIV/AIDS (PLWHA);
- Haus Ruth rehabilitates commercial sex workers, and teaches them cooking and embroidery skills, clothing and feeding the homeless;
- City Mission provides physical skills and spiritual development programs for unemployed young men, and rehabilitates reformed criminals;
- Marie Stopes focuses on family and sexual health; and
- Friend's International focuses on orphaned children, whose parents have died through AIDS, with other community-support programs.

Yankah and Aggleton (2008) argue that, for the past 20 years, skills-development programs have been a key component of HIV education for children and young people. The United Nations (2001), in affirmation, says such specific HIV programs are necessary to develop required life-enhancing skills, and awareness on sexual health, thus reducing the level of vulnerability to HIV infection.

The faith-based organisations, especially the Christian churches, have networks reaching into the most-remote parts of the country's rural and

urban settings (Benton, 2008; Dundon and Wilde, 2007; Hammer, 2007). Literature has highlighted that the lack of communication networks, and inaccessible road links into rural community support groups, is imposing a major challenge to our national HIV/AIDS response (Hammer, 2007; PNGNHASP, 2005; UNGASS, 2008). Nevertheless, there are vital church networks, which have been providing delivery of needed services to the rural communities that have not been fully utilised by the HIV/AIDS response teams (Hammer, 2007; Dundon, 2007; UNGASS, 2008). This is in contrast to other developing nations like Uganda, where the church and its networks have been one of the main players in reducing the prevalence of HIV infection, through their reformed theological emphasis. This involves addressing contemporary social responses and needs instead of an eschatological emphasis (Gusman, nd; Kuhanen, 2008, p. 315).

Some writers claim that the church needs to reevaluate its theological positions and social policies, in order for its programs to be relevant to the contemporary needs of the society, and for its networks to be fully utilised in responding to HIV/AIDS programs. In Uganda, the church refocused its approach from a future, eschatological position to one which equips believers for their new life in Christ Jesus, by teaching them life-enhancing skills, and moral values and principles (Gusman, nd, pp. 68-69; Yankah and Aggleton, 2008).

In this author's opinion, the church's fundamental message is to offer love, rather than debate the minor moral issue of whether to use or not to use condoms. That love is the selfless love of God that permeates the hearts of every believer to love God, and love thy neighbour as He loved us (John 3:16; Matt 22:37-39). However, the church's quest for its moral purity has led to an aloof stance, compromising the love of God (1 Cor 13) in many instances. As Gusman's (nd) qualitative ethnographic research, and other literature, reveal, such actions give mixed messages that encourage rejection, stigma, fear, shame, and hopelessness to cause people in dire need of hope, love, care, comfort, and support to flounder (UGASS, 2008; ADF, 2000). For instance, the church, in demonising condom use by suggesting that it increases promiscuity and turns sex into a game, only

encourages stigma and rejection to flourish (Dundon and Wilde, 2007; Hammer, 2007; UNGASS, 2008; Wilde, 2007).

What is the alternate message, vision, or strategy that the church can offer to overcome the HIV/AIDS epidemic? Gusman's (nd, p. 68) research reveals that the Ugandan Pentecostal Christian church (UPCC) had an alternate, holistic approach. The UPCC's "saved to be safe" program, aligned with President Museveni's national vision for youth development, prepares youth for future leadership roles. This program also impacted on Uganda's national education and youth development programs. It is asserted by Gusman (nd, pp. 67-69) that a reconstruction of a morally-decaying nation begins with a generation of morally-reformed youth. This holistic program is both physical and social (sports, manual work), mental, emotional, and spiritual (prayer and bible study), in order to develop a balanced whole person (Canadian Aboriginal AIDS Network, CAAN, 2004).

Similar programs are run by certain churches in PNG. The Baptist Union of Papua New Guinea (BUPNG), together with other churches, developed a holistic Youth Sanap Wantaim program. However, the quality and the effectiveness of this program are yet to be determined (BUPNG, 2009).[7] The results of these programs can also be influenced by the level of funding, monitoring, and evaluation, and the capacity of the organisation. For instance, a good amount of Uganda's $650 million HIV/AIDS funding (2004-2007) from donor agencies was also used in youth-leadership development programs. These programs had successful outcomes, because they used consistent monitoring and evaluation processes for change.

According to the research, certain programs NGOs and faith-based organisations are run without scrutiny and support, which raises the need for the government to create monitoring and evaluation frameworks, and to provide funding initiatives for these programs to be more effective and sustainable. Currently, these programs are solely funded by donations, either from business houses, churches, individuals, or by donor funding

[7] See Appendix 3.

agencies (Cullen, 2007; PNGHASP, 2005; UNAIDS, AusAid, and NAC, 2004). The literature suggests that regulatory frameworks and processes will then allow the NGO and FBO groups to be accountable, and to be credible in providing quality services, with effectiveness in ensuring that the policies of the National Strategic Plan (NSP) are implemented (UNGASS, 2008, p. 64-64; NHASP, 2005; Gusman, nd). According to the literature, failures of other developing nations, where there were gross neglect of proper protocol, and amassing of funds from donor agencies by leaders themselves at the expense of HIV/AIDS reduction programs, should be avoided in PNG (Kuhanen, 2008, p. 302; ADF, 2000; UNGASS, 2008).

LESSONS FROM THE WORLD SCENE

HIV/AIDS CHANGING GLOBAL SOCIAL REALITIES

It is an accepted fact that the HIV/AIDS phenomenon has changed global social realities, exposing hidden vulnerabilities in the human condition and social organisational systems (Herdt, 1992; UNAIDS Global HIV/AIDS Challenge, UNAGHAC, 2008). According to the UNAGHAC report (2008, p. 13), HIV/AIDS is "The single greatest reversal in human development" in the midst of the world's technological advancements. The HIV/AIDS pandemic also brings to the forefront global health, social, and economic inequalities, challenging mobilisation of political, human, and financial resources, in order to contain the HIV/AIDS infection prevalence (ADF, 2000; UNAGHAC, 2008). This has resulted in the development of the Millennium Development Goals,[8] reflecting the resolve of global leaders to make this world a better, safer, healthier, and more equitable place (UNAGHAC, 2008; UNGASS, 2008). As echoed by Amoako (ADF, 2000, p. 10), "Leadership calls for so many of the fundamental things we should have been doing anyway . . . as leadership is on test now, it needs leadership of a special kind."

According to reports from the African Development Forum (ADF, 2000), Africa has 70 per cent (estimated to be 38 million to 45 million in 2010) of

[8] See Appendix 1:9.

the world's adults, and 80 per cent of the world's children living with HIV/AIDS. Africa has also buried three-quarters of the 20 million or more people who have died from HIV/AIDS in the world (UNAGHC, 2008; Odu, O., 2008). This report also states that the tide is turning for some heavily-affected countries like Kenya, Rwanda, Uganda, and Zimbabwe, who are experiencing a decline in HIV infection-prevalence, due to changes in sexual behaviour (ADF, 2000; GHAC, 2008; Gusman, nd). However, Kuhanen (2008, p. 301), in his qualitative, historiographic research, argues that this positive result is due to the high rate of mortality, and is based on fabricated reports demanded by certain national and international NGOs for international donor markets to validate their products, such as medical and behavioural interventions, like AIDS vaccinations, marketing of condoms, antiviral treatments, and circumcision. To counter Kuhanen's claims, the countries with successful HIV/AIDS mobilisation programs reported that these declines in HIV infection-prevalence are due to multi-sectoral mobilisation, education for leadership, and working in collaboration with all levels of communities (ADF, 2000; Gusman, nd). The policy and implementation strategies, which have been developed, are said to be well informed by research and consultation. Political commitments are turned into practical action. For instance, the governments of Uganda and Niger increased their national budget allocation for HIV/AIDS programs, and did not depend entirely on external donors (ADF, 2000; Gusman, nd; Rotheram-Borus, et al, 2008).

Need for Effective National Strategic Plans to Bring Change

According to the UNAIDS Global HIV Challenge Report (UNAGHCR, 2008), where there is the absence of a national strategic plan (NSP), or when it is not well supported in coordination, implementation, and monitoring, the transmission and behaviour trends continue to rise. For instance, the following countries, which lack an effective NSP, currently are experiencing a rise in these transmission and behaviour trends are: China, Germany, Papua New Guinea, Indonesia, Mozambique, Russian Federation, Ukraine, UK, Vietnam, and India (Commission of AIDS in Asia, 2008; UNAGHC Report, 2008; National Aids Control Organisation and WHO Press Release, 2007).

A literature review has also established that HIV/AIDS is not an isolated medical issue, but equally affects the socio-economic, political, spiritual, and cultural life of individuals and communities (ADF, 2000; Hammer, 2007; Luker, 2003; UNGASS, 2008). Therefore, CAAN (2004) suggests that, because these issues are multifaceted, they should be addressed holistically. For instance, the following issues need to be addressed: leadership integrity, equity in wealth distribution, the development of programs for youth at risk, alleviation of poverty; validation and encouragement of the church's spiritual and physical programs. There is also a need to develop targeted education programs for different social groups, like children and youth at risk, and the general public. The people need to have a proper view of human sexuality, sexual health, family values, and life skills, which can result in either increased use of condoms or behavioural change. This also raises the need for gender equality for vulnerable and abused women. Finally, a relevant and responsible dissemination of contextual information for people, both in rural and urban settings, is highly desirable (ADF, 2000; Commonwealth Universities, 1999; Cullen, 2006; Dundon and Wilde, 2007; Global AIDS Epidemic Report, 2008; Gusman, nd; IFJ, 2006; Lewis, et al, 2008; Luker, 2003; Nattrass, 2009; Trickett, et al, 2009; UNGASS, 2008; Wardlow, 2007).

However, Sachdev (2003) argues that education alone is not enough to change behaviour; attitudes need to change in order to counter abuse of power, lack of transparency, passiveness, and incoherent leadership. From research data, uninformed policy development planning and implementation strategies have derailed the work of HIV/AIDS. This happens when relevant stakeholders are neglected in policy- and decision-making, for instance, PLWHAs and in a centralised operational process (ADF, 2000; Dundon and Wilde, 2007; GHAC, 2008; Gusman, nd). In these cases there were inadequate national budgetary allocations, greater dependence on foreign donors and also reports of irrelevant programs and inadequate dissemination of information for the target groups (ADF, 2000; PNGNHASP, 2005).

NEED TO CHALLENGE THE PREVAILING SOCIAL AND CULTURAL TRENDS THAT CONTRIBUTE TO HIV/AIDS PREVALENCE

The literature demonstrates that HIV/AIDS programs place much expectation and burden on behavioural change in individuals, when character and attitude are also influenced by individuals' socio-cultural context. For example, Wardlow (2007) argued that interventions promoting fidelity would have no impact unless the social and economic infrastructure that supports fidelity is in place. The literature has highlighted that inconsistencies in leadership and governance, socio-economic disparity, inadequate goods and service delivery systems, and cultural and spiritual bias, all encourage lifestyles vulnerable to HIV/AIDS infections (Hammer, 2007; Dundon and Wilde, 2007; Lepani, 2008; Lewis, et al, 2008; O'Reilly, 2006). For instance, when there is a very high percentage of illiteracy and economic disparity, how could we expect fidelity among poor, unskilled women, when the only option is to sell sex to survive (UNGASS, 2008; NADF, 2000; Cullen, 2007).

Trickett and Schensul (2009) suggest that, if individual change has to be realised and sustained, there has to be concurrent change at all levels of society (policy, structure, and community levels). Therefore, intervention programs for change should be multilevel: targeting the policy, service delivery structures, and the community levels, as well as individual change.

CULTURAL AND SOCIAL MISCONCEPTIONS

The complex cultural and social misconceptions are the accepted norms that must be contextually and systematically addressed with clarity and sensitivity (Hammer, 2007; Dundon and Wilde, 2007; Lepani, 2008; Lewis, et al, 2008; O'Reilly, 2006). The following misconceptions are hindering effective preventive strategies.

HIV is seen as either a magic spell, or the traditional angry bush or river spirits, who are causing the sickness. Condom use is seen as demonic, and it is said to be the driving force for people to be promiscuous (Hammar, 2007; Dundon, 2007).

Understanding of sex and sexuality varies from culture to culture. Certain sexual practices are good to some Island cultures, and they view HIV/AIDS as a white man's disease that is destroying their good cultural norms. Whereas other mainland cultures, like the Highlands, Southern, and Momase regional cultures view sex as evil and dirty, unless it meets certain economic and socio-cultural obligations (Lepani, 2008).

The unequal gender views, roles, and responsibilities in the family and the community are also major hindering factors. When women are empowered to take charge over their own sexuality, it threatens men's domain of authority, which results in the rise of abuse (Wardlow, 2007; O'Reilly, 2006; Hammer, 2007). Men can also feel threatened and rejected when women, through child bearing, demand equal rights. Men may also seek to satisfy unmet sexual needs with safe women,[9] who are unattached to men (Hammer, Wardlow, 2007). Men also hold the view that their sexual needs are stronger, so they easily succumb to women's seduction, and become victims of female sexual prowess, therefore, violence against women is in reaction to this (Wardlow, H., 2007; Lewis, et al, 2008; Lepani, 2008).

Finally, it is a common understanding among certain Christian churches that the HIV/AIDS epidemic is God's punishment for unrestrained sexual perversity, therefore, the victims deserve it as punishment from God (Wardlow, 2007; PNGNHASP, 2005; Dundon, 2007; Hammer, 2006).

These misconceptions, combined with a lack of basic services and geographical and language barriers, do not help the HIV/AIDS prevalence-preventive program initiatives, but only encourage high-risk sexual behaviours to flourish. These trends need to be exposed and challenged.

RAISING COMMUNITY AWARENESS ON SEXUAL BEHAVIOURAL PATTERNS

Malau (1999) suggests that the different forms of expression, experiences, and networking complexities of sexual behaviour, attitudes and patterns, both in the rural and urban context, need to be researched. Combined with

[9] See Appendix 1:8.

the use of drugs, alcohol, poverty, pornography, and club dances, also increase high-risk sexual behaviours (Hammer, 2006; Jenkins, 1997). Proper sex education is needed to prevent the sexual encounters of young teens (those between 13 and 16 years of age) with elderly men – sugar daddies (Jenkins, 1997). All present educational institutions, parents, relatives, and the churches are all ill-equipped to provide proper sex education programs. In their absence, young people learn from peers, books, and electronic media, without any idea of safe sex, responsibilities, and consequences (Cullen, 2008, pp. 157-160; Dundon and Wilde, 2007; Halley, 2008, pp. 24-25; Odu, O., et al, 2008; Wardlow, 2007).

Addressing these socio-cultural concepts, and the behavioural patterns that encourage the rise of the HIV/AIDS epidemic, is complex, and needs concerted efforts on the part of the national leadership, NAC, donors, health and NGO personnel, to bring change (ADF, 2000; Dundon and Wilde, 2007; Hammer, 2006; Luker, 2003; Wardlow, 2007). Trickett and Schensul (2009) suggest that programs need to negotiate for mutual understanding, have due respect for context, and spend time to develop mutual relationships, in order to create opportunities to introduce ideas of possible change. For instance, in urban centres, using electronic media to disseminate information is appropriate; however, in a rural setting, the same message must be simplified, with illustrations and diagrams.

Delivery of HIV/AIDS educational material can vary according to whether the context is individuals, couples, interactive small groups (men and boys, girls and women, or youth, sports, or married couples), or a community setting (ADF, 2000). The goal is to increase participation, and develop mutual relationships. For instance, where issues of human sexuality are seen as a taboo, material can be taught in the context of small interest groups to minimise misunderstanding, and increase participation (ADF, 2000; Cordery and Bur, 2006; Gusman, nd). Areas of discussion can be the biology of human sexuality, responsibilities, gender roles, benefits and disadvantages (O'Reilly, 2006; UNGASS, 2008). According to Sachdev (2003), effective credible information that effects change comes with mutuality, sensitivity, and empowering of individuals to make choices. These choices can be influenced by mutual small group acknowledgment

and acceptance, created through a participatory atmosphere (Cordery and Bur, 2006).

Need for Innovative Social and Cultural Systems for Prevention

With the current status of the HIV/AIDS epidemic in PNG, the response of leadership is important in developing policies, strategies, and functional processes to contain and control certain risky behavioural practices. While behaviour cannot be legislated, social norms can be influenced and changed over time, through proper responses, with community-based programs. For instance, what was unacceptable before may be acceptable today. Therefore, laws, policies, or guidelines need to be innovative, and tailored to suit the contemporary context (Anneke, et al, 2006, pp. 71, 197).

Several writers have suggested that realistic programs that will meet the needs of the people and community are developed when the leadership roles and responsibilities in policy development, and service delivery processes are informed by anthropological and sociological research, and with consistent medical data (Dundon and Wilde, 2007; Dundon, 2007; Gusman, nd; Hammer, 2007). As Amoako (ADF, 2000, p. 10) said "Leaders rise to face unusual threats to their people, and search for answers and success. When they find them, they scale up the response to the maximum . . . surpassing themselves, mustering the energies of the whole people . . . crusade for change and reform . . . lead by example and exhortation. [They are] selfless . . . dedicated . . . to bring success to their people." Affairs of the people are the concern of the leaders, and the leaders are there for the people.

Lack of research is said to be having an adverse impact on the quality of the response to HIV/AIDS in PNG's rural communities, where 85 percent of the population are located (Dundon, 2007, p. 2; Eves, 2003; Hughes, 2002; Wardlow, 2002c). Cullen (2006) suggests that, so long as disparity in decentralisation remains, HIV/AIDS programs will be neither multi-sectoral nor genuine national responses. As Piot (ADF, 2000, p. 17) argues, "the community is where multi-sectoral gets its true meaning."

Therefore, it is only when national policy initiatives reach into the rural villages, and empower local people to devise and run programs to address their immediate issues, that a multi-sectoral approach will be realised (ADF, 2000; Cullen, 2008, p. 161; Erin, C. W., 2009; Global HIV Challenge, 2008; UNGASS, 2008; Wardlow, 2007).

Success stories like Uganda's drop in national infection prevalence from 18 percent to 6.1 percent reflects the effectiveness of multi-sectoral holistic approach. Their physical, spiritual, moral, and intellectual aspects of individuals in community were addressed through programs like prayer, Bible study, vocational skills, leadership development, and life skills (Gusman, nd).

These are examples of short-term pragmatic (practical/realistic) approaches that need to be developed and funded to address determinants of HIV infections. Tawil, et al (1995) suggests a framework that can be adapted to help understand situations where potential risk occurs, and to develop enabling approaches to effect change.

- Think broadly and creatively on intervention options in context.
- Consult widely with traditional HIV prevention providers, e.g., public health; other care agencies, education, or churches.
- Consider how enabling approaches can work with behavioural interventions on individuals rather than replace them with the new approaches.
- Evaluation need to demonstrate the feasibility of enabling approaches through flexible evaluation designs. Describe the situation clearly, and understand how the intervention will work in comparison with the secondary indicators of behavioural change.

Following the above approach means that the people are also intellectually empowered to understand cultural beliefs, constraints, and strengths, and

to develop participatory activities in common areas like music, song, dance, and games, as a way of disseminating information. They can also be engaged in investigation and observation on issues before developing interventions (Cullen, 2006, pp. 160-162; Dundon, 2007, pp. 37-39). This is sometimes done in community counselling settings.

SUGGESTED COUNSELLING FRAMEWORK

While the traditional counselling approach to HIV/AIDS could be clinically based, interventions, focusing on changing the behaviour of individuals (Tawil, et al, 1995), the systemic and social constructionists,[10] family/community approaches (physical and spiritual, community care and support) are considered to be impacting on the HIV/AIDS epidemic in developing nations (Campbell, et al, 1995; Kottler, 2002). For instance, 27-year-old Imane went for counselling, after learning of her HIV/AIDS status, suffering depression, hurt, and anger towards her husband for infecting her. Although her husband refused to attend counselling sessions, Imane found that, with the support of a community-bonding group, she was able to understand and accept her situation, which empowered her to live a normal life while on medication (Global AIDS Epidemic, GDE, 2008).

This does not mean that the other counselling micro-skills of attending and techniques can be ignored. Trickett and Schensul (2009, pp. 377-381) suggest a multi-level intervention and counselling approach, from individuals, families, and at the community level, be adopted.

INDIVIDUAL RESPONSE

Tawil, et al (1995) suggest five counselling focus areas for individuals (those with risky life styles, or the already infected), to achieve behavioural change in using different counselling frameworks where needed (Kottler, 2002, pp. 242-243).

- Enhance personal awareness on state of self, and become more aware of self by empathic resonance, active listening,

[10] Explanation of systemic and social constructionist theories in Appendix 1:10.

deep reflection of feelings, and search for meaning with person-centred skills.

- Have clear risk awareness, raising expectation of a favourable result of risk avoidance by using a Gestalt approach to increase self-awareness in the present through integrating the split between the conflicting selves, by confrontation, role playing (using a chair technique).
- Learn necessary life skills to undertake behavioural change, through cognitive behaviour therapies by identifying target behaviours, modifying dysfunctional behaviours, and learning new adaptive responses. This can be achieved through setting new goals, contingency contracting, reinforcements, skills, and relaxation training
- Develop a capability to undertake change through reality therapy. Aim to enable clients to assume greater responsibility, and become skilled in meeting their own needs. By examining the consequences of choices, challenge clients to be accountable, and develop plans of action for change.
- Develop a social acceptance of risk-avoidance by using the feminist approach to examine issues of power, gender roles, marginalisation, and oppression. This is done through encouraging cultural and gender differences in relationships, and challenging and confronting stereotypes.

The basis of this psycho-educational approach is for individuals to understand their situation, and take personal responsibility in making appropriate decisions about personal behaviour, and, in due course, to act on those choices to make changes as individuals within a community context (Yankah and Aggleton, 2008).

COMMUNITY-RESPONSE APPROACH

The advantage of a community-based approach is that it is relevant to PNG's community dynamics. Using this approach would redefine the meaning, values, and forms of expression, and help to apply them

appropriately to maximise the level of care and support given during the HIV/AIDS epidemic. Campbell, et al (1995) assert that the sense of belonging that an individual and a community share through common social factors, structures, and purpose is a bonus. This is expressed in the way loss and pain is shared through the death of loved ones, which can also be transferred to palliative care, and a hope for HIV/AIDS prevention (ADF, 2000; Benton, 2008).

However, to maximise our community efforts, in response to HIV/AIDS prevention, accountability, mutual respect, care, and support can be redefined. Campbell, et al (1995) argue that respecting individual rights helps the community to maintain its influence in creating change and hope. For instance, for prevention purposes, opportunities can be created for seropositive individuals to openly share their HIV/AIDS experience with the group. This can be done through counselling, under the auspices of genuine family and community care, accountable community leadership, with the ability to openly engage in discussion, without prejudice, and maintenance of confidentiality.

Community counselling, according to Campbell (1995, p. 5) "is a process, facilitated by a team working with the community, who are seeking information to understand the need to change, and to make choices for change in a context of positive mutual accountability". The use of systemic and social constructionist counselling approaches help to identify underlying cultural structures and patterns, and their influences on individual stories, through collaborative conversations, to understand and expose problems, in order to set new boundaries to restructure power and control, to improve communication, and develop helpful ways (Kottler, 2002).

Campbell (1995, citing Bodwell and Rader, 1993) suggests the following process of community counselling:

- Community selection – the community selects the theme and time for discussion, but discussion is facilitated by the counselling team.

- Relationship building – throughout the counselling process trust and confidence begins to develop as the community and the team get to know each other, and people gain the right to speak. Communities already have a relationship in a local network, but it has to be carefully used during the counselling sessions.
- Exploration of the problem is done together, either in parts or the whole of it, through exploring options for solutions, with perspectives from all sides of the community group.
- Strategy formation – formulating suggestions that address the problem, which could lead to action.
- Decision making – exploring options and possible actions that could solve the problem(s), and select the steps to be taken
- Implementation – putting the action plan into reality needs commitment and continued involvement of counsellors and communities. Consistency is the key.
- Evaluation – exploring deeper areas of the problem, and others that may arise, like HIV/AIDS, poverty, health, etc. It is done cohesively by both the community and the counsellors. The aim of community counselling is to move towards a sustained behavioural change. The whole process is put to record by agreement for follow-up purposes.

Campbell (1995) suggests that any new information gathered throughout the exploration of the problem(s) must be understood in the community context for any inferred meanings, in order for the community to adopt change. They take the lead to find strategies for change, and indicators to measure what can work for them, and what cannot. Counsellors only facilitate and inform where necessary (ADF, 2000).

THE CHURCHES' THEORY OF PRACTICE OF CARE (THEOLOGY) FOR HIV/AIDS RESPONSE

Several writers suggest that the church, in responding holistically to the HIV/AIDS epidemic, can use the above individual and community

counselling processes to bring integration and wholeness to individuals, families, and communities. In education, training, counselling, prayer, support, and care, we need to increase progress, and mobilise the community, particularly in preaching, teaching, and providing care and support. Such support will help our church community to combat the stigma often attached to HIV-positive people, who will then feel compassion, acceptance, love, and hope (Benton, 2008; Gusman, nd).

Fig. 3, below, represents the holistic approach:

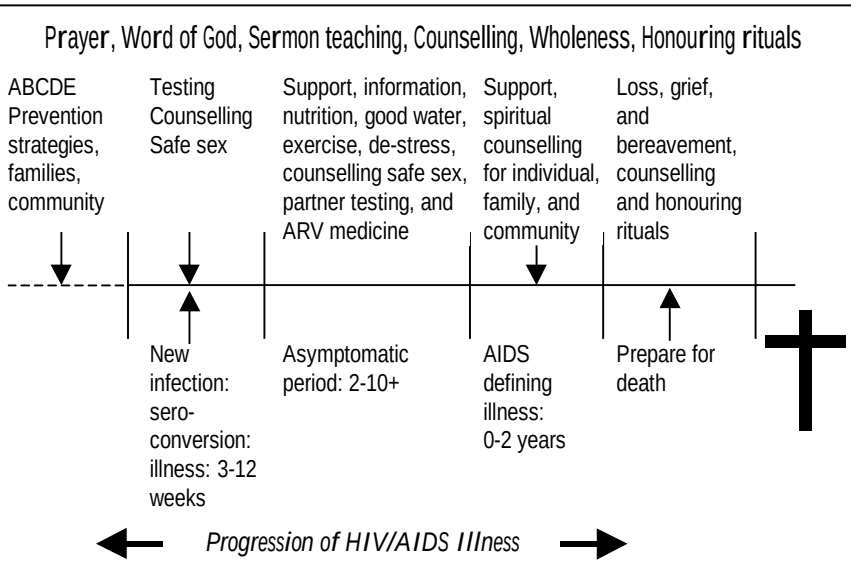


Fig. 3: The churches' role of integration and wholeness in providing care
(Benton, 2008, p. 230)

DISCUSSIONS AND RECOMMENDATIONS

The literature, showing the social trends of developing nations in adopting certain practices, attitudes, and lifestyles is also the reality in PNG. This epidemic has revealed the vulnerable areas of our nation, and exposed the degree of our willingness and seriousness of our commitment towards HIV/AIDS and the need for human resource development. To conquer HIV/AIDS, a holistic national course is needed. It must permeate every

corner of a nation, and must reflect national, district, and local action. As Machel (ADF, 2000, p. 17) said, "Every village, every town, every district, every sector, should have clear plans, and identified people, as focal points. The national plans must permeate the places where people work, where they live, where our values are made and challenged – in our families, our religious gatherings, our councils of traditional leaders, our parliamentary gatherings, our mothers' unions."

The suggested holistic approach as the ideal response to the HIV/AIDS epidemic in PNG, when enforced with willingness and whole-hearted commitment by our political leadership, government line-agencies, NAC, donor, PAC, NGOs, and churches will bring great rewards in combating HIV/AIDS trends. This approach will concurrently serve the need for alleviating the HIV/AIDS pandemic, and at the same time, address the pending social, economic, spiritual, mental, and psychological developments of the nation at large. The service-delivery infrastructure will be upgraded to meet the demand of need, and traditional community networks and structures will be redefined, as new attitudes and behavioural patterns are adopted.

The key should be compassionate integration towards wholeness of life, by taking into account physical, mental, spiritual, and emotional well-being as a good practice in prevention. In doing so, the basic impediments to the success of HIV/AIDS prevention strategies will be addressed:

- Lack of leadership;
- Lack of development, both in human and physical infrastructure;
- Poverty;
- Illiteracy;
- Tribal and cultural misconceptions;
- Difficult geography;
- Culture of violence against women;

- Promiscuous lifestyles;
- Lack of professional medical doctors and health workers;
- Dependency on AIDS funding from donor agencies;
- Neglecting use of church networks.

REFLECTION ON MY LEARNING JOURNEY

When I began this journey, I thought counselling was simply guiding people to overcome their psychological, spiritual, emotional, and mental health issues. However, having gone through this research, I realise that it is more than providing guidance. Counselling needs to go beyond the individual to consider the wider social and cultural context, and the implications. This will include physical, social, and economic needs, especially when dealing with HIV/AIDS situations.

The literature review process itself is tough work. However, the skills and lessons learned from the researched are worthwhile. Although, at times, I got bogged down with information overload, I learned the hard way to painstakingly process it with the guidance of the mind map, or the side tree diagram, I had previously developed (see Appendix 4).

This literature review has helped me to see the broader spectrum of the importance of counselling, in a holistic sense, for individuals and communities. Counsellors can also advocate for social change, which may seem to be stepping out of traditional counselling practice, but it is inevitable, as our problems are all systemically interrelated and multifaceted.

A community development approach is needed to build a bridge between where people's current beliefs are and the need for change. The mutative and subtle nature of the HIV virus, and its leading to AIDS, has been misunderstood by Melanesians, who have tended to spiritualise the problem. Medical explanations are not valued in a way that would make people change their behaviour, because of their traditional spiritual beliefs. It has become increasingly clear that, for people to change their attitude,

behaviour, and lifestyles, their beliefs, values, and worldviews need to be addressed.

Finally, a community counselling approach can unite the strength of the community to bring change, through enforcing the importance of contextualisation, and being relevant to the needs of the people. The crucial roles that research, NGOs, and the church play encourage this, and give the true picture of the status of HIV/AIDS, with its devastating implications.

CONCLUSION

The generalised nature of the spread of the HIV/AIDS epidemic, and the threat it has over the work force, social fabric, and the future development of PNG, are alarming. This literature review has established that the status of the HIV/AIDS epidemic, with its cultural and social trends, which encourage the prevalence of HIV infection, emphasise the need for serious action. Since it has ominous socio-cultural, economic, and political implications for the country, PNG should now harness all its resources, programs, and strategies to seriously protect human development, in all aspects, as an important factor that could counter the spread of HIV/AIDS.

It is, therefore, important that the capacities of all the service-provision and policy-making agencies, both in the government and the private sectors (NGOs, FBOs, and companies), be streamlined to appropriately respond to prevent or minimise HIV infection rates, and effectively provide palliative care for victims.

This paper, therefore, recommends the development of effective, cohesive, holistic responses, to prevent the spread of HIV/AIDS, both in the rural and urban context of Papua New Guinea, by all stakeholders: government agencies, NGOs, donors, churches, and the general public.

Acronyms			
ADF	African Development Forum	NACS	National AIDS Council Secretariat
AIDS	Acquired immunodeficiency syndrome	NGO	Non-government organisation
AusAid	Australian government aid		
BAHA	Business Coalition against HIV/AIDS	NSP	National Strategic Plan
BUPNG	Baptist Union of Papua New Guinea	PASCO	PNG Alliance of Civil Society Organisations
FBO	Faith-based organisation	PNG	Papua New Guinea
HIV	Human immunodeficiency virus	PNGNHASP	PNG National HIV/AIDS Support Project
IEC	Information, education, communication	UPCC	Uganda Pentecostal Christian church
MTDS	Medium-term development strategy	CAAN	Canadian Aboriginal AIDS Network
		UNAGHCR	UNAIDS Global HIV Challenge Report

APPENDIX 1

WORD AND TERM DEFINITIONS

1. "Genital Herpes" (Ngozi A. Osondu, MD, on February 1, 2007 © 2005 WebMD, Inc.).

   People who have genital herpes sores are more likely to be infected with HIV during intercourse. As the herpes sores develop, the immune system attempts to heal them, so that many immune cells are concentrated in that spot. It is these cells that HIV infects. So, if HIV in semen, vaginal fluid, or blood, comes in contact with a herpes sore, the risk for infection is high.

   Both HIV and the herpes virus are destructive in nature. One can worsen the effects of the other. Research shows that when the herpes virus is active, it causes HIV to replicate itself more rapidly than it otherwise would. The more HIV replicates, the more of the body's infection-fighting cells it destroys, eventually leading to AIDS.

People infected with both HIV and the herpes virus experience longer-lasting, more frequent, and more severe outbreaks of herpes symptoms, because the weakened immune system cannot keep the herpes virus under control as well as a healthy immune system can.

2. IOM – International Organisation of Migration (IOM 2006).

3. Pathogenic micro organisms = disease producing organisms.

4. Microscopic = tiny invisible.

5. Mucous membrane = tiny layer of skin that covers the body cavities and produces mucus.

6. National government HIV/AIDS plans (UNGASS, 2008):

    - National Gender Plan and HIV/AIDS 2006-2011 was to accompany NSP to guide efforts to integrate gender issues into the response;
    - HIV/AIDS Management and Prevention (HAMP);
    - National Health Plan;
    - Policy for National Education System;
    - National Leadership Strategy;
    - HAMP (HIV/AIDS Management Prevention) was enacted by Parliament in 2003, which provides a legal framework for addressing discrimination, stigmatisation, and mandatory screening with respect;
    - PNG National Strategic Plan on HIV/AIDS for 2006-2010 (UNGASS, 2008):
        - Treatment, counselling, care, and support;
        - Education and prevention;
        - Epidemiology and surveillance;

- Social behavioural change research;
- Leadership and partnership coordination;
- Family and community;
- Monitoring and evaluation.

7. NACS Board members comprised of representatives from government departments, PNGCC, National Council of Women, disciplinary forces, and Chamber of Commerce.

8. Safe women are women who are free, divorced, widowed, or whose husbands have left for job search in towns and cities. Men don't fear HIV infection, but fear discovery from the relatives of married women and young girls, so they'd go for the safe women.

9. Millennium Development Goals:

   - Eradicate extreme poverty and hunger;
   - Achieve universal primary education;
   - Promote gender equality and empower women;
   - Reduce child mortality;
   - Improve maternal health;
   - Combat HIV/AIDS;
   - Develop global partnership for development.

10. Social constructionist theories examine both family systems and the wider context of the community to understand human behaviour, where culture, ethnicity, religion, sexuality, gender, and other social factors, all have an influence on individual behaviour.

APPENDIX 2

HIV Cell and Immune System (Aggleton, et al, 1994, pp. 17-18; Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

The virus is invisible to the naked eye, with three different parts: the outside coat, made up of fat and sugar, proteins and enzymes, which are used to reproduce a new virus; and the genetic core deoxyribonucleic acid (DNA); or ribonucleic acid (RNA) that determines the reproductive and the mutative ability of the virus in the human body. (See Fig. 1: Virus cell make up.)

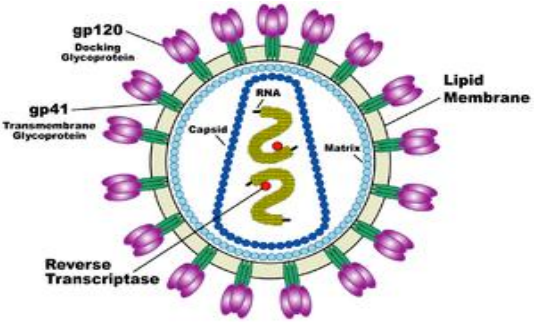


Fig. 4: Sample image of the HIV structure (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

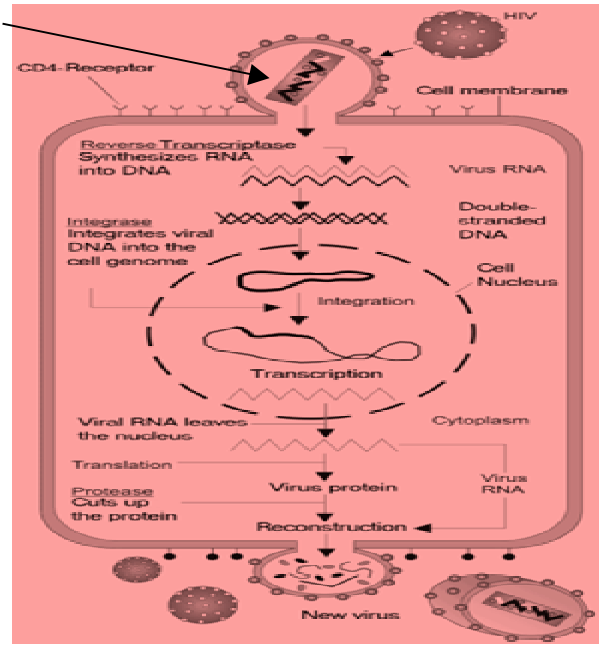
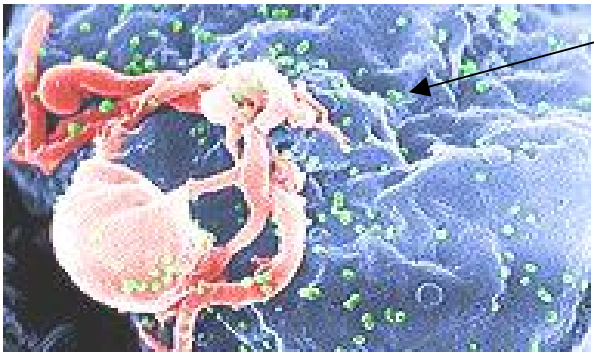


Fig. 5: HIV enters the white blood cells (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

The HIV cell then sticks on the wall of the host cell, and, with the proteins the virus has on the shell, it locks into the proteins of the host cell wall just like a key fits into the lock and mutates or changes shape.

Fig. 6: HIV attacking immune system (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)



Microscopic scan showing the dots, which are the HIV cells, attacking the immune system.

Fig. 7: HIV infection symptoms (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

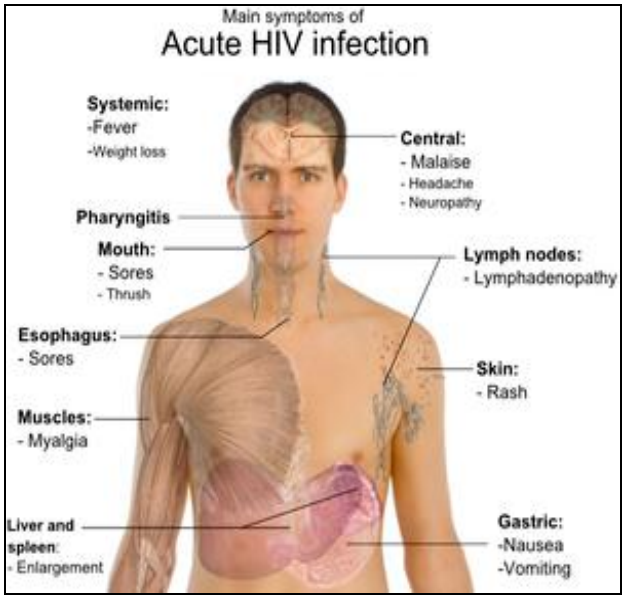


Fig. 8: Immune system (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm)

The life spans of these cells are short, as they die out within days or weeks after serving their purposes. They are then replaced by new cells produced from the parent cells from the bone marrow.

Electronic microscopic scan showing one immune T-cell covering the disease-carrying, rod-shaped, bacteria.

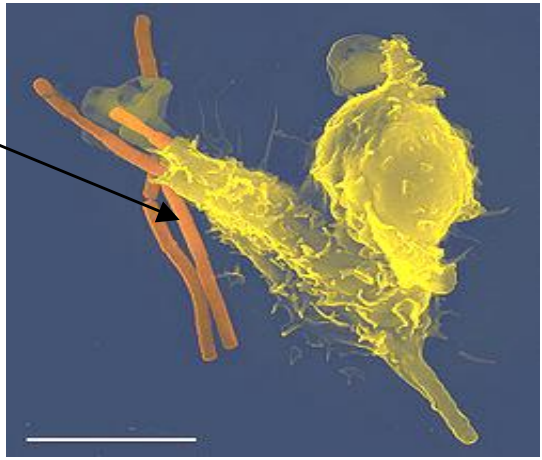


Fig. 9: Process of immune killer cell attacking the cell infected with a virus or other bacteria entering the body (Wikipedia Project, JPEG image, 23/12/09, 3.47 pm).

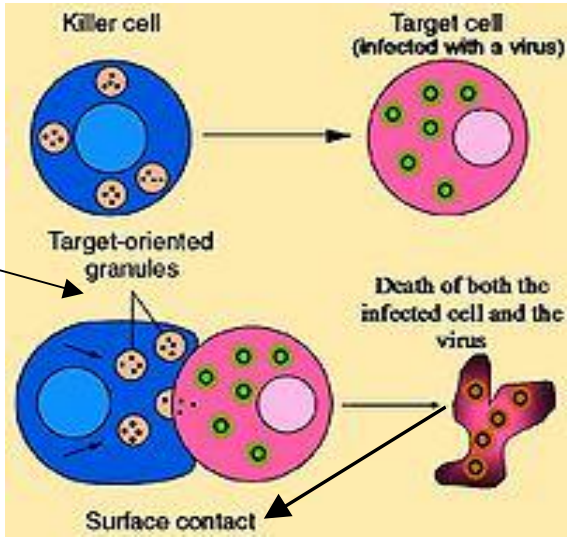


Fig. 10: Names and location of macrophages

Name of Cell	*Location*
Dust Cell (Alveolar Macrophages)	Pulmonary alveolus of lungs
Histiocyles	Connective tissues
Kuffer Cells	Liver
Microglia	Neural tissues
Epithelioid Cells	Granulomas
Osteoclasts	Bone
Sinusoidal lining Cells	Spleen
Messangial Cells	Kidney

APPENDIX 3

REVIEW OF BAPTIST UNION YOUTH SANAP WANTAIM PROGRAM (YSWP)

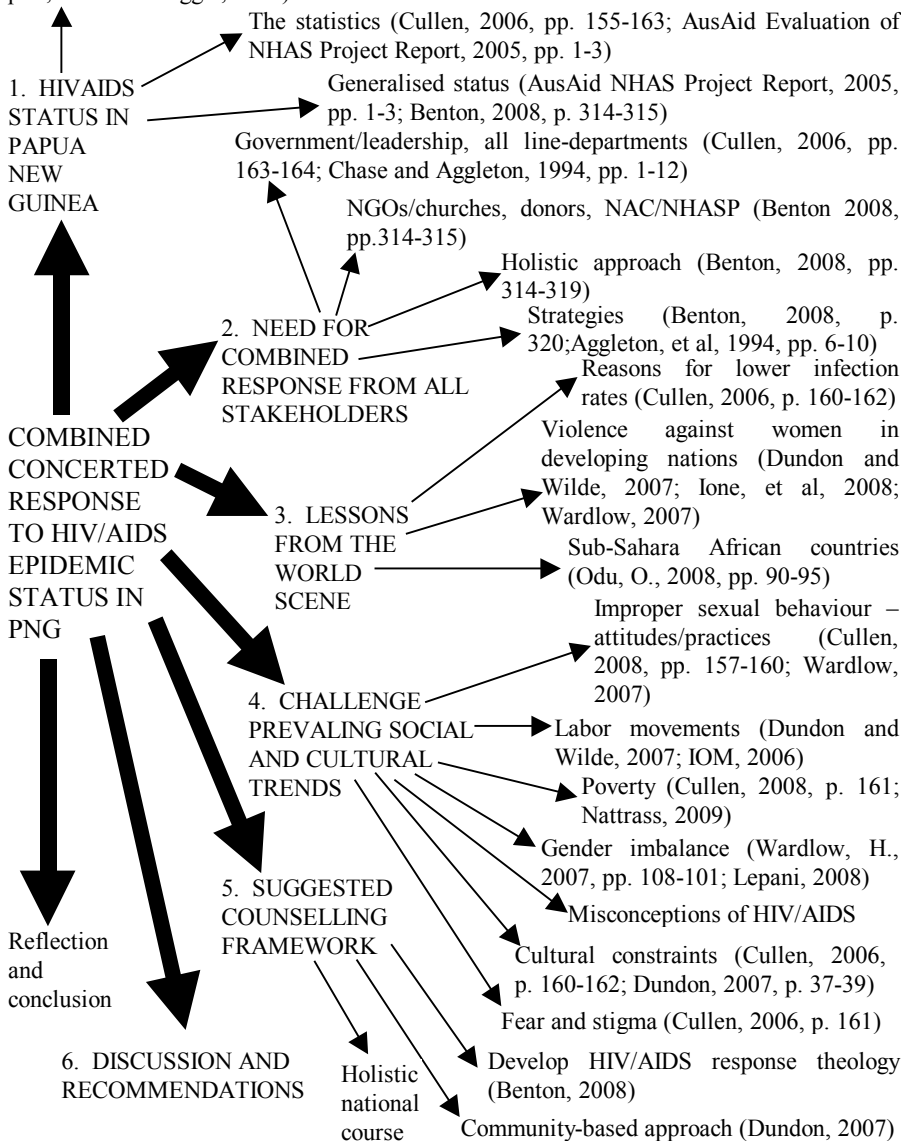
YSWP is geared towards developing the potentials of the youth. While the sports programs were going well in encouraging youth, and deterring them from drug, crime, and other illicit activities, there is a lot more that needs to be done. The Baptist Union HIV/AIDS ministry arm, in its endeavour to minimise the devastating effects of HIV/AIDS, has planned to establish Youth Family Centres to provide lifeskills training programs. This is to equip the youth with the necessary lifeskills for job opportunities. These would be basic vocational skills, such as, carpentry, plumbing, sewing, office procedures, computer use, and hospitality, to prepare and equip youth to be responsible and be self-reliant. The Youth Family Centres will then provide references, and help the youth find possible job opportunities.

According to Mr Edward Worimo,[11] research is being done, with the help of other stakeholders,[12] to understand the current trends of youth culture, in order to establish relevant and required training programs to meet the needs of youth today. A budget has been put together, and, by 2013, the first BUPNG Youth Family Centre pilot project will be rolled out.

[11] Mr Edward Warimo is the current Baptist Youth Family Centre Program coordinator.
[12] Like-minded churches, and research institutes.

APPENDIX 4

SIDEWAYS TREE DIAGRAM



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