

Centre for International Health

**Risk Behaviors for STIs and HIV in the
Commonwealth of the Northern Mariana Islands**

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Declaration

No material in this thesis has been accepted for the award of any other degree or diploma in any university.

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signature: 

Date: 05 June 2012

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Abstract

Background: At the end of 2009, there were 33.3 million people living globally with the Human Immunodeficiency Virus (HIV) with 2.6 million new infections occurring annually (UNAIDS, 2010). In the Commonwealth of the Northern Mariana Islands (CNMI) in the Western Pacific Ocean, annual STI and HIV statistics as of 2009, indicate that syphilis, hepatitis B and herpes simplex virus are at their highest rates since 2002. This study documented the understanding of the social, risk and sexual behavior among a cross-section of the population in the CNMI. The primary objective of the study was to establish baseline behavioral data on STIs and HIV/AIDS in the CNMI.

Methods: Behavioral information was obtained using a modified version of a survey based on the Family Health International STI/HIV/AIDS Behavioral Survey for adults adapted specifically for use in the CNMI. The questionnaire was administered to three population groups in the CNMI: The first consisted of pregnant women (n=228) who were attending their first prenatal visit and who had not been previously tested for STIs. The second consisted of men (n= 132) over 18 years of age who had engaged in sex with another man during the last five years. The third group consisted of male and female youth (n=433), aged between 18-24 years, were unmarried or had been living with a partner for less than 12 months prior to the survey date. The survey comprised of a variety of questions including personal background history, marital history, sexual partner history, sexually transmitted infection history, condom usage, alcohol and drug use. Additional information was obtained on the participant's level of HIV/AIDS knowledge and access to HIV testing.

Analysis: The data was analyzed using SPSS Statistics Version 17. Frequencies of all the variables were undertaken and bivariate analysis was conducted to determine statistical association between continuous and categorical data. Chi-Square analysis was used to determine if differences existed between prevalence figures and categorical

variables and analysis of variance (ANOVA), was used to determine if differences existed between continuous variables.

Key Findings: Results from the prenatal survey group indicated that the majority of the respondents (66%) were unmarried, unemployed Micronesians (54%) who had never used a condom and who were not using any form of birth control. Most were living with a partner (70%), and none had ever injected drugs. Information about STIs and HIV was obtained through the television, newspaper, the internet, radio and friends. The majority of pregnant women (94%) were aware that they could pass HIV on to their unborn child, however a quarter of the women were not aware that they could pass HIV through breastfeeding. During the last twelve months, the majority of women (99%) had only one sex partner, a large percentage had never used a condom, and the most common self-reported STI diagnosis was chlamydia.

Data results from the MSM survey group indicated the majority of participants (60%) were Micronesian, well-educated with 91% having completed university or college or graduated high school yet unemployment and not living with a regular partner. Most MSM had multiple oral and anal sex partners. A third of those who travelled overseas in the last 12 months (27%) had sex while away; the majority of those were male partners, most did not use a condom and the most common self-reported STI diagnosis was HIV (11%).

Data results from the youth survey group indicated that the majority of participants were born in CNMI and currently reside with family. The majority of participants had had sex and a significantly higher proportion of males had had sex than females. Approximately half of the participants had sex without a condom in past 12 months. More females than males had been diagnosed with an STI in the past 12 months chlamydia was the most common STI reported. Youth participants had the highest rates of substance and drug use for betel nut and marijuana and the second highest overall use for tobacco. The majority of youth reported having used drugs (amphetamines, ecstasy, inhalants, hallucinogens and cocaine). The results also revealed that youth were least

likely of the three groups to have accurate knowledge on HIV. HIV testing was low across in the youth group. The media has played a large role in educating participants with most participants reporting having heard messages about HIV on TV, then the radio, newspapers and billboards. A large number of youth sought HIV knowledge through the internet.

Conclusion: This study presents data on several aspects of risk behavior in the CNMI and documents several risk behaviors (sexual, drug usage and STI history) that provide a starting point for improving preventive healthcare and health promotion programs and increasing healthcare funding in the CNMI. Findings include low HIV testing rates, low HIV knowledge, significant internet usage for HIV/STI information, low off-island travel rates and low rates of condom use. The recommendations proposed can be incorporated into the STI and HIV management programs. This study acknowledges the importance of HIV testing and interventions to improve ST and HIV testing in the CNMI need to be considered. Finally, a recommendation is also made to build on this study to enable further research and testing in the CNMI.

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Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ACS	American Cancer Society
APIs	Asian and Pacific Islanders
CAPS	Center for AIDS Prevention Studies
CDC	Centers for Disease Control and Prevention
CHAC	CDC/HRSA Advisory Committee on HIV/AIDS and STD Prevention
CHC	Commonwealth Health Center
CGC	Community Guidance Center
CNMI	Commonwealth of the Northern Mariana Islands
CNMI DPH	Commonwealth of the Northern Mariana Islands Department of Public Health
CRHC	Central Regional Health Center
OIA	Office of Insular Affairs
DPH	Department of Public Health
DLS	Diagnostic Lab Services
DHHS	Department of Health and Human Services
FHI	Family Health International
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
HIVPL	HIV Project Leader
HPIs	Hawaiian and Pacific Islanders
HSRTCP	HIV/STI Resource and Treatment Center Program
HSSS	HIV/AIDS & STI Surveillance Specialist
IATA	International Air Transport Association
JAL	Japan Airlines
MSM	Men Sex Men or Men Who Have Sex With Men
nPEP	Non-occupational Post-Exposure Prophylaxis
NMC	Northern Marianas College
PLWHA	People Living with HIV/AIDS
PRHP	Pacific Regional HIV/AIDS Project
PRSIP	Pacific Regional Strategy Implementation Plan
PCR	Polymerase Chain Reaction
PICTs	Pacific Island Countries and Territories
PNG	Papa New Guinea
PRSHA	Pacific Regional Strategy on HIV/AIDS 2004-2008
PNG	Papua New Guinea
RDS	Respondent Driven Sampling
RHSPC	Regional HIV Surveillance Program Coordinator
SIN	Survey Identification Number
SPC	Secretariat of the Pacific Community
STD(s)	Sexually Transmitted Disease(s)
STI(s)	Sexually Transmitted Infection(s)

SRHC	Southern Regional Health Center
TB	Tuberculosis
UNAIDS	The Joint United Nations Program on HIV/AIDS
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
US	United States
USDOJ	United States Department of Interior
YRBS	Youth Risk Behavioral Survey
WHO	World Health Organization
WISQARS	Web-based Injury Statistics Query and Reporting System
WTO	World Trade Organization
WWII	World War II

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1 Introduction and Overview

1.1 Introduction to the Chapter

This second generation surveillance (SGS) design study was developed by the World Health Organization (WHO) and The Joint United Nations Program on HIV/AIDS (UNAIDS) as part of a HIV surveillance program in the 21 Pacific Island Countries and Territories in Melanesia, Micronesia and Polynesia. In collaboration with several funding entities, the Secretariat of the Pacific Community (SPC) in New Caledonia worked to conduct an SGS project in the Pacific Island countries and territories for which they provide technical assistance. Additionally, similar objective goals were defined throughout the region and specific objective goals were tailored for the Commonwealth of the Northern Mariana Islands (CNMI), a US Trust Territory chain of 15 islands in the Northern Pacific Ocean, and this research study. The survey objectives in the CNMI were:

- To provide baseline data and figures on the self-reported prevalence of symptoms of STIs and HIV/AIDS, and
- To determine what risk factors are associated with the at-risk population groups in the CNMI.

1.2 HIV in the Region of Study

The first case of HIV was identified in 1981 among homosexual men in the United States and has since spread to most regions of the world and into many facets of society (Joint United Nations Program on HIV/AIDS, 2010). Although many of the Pacific Islands still report low prevalence rates for HIV, their reported occurrence of high-risk behaviors over the years indicate a high prevalence for those behaviors that encourage HIV transmission (AUSAID, 2001). Since this beginning, HIV infection has steadily increased in the Pacific Islands and is 'insidiously working its way into isolated

communities with an infection rate that threatens cultural, economic, and community stability’ and in the South Pacific region, ‘has reached a crisis point and in one case now threatens the extinction of an entire race of peoples’ and ‘some countries have an [HIV] prevalence rate of 33 to 39%’ (Gross, 2005). In part, the fact that HIV has been able to imbed itself into these communities stems from the fact that is considered a forbidden topic of discussion and, because the cultures are the Pacific are ‘notorious for sweeping issues under the carpet, particularly issues that challenge the cultural fabric of the Pacific way of life’ where often the topic of HIV and homosexuality is a forbidden topic (Gross, 2005).

Historically, across the Pacific Islands there has been very little information available on the prevalence of STIs, HIV/AIDS or the incidence of high-risk behaviors such as injectable drug use, homosexuality, multiple sexual partners and unprotected sexual intercourse. Since accurate information is needed to correctly and effectively target those behaviors that place populations at risk, several organizations (e.g. UNAIDS, AUSAID, SPC) have been working throughout the Pacific in an attempt to better understand the varying population groups and their susceptibility towards the spread of disease. One such collaborative effort in particular, is the Pacific Regional Strategy Implementation Plan (PRSIP) which includes in its partnership program the following Pacific Island Country Territories:

Cook Islands	Nauru	Tokelau
Fiji	Niue	Tonga
Kiribati	Palau	Tuvalu
Marshall Islands	Samoa	Vanuatu
Micronesia	Solomon Islands	

The PRSIP (which includes the Pacific Regional HIV/AIDS Project or PRHP), is a 10 year strategy coordinated by the Secretariat of the Pacific Community with an aim to support these entities in their efforts to prevent and contain HIV/AIDS whilst strengthening the coordination, collaboration and partnerships of all the regions local

and national organizations and programs (Pacific Regional Strategy on HIV/AIDS [PRSH], 2005). The goal of the PRHP is to ‘reduce the spread and impact of HIV/AIDS, while embracing [accepting] people infected and affected by the virus in Pacific communities’ (PRSH, 2005). With this goal in mind, the PRHP has three principles guiding its strategy:

- To increase the capacity of Pacific Island Countries and Territories (PICTs) to achieve and sustain an effective response to HIV/AIDS
- To strengthen coordination of the regional-level response and mobilize resources and expertise to assist countries to achieve their targets and,
- To help the PICTs to achieve and report on their national and international targets in response to HIV/AIDS (PRSH, 2005).

In addition, the plan has four implementation strategies:

- *leadership and governance*- to strengthen PICT leadership and governance on HIV/AIDS
- *access to quality services*- to strengthen the capacity of PICTs to deliver continuum of care services for People Living with HIV/AIDS (PLWHA)
- *regional coordination*- to intensify regional cooperation and coordination on HIV/AIDS
- *program management*- to effectively and efficiently manage the Pacific regional strategy implementation (PRSH, 2005).

These four components coincide with the 11 components of the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) Declaration of Commitment on HIV/AIDS signed in June 2001 which were:

1. Leadership
2. Prevention
3. Care, support and treatment

4. HIV/AIDS and human rights
5. Reducing vulnerability
6. Children orphaned by HIV/AIDS
7. Alleviating social and economic impacts
8. Research and development
9. HIV/AIDS in conflict and disaster affected regions
10. Resources
11. Follow-up (PRSH, 2005)

Research findings from 2007 HIV prevalence studies conducted with rural women and sex workers, from HIV surveillance on antenatal clinics and STI patients in Papua New Guinea (PNG), and data on the number of teen pregnancies and STI rates in the Pacific Islands, all indicate that Pacific Islander behavioral and sexual practices put them at considerable risk for HIV transmission (Jenkins & Buchanan-Aruwafu, 2007). During a Pacific Islands Forum Meeting in 2003, Pacific Islander leaders gathered and initiated a unified regional strategy on HIV/AIDS. After several meetings and discussions with the various PICTs¹, a strategy was approved in 2004 and implementation began under the project title Pacific Regional Strategy on HIV/AIDS 2004-2008 (PRSHA)(Secretariat of the Pacific Community, 2005). Taking into account the fact that cultural, traditional, religious and family beliefs and traditions enter into every aspect of the Pacific Islander life, the goal of the PRSHA was to reduce the spread and impact of HIV/AIDS while embracing people infected and affected by the virus (Secretariat of the Pacific Community, 2005).

The study of infectious disease in any small, poor and isolated Pacific Island is often a difficult and arduous task. The difficulties in conducting risk population testing within these environments are compounded when the mode of acquiring the disease is through

¹ PICTs is an acronym used by the SPC to indicate the following Pacific Island Country Territories: American Samoa; Cook Islands; Fiji; French Polynesia; Federal States of Micronesia; Guam; Kiribati; Mariana Islands; Marshall Islands; Nauru; New Caledonia; Niue; Palau; Papua New Guinea; Pitcairn Is.; Samoa; Solomon Is.; Tokelau; Tonga; Tuvalu; Vanuatu; Wallis and Futuna Is.

injectable drug use, intimate sexual contact and blood exposure – as in the case of sexually transmitted infections (STIs) and human immunodeficiency virus (HIV) and additionally, the lack of disease knowledge and stigma and discrimination, all generate an environment that deters open testing (Jenkins & Buchanan-Aruwafu, 2007). These factors combine to support the belief that STI and HIV infection rates are very often not reported and that current estimation rates are well below the actual extent of disease present in the population (Jenkins & Buchanan-Aruwafu, 2007). Throughout the PICTs, this overall strategy was utilized as a basis for the project and was then customized and personalized for local use within each island community. In order to adapt the project plans to be more congruent with the needs of each country or territory, the SPC examined local characteristics of each region.

1.3 SPC Agreement

This research study was underpinned by the Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) framework for HIV. The SPC in New Caledonia, along with University of New South Wales in Sydney, then modified the design of the project to be suitable for use within the SPC’s region of assistance, the Pacific Islands (Figure 1-1).

The SPC is the “largest developmental organization in the Pacific with around 350 staff” and “is an international organization that provides technical assistance, policy advice, training and research services to 22 Pacific Island countries and territories in areas such as health, human development, agriculture, forestry and fisheries” (Rodgers, 2004, para. 2). The SPC was given the mandate of leading “a coordinated response to HIV in the Pacific that provides best-practice care to all people living with HIV and helps the people of the Pacific Community prevent further transmission of the virus” (SPC, 2007, para.11).



Figure 1-1. SPC Member Countries and Territories

1.4 Researcher’s Role and Impetus for the Study

I started working in the Pacific Islands after graduating from Albany Medical College with my degree as a Physician Assistant. Initially, I moved to the island of Guam where I started working with one of the private urgent care clinics. I soon realized that I enjoyed the diversity of the islands, with the 20 different language groups and 15 different Pacific and Asian cultures and decided that the best opportunity to interact with these groups would come with working with the local health department. Within a year, I was involved with and working for the local health department in their Family Practice office. Along with Family Practice, in 2001 I was offered a position as a clinician with Guam’s HIV/AIDS and STI Prevention Program. Since this time, I have had a keen desire to be involved with both the patients and coworkers connected with this community. After several years of working directly in these environments and hearing the concerns of the community and workers, I became familiar with their frustration of wanting more information about prevention methods on-island. I noted similar remarks from the neighboring islands and in the Pacific region.

At about the same time, the Secretariat of the Pacific Community (SPC) was organizing a SGS study in many of the islands and they had experienced difficulty trying

to establish the project in the CNMI, and community, the SPC appointed me to undertake and oversee the project in the CNMI. In addition, the CNMI Department of Public Health (CNMI DPH) was pleased to have my support for coordinating all aspects of the study on-island.

During this time I had been in the early stages of developing ideas for the research component of my Doctorate of International Health degree which is a professional doctorate that builds on and enhances professional practice. The possibility of using a funded research project taking place in the CNMI that was looking at the behavioral risks for issues with which I was familiar and was deeply interested in proved a fortunate alignment. My application as the research leader for the SPC project was successful, due in part to my understanding and appreciation for both the people of the CNMI and their culture, developed by working for several years throughout the region. In addition, my career had allowed me to work closely with several health care departments in the islands and I was already known to many people working at the CNMI DPH. My background and previous experience as a team leader on-island, allowed me to accept the responsibility for managing the multiple survey facets of consultation, refinement of research protocols, ethical approval and conduct of the entire research study.

As a clinician with an advanced degree and several years of experience with STI clients, a sound working knowledge of many of the local public health departments in Micronesia and well developed personal and professional networks in the islands, it was appropriate for me take the role as project leader and lead investigator for this research project.

In advance, I ensured that the SPC was aware of my undertaking this research project for the purpose of a professional doctorate to be written up as a dissertation and agreement to this was obtained in writing. In addition, the CNMI was provided full details of the nature of the reporting and data analysis that would take place and the extent of the research reporting that would be published.

1.5 The Objectives of the Study

The objectives in this CNMI research study for the purpose of the doctorate were:

- to provide baseline data and figures on self-reported prevalence of symptoms of STIs and HIV/AIDS;
- to establish the risk factors associated with at-risk population groups within the CNMI in accordance with the CNMI Operational Plan, 2006;
- to provide valuable information on risk behaviors to the CNMI Health Department for current and future HIV interventions through the research project;

By collecting the data and utilizing this information the CNMI Health Department would develop future prevention programs along with providing comparison information from which trends of infection and risk behaviors in the at-risk populations could be determined.

Each phase of the survey including planning, implementation and analysis was carried out according to best practice principles in place. Every effort was made to ensure the consistency and accuracy in the survey responses. Validity of the survey questionnaire was encouraged by preliminary on-island pilot testing and questionnaire revisions prior to the commencement of study data collection.

1.6 Brief Conclusions of the Project

Several conclusions can be drawn from the survey findings. The data determined that the CNMI should utilize prevention approaches that are sufficiently broad in nature in order to ensure that messages will be to all their physical communities according their geographic locations. The results from the data also established that the CNMI should primarily concentrate their prevention advertising efforts by utilizing their messages via television, radio and newspapers respectively and that it is essential that CNMI strive to ensure these materials are culturally and linguistically appropriate education materials for their island.

Additionally, the results document that there is potential for a drama-based intervention approach to be a very effective and useful method in which to demonstrate prevention concepts on their island. Furthermore, the research data illustrated that the CNMI Health Department should ensure that routine HIV testing, not associated with risk assessment or counseling, is offered at all on-island clinics and healthcare facilities and that they should ensure that post-exposure prophylaxis be also available at several on-island health care facilities.

Finally, the CNMI should provide for *at home* or *take home* medical testing kits for self-testing diagnosis and disease monitoring. Used in combination, this information may ensure a more complete basis of quality STI and HIV/AIDS prevention methods in the CNMI.

1.7 Limitations of the Study

This thesis detailed baseline STI and HIV/AIDS risk behaviors in the CNMI. While efforts were made to ensure the validity of the information gathered for this study, several limitations exist.

Information on STIs in this survey was based on self-reported data and therefore is based on the participants' recollection of the diagnosis and knowledge of the condition. As a result, the assessment of this information is likely approximated rather than precise and may suffer from social desirability bias. Furthermore, the secondary data analysis aspect of this survey often notes that the sample size was insufficient to undertake subgroup analysis. Additionally, for reasons such as missing data and refusal to answer, some of the analysis is based on small subgroup sizes.

Limitations are also noted in the survey questionnaires that may have affected the validity of the information received. For example, the questionnaires did not ask about primary language spoken in order to determine if limited English proficiency was a barrier. Since the API population is comprised of at least 49 ethnic groups with 100 different languages and dialects (Fauci, 2008), the potential influence of this issue on the overall understanding of questionnaire is unknown.

Personnel changes also occurred within the SPC which created difficulties. At initiation of the project, the researcher ensured she had written agreement with the SPC to use the study for the purpose of completing her doctoral research culminating in a thesis report. Several personnel, who were appointed later were unaware of the arrangements that had been made at the onset of the study, and had little appreciation of the time and effort that had been involved in the project. In addition, third party agencies which offered assistance with the project after completion of data collection and input and cleaning, were unaware and had little understanding of the challenges that had occurred with data collection in the field. This mismatch of expectation and reality created tensions within the SPC who had a legitimate but distant interest in the surveys being undertaken in the CNMI.

1.8 Outline of the Thesis

The eight chapters in this thesis explain the procedures and processes of the research project and provide the data and information obtained on the population groups investigated.

Chapter One introduces the region of study and gives its justification, along with objectives, conclusions and limitations.

Chapter Two includes a detailed literature review examining human immunodeficiency virus (HIV) and HIV infections in the Pacific region. Chapter Two also outlines the location in the Mariana Islands where the research took place, including local health concerns and statistics, along with the capabilities and capacity of the local health department.

Chapter Three presents the methodology, including a detailed outline that describes the survey groups involved and how they were monitored. This section also includes the project budget, explains questionnaire components, details database management, and Ethics Committee approval.

The next three chapters provide the survey results of each group. All three chapters report on: participant eligibility; demographics and background characteristics; sexual history; sexually transmitted infection history; alcohol and drug use history and HIV knowledge and attitudes and access to testing. **Chapter Four** reports findings from the prenatal survey group; more specifically, it also includes pregnancy characteristics of the prenatal women and laboratory results from survey urinalysis testing, **Chapter Five** reports findings from the “men who have sex with men” (MSM) survey group and includes anal sex history and reporting with regular, commercial, paying and casual partners plus as section on stigma and discrimination of MSM. **Chapter Six** reports data and analysis from the youth survey group.

Chapter Seven provides analysis of the results of the questionnaire by assessing the associated findings revealed for the individual survey groups and then by discussing the implications of these findings for the particular group. For Prenatal women Chapter Seven (7.1) discusses the associated findings for Sexually Transmitted Infections (STIs) and its symptoms as well as laboratory confirmed findings and HIV testing history. For MSM Chapter Seven (7.3) discusses the associated findings for Sexually Transmitted Infections (STIs) and its symptoms as well as HIV testing, age significance, binge drinking, condom use and drug use of surveyed MSM. Finally for Youth Chapter Seven (7.5) discusses the associated findings for Sexually Transmitted Infections (STIs) and its symptoms as well as HIV testing, binge drinking, condom use and drug use of surveyed Youth.

Chapter Eight gives an overall evaluation of findings, recommendations for local prevention programs, and recommendations for future research studies in the region. This chapter also outlines limitations of both the overall research project and of each survey group.

2 Literature Review

2.1 Introduction to the Chapter

This chapter provides an introduction on the global effects, issues and statistics of the Human Immuno-Deficiency Virus disease. The chapter then goes on to provide a historical overview on the history of the Mariana Islands and more specifically describes the islands of the Commonwealth of the Mariana Islands including details on population, tourism, major industries and health concerns and information.

2.2 Human Immunodeficiency Virus (HIV)

HIV impacts many sectors of human society. Most people are aware that HIV is a virus that targets the human body's blood target (T) cells so they will act as a host and HIV can replicate. First, HIV must enter the human body and it does this by passing from an infected persons blood, semen, vaginal fluid or breast milk and into an uninfected person by transfer through broken skin or mucous membranes (membranes that produce mucous and line various cavities of the body such as the eyes, nose, mouth, respiratory tract, digestive tract and urogenital tract and in particular, the vagina, rectum and penile opening). As a result, scientific evidence shows that activities, such as sharing needles with or a blood transfusion from an infected person, breastfeeding at birth from an infected mother, and vaginal, anal and oral sexual contact with and infected person will place a person at greater risk for transmission (Sowadsky, 2007).

Studies show that HIV/AIDS has reduced agricultural production leading to food starvation; reduced work forces leading to a failing in economic development and an increased cost of doing business; has strained and eroded health care and educational progress and resources; and has impoverished households and caused a meltdown in the family intergenerational support system (United Nations, 2008). HIV/AIDS does not discriminate against the people it will infect but it does disproportionately infect and affect certain vulnerable groups such as persons with disabilities; migrant workers; refugees; soldiers; injecting drug users; prisoners; sex workers; children and youth; women; and men who have sex with men (World Bank Parliamentary Strengthening,

2007). In view of the fact that there are certain population groups at higher risk than others, focused awareness and understanding of the factors that provoke infection in these individuals is needed. Since a pregnant woman who is HIV positive has a 15-30% chance that she will pass HIV on to the baby in the womb and a 30-45% chance that she will pass HIV on to the baby if there is prolonged breastfeeding after delivery, it is imperative that pregnant women get tested for HIV and antiviral therapy be initiated, which is known to prevent the chance of womb transmission by up to 50% (World Bank Parliamentary Strengthening, 2007).

The reason young people are particularly susceptible to HIV infection is their lack of knowledge and overall misconception of how HIV is spread at a time when they are sexually inexperienced and vulnerable. The staggering statistics of 2.5 million children worldwide who are HIV positive and 15.2 million children globally who having lost at least one parent to HIV suggests that discrimination, poverty, homelessness, loss of basic education and loss of life opportunities are all factors contributing to putting youth at risk for HIV (World Bank Parliamentary Strengthening, 2007).

Of all new HIV infections worldwide about 45% are known to occur in young people aged 15-24 years old. Furthermore, globally it has been estimated that 370,000 children younger than aged 15 years were infected with HIV in 2007. Overall the number of these children living with HIV worldwide increased from 1.6 to 2.0 between the years of 2001 to 2007 and of these numbers 90% of these children live in sub-Saharan Africa (UNAIDS, 2008, pp. 33-36). It is known that worldwide young people continue to engage in high-risk behaviors. Some of these same social factors contribute to placing MSM at high risk for HIV infection but specifically, MSM engaging in unprotected anal sex with other men puts them at a higher risk for HIV infection (World Bank Parliamentary Strengthening, 2007).

UNAIDS (2010) & WHO (2009) & UNAIDS (2008) have reported that globally the HIV pandemic has become overall stable. However, in spite of steady total HIV numbers, the amount of new HIV disease and AIDS deaths continues to be unacceptably high. In observing current research and epidemiological data we see the following:

- The total number of people living with HIV globally has steadily increased and by 2010 has reached an estimated 34 million;
- Even as the global numbers of HIV +ve people stabilized, the annual number of people living with HIV has continued to increase as new HIV infections take place every year. Due to the advancements in HIV treatments, individuals with HIV benefit from longer life spans and new HIV infections outnumber global AIDS deaths;
- Up to date research data and epidemiological statistics suggest that worldwide the spread of HIV appears to have peaked at 3.5 million new HIV infections in 1996. From 2001 to 2007 the annual number of new infections dropped from 3.0 million to 2.7 million. In 2007, 2.0 million people died of AIDS related diseases, compared to 1.7 million in the year 2001;
- Southern Africa continues to remain as the region that suffers from having the largest HIV burden in the world with 35% of all new HIV infections and 38% of all AIDS deaths in the world occurring in the region. In total, 67% of all people living with HIV globally live in Southern and Sub-Saharan Africa (UNAIDS, 2010 & WHO, 2009; UNAIDS, 2008, p. 32).

Countries with a high estimated adult HIV prevalence rate in regions of close proximity to Saipan include Papua New Guinea (1.5%) and Thailand (1.4%) (UNAIDS, 2010). Globally, the highest HIV rates are found in resource poor developing countries with high levels of poverty. The United Nations considers poverty to be a key factor that compels people to participate in risk behaviors that expose them to HIV infection (United Nations, 2005). Additionally, the impact and effects of HIV/AIDS can deepen the poverty experience for the individual and push those at the borderline of poverty, over the edge into a lifetime of poverty thus depriving them further of the means to cope with the disease and life needs (United Nations, 2005).

Infectious diseases, such as HIV/AIDS, are the single largest cause of disability and death in the world (UNESCAP, 2003). Additionally, the catastrophic and debilitating impact infectious diseases can have on a given population, nation or an entire continental region has been demonstrated repeatedly throughout history from recordings of smallpox, cholera or malaria, to the Spanish Flu or The Black Death (Barry, 2005). There are several different diseases that currently pose a threat to humanity and

HIV/AIDS is just one of them. A number of factors are thought to be promoting the world's HIV epidemic. Among these are issues of gender inequalities, lack of human rights protection, and discrimination in groups that are socially, culturally and economically slighted such as MSM, IDUs and sex workers (Piot, Greener & Russell, 2005).

As of the year 2010, 30 million people have died of HIV-related causes and almost 60 million people have been infected with HIV worldwide (UNAIDS, 2010). For the year 2008, there were 2.7 million new cases of HIV infections, 2 million cases AIDS-related deaths and, 33.4 million people living with HIV worldwide (UNAIDS, 2009). Table 2-1 illustrates the current HIV/AIDS statistics by world region according to estimates from UNAIDS.

Table 2-1. UNAIDS Regional Statistics on HIV/AIDS Worldwide for 2009

	Adults and Children Living With HIV	Adults and Children Newly Infected with HIV	Adult Prevalence (%)	Adult and Child Deaths due to AIDS
Sub-Saharan Africa	22.5 million	1.8 million	5.0%	1.3 million
Middle East and North Africa	460,000	75,000	0.2%	24,000
South and South East Asia	4.1 million	270,000	0.3%	1,400
East Asia	770,000	82,000	0.1%	36,000
Central and South America Caribbean	1.4 million 240,000	92,000 17,000	0.5% 1.0%	58,000 12,000
Eastern Europe and Central Asia	1.4 million	130,000	0.2%	76
Western and Central Europe	820,000	31,000	0.2%	8,500
North America	1.5 million	70,000	0.5%	26,000
Total	33.3 million	2.6 million	0.8%	1.8 million

Source: UNAIDS, Report on the Global AIDS Epidemic, 2010

Individuals that are exposed to HIV, at the same time as they have a sexually transmitted infection, are at a tenfold increased chance of acquiring HIV due to this concurrent STI infection (AVERT, 2005). In addition, an individual who is HIV positive and also has an untreated STI, has a greater likelihood to develop to AIDS faster than if they did not have an STI. Consequently, STIs are a major source of concern and their treatment is important to halt the spread and progression of HIV. The connection between bacterial and viral STIs and HIV transmission is proven, however, the risk of transmission varies according to which STI organism has infected the individual (Rottingen, Cameron, and Garnett, 2001).

In spite of the fact that STIs significantly influence HIV transmission, there is no one single organization that reports global STI statistics and the last STI estimates were done by the WHO in 2001. One main reason for this lack of reporting are the stigmas surrounding STIs and HIV/AIDS. Numerous research studies have established that an infection with an STI increases the transmission of HIV (e.g. cross-sectional, case-controlled and cohort studies) and although an established infection with an STI such as chlamydia, gonorrhoea, bacterial vaginosis, human papilloma virus or lymphogranuloma venereum (Ronn & Ward, 2011) as well as herpes simplex virus (HSV) and HSV-Type 2 increases HIV transmission likelihood, having an ulcerative form of STI still carries the greatest highest sexual transfer association risk. In fact, having an ulcerative STI is believed to heighten the risk of contagion by the infected individual as well as increase the vulnerability of the recipient (Piot & Bartos, 2002). In fact, some research shows an association between HSV-Type 2 genital ulcer disease epidemics and HIV epidemics. HIV incidence increases with HSV-2 prevalence and HIV-1 prevalence increases with HSV-2 incidence (Corey, et al., 2004).

Chlamydia, gonorrhoea, syphilis, genital herpes, genital warts, hepatitis A, hepatitis and hepatitis C and are some of the more common STIs worldwide (AVERT, 2009). Table 2-2 demonstrates the most recent global estimates available for chlamydia, gonorrhoea and syphilis showing that there is an estimated 92 million infections of chlamydia that occurred worldwide in 1999, with an estimated 50 million occurring in women and 42 million occurring in men (AVERT, 2010). Moreover, Table 2-2 demonstrates that an estimated 62.34 million cases of gonorrhoea and 12.22 million

cases of syphilis occurred during this time (AVERT, 2010). Accurate data on STIs worldwide remains difficult to obtain since both the funding and the endeavour to undertake surveillance investigation is inadequate (WHO, 2010). Best estimates suggest that 340 million new cases of syphilis, gonorrhoea, chlamydia and trichomoniasis occur every year among females and males aged 15-49 years, and that overall STI prevalence rates continue to rise in most countries (WHO, 2010).

Table 2-2. Estimated New Number of Common STI Infections (in Millions) Among Adults, 2010

World Region	Chlamydia			Gonorrhoea			Syphilis		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
North America	0.84	0.72	1.56	0.84	0.72	1.56	0.053	0.054	0.107
Western Europe	0.63	0.49	1.11	0.63	0.49	1.11	0.066	0.069	0.136
Middle East	0.68	0.79	1.47	0.68	0.79	1.47	0.197	0.167	0.364
Eastern Europe & Central Asia	1.81	1.5	3.31	1.81	1.5	3.31	0.052	0.053	0.105
Sub-Saharan Africa	8.84	8.19	17.03	8.84	8.19	17.03	2.144	1.683	3.828
South & Southeast Asia	15.09	12.12	27.2	15.09	12.12	27.2	2.187	1.851	4.038
East Asia & Pacific	1.68	1.59	3.27	1.68	1.59	3.27	0.132	0.112	0.244
Australia & New Zealand	0.06	0.06	0.12	0.06	0.06	0.12	0.004	0.004	0.008
Latin America, Caribbean	4.01	3.26	7.27	4.01	3.26	7.27	1.634	1.294	2.928
Total	33.65	28.7	62.35	33.65	28.7	62.35	6.47	5.29	11.76

Source: AVERT STD Statistics Worldwide, 2010

2.3 The complex risk and social factors that impact HIV

Driving the global HIV epidemic are many complex social, economic and structural factors and these aspects often propel the HIV epidemic and act as a force of influence pushing the epidemic forward. Therefore if any progress or success is to be made in controlling the spread of HIV attention to these factors and their impact on HIV must be considered and researched. However, because these factors also include a wide range of social, behavioral, biological and psychological factors that are multifaceted and vary from population to population and from different economic levels of society, and this influences how HIV prevention is transmitted and therefore how it can be prevented (Auerbach, et al., 2009).

Because women are included in this disproportion of wealth, cultural and low social and economic status, they are vulnerable to acquiring HIV and also exposed to the high levels of stigma and discrimination the often prevent people living with HIV disease from accessing public health services for treatment and care (Wabwire-Mangen, et al., 2009). Gender inequality, poverty and human rights violations are all factors that increase the vulnerability of HIV to both the individual and the community as a whole (UNAIDS, 2007b). There are still many language and cultural and stigma factors existing that discourage APIs from making use of any available health care and prevention services and data from the US indicates that even though APIs have similar rates of risk behaviors for HIV they have significantly lower rates of HIV testing when compared to other populations (Sabato & Silverio, 2010). The WHO has been cautioning global leaders for many years to expect expanded HIV/AIDS numbers in the Western Pacific.

Participating in high-risk behaviors or risk factors, defined as “an aspect of personal behavior or life-style, an environmental exposure, or an inborn or inherited characteristic, which on the basis of epidemiologic evidence is known to be associated with health-related condition(s) considered important to prevent” (Last, 2001, p. 106) are known to keep the spread of infections alive and flourishing. Risk behaviors in API youth are known to be influenced by family values and in households that avoid discussing sex among children and in mixed-gender atmosphere or, where parents

maintain a sexually neutral environment, youths may be reluctant to disclose personal sexual information and health risk behaviors since they may experience embarrassment or bring shame upon themselves (Sileo et al, 2002).

It is widely recognized that an individuals' risk behaviors are influenced by the social environment in which they live (including the individual, family, community and established society) and that their environmental circumstances will increase or diminish their vulnerability to risks such as HIV and this is an active process in which the individual and social environments directly and jointly influence each other and these influences have a cumulative effect on one another (Bhattacharya, 2004). Also impacting the spread of HIV/AIDS is the fact that men who have sex with men also have sex with women, especially in transient and mobile population groups such as commercial sex workers and truck driver populations. One study done in Andhra Pradesh in India indicated that 42% of men having sex with men were married and 50% were having extra-marital sex with women, and just under half of those men did not use condoms (UNAIDS/WHO/ UNICEF, 2007).

As these risks pertain to the spread of HIV integrated factors include low or inconsistent condom use with multiple simultaneous sex partners, unprotected sexual intercourse and injecting drug use. Sexual concurrency is defined as any kind of sexual overlap within a period of time, including any form of polygamy, long-term sexual partners who have other sexual liaisons, even brief ones, or even very sporadic sex with partners in several locations (Mah & Shelton, 2011).

2.4 Infections in the Pacific

As far back as 2003 there were already indications that high-risk behaviors were increasing and sexually transmitted infections were on the rise in the Pacific island countries (WHO, 2003). More recent studies have found that several countries in the Pacific islands contain all the critical factors necessary for a 'ripe scenario for the spread of HIV' (The Fiji Times 2006). In one study including six different Pacific island countries (Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu), it was determined that unsafe sex (especially among the young), high numbers of multiple and

casual partners, and a limited knowledge base of how HIV is transmitted, will all play major roles in contributing to the spread of HIV in these countries (The Fiji Times, 2006).

In agreement with this perception is the United Nations Economic and Social Commission for Asia and the Pacific (2003) who considered Asia and the Pacific as the world's fastest growing HIV/AIDS epidemic regions, stressing that unless national and internal communities and governments implement an expanded and comprehensive response to this disease, an estimated 18.5 million new cases would develop by 2010 (UNESCAP, 2003). During the 2004 Regional Committee Meeting for the Western Pacific held in Shanghai, Dr Shigeru Omi, the World Health Organization Regional Director for the Western Pacific was reported as saying 'the epidemic is still increasing in many countries. We are still not catching up with the epidemic despite success stories against HIV/AIDS epidemic in some countries in Asia' (PR Newswire, 2004). Even with often inaccurate statistical information in the form of underreporting and misclassification, from 2001-2004 Asian and Pacific Islanders (API) were the only known racial group to have an annual increase in HIV/AIDS that was statistically significant and of this population, API women had the largest increases overall (Sabato & Silverio, 2010).

In the Asia Pacific region, Papua New Guinea has the highest rates of sexually transmitted infections (Millan, 2006). According to the 2010 country report, the number of HIV/AIDS cases in PNG is at 24,297 and rising (UNAIDS, 2010). The Asian Development Bank (2005) agrees that various reasons such as poorly functioning health systems, high presence of STIs, low level of condom use, poor access to healthcare information, the presence of stigma and discrimination, various sexual and cultural taboos and high levels of international mobility, make the Pacific region vulnerable to threat of HIV/AIDS.

More than half of the people living with HIV globally are female and in sub-Saharan Africa close to 60% of all HIV infections are in women. The percentage of women living with HIV has remained constant over the last 10 years globally, however, this number has known to have increased in certain regions of the world such as Central

Asia, Eastern Europe and the Caribbean and small increases have been seen in Sub-Saharan Africa and Latin America (UNAIDS, 2008, pp. 33 & 36).

Several cultural factors exist that increase the risk for HIV in API women. The inability to talk about sexual context freely and openly along with the powerlessness to negotiate the use of condoms with their partners and the sense of obligation to take care of others needs before taking care of their own are all factors that increase the risk for HIV among API women (Sabato & Silverio, 2010). Additionally, many ethnic women will avoid subject matter that might bring stigma on their communities or families and often these women will avoid research studies on taboo subjects where they personally experience humiliation or be ostracized from their community (Yick, 2007).

The typical cycle of STI and HIV transmission recognized recently in sub-Saharan Africa exists in the Pacific today. Pacific Islander men travel for work and pleasure to islands or nations other than their residence, and may engage in unprotected sexually activities and high risk behaviors. The situation where they return to their home and regular sex partners and introduce STIs and/or HIV may occur on a daily basis in the islands of the Pacific (Nguyen et al, 2002). In addition, the Pacific islands are traditionally considered gay-friendly and the island of Guam in Southern Mariana Islands, southwest of the CNMI by approximately 221 kilometers, is considered to have the most developed gay life in all of Micronesia (Wallace, 2007).

Reports on research done in 2004 suggested that high rates of unprotected anal sex (47%) were increasing the rates of STI's in API MSM by showing that there were increases in incident rates of early syphilis and fourfold increases in rectal gonorrhea among API MSM (Sabato & Silverio, 2010). Other studies done with API MSM indicate a high prevalence of substance abuse (club drugs, frequent drug use, and use of three or more drugs) that was associated with HIV behavioral risk factors (infrequent condom use, commercial sex activity, and low rates of HIV testing) and certain research showed that the use of ecstasy, inhaled nitrates, hallucinogens, crack cocaine, and amphetamines by more than half of the API MSM surveyed was associated with unprotected anal intercourse (Sabato & Silverio, 2010).

Commercial sex workers (CSW) and injecting drug users are associated when related to an increase in the spread of HIV. In certain areas of the world, such as Manipur in India where there is known to be a deep-rooted HIV epidemic, almost 20% of sex workers are HIV positive and known to be injecting drug users. Conversely, in this same population of commercial sex workers, the rate of HIV positive infection is only 8% in those not to be injecting drug users (UNAIDS, 2006). Research studies done in the US suggest that the local environment for API CSW may expose them to an increase high risk sexual behaviors, drug use and violence and one study done in San Francisco (where nearly 1 in 7 HIV positive API live) showed that only 51% of API CSW women used condoms every time with oral sex and one third of women had condom breakage with a customer while 10% indicated condoms slipping off during sex with a customer which exposed them to increases in HIV/AIDS and STIs (Sabato & Silverio, 2010).

2.5 A Historical Overview of the Mariana Islands

The Mariana Islands are in the Western Pacific Ocean and roughly about a four hour flight from Manila, Japan and Australia and about an eight hour flight from the islands of Hawaii. The island chain consists of 15 different islands and was believed to have initially inhabited 4,000 years ago by mariners from Southeast Asia. The islands were first discovered by the western world in 1521 by the Spanish explorer Ferdinand Magellan. The native inhabitants, known as Chamorros, were almost completely exterminated in 1667 when the Spanish established a regular colony in islands and were fiercely resisted (Kennedy, 1910). Spanish and Philippine migration into the Marianas grew steadily until 1899. Then, when the Spanish-American war ended, Spain sold the island of Guam to the Americans and the remaining Northern Mariana Islands (NMI) to the Germans. After the end of WWI in 1919, the League of Nations placed the NMI under the protection of the Empire of Japan. Having seized the NMI in 1914 after WWI and Guam in 1941 shortly after the attack on Pearl Harbor in Hawaii, the Japanese colonized the islands for the next 20 years until WWII when in 1944, the Battle of Saipan took place between the Japanese and the Americans with the Americans liberated the islands. In 1947, in the aftermath of World War II (WWII), the islands in the Northern Marianas became part of the United Nations Trust Territory of the Pacific

Islands which delegated the United States (US) to oversee its administration (US Department of Interior, 2008). Guam remained a US Territory and the Northern Mariana Islands, which includes the island of Saipan, became a Commonwealth of the US.

In 1976, the US Congress approved a covenant with the NMI that allowed the NMI to negotiate its Commonwealth status, adopt its own constitution and eventually allowed its indigenous residents to qualify as US citizens (US Department of Interior, 2008). Today NMI is collectively called the Commonwealth of the Northern Mariana Islands (CNMI) and is fully established as a Commonwealth of the United States of America (USA). With its status of Commonwealth, the CNMI is under certain regulations of the US and most US Federal Laws apply to the CNMI but there are noted exceptions. Also a result of their relationship with the US, the CNMI's healthcare system is similarly structured and subsidized by the US Federal Government.

Most of this subsidy is delivered to the CNMI in the form of grants and the Department of Public Health CNMI HIV/STI Resource and Treatment Center receives four major grants annually with an average total sum of US \$486,263 (Comprehensive STD Prevention Systems, 2005; CNMI DPH, 2007). The island of Saipan, where this research project took place, is the largest island and most populated island in the Commonwealth of the Northern Mariana Islands (Figure 2-1). The island is 20 kilometers long and 8.9 kilometers wide with 87 kilometers of coastline and a total population of 62,392 people (U.S. Census Bureau, 2001).

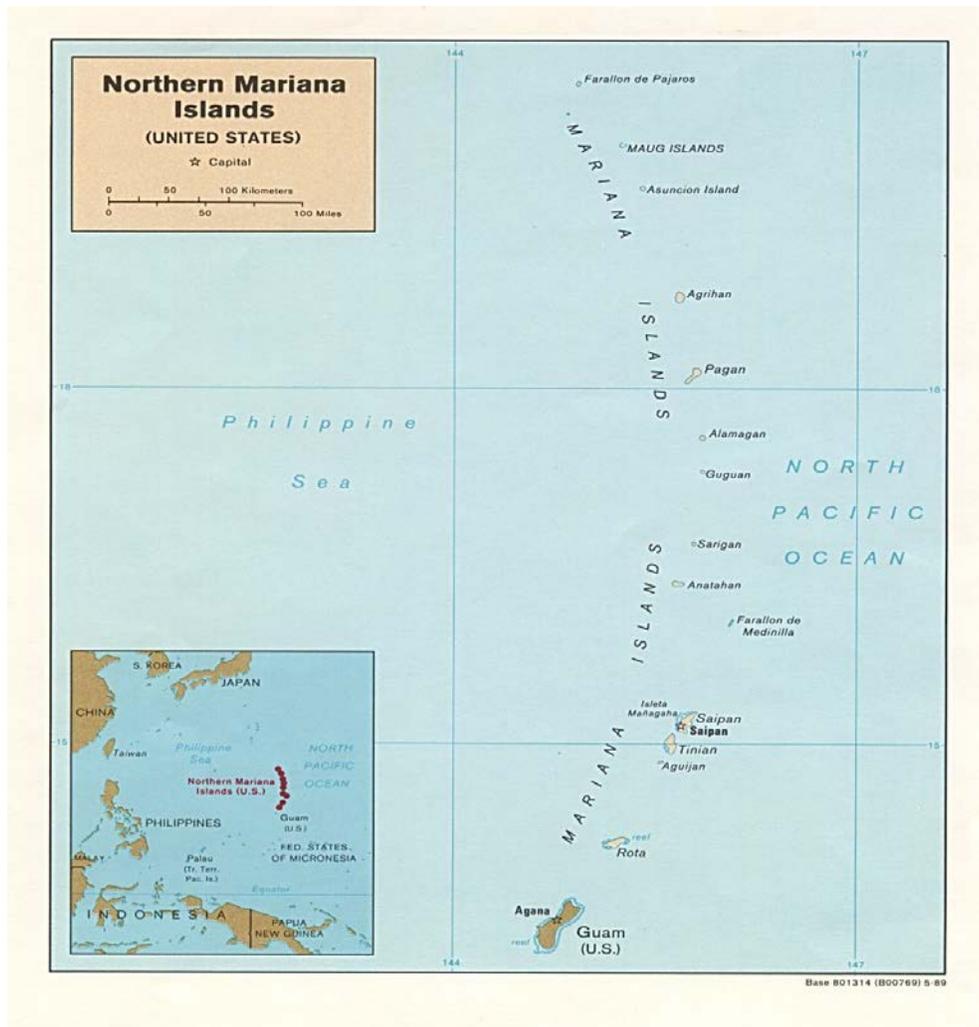


Figure 2-1. The Northern Mariana Islands
 Source: University of Texas at Austin 2008

Over the last five years, several events in the CNMI have drastically transformed its outlook for the future. Some of these factors include: long-standing problematic immigration policies that have compelled the US Federal Government to impose US federal immigration policies in the islands; a faltering financial system; pending transference of government policies that will place the CNMI under much stricter overall US federal control. As a result, the current state of affairs in the CNMI was best described by the Honorable Pedro Tenorio, CNMI Resident Representative to the United States in his speech before the Senate Energy and Natural Resources Committee on July 19th, 2007 when he stated “there has been no improvement in our economic condition

and our outlook remains gloomy' (Tenorio, 2007). The sections following provide further details on the complexity of the situation.

Two major industries (tourism and garment manufacturing) have existed in the CNMI since the Commonwealth covenant was adopted, both these industries have driven the economy of the islands (Osman, 1997). The islands natural beauty, warm climate, close proximity to Asia and its significant WWII historical importance to the Japanese, have made the islands of the CNMI a tourist travel destination for Japanese and Asian travelers (Japanese, Korean, Taiwan, China) for many years (Osman, 1997).

A once thriving garment industry consisting of 34 garment factories existed on the island of Saipan that annually contributed around 60 million US dollars in taxes to the local population but by 2009 every garment factory had closed down on-island and the associated tax revenues had run dry (Mortensen, 2009). Along with the demise of the garment industry the once thriving tourism industry that catered to over 700,000 tourist a year in 1997 had decreased to fewer than 400,000 a year by 2008 and as a result, the airlines that serviced the air travel for these tourist, suspended their flights to the island (Eugenio, 2009).

2.5.1 CNMI Population

Traditionally, Pacific Islanders have had an oral cultural tradition and this is true in the CNMI and, in fact, so strong is the oral tradition for contact and exchange of ideas in some Pacific Islands, that researchers are warned that projects that “do not include a special emphasis on orality, the emerging cultural studies for Oceania will remain primarily a reading and writing activity cut off from the majority of people in the region” and that “orality contains Oceania’s Library” (Wood, 2003, p.358). Much of this oral communication is provided by way of dance, drama, public rituals and ceremonies (Wood, 2003). Other authors quote observers in the Pacific as stating that “oral tradition is so very strong in the sense that if information or communication can be transmitted orally rather than in writing, than that is the choice most people here would make” (Wareham, 2002, p.195) and “Pacific historical knowledge, as far as it can be

generalized to any extent, may accept truth's taking a variety of forms according to circumstances...the necessary flexibility of oral transmission" (Whimp, 2008, p.403).

The population in the CNMI has diversified distinctively several times in the last few hundred years. Initial inhabitants, native Chamorros, have been inundated by numerous races and ethnic groups over the years. More recently, after the Japanese occupation just prior to World War II and into the beginning of the early 1980s, the CNMI's populace developed into a multinational workforce supporting a conglomerate of garment manufacturing industries. The diversification that has taken place has meant that as of the last census in 2005, at least 57% of the total population in Saipan was born outside of the CNMI and migrated to the islands, while 49% of the population on Saipan are US citizens (CNMI HEIS, 2005). Of the 57% who are immigrants, at least 75% migrated for employment purposes, and of the total employed persons on the island of Saipan, 79% are non-US citizens² (CNMI HEIS, 2005). The Asian ethnic group (Bangladeshi, Chinese, Filipino, Japanese, Korean, Nepalese and other Asian) makes up 76% of the total employed workers while Pacific Islanders make up 20%, Chamorros 12%, Micronesians 6%, Carolinians 2% and Caucasians 2% (CNMI HEIS, 2005).

Several issues currently affecting the CNMI such as the tourism and garment industry failures (discussed in next section) and some intended for its near future such as immigration and US federalization transformations mean that the overall population of the CNMI is expected to decline, along with a significant *alien*³ work force reduction. A 2008 CNMI report McPhee and Conway (2005) entitled 'Comprehensive Assessment of the CNMI Economy - Economic Impact of Federal Laws on the CNMI', which was undertaken to examine the potential impact that US federalization and immigration changes will have on the CNMI economy, found that there will be a significant decrease in the CNMI population and workforce by the year 2015. According to the last CNMI census of 2005, the total population of the islands consisted of 70,200, with a total workforce of 35,960 including a non-resident alien workforce of 23,360 (CNMI HEIS, 2005). In line with these statistics, McPhee and Conway (2005) estimate that by the year

² Persons born in the CNMI are considered US citizens.

³ *Alien* worker is a term frequently used in the CNMI to describe a non-US citizen contract worker residing in the CNMI.

2015, the population will decrease to 40,480, the total workforce will diminish to 16,270 with a non-resident alien workforce of only 1,000 people (McPhee & Conway, 2005).

2.5.2 CNMI Tourism

In May 1968, the first commercial flights belonging to what is now Continental Airlines in the US, started servicing the islands of Micronesia including the inauguration of a maiden flight to the island of Saipan (Destination Micronesia, n.d.). Since this time, several different airlines have serviced the CNMI, including Japan Airlines (JAL), Northwest Airlines, Asiana Airlines, China Southern and China Eastern Airlines. One of the principal carriers, JAL, began flying to the islands of the CNMI in 1997 from various regions in Japan such as Tokyo, Osaka and Kansai. JAL eventually grew into the leading carrier providing over 50 percent of the total passenger traffic by the year 2001 (Alexandro, 2002). In 2001, JAL alone brought in 110,000 Japanese from Tokyo, 57,200 from Osaka and over 5,000 charter flights making the Japanese tourist the major tourism market on the island of Saipan (Alexandro, 2002). In fact, the tourism commerce from the Japanese market increased into a booming industry that generated nearly 216 million dollars annually with an average of 36 million annually in government revenues (Donato, 2005).

But by the year 2005, due to low seat yields, airline restructuring, a rise in fuel costs, the terrorist act of 9/11 and the SARS (severe acute respiratory syndrome) crisis in Asia, JAL was reducing its overall aircraft fleet, including its flights in the CNMI (Dones, 2005). In fact, by October of 2005, JAL had permanently cancelled all flights to CNMI, closed its offices both at the airport and in Garapan, and terminated all its personnel. In the years following the closure of the JAL flights, other airlines continued flying to the CNMI but, in spite of the overall increase in tourist from other ethnic categories (Korea and Taiwan), their numbers have never increased enough to offset the losses incurred by the absence of the Japanese tourists (Calindas, 2007).

2.5.3 CNMI Garment Industry History

The garment manufacturing industry had been thriving due to a tax exception in the CNMI that allows these factories to import garments into the US without paying customs tax and also allows them to produce their products with a 'Made in the USA' label but the Commonwealth of the Northern Marian Islands Labeling Act 2007 now prohibits any future use of this labeling (Appendix 1). With the foreign investment monies that brought in the infrastructure to support the construction of the garment factories, came the foreign worker population to support the manufacturing of the garments. In the last census, it was estimated that the garment industry was the largest employer on Saipan employing 33% of all employed workers (CNMI HEIS, 2005). Additionally, it is estimated that at least 86% of the total employed population works in the private sector while only 13% work in the public sector and only 1% were self-employed (CNMI HEIS, 2005). Currently, of the nearly 63,000 people living in the CNMI, there are 39,832 foreign, non-resident workers that reside in the CNMI without US citizen status (Department of Commerce, 2001).

These contract workers come from all over Asia but the two largest ethnic groups represented on-island are from the Philippines and China. In 1998 the CNMI Government passed a law requiring any newly arriving alien worker and any accompanying family members, to have on-island health screening within ten days of being in the CNMI. According to the CNMI Department of Public Health, in 2002 approximately 32,141 contract workers received on-island alien health screening examinations. The required health exam, is designed to identify communicable diseases and includes a general physical and tuberculosis, syphilis and HIV screening. Of these screenings, the ethnic representation was as follows: 16,206 Chinese; 12,538 Filipinos and; the remaining 3,397 varied between 43 different countries (CSPS, 2004). Also in 2002, there were a total of 261 medical referrals made to the CNMI Tuberculosis (TB)/Chest Clinic and 78 medical referrals were made to the CNMI HIV/STI Resource and Treatment Center as a result of the findings on these alien health screenings (CSPS, 2004).

These numbers have been decreasing over the last few years as a consequence of the World Trade Organization (WTO) lifting trade quotas in 2005 and promoting cheaper textiles out of other Asian countries. The government of the CNMI collects a 3.7 percent ‘user fee’ on all on-island manufactured and completed apparel products (Dones, 2006). In addition, there are other revenues generated, one being the income tax imposed on the garment workers (averaging about 27 million per year) and another being the on-island public spending generated by the garment workers (estimated to be around US\$750,000 per year) (Goodridge, n.d.). In the past, with as many as 36 factories in full production generating large sums of monies to the CNMI Government, the island of Saipan was prosperous and businesses in the islands flourished. A drop in garment sales and/or a reduction in the number of garment workers in the CNMI directly translates into a reduction in gross revenue and government profits (Goodridge, n.d.).

2.5.4 CNMI Federalization, Immigration and Minimum Wage

To provide context for this research project, it is appropriate to review the following two aspects of the CNMI US federalization changes that were currently underway at the time of the study: standardizing both how the CNMI’s administer their immigration policy and the minimum wage paid on-island. US federalization in the CNMI denotes that the US government has the full capability to compel the CNMI to normalize their immigration and minimum wage standards into the same framework as the US.

The CNMI has always been subject to a number of US Immigration laws and procedures but until recently, has been allowed to operate under its own management, with its own regulations (as these regulations apply to foreign investors and their workers that reside in the islands). This gave the CNMI government the ability to allow the foreign investors to devote money to the construction of the garment factories and additionally, allowed the investors to employ their own foreign workers and allowed them immigration freedoms to enter the CNMI to do so, which is not customary under the current US immigration structure. At present, these workers are still not US citizens and the change in immigration may require them to exit the CNMI in spite of fact that they have been there for many years, raised family on-island and contributed greatly to their communities. In addition, the population of US citizens in the CNMI is known to

be of insufficient size enough to maintain the businesses currently operating on-island (Tenorio, 2007).

The CNMI has not had a minimum wage increase since 1996 (Donato, 2007). However, a bill by the US Government meant to increase the CNMI minimum wage was presidentially approved in May of 2007 (Torre, 2007). This bill is designed to increase the current minimum wage of US\$ 3.05 per hour pay to US\$ 7.25 over a twelve step program implemented over an eight year timeframe (Torre, 2007). The local concerns over this mandatory wage increase are numerous but generally center on the decision to implement this law at this particular point in time in the CNMI's frail economy. It is generally felt that given the overall economic downturn on-island, to institute a higher minimum wage increase at this time will have a multiplier effect and severely damage the economy of the CNMI in the process (Torre, 2007).

2.6 CNMI Health Concerns

According to the US Department of Interior's (USDOJ) Office of Insular Affairs (OIA) (2008), 'the single greatest factor straining the resources of the health system is the rapid population growth over the past decade' and the key to this situation is found in the fact that the 'greatest (population) increases have come from non-resident alien workers, with a growth rate of 740% over the decade and the influx of Asians, with a growth rate of over 2,400% over the decade' (US Department of Interior, 2008). Unfortunately, this was not expected and taken into consideration during the development of the islands' healthcare infrastructure and the situation is now unmanageable. One indication of this overburdened healthcare system exists in fact that the CNMI DPH has at least 4000 patient encounters listed each month or 48,000 a year and by law, the health system must provide health services to everyone, whether or not they are able to pay (OIA, 2008). As a result of the poor healthcare infrastructure, it is hard to attract and retain qualified healthcare providers and the island does not have enough medically qualified providers or specialists to cope with the presenting medical ailments. In fact, many patients then require medical treatment and evacuation to Guam, Hawaii or the Philippines. These expenses only add to an already over stressed system.

Infectious disease is a genuine concern in an overburdened healthcare system and with a diverse population within such close proximity to so many third world nations. Infectious diseases in the CNMI are once again “emerging as a major health concern” (DOI OIA, 2008). Of most concern are HIV, TB, hepatitis A and B, foodborne illnesses, vaccine preventable diseases and sexually transmitted diseases (DOI OIA, 2008). Since the rapid influx of contract workers, who are often very poorly screened and monitored in their home countries, notifications of infectious disease have risen. The ‘incidence of tuberculosis is over 10 times higher than the Mainland U.S. with over half of all cases among non-resident workers (DOI OIA, 2008).

2.7 Sexually Transmitted Infections and Teenage Pregnancy in the CNMI

The CNMI tracks those STIs that are notifiable to the CDC in the US. The yearly totals for the various notifiable STIs for the CNMI are listed in Table 2-3. These numbers indicate that syphilis and herpes simplex virus (HSV) II are at their highest numbers since 2002 and hepatitis B has not been as high since 2002. Also of note are the gonorrhea and chlamydia numbers which are both at their lowest rate since 2002. The CNMI Department of Public Health provides free health services for any STI/HIV testing and treatment through the centrally located CNMI HIV/STI Resource and Treatment Centre Program.

Table 2-3. CNMI Annual STI Total, Male (M) versus Female (F), 2002-2007, CNMI

	2002		2003		2004		2005		2006		2007	
	M	F	M	F	M	F	M	F	M	F	M	F
Chlamydia	11	189	23	192	16	171	14	189	13	95	3	97
Gonorrhea	10	10	13	18	3	10	2	6	7	8	1	5
Syphilis	7	12	3	5	3	6	2	2	13	8	19	10
Hepatitis B	33	34	0	1	5	7	0	5	2	5	5	22
HSV II	0	0	0	0	0	0	0	0	0	0	3	1
Total	61	245	39	216	27	194	18	202	35	116	31	135
Annual STD Total	306		255		221		203		151		166	

Source: CNMI HSRTCP 2009

A total of thirty-four cases of HIV have been documented by the CNMIPHD since statistics and record keeping was established in 1997 (Table 2-4). Of these cases, five were first diagnosed in places other than the CNMI

Table 2-4. CNMI Total HV Cases as of 2009, CNMI

Case	Year/Location (if not CNMI) when first diagnosed	Gender	Age when HIV diagnosis was made	Ethnicity	Risk Factor	Status
1	1997	Female	16	Pohnpeian	Heterosexual	Living
2	1998	Female	31	Thai	Heterosexual	Not on island
3	1998	Male	35	Chinese	Unknown	Not on island
4	1998	Male	36	Filipino	MSM	Not on island
5	1998	Female	25	Thai	Heterosexual	Not on island
6	1998	Male	26	Filipino	MSM	Not on island
7	1998	Female	38	Thai	Heterosexual	Not on island
8	1998	Male	30	Thai	Unknown	Not on island
9	1998	Male	38	Palauan	Heterosexual	Deceased
10	1998	Female	42	Chinese	Heterosexual	Not on island
11	1998	Female	4.5 months	Chuukese	Perinatal	Deceased
12	1998	Male	32	Chuukese	Heterosexual	Deceased
13	1998	Female	31	Chuukese	Heterosexual	Deceased
14	1999	Female	29	Thai	Unknown	Not on island
15	1999	Female	21	Chinese	Heterosexual	Not on island
16	1997/Hawaii	Male	31	Chamorro	MSM	Living
17	1999	Female	31	Thai	Heterosexual	Not on island
18	1985/California	Male	19	Chamorro	MSM	Deceased
19	2000	Male	4 months	Chuukese	Perinatal	Deceased
20	2000	Female	19	Chuukese	Heterosexual	Deceased
21	2000	Male	28	Japanese	Unknown	Not on island
22	2000	Male	32	Chamorro	Heterosexual	Deceased
23	2000	Female	26	Chamorro	Heterosexual	Deceased
24	2001	Male	33	Chamorro	MSM	Living
25	2001	Female	33	Thai	Heterosexual	Not on island
26	2003/Guam	Male	35	Chamorro	MSM	Deceased
27	2002/Guam	Male	25	Chamorro	Heterosexual	Living
28	2006	Male	24	Filipino	MSM	Not on island
29	2006	Male	26	Filipino	MSM	Living
30	2007	Female	35	Filipino	Heterosexual	Living
31	1991/Hawaii	Male	26	Chamorro	MSM	Not on island

32	2007	Male	37	Chamorro	Heterosexual	Living
33	2008	Male	28	Filipino	Heterosexual	Living
34	2009	Female	28	Filipino	Heterosexual	Living

Source: CNMI HSRTCP 2009

According to the CNMIDPH, current teenage delivery rates are highest among the indigenous Chamorro population and the overall teen birth rate is highest among Chamorro 18-19 year olds (Table 2-5).

Table 2-5. Teen Deliveries by Ethnicity in the CNMI, 2005-2009

Mother's Ethnicity	2005	2006	2007	2008	2009
Chamorro	63	59	83	63	58
Carolinian	7	12	9	9	18
Filipino	9	12	13	16	15
Chuukese	3	4	2	2	3
Palauan	3	4	3	3	3
Pohnepian	2	3	2	0	1
Other	4	6	4	3	2
Total	91	100	115	96	100

Source: CNMIDPH, Office of Health and Vital Statistics, 2010

2.8 CNMI Laboratory Capacity

The CNMI diagnostic medical laboratory is located in the main hospital building of the Commonwealth Health Center and has twelve employees and one local certified Medical Laboratory Technician (Uluiviti, n.d.). The quality and performance of the laboratory in the CNMI is regulated by the Clinical Laboratory Improvement Amendments (CLIA), under the U.S. Department of Health and Human Services (HHS) (HHS, 2007). At the time this survey was conducted the laboratory was in good standing with CLIA and under normal operations daily. The CHC laboratory testing capabilities are listed in Table 2-6 and in addition to this main health department facility, there are private, for profit laboratories available on-island.

Table 2-6. CNMI Laboratory Testing Capacities, 2005, CNMI

Test	Testing Location	Turn-Around Time
Routine genital bacteria culture	CHC Lab	3 days
Chlamydia by DNA Probe	CHC Lab	5-7 days
Gonorrhea by DNA Probe	CHC Lab	5-7 days
Rapid Plasma Reagin	Reference Lab-Hawaii	5-7 days
HIV antibody screen	Reference Lab-Hawaii	5-7 days
HIV confirmatory-W-blot	Reference Lab-Hawaii	5-7 days
HIV P24 Antigen Test	Reference Lab-Hawaii	5-7 days
HIV by PCR	Reference Lab-Hawaii	5-7 days
CD4 counts/T cells subsets	Reference Lab-Hawaii	5-7 days
All other cell counts/Evaluations		
Herpes Simplex Virus Culture	Reference Lab-Hawaii	5-7 days
Hepatitis B Antigen	Reference Lab-Hawaii	5-7 days
Hepatitis B surface antibodies	Reference Lab-Hawaii	5-7 days
Ureaplasma/Mycoplasma culture	Reference Lab-Hawaii	10-15 days
Human Papillomavirus detection	Reference Lab-Hawaii	7-10 days

(Source: CNMI STD Grant Final Edition 2005)

2.9 Summary of the Chapter

Chapter 2 has presented an overview of HIV and STIs that affect millions of people of varying ages, genders and nationalities and their cycle of transmission and devastation through in Sub-Saharan Africa. The next section presents an analysis of risk behaviors and their impact on STIs and HIV. The CNMI is located in the North Pacific Ocean and has a population of 62,392 people with a stressed economy consisting of a failing garment industry, struggling tourism industry and transitional federalization changes. The infrastructure of the current healthcare system on the island of Saipan is already overburdened and infectious diseases are emerging as a major health concern. Chapter 3 details the methods used in this study.

3 Methodology

3.1 Introduction to the Chapter

This chapter explains the project's conception, methodology and organization, as well as why the survey groups involved were deemed significant for this population. It also provides insight on training, planning, logistics and design. Included are details on the locations and settings of surveys, interviewing and specimen-handling procedures, compensation and project tracking. Additionally, this chapter presents information on data management, storage and confidentiality of project materials along with a budget summary.

3.2 Methodology and Concept of Project

A standard proven methodology, developed by UNAIDS/WHO was adapted for use in the Pacific by WHO, in collaboration with the surveillance partners the University of NSW, the Secretariat of the Pacific Community (SPC) in New Caledonia in conjunction with the local partner in the CNMI (CNMI Operational Plan, 2006). The project involved several different steps to ensure it was congruent with other Second Generation Surveillance projects in the Pacific and was tailored expressly for use in the CNMI. The methodology for this project included limited bio-surveillance undertaken among pregnant women and survey questionnaires that were co-coordinated between the key stakeholders (HIVPL, CNMI HSRTCP, CNMI DPH and the CNMI Department of Public Health Bureau of Communicable Disease Control or CNMIBCDC). The three survey groups selected for the CNMI were prenatal, men who have sex with men (MSM) and youth. These survey groups were chosen as previously discussed for their incidence risk and accessibility.

To begin organizing this research project in the CNMI, the SPC sent their HIV/AIDS & STI Surveillance Specialist (HSSS) from New Caledonia to the island of Saipan numerous times over a two year period (2004-2005). Upon the discovery of the complexities that exist in the CNMI, the SPC concluded that it would be beneficial to employ a local, on-island HIV Project Leader (HIVPL) to lead the project in the CNMI.

The HIVPL was chosen to work with the local community to determine how the project would be best implemented given the limited capacity for the project on-island and this role was offered and assigned to me because of my knowledge and experience in the region. In addition, I was expected to devise the framework, protocols, budget, survey groups and manage all other aspects of the project to ensure both the success of the project and, the compatibility with the regional goals for the project.

An early step in my involvement with this project involved travelling to the CNMI to meet with health department personnel and the SPC assigned Regional HIV Surveillance Program Coordinator (RHSPC). During this meeting, the groups to be surveyed were established and local laws and regulations were reviewed to allow the protocols and operational plan for the project to be developed. I also travelled to the island of Palau and receiving guidance from a researcher conducting the SGS project for the SPC in the Caroline Islands. I moved to island of Saipan, and confirmed participation in the project. After project leader training with the SPC, I was given total control of the research project locally, with the SPC providing assistance when needed from New Caledonia.

This research study makes note of considerations that were either present or that presented themselves throughout the duration of the investigation. In particular, language considerations must be taken into account when doing a study in the CNMI and for that matter, in most of Micronesia. English, Chamorro and Chinese, Tagalog, Thai, Japanese, Fijian and/or any other host of Pacific Island and Asian languages are also spoken. Although English, Chamorro and Carolinian are the primary general languages spoken throughout the CNMI, the primary language spoken in the individual households in the CNMI are Tagalog (32%), other languages (31%), Chamorro (30%) and English (7%) (National Oceanic and Atmospheric Administration, 2008). This required the use of interviewees of varying nationalities, many of whom spoke particular languages fluently. Multiple interviewers can itself be cause for concern and hence the care around training and supervision has been emphasized.

3.3 Survey Groups

Local CNMI health department and clinic officials were offered input into the decision on the population groups to be surveyed and the following three population groups were selected for the CNMI: the prenatal group, the youth group and, the MSM group. Behavioral information on all three groups was rudimentary with no baseline data as extensive or similar to this established in these population groups. It was collectively determined that surveying these three population groups would be feasible to gain access to and would provide the greatest knowledge gain into the behavioral factors that would fuel an HIV epidemic in the CNMI. The individual approach undertaken for each survey group is discussed latter in detail.

For this project, behavioral surveillance surveys were conducted in the CNMI. These surveys were targeted and conducted on three specific population groups in the CNMI. The CNMI determined the local populations to be surveyed based on input from the SPC, and solicited input from local key health care providers that had evaluated statistical infectious disease rates within the islands.

To begin with, since the base SGS survey being conducted across the Pacific Islands included a prenatal, pregnant women's survey group to serve as a proxy indicator for each community's overall burden of STIs, it was decided that the CNMI would include this group as one of their survey groups as well (World Health Organization, 2001). For this survey population group only, there was also an STI prevalence survey that was conducted by obtaining a urine sample at the participants first prenatal clinic visit at either the Southern or Central Women's Public Health Clinic.

Secondly, with the input from experienced local, key healthcare professionals (such as nurses, health administrators, social workers, outreach workers), along with data analysis of the main high risk population groups in the CNMI, it was decided that the two remaining survey groups should be: youth and men who have sex with men (Men who have Sex with Men or MSM). Moreover, on an island with very few resources and infrastructure for conducting behavioral surveys, through exploration and investigation on-island the researcher was able to determine that these two populations would be both accessible and, that the surveys would be successfully administered and completed.

Table 3-1 provides a breakdown of the three survey groups and their structure. Additional details will be provided in the relevant sections.

Table 3-1. CNMI Survey Teams and Training, CNMI, 2006-2008

Survey	Interviewers	Training
Prenatal	CNMI DPH nursing staff, NMC nursing students, CNMI HSRTCP staff, laboratory personnel	Recruitment, informed consent, confidentiality; interviewing technique and recording responses; voluntary confidential counseling and testing (VCCT); specimen collection, labeling and transport.
MSM	Private citizens, HSRTC staff, Researcher	Recruitment, informed consent, confidentiality; interviewing technique and recording responses; respondent driven sampling (RDS).
Youth	CNMI HSRTCP staff, NMC Current Affairs students, NMC nursing students	Recruitment, informed consent, confidentiality; interviewing technique and recording responses.

3.3.1 Initiation of the Project

3.3.1.1 Questionnaire Design and Content

The initial training for this project began with direction and counseling from the HSSS from the SPC with on-island training classes and discussion groups. The decision was made that the training of all local, on-island participants would be under the direction of the CNMI DPH HIV/STD Treatment and Resource Center Program (CNMI HSTRCP) and the on-island HIV Project Leader assigned by the SPC. The survey teams that were trained included employees from the CNMI Department of Public Health (nurses, health educators, community health workers), private citizens, NGOs and university students. Each survey team was trained according to their specific survey group and the necessary design.

The questionnaire provided by the SPC was reviewed with several CNMI health department personnel, and modifications and revisions were made to ensure suitability for the CNMI community. Examples of amendments to adapt the questionnaire for the

CNMI population were the inclusion of questions pertaining to the Mr. Right Guy film, and knowledge of Prutehi Hao and the Napu Life Foundation in the HIV knowledge and attitudes section. Mr. Right Guy is a film produced in Vanuatu and distributed around the Pacific Islands by the SPC that is ‘designed to provide educators, peer educators, community and health workers with useful approaches in working with young people on behaviors that reduce their vulnerability to HIV/AIDS and STIs’ (SPC Social Resources and News, 2005). Prutehi Hao is youth-oriented film produced by the Guam Department of Public Health and Social Services in 2005 that portrays Pacific Island youth and their family life to convey STI/HIV prevention concepts. The Napu Life Foundation is a Saipan-based organization that promotes HIV prevention services in the CNMI.

This questionnaire was designed to identify contextual influences and risk behaviors in these population groups and how they affect susceptibility to STIs and HIV. Validity of the survey questionnaire was encouraged by doing on-island pilot testing and questionnaire revisions. The survey consisted of six basic sections (Table 3-2): background characteristics; sexual history; most recent sexual history; sexual transmitted infection history; alcohol and drug history, tattooing history and; HIV knowledge, attitudes and access to testing and history.

Table 3-2. CNMI General Survey Questions, CNMI, 2006-2008

Section	Details on Questionnaire
Section One:	Background Characteristics (education, ethnicity, occupation)*prenatal-also includes pregnancy history
Section Two:	Sexual History (lifetime partner totals, condom use, age at first sexual intercourse)
Section Three:	Most Recent Sexual History (partners over the last 12months, types of sex-commercial, group, forced sex, condom use)
Section Four:	Sexual Transmitted Infection History (knowledge of STIs, symptoms of STIs, treatment habits)
Section Five:	Alcohol and Drug History, Tattooing History (how much, what kind, sexual activities under the influence, IDU history)
Section Six:	HIV Knowledge, Attitudes and Access to Testing, History (prevention/transmission knowledge, public; programming knowledge, testing history, discrimination history)

3.3.1.2 Questionnaire Planning and Logistical Arrangements

To survey the three chosen CNMI high-risk groups, both access and permission to conduct the interviews needed to be secured. Initially written approval from the President of Northern Marianas College (NMC) was obtained to conduct the youth survey on campus, with a Letter of Agreement signed by the Governor, Secretary and Deputy Secretary of the Department of Public Health. This particular college was chosen because it is the only college in the CNMI that has obtain accreditation from the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges in the US (NMC, 2008).

Next, numerous questionnaire review sessions were held with several CNMI health department personnel attending and offering input on needed modifications for use in the CNMI. Revisions were made and the final version of the questionnaires was prepared for each survey group. Additionally, the prenatal questionnaire was then sent for translation into Chinese by a qualified, on-island translator and translation accuracy was confirmed by the local public health nursing staff fluent in Chinese. Next, all the questionnaires were then sent for printing. Concurrently with questionnaire printing, several workshops and meetings were held on-island to establish and ensure that the coordination of the various survey teams were all in position and ready to assist with the undertaking the project. Additionally, accounts were established with the finance department, all project materials were sorted out and priced, shipping schemes were arranged and gas card reimbursements were planned. All items requiring processing with a purchase order for procurement.

Once the money was transferred into the CNMI account by the SPC, all the survey items were purchased and the training of the interviewers on the logistical mechanics of the survey continued via bi-weekly group meetings. Various stations for conducting secure interviews were set up at four locations, along with file boxes for storage at each station (NMC, Southern Regional Health Center (SRHC), Central Regional Health Center (CRHC) and the CNMI HIV/STI Resource and Treatment Center Program), and

individual file box carriers were prepared for the MSM interviewers. With everything in place and all personnel appropriately trained, the interviewing process began.

During the logistical organization of the research project, it became apparent that in order to make the surveying process as straightforward and effortless as possible, networking with other on-island organizations was necessary to ensure the completion of the project. The researcher made every effort to organize the project in a way that would ensure efficiency of time and effort. As a result, interviewee *packets* were assembled for use by the interviewees (one packet per interview) and labeled file boxes were prepared, identified and placed at a convenient yet safe and secure place at each on-site location. This provided for consistent supply and storage of all research materials. The packet provided to each interviewer, was one oversized plastic bag containing the following combined items: a questionnaire and information sheet, condoms (when available), educational pamphlets from the HIVPP on HIV/AIDS and STIs, ink pens and gas card recruitment vouchers (one for the student and one for the interviewee). The bulk of the interview packets were assembled by the researcher and each interview packet provided all the items necessary to conduct one interview.

In addition the interview packets, several SGS file boxes were created for specific use of the interviewers during the project. Since some of the interviewees were in-the-field whilst other interviewees were at on-site locations, several different size and interview specific file boxes were designed. For example, at stationary on-site locations where the prenatal interviews and youth interviews were being conducted, large file boxes were stored. These file boxes contained extra writing utensils, questionnaire packets and all written forms, condoms, educational materials, log-in sheets and file cards. For those interviewees conducting interviews at outreach locations (such as the MSM interviewers who were trained to conduct the questionnaire in private homes, places of employment and if considered safe, at social venues where privacy could be assured), small, personal carry-size file boxes were created to store the same materials, but on a smaller, portable scale. In addition, prenatal interview packets and file boxes contained urine specimen cups (for the urine specimen samples that were being collected in the prenatal population group) and the MSM interview packets and file boxes contained semi-labeled recruitment indexing cards.

The prenatal survey was a linked confidential survey for the purposes of treatment by the CNMI DPH of any potential positive urinalysis specimen samples. The MSM and youth surveys were an unlinked anonymous survey where no names were collected and no survey responses could be traced back to individual participants. For both the linked and unlinked anonymous testing, no personal identifiers were included except the Survey Identification Number (SIN). For the linked prenatal survey, the SIN was only used to link the urine specimen results to the survey data and strict measures were taken to ensure that this information was only accessible to one nursing administrative individual.

Names and SIN numbers were recorded on a cover sheet detached from the survey form and kept securely in a locked file cabinet. Only the SIN was recorded on the survey forms, and for the prenatal survey, the SIN was recorded on the urine specimen sample. As it was expected that if an interviewee had an STI that they would receive free clinical treatment and management, this procedure enabled a participant diagnosed with an STI to be followed up and receive appropriate clinical management. No names were recorded on the test results or on any questionnaires and no names were entered into the survey databases. Any medical treatments were provided according to local protocols and under the direct supervision of the CNMI DPH clinicians and any contact tracing, counseling, testing and referral was done according to CNMI protocols and procedures and by CNMI DPH personnel.

3.3.2 Prenatal Survey Respondents

This survey group was targeted and selected to identify prevalence of STIs in proxy group for the general population. Pregnant women provide a proxy for monitoring STIs in the general population and young women reflect new infections since it is more likely that they have only recently become sexually active. STI prevalence is known to be a good indicator of HIV risk behaviors and if it is accompanied by ulceration, it can increase HIV transmission (Sladden, 2004). This was a mutually collective decision the key health care individuals in the CNMI and myself as the project leader and determined all aspects of the prenatal research design conducted by the CNMI. Of the total budget

of \$61,708 over half (\$39,138) was allocated for the prenatal section of the study due to the additional cost of sending urinalysis specimens to Australia for testing.

The prenatal survey training team was comprised of the CNMI DPH nursing staff, Northern Marianas College (NMC) nursing students and instructors and CNMI laboratory personnel. The bulk of interviewing and questionnaire completion for the prenatal survey was undertaken by nurses employed by the CNMI DPH along with NMC nursing students doing clinical rotations at the various clinic and hospital wards. Since the prenatal survey also included a urinalysis sample, laboratory personnel were also trained on procedural documentation and processing. The laboratory staff were made aware of the protocols for the specific purpose of the survey of prenatal women and were trained on the logistics of the relevant survey specimen collection, handling, storage, testing and shipping procedures and additionally, local shipping couriers will be briefed on all specimen shipment requirements. Since the prenatal surveys were conducted during the participant's first prenatal visit at the clinic, a safe and confidential setting for administering the questionnaires was available at all times.

For the prenatal survey administration, the interviewers were sourced from both the nursing staff at CNMDPH and the nursing students from the NMC Nursing Program doing their clinical rotations at the DPH clinics. All CNMI DPH employees had been informed by their supervisors that the project was taking place and were allowed by CNMI DPH to voluntarily take part in conducting the interviews and administering surveys for the project if they so desired. After the researcher approached the NMC Nursing School instructor regarding the research project, she informed second year students (who are required to undertake clinical rotations at the DPH facilities) that they could voluntarily take part in the research project. To allow this, the students were trained during workshops held during regularly scheduled college class time. The training consisted of hands-on individual and group trainings, provided by me, on-campus, in a large nursing classroom. Refreshments and beverages were also provided.

After completing the training and starting their clinical rotations for the semester, students were then allowed to be able to access the research study file box supplies, with permission from the on-duty DPH nursing supervisor. The students were only allowed

to conduct interviews according to the already established interviewee requirements and only during down times, when there were no clinical procedures taking place that they needed to take part in or observe. In addition to the student nurses, nurses from the CNMI DPH were also allowed to volunteer to support the research project under similar arrangements. DPH nurses were encouraged to interview patients on their first prenatal visits when their workload and schedule permitted them to do so. For the training of the DPH nurses, a conference room in the hospital building was utilized and refreshments and beverages provided. Several workshops were conducted at various times to accommodate the varying schedules and the researcher often conducted the training occasionally with help from the CNMI HSRTCP. The nurses employed at both the SRHC and the Women's Clinic were involved in survey administration.

The strategy to capture the women for the prenatal interview was to request their anonymous participation at their first prenatal clinic visit at one of the two on-island public health clinics, either at the Commonwealth Health Center in Garapan or at the Southern Health Clinic in San Antonio. For this reason, CNMI Well Women's Survey posters and reading materials were placed at strategic locations within each clinic and at all of the CNMI's Public Health facilities. These reading materials included posted copies that had been translated into Chinese and in addition, the CNMI Well Women's Participation Information Sheet and the CNMI's Well Women's Health Survey Questionnaire were also translated into Chinese. Furthermore, native Chinese language speakers were among those trained to conduct survey interviews and were established as language translators to avoid any significant language barriers.

At each facility where prenatal interviews were being conducted, a file box containing several interview packets, specific to prenatal interview with all the necessary supplies to conduct and complete the interview was placed. Urine specimen samples were also being collected in this population group and the SPC supplied bags of sterile urine specimen cups, duplicate numbered sticker labels and shipment eskies for this component of the project. In order to ensure correct sampling procedures, one pre-labeled sticker was placed on a sterile specimen cup (matching the interview survey number) that was then placed into the prenatal interviewing packet. A duplicate copy of this pre-labeled sticker was also placed on the interview questionnaire and gas card in

the same interviewing packet. This procedure ensured quality control over the urine specimen number with the correct corresponding survey questionnaire number. It is CNMI DPH protocol that when the prenatal patient finishes their first prenatal appointment, that they were requested to have their prenatal labs completed that same day. For this purpose, the patient was given a lab requisition slip and was directed to the laboratory. This meant that after the research interview and questionnaire was completed, the patient was given the specimen cup and requested to follow normal clinic procedures and to produce the urine specimen simply upon their presentation to the laboratory after their visit. This course of action allowed the patient to include the urine sampling for the research at the same time as their routine prenatal labs, avoiding any need for an extra appointment or lab visit.

Figure 3-1 outlines the prenatal interview steps and the shaded box indicates an interview step that was unique to the prenatal interview process. The interviews were conducted in patient rooms both at the SRHC and the Women's Clinic at CHC. This ensured confidentiality and privacy for the interviewing process. Once the participant presented for their first prenatal visit and voluntary participation in the survey was confirmed, the next step was to orally review the CNMI Well Women's Participation Information Sheet (Appendix 2) with the participant.

Following this, the first page of the CNMI's Well Women's Health Survey Questionnaire (Appendix 3), which contains sections to include eligibility, confidentiality and informed consent, was reviewed between interviewer and interviewee, then initialed and acknowledged as completed by the interviewer. If all criteria were met, the questionnaire was administered in private and upon completion, the participant was given a urine specimen cup and a separate SGS urine sample was collected whilst the participant was present that day at the clinic getting their prenatal laboratory exam and specimen done.

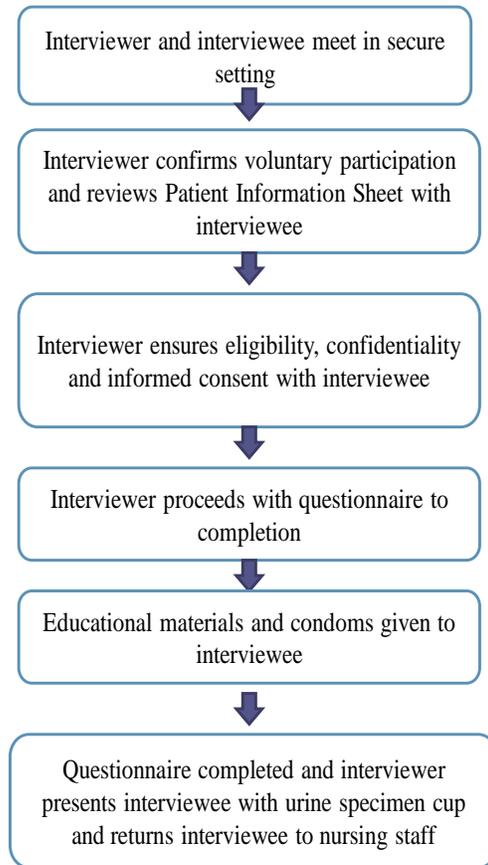


Figure 3-1: Flow Diagram for Prenatal Interviewing Procedures, CNMI

Based on the average number of births in the CNMI per year and several logistical and financial considerations, a sample size of 300 pregnant women was proposed. In conjunction with the SPC and the CNMI Department of Public Health, the decision for 300 was established and the budget was structured based upon this sample number. The proposed sample was to include at least 50% of proposed antenates aged 18-24 years. It was also agreed that recruitment of potential participants would occur at the first prenatal appointment at the only two locations providing care to pregnant women for the CNMI Health Department.

A survey ID number was allocated to each questionnaire form and kept securely in a locked file cabinet; no names were collected. After completing the interview, pre-test counseling referral was provided if necessary, and women were referred to provide their

urine (first catch 10-15ml) samples. These samples were pre-labeled with the date and the participant's survey number. Urine specimens were stored at -20°C in the CNMI main laboratory at CHC prior to packing and air freighting to Melbourne for testing for chlamydia and gonorrhea. This testing process took an average of four weeks. All further routine protocol prenatal check-ups and labs were also completed at this time.

Treatment and contact tracing of any woman found to be positive once test results were returned from Melbourne was conducted per all CNMI protocols and by the clinic nursing supervisors at the CNMI DPH Clinics. As a general rule, women diagnosed with chlamydia and/or gonorrhea were either recalled to the clinic or seen at their next prenatal visit and treated as per local treatment protocols. Routinely, prenatal women attending their follow-up visits would receive their standard testing results at this time (HIV, syphilis, hepatitis B, chlamydia and gonorrhea pelvic exam results). According to the protocol of the clinic, blood specimens for HIV confirmatory testing, if required, are sent to the Diagnostic Lab Services (DLS) in Hawaii. Any woman diagnosed with HIV receives comprehensive counseling and referral to the CNMI HSTRCP where medical assessment management including treatment is available.

For each interview that was conducted, the interviewer was offered a US\$ 10.00 gas coupon. For the prenatal survey, the interviewee was not offered a gas card reimbursement for participation because they were already accessing services from the health department. For the prenatal survey, the HIV project leader interacted at least three times a week with all the interviewers by making rounds and collecting completed materials, distributing gas coupons and issuing new materials and supplies.

3.3.2.1 Urine Specimens

Prenatal urine specimens were transferred via the Commonwealth Health Center laboratory delivery technician. A freezer was purchased for this project and maintained by CHC's main laboratory at the hospital for the purpose of storage of urine specimens at -20°C prior to shipment for testing. Urine specimens were collected at the hospital and at the SRHC, frozen, and then delivered to the main hospital via a cooler. After an adequate number of urine specimens were collected to fully pack an esky, the esky was packaged according to dangerous goods shipping requirements and transfer of the

specimens arranged with an on-island courier for specimen shipment to a lab in Melbourne, Australia for analysis. Appropriate packaging was provided for air freighting urine specimens to Melbourne, Australia for polymerase chain reaction (PCR) testing and International Air Transport Association (IATA) compliant containers were provided by the SPC for this purpose.

3.3.3 Well Men’s Survey Respondents with Men who have Sex with Men (MSM)

As previously discussed, this survey group was targeted and selected because they are a well-documented high-risk group for HIV infection. A collective decision between the SPC coordinator and the key health care individuals in the CNMI determined all aspects of the MSM research design conducted by the CNMI. The strategy to recruit MSM participants was to identify and train interviewers that were familiar with and knowledgeable about the on-island MSM community. These individuals were referred to as *seeds* and used at the initial group of participants in the sampling process. The decision was made to include participants who were genetically male (as it was noted by our interviewers that their known local transgender and MSM population and potential interviewees do not consider themselves *male*), report having ever had sex with men, and who were aged 18 years or older. For this reason, CNMI MSM Survey posters and reading information materials were placed at strategic locations within each CNMI Public Health Clinics and at all of the CNMI’s Public Health facilities.

With the input of local health care workers and individuals knowledgeable about the homosexual/transgender/bisexual community in the CNMI, and taking on-island financial and logistical factors into consideration, a survey sample size of 100 completed questionnaires was agreed. Also with the advice and experience of these local individuals, it was decided that the most effective way to reach and acquire input from this target group was to encourage the participants to make pre-arranged appointments with an interviewer at a survey location that both they and the interviewer considered safe and confidential. In addition, the interviewers had established locations with assured privacy within the health department that were available to them at any time if need be.

With the guidance of the SPC, the best method for recruitment in the CNMI was determined to be respondent driven sampling (RDS) (Johnston et al, 2008). This technique is acknowledged as reputable and effective means of recruitment in high risk populations for HIV behavioral surveys (Malekinejad et al, 2008). RDS uses existing participants to recruit new participants and is often utilized for hard-to-reach or hidden populations that are not easily accessed such as sex workers, IDUs and MSM. The process utilizes an initial group of participants called seeds that have contact and knowledge of the hidden population (e.g. MSM), that then are utilized as recruiters and go out into the community to recruit more willing participants (Figure 3-2). Once found, the new participant is then referred to a trained interviewer by means of contact information on a business card. Local individuals who were familiar with the MSM population on-island served as the first wave of interviewees or 'seeds'. Then, these participants were invited to recruit potential survey participants from their own networks and were provided recruitment cards to hand out potential new participants.

Each interviewer was given three indexing cards to offer their interviewees and a mapping log-in ledger for keeping track of their personal interviewing history. The interviewed persons were then able to give these recruitment cards to other personally known MSMs and invite them to participate in an interview by contacting the trained interviewer. These recruitment cards contained the contact details for the interviewer and a section for a time/place location for the new recruit to record this information after setting up an interview appointment. Each participant that was interviewed was asked to recruit a further three peers until the survey goal of 100 was reached. All interviews were conducted at a location choice that was private and mutually agreed as safe for the interviewer and interviewee.

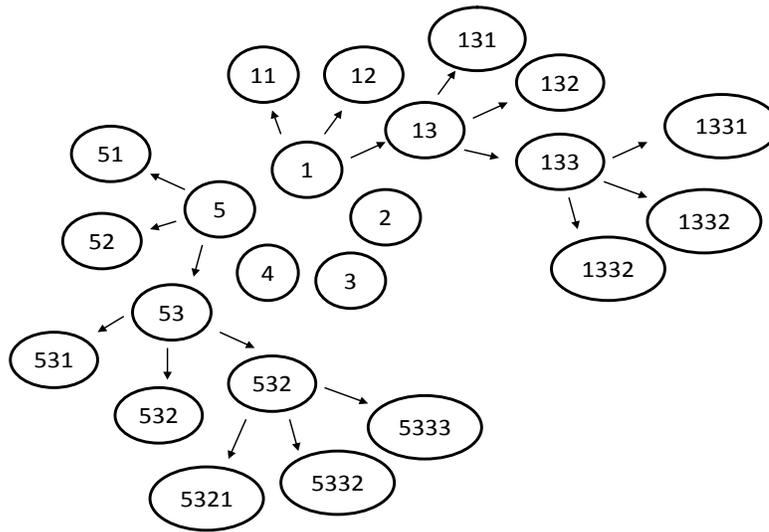


Figure 3-2. Recruitment Network in a Respondent-Driven Sample (RDS), beginning from 1-5 'seeds', CNMI

For the MSM survey, citizens involved and connected with the local, on-island MSM community were trained to conduct the questionnaire surveys and to ensure that interviews occurred in safe outreach environments. MSM interview steps (as outlined in Figure 3-3 with the shaded box indicating an interview step that was unique to the MSM interview process) were conducted in private homes and places of employment, if considered safe, and at social venues where privacy could be assured. For the MSM survey, interview training workshops were conducted on a one-on-one basis and in small group sessions between the researcher and the interviewers. Since this population was a more hidden and hard-to-reach population group, interviewers were chosen for the project based upon their personal familiarity and ease with this population group.

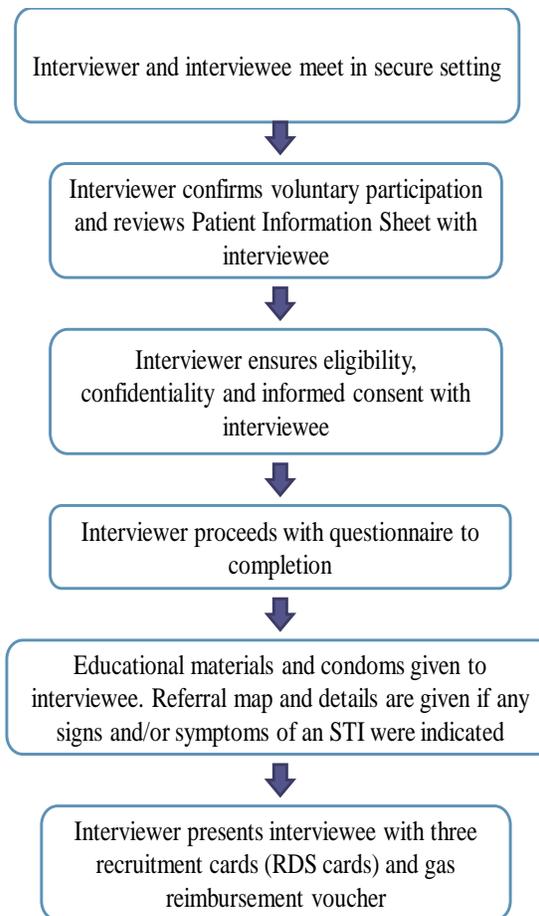


Figure 3-3. Flow Diagram for MSM Interviewing Procedures, CNMI

This voluntary interviewing team was assembled from employees at the CNMI DPH and private citizens with varying jobs and roles in the community (teachers, reporters, and housewives). Training workshops with refreshments and beverages occurred at the CNMI HSRTCP, in private restaurant meeting rooms, in private offices and in interviewers' homes. Once trained, a group email list was provided so that students and instructors could contact each other if needed and each interviewer was given a file box containing interview packets and extra materials.

Once the participant presented for their interview at a previously decided agreed safe and confidential location, willingness to participate in the survey was confirmed, by reviewing the CNMI Well Men's Participation Information Sheet (Appendix 4) with the participant. The first page of the CNMI's Well Men's Health Survey Questionnaire

(Appendix 5) covered issues of eligibility, confidentiality and informed consent and was orally reviewed between interviewer and interviewee, and then physically initialed and acknowledged as completed by the interviewer. If during the interview an interviewee had any signs and/or symptoms of an STI, they were referred to the CNMI HSTRCP for evaluation and treatment. For this purpose, schematics to the clinic were provided for the interviewer and interviewee. If all criteria were met, the entire questionnaire survey was conducted in private and upon completion the participant was given three recruitment cards and instructed to hand out to three MSM individuals personally known to them. A survey ID number was allocated to each questionnaire matching the recruitment card number and kept securely in a locked file cabinet. No names were collected or associated with the questionnaire.

For the MSM survey, each interviewed person participating was offered a US \$10 gas card. In addition, if the interviewed individual was successful in recruiting three individuals via their recruitment cards, they were offered US \$10.00 for each person that became a successful referral. So, the potential individual incentive payment could be as low as US \$10 or as high as US \$40 (Table 3-3). For the MSM survey the HIVPL interacted bi-weekly with all the interviewers by making rounds and collecting completed materials while distributing gas coupons and issuing new materials and supplies. At the time of the MSM survey the CNMI HSTRCP did not have the capacity and training to conduct rapid oral HIV testing at the time. Since HIV testing requires blood sampling, all participants in the MSM survey were provided details on the availability and location of this free service, as well as being provided information pamphlets and literature on STIs and HIV/AIDS.

3.3.4 The Youth HIV Survey Respondents

This group was selected for surveying because they have higher rates of partner change, less ability to negotiate safe sex and higher rates of usage of illicit drugs, all known to result in higher rates of STIs. The SPC coordinator and the key health care individuals in the CNMI agreed on all aspects of the prenatal research design conducted by the CNMI. Of the total budget of US \$61,708 a sum of US \$7,602 was allocated for the youth section of the study.

For the youth survey, the aim of the project was to recruit reliable and conscientious youth, recommended by college instructors who had familiarity with the students work and performance capabilities, to conduct the interviews. Interviewers needed to be sufficiently mature to administer the questionnaire given its sensitive nature. It was also necessary to find a secure, accessible location at which youth participants could be recruited and surveys conducted. With both of these requirements in mind, the decision was made to conduct the surveys at the Northern Marianas College (NMC) campus in the village of San Jose, which is one of the largest villages on the island of Saipan.

Inclusion criteria for participation were that the youth be aged 18-24 years and not be married or cohabitating with a partner for a period greater than 12 months. For this reason, CNMI Youth Survey Posters and reading information materials were placed at the Northern Marianas College campus. At the time of the survey, it was estimated that 1,200 youths fitting this criteria were enrolled and attending courses on campus and that a goal of 400 completed youth surveys was achievable.

Youth survey interview steps (as outlined in Figure 3-4) were conducted at the Northern Marianas College campus. The first step in seeking to accomplish this goal was to seek written approval to conduct the survey from the President of NMC. With a letter of formal approval signed by the President of NMC, authorizing the cooperation of NMC with the study, the next step was to find those individual students that would be suitable to conduct the interviews. A unit entitled 'Current Issues in the CNMI', instructed by Senior Instructor Samuel McPheters and covering local issues on a variety of topics within the CNMI, included a class that allowed students to choose between several, on-island investigative studies. This class was structured so that at the beginning of the semester, students attended a presentation describing the community research projects available for that semester. Students then chose which project they would undertake for the semester. Once chosen, the students worked in study groups and assisted with the project through to completion and presentation at the end of the semester. Considering that students were allowed to choose their own projects, out of personal interest and initiative, this approach was considered ideal for the SGS project. After conducting the presentation at the university for two semesters, a total of 39 students were involved in the project. This total included a handful of microbiology

students as the instructor for this course also allowed her students to be voluntarily involved in the project for extra credit.

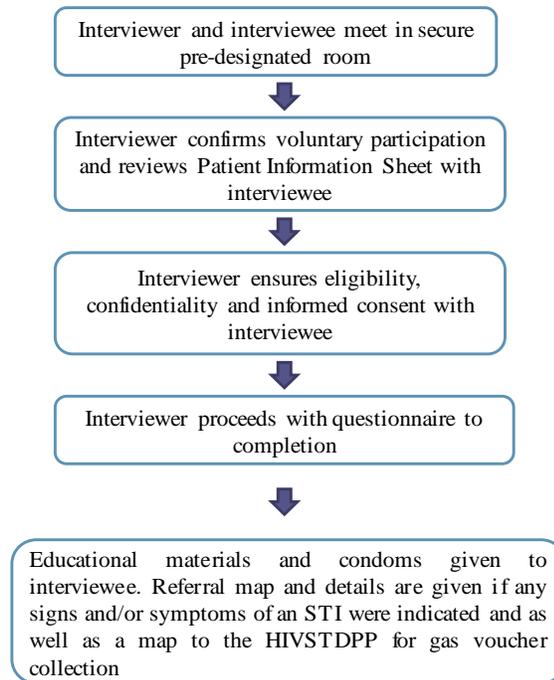


Figure 3-4. Flow Diagram for Youth Interviewing Procedures, CNMI

Students choosing to do this survey as their class project were then trained on administering the questionnaire by the HIVPL and the CNMI HSTRCP. All the interviewers for this survey voluntarily chose this project as part of their curriculum and attended all training classes during regularly scheduled class hours on campus. Once the students were dedicated to the project, several interviewee training sessions were conducted during the scheduled class hours on campus. This consisted of the researcher and one representative from the CNMI HSRTCP being on-campus, in a large classroom, doing hands-on individual and group training. Refreshments were provided during the training. During these training sessions, the decision to made to secure an empty, locked, on-campus office for explicit use by the students to conduct the interviews. Students at NMC were trained to conduct the questionnaire interview in this room on campus and it was designated specifically for the conduct of the SGS survey only. Permission to utilize

this room was approved by the college security department and a student sign-out sheet was created for obtaining the key to the room (held at the security office) to conduct the interview. In addition, a sign-in interview log-in sheet was created and stored in the room along with a file box with the required supplies. This secure and private room included an interview desk, chairs, educational materials and posters, desk and chairs and refreshments of water bottles and cordials. This room was fully dedicated for the use of the youth survey team until the completion of the youth interviewing process.

The student interviewers approached other campus students and invited them to participate in the survey. If consent was given, the interviewer would instruct the student as to the interview room location and obtain the key from the campus security office. Once the participant presented for their interview, willingness to voluntarily participate in the survey was confirmed and the CNMI Youth Participation Information Sheet (Appendix 6) reviewed with the participant. Following this, the first page of the CNMI Youth Survey Questionnaire (Appendix 7), which contains sections to include eligibility, confidentiality and informed consent was orally reviewed between interviewer and interviewee, and then physically initialed and acknowledged as completed by the interviewer. If all criteria were met, the entire questionnaire survey was conducted in private.

If it was discovered during the interview that an interviewee reported any signs and/or symptoms of an STI, the individual was referred to the CNMI HSTRCP for examination and treatment. For this purpose, schematics to the clinic were provided for the interviewer and interviewee. Upon completion, a survey ID number was allocated to each questionnaire form and it was kept securely in a locked filing cabinet; no names were collected. The entire questionnaire survey was conducted in private and upon completion, the participant was given a referral card to present at the CNMI HSTRCP for their US \$5 gas card reimbursement incentive. In addition, a reimbursement of US \$10 per interview was paid (Table 3-3).

The Youth survey was distinctive in that the HIVPL interacted daily with all the interviewers by making rounds and collecting completed materials' while distributing gas coupons and issuing new materials and supplies. The CNMI HSTRCP did not have

the capacity or sufficient training to conduct oral HIV testing at the time of the survey. All participants in the youth survey were provided details on the availability and location of the CNMI free HIV testing service, as well as being provided information pamphlets and literature on STIs and HIV/AIDS. It should also be noted that there was cross-over between some interviewees (approximately 10%) in that some of the students were qualified to conduct both Youth and Prenatal interviews. This occurred when a student was both a second year nursing student undertaking their clinical rotation in addition to being in the Current Issues class at the CNMI.

3.4 Gas Coupons

To compensate for their time, gas card reimbursement coupons were to both interviewers and interviewees. The distribution of these gas cards is listed in Table 3-3.

Table 3-3. Paid Gas Card Reimbursement Amounts, CNMI, 2006-2008

Survey	Interviewer Payment Provided	Interviewee Payment Provided
Prenatal group	US \$10	US \$0
MSM group	US \$10	US \$10 (up to three payments)
Youth	US \$5	US \$5

Since the CNMI has a large Asian population, making up 33% of the enrolled students at NMC in 2005 (NMC Annual Report, 2006) and 56% of the overall CNMI population according to the last census (CNMI Census, 2000) with 22% being Chinese, prenatal and student information sheet and questionnaires were translated for use into the Chinese language. Appendix 8 provides an example of this these translated forms.

3.5 Tracking of the Project

In total, five file boxes for storage were set up at four different locations (NMC, SRHC, CRHC and the CNMI HSRTCP) and six individual file box carriers were

prepared for the MSM interviewers. In total, 54 interviewees were trained and assisted with the research interviews, and at least six language groups were represented (Chinese, Palauan, Carolinian, Chamorro, English and Tagalog).

While the project was underway, my role as the research project leader was to provide guidance proactively and when needed to all the interviewers. The completed surveys were collected and checked for completeness with feedback and guidance provided to the interviewers, supplies were stocked, specimens were transferred and logged, shipments were packaged and posted to Australia for analysis, information was recorded into the databases and interviewers provided with the necessary gas cards to ensure appropriate reimbursement to participants.

3.6 Data Management

Upon initiation of this research project, an arrangement was made that the CNMI HSRTCP take the lead in inputting the data into a database. With the support of a Curtin biostatistician, the researcher developed a Microsoft Access database for each of the questionnaire surveys. However, during the conduct of the research, the HSRTCP was going through significant staffing changes. As a result, it was beyond the capacity of the HSRTCP to input data into the database in a timely manner. Instead, this task was assigned to a database transcriptionist working with an on-island computer firm. This transcriptionist was trained, supervised and supported by the researcher as the project leader to ensure the surveys were securely stored to ensure confidentiality and appropriate record keeping. At the completion of the data input, the transcriptionist was reimbursed through gas card compensation. The questionnaires were manually entered into the Microsoft Access database and then transferred to a prepared SPSS databases where they were cleaned and further checked and modified as analysis progressed.

3.6.1 Data Analysis

Hard copy questionnaires were entered into a Microsoft Access database and the data was cleaned by a statistician associated with the university. Data analysis was undertaken using the predictive analytic software Statistical Package for the Social

Sciences (SPSS). SPSS Version 17 was used to analyze both the continuous and categorical data. Chi-Square analysis was used to determine if differences existed between prevalence figures and categorical variables and analysis of variance (ANOVA), with its associated procedures, was used to determine if differences existed between continuous variables such as age and length of time in the country.

3.6.2 Database Storage

All data entry was provided by database entry professionals from an on-island computer firm. Back-up, storage, quality control and data management was conducted by the HIVPL, CNMI HSRTCP staff and Curtin University.

3.7 Ethical Approvals

Approval for this survey was received by the CNMI Secretary for Public Health, CNMI Department of Public Health, the Governor of the CNMI and the President of Northern Marianas College (NMC). In addition, the Human Research Ethics Committee, Office of Research & Development at Curtin University of Technology in Perth, Western Australia, granted ethics approval for this research project.

All survey participants received an information sheet and verbal explanation about the survey and then were invited to participate. Participation was confirmed once the participant provided oral consent to participate and this was noted and recorded on the survey form. In addition, interviewers also signed a non-disclosure statement in front of the participant and the participants were reminded that their participation was voluntary and that they may withdraw from the survey at any time. Furthermore, participants were reminded that a refusal to participate or a withdrawal during the interview would not affect their access to any of the clinical or other health department services involved in the survey program.

All participants were advised that voluntary and confidential counseling and testing was available for free at the CNMI HSTRCP and the location of the clinic was provided in conjunction with a descriptive map. Confidentiality was ensured by the use of survey identification code numbers. All confidential written and electronic records will be

stored securely by the CNMI HSTRCP for at least five years. All information electronically stored was placed on secured computer systems and entry into the computer and database was only accessible via a controlled username and password.

3.8 Budget

The total budget for the project provided by the SPC was US \$61,708 for the implementation of the overall project versus one specific high risk group. Items within this budget were such things such as needed containers, storage bags, food during training and an upright freezer for specimen storage. These items are described in detail in the previous section.

3.9 Summary of the Chapter

This chapter discussed the details of the organization, planning, implementation and conduction of this project. It discussed the population groups that were targeted, the survey design for each population group and the individual approaches, procedures and processes used to execute the actual surveys for each individual survey group. Additionally, the management of survey data and ethical endorsements were reported. Results from the project surveys of the three target groups will be discussed in the next three chapters.

4 Findings of the Survey Administered to Prenatal Women

4.1 Introduction to the Chapter

This chapter is the first of three chapters that report on the analysis from the surveys. This chapter summarizes the results of the survey obtained from the Prenatal Women's Survey questionnaire. As discussed in the methodology section in Chapter Three, the questionnaire for this project is divided into seven sections:

1. Eligibility to Participate
2. Background Characteristics (education, ethnicity, occupation, relationship status and pregnancy history)
3. Sexual History (lifetime partner totals, condom use, age at first sexual intercourse) Anal Sex Reporting (regular, commercial and paying sexual partners, condom use)
4. Most Recent Sexual History (partners over the last 12 months, types of sex-commercial, group, forced sex, condom use)
5. Sexual Transmitted Infection History (knowledge of STIs, symptoms of STIs, treatment habits)
6. Alcohol and Drug History, Tattooing History (how much, what kind, sexual activities under the influence, IDU history)
7. HIV Knowledge, Attitudes and Access to Testing, History (prevention/transmission knowledge, public; programming knowledge, testing history, discrimination history).

4.2 Introduction to Prenatal Women

A sample of 228 pregnant women was approached to complete the questionnaire. Women were recruited upon presentation for their first prenatal appointment at either CHC or the SRHC. Participants completed a confidential questionnaire administered by

trained nursing staff and nursing students in an effort to obtain demographic information, sexual history, sexual practices, alcohol and drug use and knowledge and attitudes towards HIV.

4.3 Findings from Eligibility, Confidentiality and Informed Consent of Prenatal Women

Women were eligible to participate in the study if they were pregnant, were attending their first prenatal visit and if they had not been previously tested for an STI during this pregnancy. Participants volunteered to participate and provided verbal consent to the interviewer who acknowledged this consent on the survey form. Table 4-1 shows that of the 230 women who participated in the survey, 228 (99%) met the eligibility and participation criteria and were included in the final analysis. Two did not meet eligibility criteria and were excluded from the survey (based upon indicating they were not willing to participate- reasons were not given).

Table 4-1. Eligibility, Participation and Numbers Used in the Prenatal Analysis, CNMI, 2006-2008

	Well Women n (%)
Participation	
Eligible to participate	228(99)
Excluded from analysis	2(1)
Used in analysis	228(99)
Total in Database	230(100)

4.4 Demographic Characteristics of Prenatal Women

The average age of pregnant women participating was 29 years (SD=5.9 years) with age ranging from 15 to 42 years (Table 4-2). The majority of participants were born in CNMI (46%) with a further 33% born in the Philippines. Those not born in CNMI had been in the country on average 9.8 years (SD=6.6 years); over one-third (34%) had been in the country between 6-10 years and 31% less than 5 years. Fifty-four percent of participants belonged to the Micronesian ethnic group and a further 37% were Filipino.

The vast majority of participants (91%) were residents of urban areas and had lived at their current address for 3.4 years (SD=4.6 years). Seventeen percent of participants had been away from home for longer than 1 month continuously in the past year.

The majority of participants were high school educated (53%) and 34% indicated they had a university/college education. Forty-two percent were housewives or involved in home duties, 10% were unemployed, 8% of participants were students or clerical office workers and 7% were in the food service industry. Other industry groups represented included police/military, factory workers and retail/sales assistants. Eighty-two percent of participants stated their religion as catholic.

Table 4-2. Demographic Characteristics of Prenatal Women's Sample, CNMI, 2006-2008

	Number (n=228)	Percentage
Age (mean, SD)		29(6)
Country of Birth		
CNMI	105	46.1
Philippines	76	33.3
Chuuk	14	6.1
Yap	4	1.8
Guam	5	2.2
Other	24	10.5
Length of time in CNMI for those not born in CNMI		
1-5 years	37	31.1
6-10 years	40	33.6
11-15 years	19	16.0
16-20 years	11	9.2
>20 years	12	10.1
Ethnic Group		
Filipino	85	37.3
Micronesian	123	53.9
Other	20	8.8
Residence		
Urban	207	90.8
Rural	12	5.3
Isolated	5	2.2
Outer	0	0.0
Not stated	4	1.8
Length of time in current residence		
1-5 years	143	64.4

6-10 years	30	13.5
11-15 years	9	4.1
16-20 years	20	9.0
>20 years	20	9.0
Not stated	6	2.6
Been away from home for > 1 month continuously in the last year		
Yes	38	16.7
Level of Education		
Never attended school	0	0.0
Some Elementary School	1	.43
Elementary School	10	4.4
Middle School	17	7.5
Secondary School	121	53.1
University/College	77	33.8
Not stated	2	.88
Occupation		
Unemployed	22	9.6
Food service	15	6.6
Student	18	7.9
Clerical/Office worker	17	7.5
Housewife/Home duties	96	42.1
Other	60	26.3
Religion		
Catholic	186	81.6
Christian	16	7.0
Non-Religious	6	2.6
Protestant	6	2.6
Mormon	4	1.8
Buddhist	4	1.8
Other	5	2.2
Not stated	1	0.4

4.5 Marital Status of Prenatal Women

The majority of participants (66%) had never been married. Seventy percent were currently living with their spouse (30%) or sex partner (40%) (Table 4-3). The average age of participants when they were first married was 24.2 years (SD=4.7) with age ranging from 16 -36 years.

Table 4-3. Marital Status of Prenatal Women's Survey, CNMI, 2006-2008

	Well Women n (%)
Ever married	
No	151(66)
Yes	74(33)
Not stated	3(1)
Currently Married	
	69(30)
Living Arrangements	
Not living with sex partner	52(23)
Living with male spouse	68(30)
Living with sex partner	92(40)
Not stated	16(7)

4.6 Pregnancy Characteristics of Prenatal Women

Thirty-five percent of participants had previously had one pregnancy while for 29% of women this was their first pregnancy (Table 4-4). The median number of previous pregnancies was 1, and the range from 0 to 9 previous pregnancies. The majority of women had not had any previous miscarriages or abortions (83%) or preterm deliveries (87%). The median number of miscarriages or abortions (range of 0-4) or preterm deliveries was 0 (range 0-9). The median number of live births for women who had had a previous pregnancy was 1, ranging from 0-17.

The women participating were on average 18 weeks pregnant (median=17, range 4-38) with the vast majority seeking medical care for the first time (98%). Forty percent of women had been trying to get pregnant. Of those not trying to get pregnant, 91% were accepting of the pregnancy. Contraception used prior to getting pregnant included none (75%), birth control pills (9%), male condom (4%), withdrawal (4%), Depo Provera (1%), natural method (2%) and one woman had used an IUD.

Table 4-4. Pregnancy Characteristics of Prenatal Women's Survey, CNMI, 2006-2008

	Well Women n (%)
Number of previous pregnancies	
0	65(29)
1	78(35)
2	31(14)
>=3	51(23)
Number of miscarriages or abortions	
0	184(83)
1	27(12)
>=2	11(5)
Number of preterm deliveries	
0	128(87)
1	16(11)
>=2	4(2.8)
Number of live births	
0	31(20)
1	58(38)
2	24(15)
3	24(15)
>=4	21(13)
Number of weeks pregnant [mean (SD)]	18.3(8)
First time seeking medical care for this pregnancy	223(98)
Fathers occupation	
Unemployed/Student only	47(21)
Police/military	13(6)
Food service	13(6)
Construction/labourer	10(4)
Student	10(4)
Factory/Cannery worker	9(4)
Retail/sales	9(4)
Clerical/Office work	8(4)
Home duties	7(3)
Automotive	7(3)
Other (not specified)	92(40)
Not stated	3(1)
Trying to get pregnant	91(40)
Not trying but accepting of pregnancy	114(50)
Contraception used prior to getting pregnant*	
No method	170(75)
Birth control pills	20(9)
Male condom	8(4)
Withdrawal	8(4)
Depo-Provera	3(1)
Intrauterine device (IUD)	1(0.4)
Natural method	2(1)

*Multiple responses allowed

4.7 Sexual History of Prenatal Women

Table 4-5 details the sexual history of the pregnant women sample in the CNMI. The median age at first sex (vaginal or anal including commercial or transactional sex) was 18 years and ranged from 10 to 35 years. The median number of partners in total was 2 (range 1-15) while the median number of partners in the past 12 months was 1 (range 1-3). Almost all participants (95%) had heard of male condoms and 30% had heard of female condoms. Approximately half (52%) had used a male condom, 2% had used a female condom and 44% had never used a condom. Ninety-four percent of participants were currently in a relationship with the father of the unborn child.

Table 4-5. Sexual History of Prenatal Women's Survey Participants, CNMI, 2006-2008

	Total n (%)
Age at first sex (years)	
Median age	18
<18	124(58)
>=18	90(42)
Not stated	14(6)
Number of partners in total (median)	2
Number of partners in past 12 months (median)	1
Condom Awareness	
Heard of male condom	217(95)
Heard of female condom	68(30)
Condom Use	
Ever used male condom	118(52)
Ever used female condom	5(2)
Used both	1(0.4)
Never used condom	100(44)
Not stated	4(2)
In relationship with father of unborn child	215(94)

4.8 Sexual Partner History of Prenatal Women

Participants were asked specific questions regarding their sexual history. Questions involved how many male sex partners over the last 12 months, multiple sex partner

characteristics, total sex partners lived or living with, sex with regular partners, sex with commercial partners and non-live-in non-commercial (casual) sex partners. A regular partner is a partner the participant lives or lived with. A commercial partner is defined as a partner who the participant has paid for sex using money, goods or resources. A casual partner is a partner whom the participant does not live with and where no money or resources were exchanged for sex.

Approximately half (51%) of the women had sex in the previous 12 months with regular partners that they live or lived with, 1% with commercial partners and 7% with casual partners. The vast majority of women with regular partners (99%) and commercial (100%) partners reported only 1 partner in the previous 12 months. Fifty-four percent of women with casual partners had 1 partner in the previous 12 months while 39% had 2 partners in the previous 12 months.

Of women with casual partners, 20% found it hard to use a condom (reasons listed below) with only 27% using a condom the last time they had sex. In the last 12 months more than half (53%) of them had not used a condom on at least one occasion. Participants who did not use a condom the last time they had sex stated condoms were not easily available (1 case), they didn't want to (3 cases), their partner didn't want to (3 cases), they trusted their partner (2 cases), they don't like condoms (2 cases) or they didn't think sex feels as good when using a condom (3 cases). No participants used a condom every time or almost every time over the last twelve months and those who did use a condom indicates they used them sometimes (4 cases) and the majority indicated they never used a condom over the last twelve months (8 cases).

Three percent of participants used a condom the last time they had sex with a non live-in partner. Two percent of participants had overlapping sexual relationships in the previous 12 months. Eight percent of participants reported having been forced to have sex, with 2 participants being forced by a friend, 11 by their partner, 1 by their sister's boyfriend and 1 by their step-grandfather. Eighteen percent of participants had travelled overseas in the past 12 months. Of those who had travelled overseas in the past 12 months, 7% reported having sex while overseas.

4.9 Sexually Transmitted Infections

Almost all participants (90%) had heard of sexually transmitted diseases (STIs). Twenty-one percent of participants had been diagnosed with an STI in the past 12 months. The majority of cases reported were chlamydia (39 cases). There were 2 reported cases of gonorrhea, 1 case of genital warts and 1 case of genital herpes. In the past 12 months participants reported 13 cases of genital discharge, 4 of genital ulcers or sores and 11 cases of burning sharp pain. Of those who had experienced the above symptoms, 10 reported seeking treatment: 4 named a public health clinic, 1 a hospital and 1 a HIV/STD clinic. Six reported their partners also being treated. Of those who did not seek treatment, 1 participant reported lack of knowledge about available services and 1 did not seek treatment as their symptoms resolved.

4.10 Alcohol, Drug Use and Tattooing of Prenatal Women

Participants were asked to report their alcohol use over the past 12 months, the average number of drinks they consume in one sitting and their frequency of binge drinking before becoming pregnant. Binge drinking is defined as 5 or more drinks at a time as outlined to the participants on the questionnaire. Over half of the participants (58%) had never consumed alcohol in the past 12 months with a further 23% drinking monthly or less. Of those participants who reported alcohol use over the past 12 months, the usual number of standard drinks in one sitting was 1-2 drinks (37%), with 19% drinking 3-4 drinks and 16% 5- 6 drinks in one sitting. Two percent of participants reported consuming on average more than 10 drinks in one sitting.

Thirty-five percent of participants did not report binge drinking before becoming pregnant. Fifteen percent participated in binge drinking weekly and a further 41% reported binge drinking monthly or less than monthly. Participants were asked to report on what types of drugs they had ever used and their drug use in the past 12 months (Table 4-6). Tobacco, betel nut and marijuana were the most common drugs ever used (40%, 36% and 14% respectively) and used in the past 12 months (31%, 22% and 5% respectively). Six participants reported having ever used kava, 4 crystal methamphetamine and 4 ecstasy, 3 amphetamines, and 2 had used inhalants,

hallucinogens, cocaine and heroin. No participant reported a history of injectible drug use. Almost one quarter (24%) of participants had a tattoo. Of those who had a tattoo, 29% had their last tattoo performed by a friend or relative and 27% by a tattoo parlor.

Table 4-6. Prevalence of Drug Use in Prenatal Women's Participants, CNMI, 2006-2008

	Ever Used n (%)	Used in past 12 months n (%)
Tobacco	90(40)	71(31)
Betel nut	83(36)	50(21)
Marijuana	31(14)	12(5)
Kava	6(3)	1(0.4)
Amphetamines	3(1)	0(0)
crystal methamphetamine	4(2)	1(0.4)
Ecstasy	4(2)	2(1)
Inhalants	2(1)	0(0)
Hallucinogens	2(1)	0(0)
Cocaine	2(1)	0(0)
Heroin	2(1)	0(0)
Injected drugs in the past 12 months	0(0)	0(0)
Tattoos		
Ever had a tattoo	55(24)	
Last tattoo performed by		
Friend/relative	16(29)	
Tattoo Parlor	15(27)	
Amateur tattooist	13(24)	
Traditional Artist	6(11)	
Other	4(7)	
Not stated	1(2)	

The vast majority of participants (97%) had heard of HIV (Table 4-7) with 19% personally knowing someone with HIV, AIDS or having died of AIDS. The majority of participants believed HIV risk can be reduced by using a condom correctly during sex (79%), or by having one uninfected faithful partner (88%), that a healthy looking person can have HIV (89%), a pregnant woman can pass HIV to her unborn child (94%) and that a woman with HIV can pass it on by breastfeeding (73%). Participants with a university/college or high school education were significantly more likely to believe a healthy looking person can have HIV ($p=0.017$) and that a pregnant woman can pass

HIV to her unborn child ($p=0.001$) than those with other education levels. Most participants did not believe HIV can be obtained by sharing a meal with an HIV+ person (75%) or from mosquito bites (65%). Seventy-seven percent of participants believed they could get a confidential test for HIV. Of those who did not believe they could get a confidential test for HIV, 4 stated the test was not available, 1 stated the location was inconvenient, 10 felt the site was too public and 5 did not believe the results were confidential.

Over half of the participants (62%) had had a HIV test with 61% having a test over a year ago. Thirty-six percent were required to get testing (as part of the Alien Health Screening Program or because required by their employer), and 63% voluntarily were tested. Forty percent of participants received information or counseling before they were tested while only half as many (21%) received information or counseling after they were tested. Forty-eight percent received the result of their most recent test.

Table 4-7. HIV/AIDS Knowledge, Attitudes, Access and Uptake of Testing in Prenatal Women's Participants, CNMI, 2006-2008

	Number	Percentage
Knowledge		
Ever heard of HIV?	220	97
Know anyone with HIV, AIDS or died of AIDS?	44	19
Reduce chance of HIV by using condom correctly during sex?	179	79
Get HIV by sharing a meal with HIV+ person?	57	25
Get HIV from mosquito bites?	80	35
Reduce HIV chance by having one uninfected faithful partner?	201	88
Can a healthy looking person have HIV?	202	89
Can a pregnant woman pass HIV to her unborn child?	215	94
Can a woman with HIV pass it on by breastfeeding?	167	73
Testing		
Can you get confidential test for HIV?	175	77
Ever had HIV test	141	62
Most recent test		
Last 3 months	10	7
Last 12 months	37	26
Over a year ago	86	61
Indicated they don't know	5	4
Not stated	3	2
Testing voluntary	88	63
Testing required	50	36
Received information/counseling before	57	40
Received information/counseling after	29	21
Received result	68	48

The media has played a large role in educating pregnant participants with 75% of participants reporting having heard messages about HIV on radio, 90% had seen messages about HIV on TV, 77% had read messages about HIV in newspapers and 59% had seen messages about HIV on billboards (Figure 4-1). Participants with a university/college or high school education were significantly more likely to have heard messages about HIV on radio ($p=0.034$) and TV ($\chi^2=25.315$, $p<0.001$), read messages about HIV in newspapers ($p<0.001$), seen messages about HIV on billboards ($p<0.001$) and used the internet as a source of HIV information ($p<0.001$) than those with other education levels. Fifty-nine percent of participants had discussed HIV with others with 18% participating in a HIV peer education program. The majority (76%) of the

participants used the internet as a source of HIV information and 26% received HIV information from outreach workers. Fifteen percent of participants had seen the Mr. Right Guy film and 11% the Prutehi Hao films on TV or in the theatre.

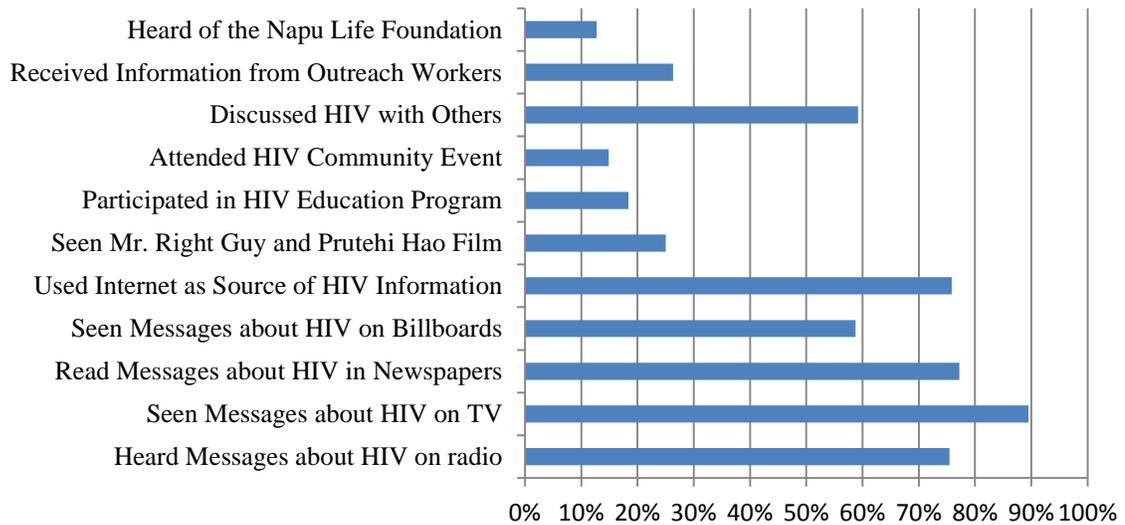


Figure 4-1. Participation in HIV Prevention Activities by Prenatal Women Participants, CNMI

4.11 Laboratory Testing of Prenatal Women

Twenty-two pregnant women (9.5%) participants tested positive for chlamydia in this survey and none tested positive for gonorrhea. The majority of the women who tested positive for chlamydia (91%) had heard of diseases that can be transmitted (caught) during sex. Of these, three women self-reported being previously diagnosed in the past 12 months with chlamydia and 1 reported diagnosis with gonorrhea. One woman had urination burning with sharp pain in the past 12 months, sought treatment at a public health centre and also had her sexual partners treated.

4.12 Summary of the Chapter

Results in this chapter show that the majority of prenatal participants interviewed were high school educated housewives who were born in the CNMI, had one previous pregnancy and were seeking prenatal care for the first time at 18 weeks gestation. Subsequent sections show that the average age of for first sex is 18 years of age, that the

subjects were in a relationship with the father of the unborn child, and that they had only one sex partner during the last 12 months. Twenty-one percent had been diagnosed with a sexually transmitted infection during this time, with the majority of infections being chlamydia. Ten percent tested positive for chlamydia during the course of this study. During the last 12 months, more than half of the participants had consumed alcohol and several had been exposed to tobacco, betel nut and marijuana (31%, 22% and 5%, respectively). The majority of women knew that condom use can reduce HIV exposure and had HIV testing during the past 12 months. The majority of participants reported acquiring HIV knowledge from TV, newspapers and radio (90%, 77% and 75% respectively).

5 Findings of the Survey Administered to Men who have Sex with Men (MSM)

5.1 Introduction to the Chapter

This chapter is the second of three chapters to report on the analysis from the surveys. This chapter summarizes the results of the survey conducted on the MSM questionnaire. The project questionnaire was divided into ten sections:

1. Eligibility to Participate
2. Background Characteristics (education, ethnicity, occupation)
3. Marital and Relationship Status
4. Sexual History (partner totals, condom use, oral sex history)
5. Anal Sex Reporting (regular, commercial and paying sexual partners, condom use)
6. Sexually History About Female Partners (vaginal and anal sex, group sex, condom use)
7. Sexual Transmitted Infection History (knowledge of STIs, symptoms of STIs, treatment habits)
8. Alcohol and Drug History, Tattooing History (how much, what kind, sexual activities under the influence, IDU history)
9. HIV Knowledge, Attitudes and Access to Testing, History (prevention/transmission knowledge, public; programming knowledge, testing history)
10. Stigma and Discrimination History (attitudes, beliefs and experiences).

This chapter provides details on the results obtained for each section of the MSM survey.

5.2 Introduction to Men who have Sex with Men

A total of 132 men completed the MSM questionnaires. Men were recruited via respondent driven sampling methods. Participants completed a confidential

questionnaire administered by trained individuals from the community and health department familiar with the MSM community on-island to obtain their demographic information, sexual history, sexual practices, alcohol and drug use and knowledge and attitudes towards HIV.

5.3 Eligibility and Participation of Men who have Sex with Men

Men were eligible to participate in the study if they had not previously been interviewed, were aged over 18 and had sex with another man in the last five years. Participants were required to agree to voluntarily participate and provided verbal consent to the interviewee who then acknowledged this consent on the survey form. Of the 132 men who were approached to complete the survey, 124 (94%) met the eligibility and participation criteria and were included in the final analysis whereas 8 men not meeting the criteria were excluded from the survey. Reasons given for not wanting to participate included the participant being too busy and the questionnaire being too personal. Thirty percent of participants were recruited through a friend, 23% through a stranger, 21% through an acquaintance, 4% through a person closer than a friend and 23% through other people. The median number of other men or transgender persons who had sex with other men that were personally known to them and known to be residing on-island by the participant over the last 12 months was 3 (range 0-1000, confirmed).

5.4 Background Characteristics of MSM

The average age of MSM participating was 30 years (SD = 8.2 years) with ages ranging from 18 to 51 years. The majority were born in CNMI (52%) with a further 34% born in the Philippines. Those not born in CNMI had been in the country on average 9.4 years (SD=7.4 years); almost one-third (32%) had been in the country less than 5 years. Fifty-three percent of participants belonged to the other Micronesian ethnic groups and a further 40% were Asian (including Filipino).

The majority of participants (61%) were residents of urban areas. The average length of time at their current address was 2.3 years (SD =1.5 years). Thirty-one percent of participants had been away from home for longer than 1 month continuously in the

past year. A little over half of participants were high school educated (54%) with a further 37% having a university/college education. Seventeen percent were unemployed, 11% were employed in the hotel/tourism industry and nine percent of participants were students. Seventy-one percent of MSM participants were catholic and 6% were non-religious (Figure 5-1).

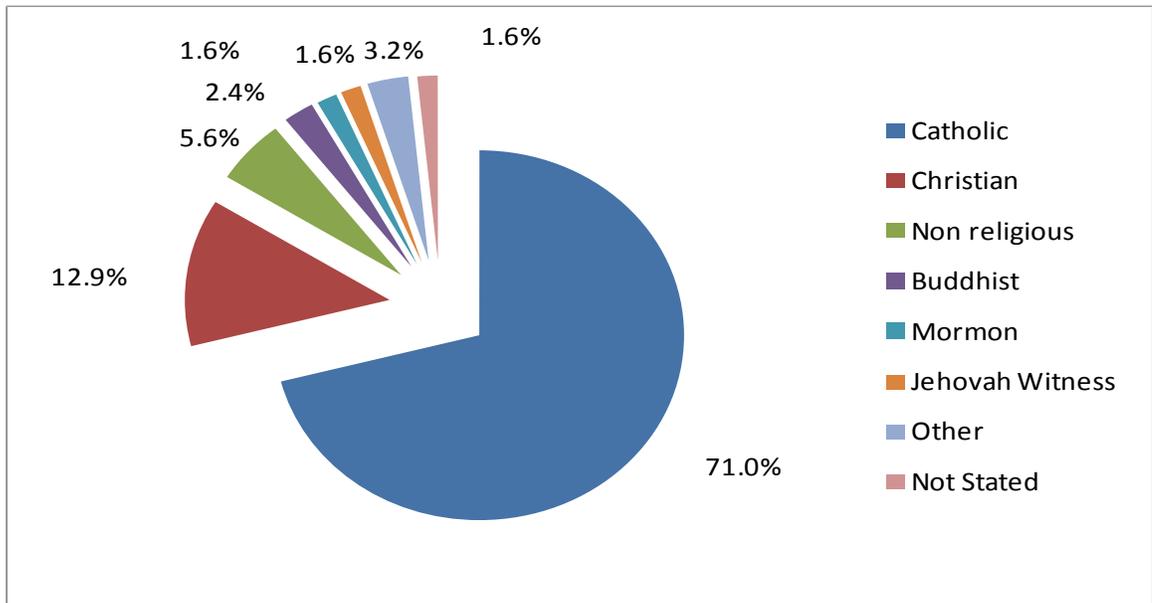


Figure 5-1. Religion Characteristics of MSM Participants, CNMI

5.5 Marital Status of MSM, General Sexual History, Condom Use and Oral Sex History of MSM

The majority of participants (91%) had never been married and 72% were not living with their sex partner. Three percent of participants were currently married and 4% were living with a female spouse or sex partner and 8% were living with a male sex partner.

Table 5-1 details the sexual history of the sampled MSM in CNMI. The median age at first sex (oral, vaginal or anal including commercial or transactional sex) was 16 years and ranged from 5 to 25 years. Almost all participants (98%) had heard of male condoms and 44% had heard of female condoms. Ninety percent of participants had used a male condom, 1% had used a female condom and 7% had never used a condom. Sixty-four participants had had oral sex with a male partner in the previous 6 months

with the median number of different male partners being 3 (range=1-50). Forty-two percent of participants found it difficult to use a condom, 28% reporting using a condom last time they had oral sex with a male partner. In the previous 6 months, the majority (67%) of participants who had oral sex with another man had ejaculated in the other man's mouth or had a man ejaculate in their mouth without a condom on. In the previous 6 months, 46% of men and their partners did not use a condom while having oral sex, while 17% used a condom every time and 5% used a condom nearly every time.

Table 5-1. General Sexual History, Condom Use and Oral Sex History of MSM Participants, CNMI, 2006-2008

	Total n (%)
Age at first sex (years)	
Median age	16
<18	84(79)
>=18	22(21)
Not stated	18
Condom Awareness	
Heard of male condom	121(98)
Heard of female condom	55(44)
Condom Use	
Ever used male condom	110(89)
Ever used female condom	1(1)
Used both	1(1)
Never used condom	8(7)
Not stated	4(3)
Oral Sex	
Oral sex with man in previous 6 months	79(64)
Median number of different male partners	3(1-50)
Oral Sex and condom use	
Found it hard to use condom	33(42)
Used condom last sex	22(28)
Ejaculated in mouth without condom	53(67)
Frequency of condom use in previous 6 months	
Every time	13(17)
Almost every time	4(5)
Sometimes	25(32)
Never	36(46)
Do not know	1(1)

5.6 Anal Sex reporting by MSM

Male participants were asked specific questions regarding their sexual practices with other men. Questions involved sex with regular partners, commercial partners, paying partners and non-live-in non-commercial (casual) partners (Table 5-2). For the purpose of this study, the CNMI defines a “regular partner” as a male or transgender partner with whom the participant lives. A “commercial partner” is a male or transgender partner who the participant has paid for sex using money, goods or resources. A “paying partner” is a male or transgender partner who has paid the participant for sex using money, goods or resources. In addition, a “casual partner” is a male or transgender partner with whom the participant does not live and with whom no money or resources were exchanged for sex.

5.6.1 Regular Partners of MSM

Thirty-one percent of participants had anal sex with a live-in male or transgender partner in the previous 6 months. Almost half (49%) of the participants had 1 partner in the last 6 months. Of those who had anal sex with a regular male or transgender partner in the previous 6 months, half (50%) were receptive only with partners on occasions (median number of partners=1, range=1-27), 18% were insertive only with partners on occasions (median number of partners=1, range=1-5) and 26% were both insertive and receptive with their partner(s) on occasions (median number of partners=1, range=1-6).

Nine percent of participants reported they found it hard to use a condom, and 86% used a condom last time they had anal sex with their regular partner. Participants who did not use a condom the last time they had anal sex with their regular partner stated condoms were not easily available (n=2), they didn’t want to use a condom (n=2), condoms were too expensive (n=1), their partner didn’t mention it (n=1), their partner didn’t want to (n=2), they trusted their partner (n=1), they don’t like condoms (n=1), they didn’t think of it (n= 1), they didn’t think sex feels as good when using a condom (n=1) and two participants reported being too drunk or high to use a condom.

Twenty-seven percent of participants and their partners had always used a condom during anal sex in the previous 6 months, 35% had sometimes used a condom and 22%

had never used a condom. The ethnicity of the participant's most recent regular partner(s) and casual partner(s) was not solicited in the survey and the location where they met their most recent regular partner was indicated on the questionnaire as not applicable as the information is not pertinent for a regular partner.

5.6.2 Commercial Sexual Partners of MSM

Sixteen percent of participants had anal sex with a commercial male or transgender partner in the previous 6 months. Half (50%) of these participants had at least 3 partners in the previous 6 months. Of those who had anal sex with commercial male partners in the previous 6 months, 75% were receptive only with partners on occasions (median number of partners=1, range=1-25), 20% were insertive only with partners on occasions (median number of partners=1, range=1-7), and 15% were both insertive and receptive with their partner on occasions (median number of partners=3, range=1-3).

Thirty-five percent of the most recent commercial partners were of mixed ethnicity, with 30% of participants meeting their most recent commercial partner through friends or socially, 25% at a bar, club or disco and 10% at the port, harbour or wharf. Other locations included a private house, on the street, in a karaoke bar, on the internet and at a fiesta. Fifteen percent of participants had found it hard to use a condom, and 70% used a condom last time they had anal sex with a commercial partner. Participants who did not use a condom the last time they had anal sex with a commercial partner stated condoms were not easily available (n=1), they trusted their partner (n=1), they don't like condoms (n=1), they didn't think of it (n=1), they didn't think sex feels as good when using a condom (n=1) and were too drunk or high (n=1). Forty percent of participants who had commercial partners had sometimes used a condom during anal sex in the previous 6 months, 25% had almost always used a condom and 5% had never used a condom.

5.6.3 Paying Sexual Partners of MSM

Eleven percent of participants (n=124) had anal sex with a male or transgender paying partner in the previous 6 months. More than half (53%) of the participants had at least 3 partners in the previous 6 months. Of those who had anal sex with paying male partners in the previous 6 months, one-third were receptive only with partners on occasions (median number of partners=6, range=2-15), one-third were insertive only with partners on occasions (median number of partners=1, range=1-30) and 58% were both insertive and receptive with their partner on occasions (median number of partners=1, range=1-20).

Almost one-third (32%) of the most recent paying partners were Caucasian and 31% were Micronesian, with 39% of participants meeting their most recent paying partner at a bar, club or disco. Other locations included the beach, neighbors, and a private house, on the street, karaoke bar, over the internet and at a fiesta.

Two participants (15%) found it hard to use a condom, and 67% used a condom last time they had anal sex with a paying partner. Participants who did not use a condom the last time they had anal sex with a paying partner stated their partner didn't want to (1 case), they trusted their partner (2 cases), they don't like condoms (1 case), they didn't think of it (1 case) and they didn't think sex feels as good when using a condom (1 case). Half (50%) of participants and their paying partners had always use a condom during anal sex in the previous 6 months, 33% had sometimes used a condom and 8% had never used a condom.

5.6.4 Casual Sexual Partners of MSM

Forty-three percent of participants had anal sex with a male or transgender casual partner in the previous 6 months. Over half (54%) of the participants had at least 3 partners in the previous 6 months. Of those who had anal sex with casual male partners in the previous 6 months, 55% were receptive only with partners on occasions (median number of partners=0, range=0-7), 30% were insertive only with partners on occasions (median number of partners=0, range=0-5) and 28% were both insertive and receptive with their partner on occasions (median number of partners=0, range=0-100).

Almost half (49%) of participants met their most casual partner at a bar, club or disco and 40% met through friends or socially. Other locations included a street market, karaoke bar, internet, porn shop, school, sports event, beach, roadside and fiesta.

Nineteen percent found it hard to use a condom, and 77% used a condom last time they had anal sex with a casual partner. Participants who did not use a condom the last time they had anal sex with a commercial partner stated they didn't want to offend their partner (2 cases) and were too drunk or high (3 cases). Thirty-eight percent of participants had always used a condom during anal sex with casual partners in the previous 6 months, 36% had sometimes used a condom and 8% had never used a condom.

5.7 Sexual History about Females Partners of Men Sex Men

Participants were asked about their sexual history (both anal and vaginal) with females. Over one-third (35%) of participants had ever had sex with a woman. Of these, 34% had not had sex with a woman in the previous 6 months, 24% had one partner, 12% had 2 partners and 29% had at least 3 partners in the previous 6 months. The median number of those MSM participants that reported female partners in the previous 6 months was 3 (range=1-25). Of those who had a female sex partner in the previous 6 months, 28% of their partners were girlfriends, 30% were non-live-in non-commercial partners and 9% were wives.

Sixteen percent of participants had found it difficult to use a condom during sex with a female partner. Forty-two percent of MSM participants used a condom with their female partners with last sex. Of the participants who did not use a condom, reasons included none easily available (1), stated their partner didn't mention it (2), partners who didn't want to use one (3), trusted their partner (7), don't like condoms (2), didn't think of it (3), claimed sex doesn't feel as good (8), felt it was unnecessary (2), were too drunk or high (2), partner was trying to have a baby (1) condoms were too expensive (2). Twelve percent of participants and all their female partners had used a condom every time during sex in the previous 6 months and a further 5% used a condom nearly every

time. Twenty-six percent of participants had never used a condom during sex with a female partner in the previous 6 months.

Table 5-2. Sexual History and Anal Sex History of MSM, CNMI, 2006-2008

	Regular Partners n (%)	Commercial Partners n (%)	Paying Partners n (%)	Casual Partners n (%)
Had anal sex in previous 6 months	38(31)	20(16)	13(11)	53(43)
Number of partners in past 12 months				
1	17(49)	6(33)	5(42)	15(29)
2	8(23)	3(17)	1(8)	9(17)
>=3	10(29)	9(50)	6(50)	30(54)
Insertive and receptive with partners	10(26)	3(15)	7(4)	15(28)
Insertive only with partners	7(18)	4(20)	4(31)	16(30)
Receptive only with partners	19(50)	15(75)	4(31)	27(55)
Ethnicity of most recent partner				
Asian	-	0(0)	3(23)	-
Micronesian	-	0(0)	4(31)	-
Mixed ethnicity	-	7(35)	1(8)	-
Caucasian	-	2(10)	4(31)	-
Other Asian	-	5(25)	0(0)	-
Other	-	5(25)	0(0)	-
Not stated	-	1(5)	0(0)	-
Location met most recent partner*				
Friend/social network	-	6(30)	1(8)	21(40)
Bar/club/disco	-	5(25)	5(39)	26(50)
Port/Harbor/Wharf	-	2(10)	-	-
Other	-	7(35)	6(46)	37(70)
Condom use				
Found it hard to use condom	11(9)	3(15)	2(15)	10(19)
Used condom last sex	104 33(86)	14(70)	8(67)	39(77)
Frequency of condom use in previous 6 months				
Every time	10(27)	4(20)	6(46)	20(38)
Almost every time	3(8)	5(25)	1(8)	8(15)
Sometimes	13(35)	8(40)	4(31)	19(36)
Never	8(22)	1(5)	1(8)	4(8)
Not Stated	3(8)	2(10)	-	1(2)

* Multiple responses allowed for meeting or looking for casual partners

5.8 Other Sexual History of MSM

Fifty-nine percent of participants used a condom the last time they had anal sex with any male or transgender partner (Table 5-3). Thirty percent of participants had overlapping sexual relationships in the previous 6 months with 18% participating in group sex. Of those that participated in group sex, 38% used condoms with all their sex partners the last time they had group sex. Eleven percent of participants had been forced to have sex, with 6 participants being forced by a friend, 2 by their partner, 1 by a work colleague, 1 by a house worker and 1 by a commercial sex partner.

Twenty-seven percent (33) of participants had travelled overseas in the past 12 months. Of those who had travelled overseas in the past 12 months, 30% (10) reported having sex while overseas with 90% of most recent partners being male. Only 2 participants (20%) reported using a condom the last time they had sex overseas. The majority of participants who had sex overseas did not state the frequency of their condom use.

Table 5-3. Sexual Activities of MSM Participants (n=124), CNMI, 2006-2008

	Number	Percentage
Condoms used last time had anal sex	73	59
Overlapping sexual relationships in previous 6 months	37	30
Group sex	22	18
Condoms used during group sex	8	38
Forced to have sex	14	11
Friend	6	46
Partner	2	15
Work colleague	1	8
Other	2	15
Not stated	3	21
Travelled overseas in past 12 months	33	27
Had sex while overseas	10	30
Most recent partner overseas		
Male	9	90
Female	1	10
Condoms used last time had sex	2	20
Frequency of condom use in past 12 months when overseas		
Every time	3	9
Almost every time	-	-
Sometimes	5	15
Never	3	9
Not Stated	22	67

5.9 Sexually Transmitted Infections of MSM

Almost all of the MSM participants (92%) had heard of sexually transmitted diseases (STIs). Eleven percent of participants had been diagnosed with an STI in the past 12 months. The majority of cases reported were HIV (6) followed by gonorrhea (2), chlamydia (1), genital warts (1) and genital herpes (1) (Figure 5-2). In the past 12 months there were 2 cases of genital discharge, 1 of anal ulcers or sores and 5 cases of burning sharp pain reported. Of those who had experienced the above symptoms, 1 sought treatment at a hospital and 1 had their sexual partner treated. Of those who did not seek treatment, 1 participant reported being too scared or embarrassed, 1 claimed it

was too expensive, 1 had no insurance and 3 did not seek treatment as their symptoms resolved.

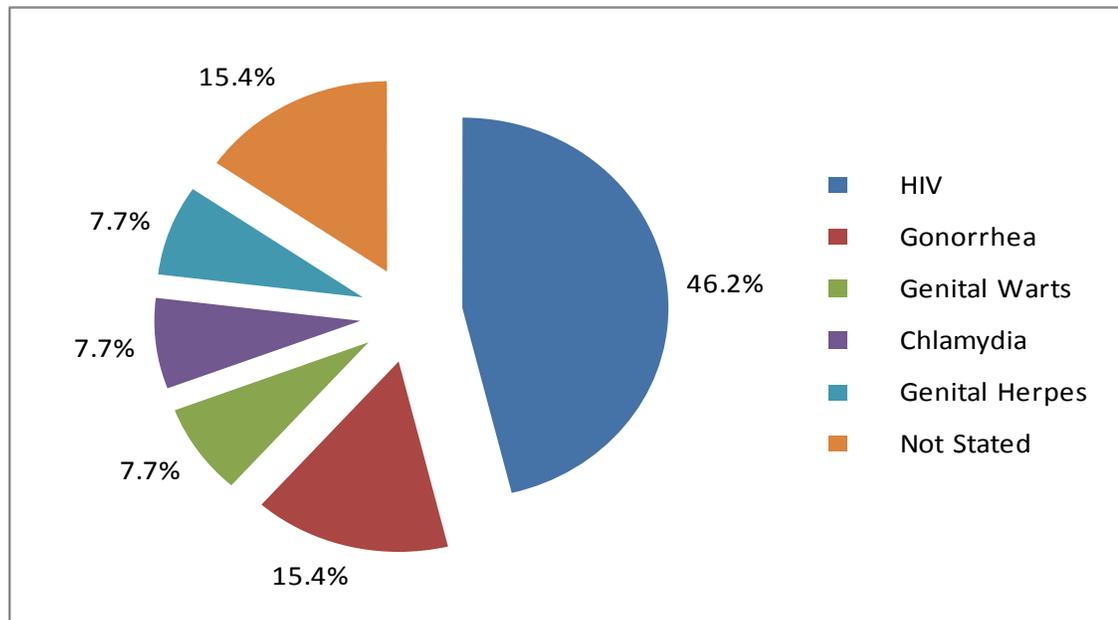


Figure 5-2. Category of STI Diagnosis among MSM Participants in the past 12 months, CNMI

5.10 Alcohol, Drug Use and Tattooing of MSM

MSM participants were asked to report their alcohol use over the past 12 months, the average number of drinks they consume in one sitting and their frequency of binge drinking (Table 5-4). Binge drinking is defined as 5 or more drinks on the same occasion. Approximately one-third (32%) of participants reported drinking alcohol 2-4 times a month, with a further 25% drinking monthly or less. Twenty-two percent of participants drink at least 2-3 times a week. Of those participants who reported alcohol use over the past 12 months, the average number of standard drinks in one sitting was evenly spread with 17% of participants averaging 1-2 drinks, 3-4 drinks or 7-9 drinks in one sitting. Nineteen percent of participants reported consuming on average more than 10 drinks in one sitting. Twelve percent of participants did not report binge drinking in the past 12 months. Nineteen percent participated in binge drinking weekly and a further 52% participated monthly or less than monthly.

Table 5-4. Prevalence of Alcohol Use of MSM Participants, CNMI, 2006-2008

	Number	Percentage
Frequency of Alcohol use over the past 12 months		
4 or more times a week	8	6
2-3 times a week	19	15
2-4 times a month	40	32
Monthly or less	31	25
Never	13	11
Indicated they don't know	5	4
Not stated	8	6
Average number of standard drinks in one sitting		
1 or 2	19	17
3 or 4	19	17
5 or 6	16	14
7,8,9	20	18
10-19	8	7
20 or more	13	12
Indicated they don't know	11	10
Not stated	5	5
Frequency of binge drinking		
Never	13	12
Daily	1	1
Weekly	21	19
Less than monthly	29	26
Monthly	28	25
Indicated they don't know	11	10
Not stated	8	7

Participants were asked to report on what types of drugs they had ever used, their drug use in the past 12 months and their drug use in the past 30 days (Table 5-5). Tobacco was both the most common drug used (50%) and the most common drug used in the past 12 months (45%) and used in the past 30 days (35%). Betel nut was the second most common drug ever used (41%) and the second most common drug used in the past 12 months (21%) and used in the past 30 days (16%). Marijuana was the third most common drug ever used (35%) and the third most common drug used in the past 12 months (15%) and used in the past 30 days (12%). Less than 10 participants had reported ever using any of the other drugs listed on survey (kava, amphetamines, ice,

ecstasy, inhalants, hallucinogens, cocaine, heroin, steroids and Viagra) and only 1 participant reported injecting drugs in the past 12 months. Almost one quarter (24%) of participants had a tattoo. Of those who had a tattoo, half (50%) had their last tattoo performed by a friend or relative and 30% by a tattoo parlor.

Table 5-5. Prevalence of Drug Use and Tattooing History of MSM Participants, CNMI, 2006-2008

	Ever Used n (%)	Used in past 12 months n (%)	Used in past 30 days n (%)
Tobacco	62(50)	56(45)	43(35)
Betel nut	50(40)	26(21)	20(16)
Marijuana	43(34)	19(15)	16(13)
Kava	2(2)	0(0)	0(0)
Amphetamines	3(2)	0(0)	0(0)
Ice	9(7)	1(1)	0(0)
Ecstasy	9(7)	3(2)	0(0)
Inhalants	4(3)	1(1)	0(0)
Hallucinogens	2(2)	0(0)	0(0)
Cocaine	5(4)	1(1)	0(0)
Heroin	2(2)	0(0)	0(0)
Steroids	4(3)	2(2)	0(0)
Viagra	5(4)	2(2)	0(0)
Injected drugs in the past 12 months	0(0)	1(1)	0(0)
Tattoos			
Ever had a tattoo	30(24)		
Last tattoo performed by			
Friend/relative	15(50)		
Tattoo Parlor	9(30)		
Amateur tattooist	3(10)		
Traditional Artist	2(7)		
Not stated	1(3)		

5.11 HIV/AIDS Knowledge, Attitudes and Access to Testing of MSM

The vast majority of participants (92%) had heard of HIV (Table 5-6) with 32% knowing someone personally with HIV, AIDS or having died of AIDS. The majority of participants believe HIV chance can be reduced by: using condoms correctly during sex

(87%); by avoiding anal sex (73%); by having one uninfected faithful partner (84%); by abstaining from sex (84%); that a healthy looking person can have HIV (79%); that HIV can be obtained by using used injecting equipment (92%); that a pregnant woman pass HIV to her unborn child (93%); and that a woman with HIV can pass it on by breastfeeding (76%).

Only 2% of participants believed only gay men get HIV. Participants did not believe that HIV can be obtained by sharing a meal with HIV+ person (72%), from mosquito bites (53%) or from saliva (52%). Sixty-seven percent of participants believed they can get a confidential test for HIV. Of those who did not believe they could get a confidential test for HIV, 2 stated the test was not available, 1 stated the location was inconvenient, 2 felt the site was too public and 12 did not believe the results were confidential.

Forty-five participants (45%) had had an HIV test, with 63% of these having a test within the last 12 months. Fifty-four percent were required to get testing (as part of Alien Health Screening Program required by their employer), 44% voluntarily were tested. Thirty-six percent of participants had received information or counseling before they were tested while 38% received information or counseling after they were tested. Seventy-four percent had received the result of their most recent test.

Table 5-6. HIV/AIDS Knowledge, Attitudes, Access and Uptake of Testing in MSM Participants, CNMI, 2006-2008

	Number	Percentage
Knowledge		
Ever heard of HIV?	114	92
Know anyone with HIV, AIDS or died of AIDS?	39	32
Reduce HIV chance by using condom correctly during sex?	99	87
Reduce HIV chance by avoiding anal sex	83	73
Get HIV by sharing a meal with HIV+ person?	32	28
Get HIV from mosquito bites?	53	47
Reduce HIV chance by having one uninfected faithful partner?	96	84
Reduce HIV chance by abstaining from sex?	96	84
Can a healthy looking person have HIV?	90	79
Get HIV by using used injecting equipment?	105	92
Can a pregnant woman pass HIV to her unborn child?	106	93
Can a woman with HIV pass it on by breastfeeding?	87	76
Get HIV from saliva?	54	47
Only gay men get HIV?	2	2
Testing		
Can you get confidential test for HIV?	76	67
Ever had HIV test	56	45
Most recent test		
Last 3 months	10	18
Last 12 months	25	45
Over a year ago	11	20
Indicated they don't know	6	11
Not stated	1	2
Testing voluntary	24	44
Testing required	29	54
Received information/counseling before	20	36
Received information/counseling after	21	38
Received result	40	74

The media has played a large role in educating MSM with 81% of participants reporting having heard messages about HIV on radio, 86% had seen messages about HIV on TV, 85% had read messages about HIV in newspapers and 70% had seen messages about HIV on billboards (Figure 5-3). Eighty-three percent had read leaflets or pamphlets about HIV or AIDS. Participants with a university/college or high school education were significantly more likely to have heard messages about HIV on radio ($\chi^2=14.970$, $p=0.001$) and TV ($\chi^2=13.478$, $p=0.001$), read messages about HIV in

newspapers ($\chi^2=18.881$, $p<0.001$), read leaflets or pamphlets about HIV or AIDS ($\chi^2=17.897$, $p<0.001$) than those with other education levels.

Seventy-six percent of participants had discussed HIV with others with 30% participating in a peer education program and 40% participating in other HIV education programs. Over half (52%) of the participants used the internet as a source of HIV information and 43% received HIV information from outreach workers. A very small percentage of participants (3%) had seen the Mr. Right Guy film and the Prutehi Hao films on TV or in the theatre (6%). Participants with a university/college education were significantly more likely to have received STD screening ($\chi^2=23.788$, $p<0.001$) and attend HIV community events ($\chi^2=6.312$, $p=0.043$) than those who were high school educated or had other education levels.

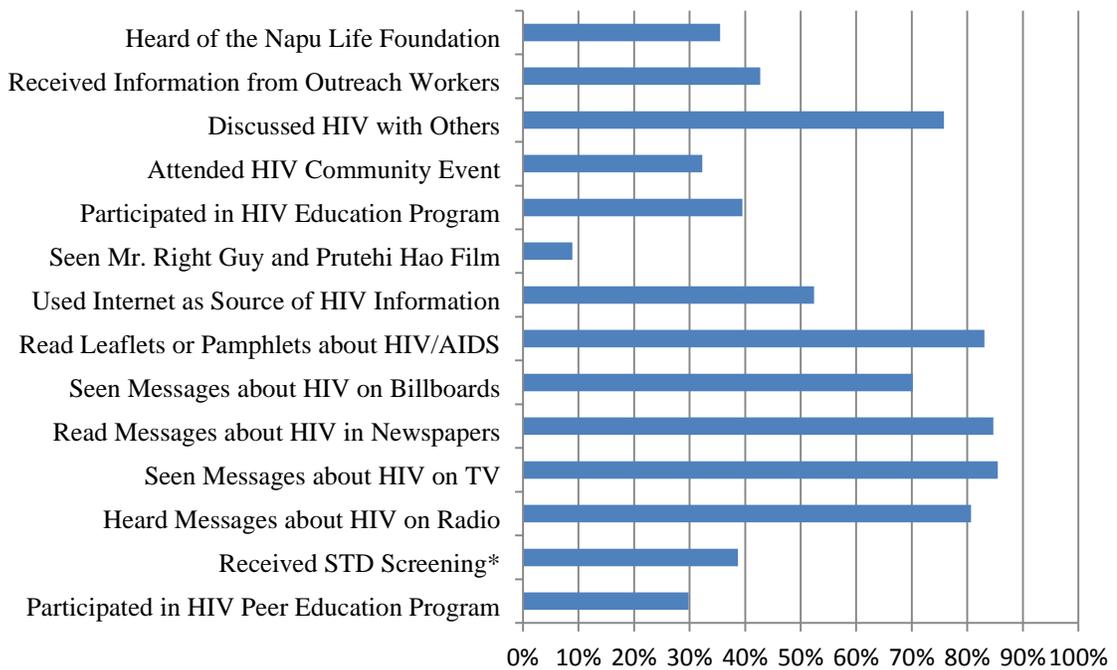


Figure 5-3. Participation of HIV Prevention Activities by MSM Participants, CNMI

5.12 Stigma and Discrimination of MSM

Participants were asked their opinions on various attitudes and beliefs concerning HIV (). The majority of participants (64%) did not feel they were discriminated against because of their sexual orientation. Participants with a university/college education (56%) were significantly more likely to feel they were discriminated against because of their sexual orientation ($\chi^2=8.988$, $p=0.011$) than those who were high school educated (28%) or had other education levels (25%).

A large proportion of participants were willing to share a meal with someone with HIV (58%) and would buy food from someone they knew had HIV (50%). Participants with a university/college education (73%) were significantly more likely to be willing to share a meal with someone with HIV ($\chi^2=11.933$, $p=0.018$) than those who were high school educated (54%) or had other education levels (33%). The majority of participants would care for relative with HIV in their household (78%) while half (49%) of the participants would want a family member with HIV to remain secret.

The majority of participants wanted newcomers tested (86%), more than half of the participants did not want people with HIV to have their names displayed (58%) or to live away from community (72%). The majority of participants agreed that knowingly passing on HIV should be a criminal offense (66%). Participants with a university/college education (29%) or had other education levels (33%) were significantly less likely to want people with HIV to have their names displayed ($\chi^2=8.638$, $p=0.013$) than those who were high school educated (57%). While only 2% felt they were discriminated against by their primary care physician, only 21% of participants had a primary care physician they saw routinely and 42% reported being comfortable in discussing their sexual orientation with their primary care physician.

Participants with a university/college education were significantly more likely to have a primary care physician they saw routinely (44%) ($\chi^2=22.402$, $p<0.001$) and more likely to be comfortable in discussing their sexual orientation with their primary care physician (58%) ($\chi^2=8.287$, $p=0.016$) than those who were high school educated (9% and 36% respectively) or have other education levels (0% and 11% respectively).

Table 5-7. *Stigma and Discrimination Beliefs in MSM Participants, CNMI, 2006-2008*

	Yes n (%)
Stigma and Discrimination	
Willing to share a meal with someone with HIV	72(58)
Buy food from someone you knew had HIV	62(50)
Care for relative with HIV in your household	95(78)
Want a family member with HIV to remain secret	61(50)
Newcomers tested	106(86)
Names displayed	51(41)
Live away from community	35(28)
Knowingly passing on HIV should be a criminal offense	82(66)
Discriminated against because of sexual orientation	45(36)
Primary care physician routinely attended for health care	26(21)
Discriminated against by Primary care physician	2(2)
Discuss sexual orientation with Primary care physician	52(42)

5.13 Summary of the Chapter

More than half of MSM participants interviewed were high school educated, unemployed or students who had never been married. Their average age of first sex was 16. Subsequent sections show that during the previous six months, the majority of MSM had oral sex with another man and had either ejaculated into the other man's mouth or had a man ejaculate into their mouth without a condom. Thirty-one percent had anal sex with a live-in male or transgender partner, 16% with a commercial partner, 11% with a paying partner, and 43% with a casual partner. More than half used a condom the last time they had anal sex with these partners (86%, 70%, 67 % and 77% respectively).

Of those MSM who had a female sex partner during the previous six months, 28% were girlfriends, 30% were non-live-in, non-commercial partners, and 9% were wives. During the previous 12 months, 11% had been diagnosed with an STI. The majority reported being HIV positive.

In the final sections of the chapter, the results revealed that over the past 12 months the most common frequency of alcohol intake was 2-4 times a month with 7-9 standard drinks per sitting and that tobacco, betel nut and marijuana being the most common drugs used over the previous 12 months (45%, 21% and 15% respectively).

The majority of MSM knew that condom use can reduce HIV exposure. Sixty-three percent had HIV testing during the last 12 months, and the majority of participants received their HIV knowledge from TV, newspapers and radio (86%, 85% and 81% respectively). The majority of participants did not feel they were the objects of discriminated because of their sexual orientation. They wanted newcomers to the island to be tested for HIV but did not want the names of HIV carriers to be known or displayed.

6 Findings of Survey Administered to Youth

6.1 Introduction to the Chapter

This chapter is the last of three chapters that report on the analysis from the surveys. This chapter summarizes the results of the Youth Survey questionnaire. As discussed in the methodology section in Chapter Three, the questionnaire for this project is divided into nine sections:

1. Eligibility to Participate
2. Background Characteristics (education, ethnicity, occupation)
3. Sexual History (lifetime partner totals, condom use, age at first sexual intercourse)
4. Male Youth Reporting Sexual Practices with Other Men (anal and oral sex, insertive and receptive sex, condom use)
5. Sexual Activities of Youth (partner totals, group sex, overlapping sex, condom use)
6. Sexual Transmitted Infection History (knowledge of STIs, symptoms of STIs, treatment habits)
7. Alcohol and Drug History, Tattooing History (how much, what kind, sexual activities under the influence, IDU history)
8. HIV Knowledge, Attitudes and Access to Testing (prevention/transmission knowledge, programming knowledge, testing history, discrimination history)
9. Attitudes and Beliefs of Youth (stigma and discrimination beliefs)

6.2 Significance of Age Group of Youth

The young population group is known to exhibit high levels of sexual risk behaviors and there are therefore many challenges presented when attempting to define prevention programs to this target population (Darbes, 2002). Young adults are also often compromise their safety through acts of risky behavior and often perceive their risk level as low making it necessary to include multiple modes of prevention in order to

accurately reach this population. API youths are as likely as other ethnic groups to have used alcohol or drugs with their last sex (Grunbaum, 2000) and once sexually active, are noted to have higher numbers of recent sex partners than other ethnic groups (Hou and Basen-Engquist, 1997). In a recent national US study in API adolescents, there existed a significantly larger incidence and prevalence of marijuana, tobacco, binge drinking and other drug use within this adolescent ethnic group (Hahm et al, 2008).

6.3 The Youth Sample

A sample of 433 male and female youth aged 18-24 years completed questionnaires. These young adults were recruited via peer interviewers on the NMC campus in Saipan. Participants completed a confidential, voluntary questionnaire administered by trained peer individuals performing interviews at NMC to fulfill their curriculum requirements for the course 'Current Issues' in the CNMI. The youth were asked to complete a questionnaire to obtain their demographic information, sexual history, sexual practices, alcohol and drug use, knowledge and attitudes and stigma and discrimination towards HIV.

6.4 Eligibility and the Numbers of Youth Respondents

Youth were eligible to participate in the study if they had not previously been interviewed, were aged between 18-24 years, and were not married or living with a sexual partner for greater than 12 months. Participants were required to agree to participate and sign a consent form. Of the 433 youth who participated in the survey, all (100%) met the eligibility and participation criteria and were included in the final analysis.

6.5 Background Characteristics of Youth

The average age of youth adults participating was 20 years ($SD=1.9$ years) with 55% female and 43% male (Table 6-1). The majority of participants were born in CNMI (60%) and (74%) were students. Those not born in CNMI had been in the country on

average 10.3 years (SD=6.75 years). Fifty-two percent of participants belong to the Micronesian ethnic group with a further 22% being Filipino and 11% Chinese.

The vast majority of the participants were residents of urban areas (85%) and currently resided with family (81%). The average length of time at their current address was 5.1 years (SD=5.8 years). Twenty-eight percent of participants had been away from home for longer than 1 month continuously in the past year. The majority of participants were high school educated (81%) with a further 15% having a university/college education. Seventy-four percent of participants were students.

There were no statistically significant differences by age or gender ($t=0.393$, $p=0.694$), country of birth ($\chi^2=1.797$, $p=0.773$), ethnic group ($\chi^2=6.318$, $p=0.277$), area of residence ($\chi^2=3.937$, $p=0.415$), length of time in current residence ($t=0.450$, $p=0.653$), whether the participant has been away from home for greater than 1 month continuously in the last year ($\chi^2=0.911$, $p=0.340$) and whether the participant was a student ($\chi^2=0.499$, $p=0.480$).

A significantly higher proportion of females had a university/college education (19%) compared to males (8%) ($\chi^2=15.120$, $p=0.002$) and females (8%) were more than twice as likely to live with peers than males (3%) ($\chi^2=9.796$, $p=0.044$). Males had spent a significantly greater length of time on average in CNMI (11.7 years) than females (9.5 years) ($t=2.093$, $p=0.038$).

Table 6-1. Demographic Characteristics in Youth Participants, CNMI, 2006-2008

	Number n = 433	Percentage
Median Age	20	-
Gender		
Female	240	55
Male	186	43
Transgender	1	0.2
Not stated	6	1
Country of Birth		
CNMI	261	60
Philippines	42	10
Guam	12	3
United States	10	2
Other	108	25
Length of time in CNMI for those not born in CNMI		
1-5 years	63	38
6-10 years	28	18
11-15 years	24	15
16-20 years	39	24
>20 years	10	6
Ethnic Group		
Micronesian	225	52
Filipino	93	22
Chinese	49	11
Korean	35	8
Mixed Ethnic	20	5
Other	7	2
Not stated	4	1
Residence		
Urban	366	85
Rural	9	2
Isolated	32	7
Outer	21	5
Not stated	5	1
Currently Reside With		
Family	352	81
Alone	27	6
Peers	26	6
Co-workers	14	3
Other (not specified)	12	3
Not stated	2	0.4
Length of time in current residence		
1-5 years	212	51
6-10 years	59	14
11-15 years	40	10

16-20 years	85	20
>20 years	20	5
Not stated	17	4
Been away from home for > 1 month continuously in the last year		
Yes	122	28
Level of Education		
Primary School	11	3
Secondary School	351	81
Higher	64	15
Not Stated	7	2
Occupation		
Student only/not working	321	74.1
Factory/cannery worker	22	5
Clerical/office worker	17	4
Automotive	8	2
Hotel	8	2
Retail/sales agent	8	2
Other	46	11
Not stated	3	1
Religion		
Catholic	288	67
Christian	54	13
Non-religious	30	7
Buddhist	6	1
Other	30	7
Not stated	25	6

6.6 Sexual History of Youth

Table 6-2 details the sexual history of youth in CNMI. The majority of participants reported having sex (68%) with the median age at first sex being 16 years, ranging from 10 to 24 years. A significantly higher proportion of males (77%) reported having had sex than females (60%) ($\chi^2=15.685$, $p=0.003$). Twenty-seven percent of participants had a partner less than five years older at first sex while 12% had a younger partner and 18% had a partner of the same age. Males (23%) were significantly more likely to had a younger partner at first sex than females (3%) ($\chi^2=58.975$, $p<0.001$). Almost all participants (97%) had heard of male condoms and 70 percent had heard of female condoms. Just over one-third (36%) of the participants who had had sex had used a condom at first sex. While 62% of participants had ever used a male condom, only 2%

had ever used a female condom and 33% had never used a condom. Similar proportions of males and females had heard of both male and female condoms and had used condoms at first sex, while a significantly larger proportion of females (37%) had never used condoms compared to males (24%) ($\chi^2=11.768$, $p=0.038$).

Table 6-2. Sexual History in Youth Participants, CNMI, 2006-2008

	Male (N=186) n (%)	Female (N=240) n (%)	Total (N=433) n (%)	P Value
Have ever had sex*	143(77)	145(60)	288(68)	0.003
Age at first sex for those having had sex				
Median age	16	16	16	0.147
<18	123(89)	123(85)	246(87)	
>=18	15(11)	21(15)	36(13)	
Not stated	7(5)	3(2.1)	10 (4)	
Age of partner at first sex*				<0.001
Younger	43(23)	6(3)	49(12)	
Same Age	35(19)	43(18)	78(18)	
<5 years older	42(23)	71(30)	113(27)	
5-10 years older	16(9)	25(10)	41(10)	
>10 years older	2(1)	1(0.4)	3(1)	
Forced to have sex	0(0)	0(0)	0(0)	-
Condom Awareness				
Heard of male condom	184(99)	229(95)	413(97)	0.178
Heard of female condom	129(69)	171(71)	300(70)	0.143
Condom Use				
Used when first had sex*	74(40)	81(34)	155(36)	0.038
Ever used male condom*	130(70)	136(57)	266(62)	0.005
Ever used female condom	2(1)	0(0)	2(1)	-
Never used condom*	44(24)	89(37)	133(31)	0.002

*significant gender differences at the 0.05 level

- indicates not enough numbers to compute P value

Young adults were asked if over the last twelve months they had had any commercial sex partners, paying sex partners or casual/non-commercial sex partners. A commercial partner is defined as a partner who the participant has paid for sex using money, goods or resources. A paying partner is defined as a sex partner who has paid the

participant for sex using money, goods or resources. A casual partner is a sex partner whom the participant does not live with and where no money or resources were exchanged for sex. In the past 12 months, 3% of participants had commercial sexual partners, 3% had paid sexual partners and 23% had casual/non-commercial sexual partners (Table 6-3) with the majority of participants having more than 1 partner. Youth participants had a medium number of 2 commercial sexual partners, 2 paying sexual partners and 2 casual/non-commercial sexual partners in the past 12 months.

Twenty-five percent of youths who had commercial sexual partners and 39% of participants who had paying sexual partners met their partners through friends or social network. While the majority of participants with paying sexual partners (54%) used a condom the last time they had sex, only 36% who had commercial sexual partners and 37% of participants who had non-commercial sexual partners used a condom the last time they had sex.

Reasons for participants with commercial partners not using a condom included: none easily available (1), trusted partner (2), didn't think of it (1), sex doesn't feel as good (1) and the participant was too drunk/high (1). Reasons for participants with paid partners not using a condom included: none easily available (1); didn't want it (1); and partner didn't mention it (1).

Reasons for participants with non-commercial partners not using a condom included: none easily available (8); didn't want to (10); don't like condoms (4); trusted partner (18); didn't think of it (7); didn't think it necessary (7); didn't want to offend (1); didn't want to lose opportunity (2); sex doesn't feel as good (14); too drunk/high (3); partner didn't want to (6); partner didn't mention it (4); and partner looked healthy (3). Twenty percent of participants with casual/non-commercial sexual partners said they found it difficult to use a condom compared to 27% of participants with commercial partners and 13% of participants with paying partners.

Table 6-3. Sexual Partner History in Youth Participants, CNMI, 2006-2008

	Commercial Partners n (%)	Paid Partners n (%)	Non- commercial Partners n (%)
Had sex in past 12 months	11(3)	13(3)	99(23)
Number of partners in past 12 months			
1	3(27)	3(23)	33(36)
>=2	8(73)	8(62)	59(65)
Ethnicity of partners			
Mixed ethnicity	1(9)	1(8)	-
Other Asian	4(36)	4(31)	-
Other	3(27)	3(23)	-
Not stated	3(27)	5(39)	-
Where met partner			
Friend/social network	2(18)	5(39)	-
Karaoke Bar	1(9)	-	-
Massage Parlor	1(9)	-	-
Hotel/bar/club/disco	3(27)	4(31)	-
Private House	1(9)	1(8)	-
Other	3(27)	2(15)	-
Not stated	0(0)	1(8)	-
Condom use			
Found it hard to use condom with this last partner	3(27)	1(8)	20(20)
Used condom with last sex with this partner	4(36)	7(54)	36(36)
Used male condom with last partner	6(55)	-	34(37)
Used female condom with last partner	0(0)	-	1(1)
Why didn't you use condom			
None easily available	1(9)	1(8)	8(8)
I didn't want to	0(0)	0(0)	10(10)
I don't like condoms	0(0)	0(0)	4(4)
Trusted partner	2(18)	0(0)	18(18)
Didn't think of it	1(9)	0(0)	7(7)
Didn't think it necessary	0(0)	0(0)	7(7)
Didn't want to offend	0(0)	0(0)	1(1)
Didn't want to lose opportunity	0(0)	0(0)	2(2)
Sex doesn't feel as good	1(9)	0(0)	14(14)
Too drunk/high	1(9)	0(0)	3(3)
Partner didn't want to	0(0)	1(8)	6(6)
Partner didn't mention it	0(0)	1(8)	4(4)
Partner looked healthy	0(0)	0(0)	3(3)
Indicated they don't know	1(9)	0(0)	3(3)

	Frequency of condom use		
Every time	3(27)	2(15)	15(15)
Almost every time	2(18)	2(15)	15(15)
Sometimes	3(27)	-	38(38)
Never	1(9)	1(8)	25(25)
Indicated they don't know	0(0)	-	2(2)
Not Stated	2(18)	8(64)	4(4)

Twenty-seven percent of participants with commercial sexual partners stated they used a condom every time they had sex and 18% stated almost every time they had sex. The majority of participants with paying sexual partners did not state the frequency of their condom use. Twenty-six percent of participants with casual/non-commercial partners never used a condom while 38% sometimes used a condom.

6.7 Male Youth Reporting Sexual Practices with Other Men

Male youth participants were asked specific questions regarding their sexual practices with other men. Five youth (2%) had sex with other men in the past 12 months. Four youth participated in oral sex and 5 in anal sex in the past 12 months with 2 youth having had both insertive and receptive sex. Two of the male youth met their partner through friends/social network and 2 male youth met their partner at the bar/club/disco. Two male youth indicated they found it hard to use a condom during sex and one person said they didn't use a condom because their partner didn't want them to.

6.8 Sexual Activities of Youth

Approximately half (53%) of the participants had sex without a condom in past 12 months (Table 6-4). Similar proportions of males (55%) and females (51%) reported having sex without a condom in the past 12 months ($\chi^2=2.125$, $p=0.713$). However a significantly higher proportion ($\chi^2=16.590$, $p=0.005$) of males (33%) reported not using a condom the last time they had sex compared to females (18%). Males (17%) were more than twice as likely to report having overlapping sexual relationships in the past 6

months ($\chi^2=10.478$, $p=0.033$) than females (7%). Eight percent of males and 3 % of females reported participating in group sex. All young adults reported using condoms during group sex. While 30% of males and 32% of females had travelled overseas in the past 12 months, less than 20% reported having sex while overseas. Approximately 9% of males and females reported being forced to have had sex in the past 6 months.

Table 6-4. Sexual Activities in Youth participants, CNMI, 2006-2008

	Male n (%)	Female n (%)	Total n (%)	P Value
Had sex without condom in past 12 months	103(55)	122(51)	225(53)	0.411
Last time had sex without condom*	62(33)	43(18)	105(25)	0.001
Overlapping sexual relationships in past 6 months*	32(17)	17(7)	49(12)	0.004
Group sex*	14(8)	6(3)	20(5)	0.034
Condoms used during group sex	14(100)	6(100)	20(100)	-
Travelled overseas in past 12 months	56(30)	77(32)	132(31)	0.566
Had sex while overseas	11(20)	14(18)	25(19)	0.682
Condom used	7(64)	11(79)	18(72)	-
Frequency of condom use				-
Every time	6(55)	5(36)	11(44)	
Almost every time	2(18)	3(21)	5(20)	
Sometimes	3(27)	2(14)	5(20)	
Never	0(0)	3(21)	3(12)	
Ever forced to have sex	17(10)	21(9)	38(9)	0.665

*significant gender differences at the 0.05 level

- indicates not enough numbers to compute P value

6.9 Sexually Transmitted Infections of Youth

Almost all of the youth participants had heard of sexually transmitted diseases (STIs). There was no significant difference between the proportions of males (96%) and females (85%) who had heard of STIs ($\chi^2=1.507$, $p=0.471$). Five percent of females and 2% of males had been diagnosed with an STI in the past 12 months. The majority of cases reported by females were chlamydia (7), gonorrhea (2), thrush (1) and HIV (1) (Figure 6-1). In the past 12 months there were 11 cases of genital discharge, 2 of genital

ulcers or sores, 1 of anal ulcers or sores and 3 cases of burning sharp pain. Of those who had experienced the above symptoms 7 of the 11 were females (64%) and 1 of three males (33%) sought treatment.

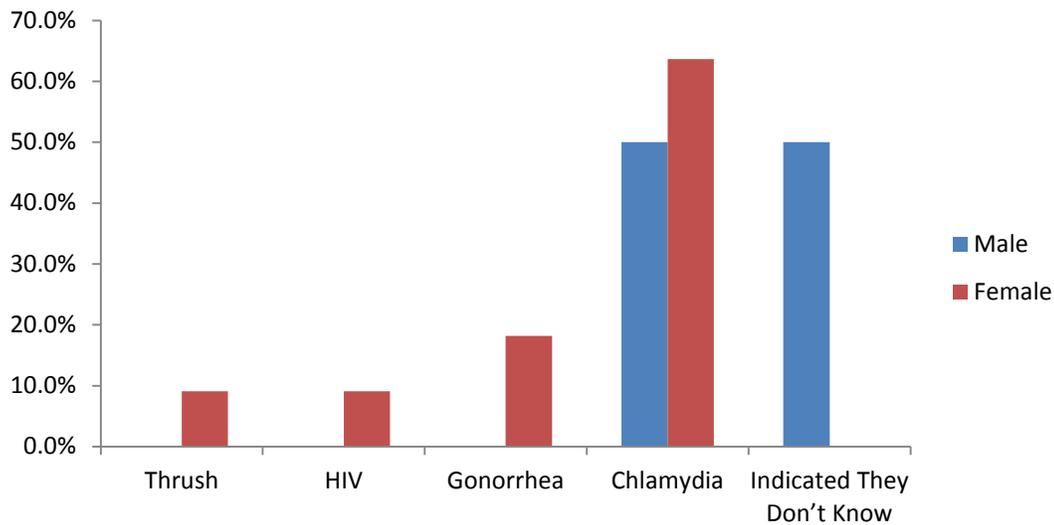


Figure 6-1. Prevalence of Sexually Transmitted Infections of Youth Participants, CNMI

6.10 Alcohol, Drug Use and Tattooing of Youth

Participants were asked to report their alcohol use in the past 30 days, the average number of drinks they had consumed in the past 30 days and their frequency of binge drinking where binge drinking was defined as 5 or more drinks at a time (Table 6-5). There was a significant difference between gender and the frequency of alcohol use in the past 30 days ($\chi^2=44.588$, $p<0.001$). Females were significantly less likely to have had used alcohol in the past 30 days (36%) compared to males (13%). Males (19%) were more than twice as likely to drink at least 2-3 times a week versus females (8%).

Of those participants who reported drinking alcohol in the past 30 days, the majority of males reported consuming less than six drinks on average whereas the majority of females reported consuming less than 4 drinks on average ($\chi^2=31.914$, $p<0.001$). There was a significant difference between sexes regarding the frequency of binge drinking ($\chi^2=30.402$, $p<0.001$). Men were more likely to frequently binge drink than women.

Table 6-5. Prevalence of Alcohol Use in Youth Participants, CNMI, 2006-2008

	Male n (%)	Female n (%)	Total n (%)	P Value
Frequency of Alcohol use in the past 30 days*				<0.001
4 or more times a week	17(9)	8(3)	28(6)	
2-3 times a week	35(19)	19(8)	54(13)	
2-4 times a month	50(27)	46(19)	96(23)	
Monthly or less	49(26)	76(32)	125(30)	
Never	24(13)	85(35)	109(26)	
Indicated they don't know	9(5)	6(3)	15(4)	
Not stated	2(1)	0(0)	2(1)	
Average number of drinks in the past 30 days*				<0.001
1 or 2	29(18)	58(37)	87(27)	
3 or 4	31(19)	39(25)	70(22)	
5 or 6	37(23)	22(14)	59(19)	
7,8,9	27(17)	16(10)	43(14)	
10-19	21(13)	3(2)	24(8)	
20 or more	6(4)	8(5)	14(4)	
Indicated they don't know	7(6)	8(5)	17(5)	
Not stated	1(1)	1(1)	2(1)	
Frequency of binge drinking*				<0.001
Never	30(19)	54(34)	83(26)	
Daily	7(4)	1(1)	8(3)	
Weekly	39(25)	15(10)	54(18)	
Less than monthly	32(21)	44(28)	76(25)	
Monthly	38(25)	33(22)	71(23)	
Indicated they don't know	7(5)	6(4)	13(4)	
Not stated	2(1)	0(0)	2(1)	

*significant gender differences at the 0.05 level

Participants were asked to report on what types of drugs they had ever used, their drug use in the past 12 months and their drug use in the past 30 days (Table 6-6). The majority of youth had smoked tobacco with 48% smoking tobacco in the past 12 months and 39% smoking tobacco in the past 30 days. A significantly higher proportion of males than females had *ever* used tobacco ($\chi^2=20.147$, $p<0.001$), betel nut ($\chi^2=4.942$, $p<0.001$), marijuana ($\chi^2=9.226$, $p=0.020$) and kava ($\chi^2=6.232$, $p=0.008$). A significantly higher proportion of males than females had used tobacco ($\chi^2=33.250$, $p<0.001$), betel

nut ($\chi^2=14.079$, $p<0.001$) and marijuana ($\chi^2=15.230$, $p=0.020$) in the past 12 months. A significantly higher proportion of males than females had used tobacco ($\chi^2=24.274$, $p<0.001$), betel nut ($\chi^2=22.146$, $p<0.001$) and marijuana ($\chi^2=18.298$, $p=0.020$) in the past 30 days.

Less than 10 participants had reported ever using amphetamines, crystal methamphetamine, ecstasy, inhalants, hallucinogens and cocaine. No participant had reported heroin, steroid or Viagra use. Only 2 participants (1 male, 1 female) reported injecting drugs in the past 12 months. Neither participant found it difficult to inject with clean equipment, buying needles from either an animal feed store or friends/relatives. The last time they injected drugs, one shared equipment and the other did not. Males (32%) were more likely to have had a tattoo than females (20%) ($\chi^2=10.095$, $p=0.018$).

Table 6-6. Prevalence of Drug Use in Youth Participants, CNMI, 2006-2008

	Ever Used n (%)	Used in past 12 months n (%)	Used in past 30 days n (%)
Tobacco*	241(57)	204(48)	168(40)
Betel nut*	202(47)	159(37)	126(30)
Marijuana*	169(40)	111(26)	66(16)
Kava*	18(4)	8(2)	1(0.2)
Amphetamines	2(1)	1(0.2)	0(0)
Crystal Methamphetamine	9(2)	6(1)	0(0)
Ecstasy	5(1)	1(0.2)	0(0)
Inhalants	3(1)	1(0.2)	0(0)
Hallucinogens	7(2)	0(0)	0(0)
Cocaine	3(1)	0(0)	0(0)
Heroin	0(0)	0(0)	0(0)
Steroids	0(0)	0(0)	0(0)
Viagra	0(0)	0(0)	0(0)
Injected drugs in the past 12 months	2(1)	0(0)	0(0)
Ever had a tattoo*	108(25)		

*significant gender differences at the 0.05 level

6.11 HIV/AIDS Knowledge, Attitudes and Access to Testing of Youth

The majority of participants (99%) had heard of HIV (

Table 6-7) with 15% knowing someone with HIV, AIDS or having died of AIDS. The majority of participants believed HIV can be reduced by: using condoms correctly during sex (84%); by avoiding anal sex (60%); by having one uninfected faithful partner (80%); by abstaining from sex (82%); that a healthy looking person can have HIV (86%); that HIV can be obtained by using used injecting equipment (96%); that a pregnant woman pass HIV to her unborn child (89%); and that a woman with HIV can pass it on by breastfeeding (62%). Participants did not believe HIV can be obtained by sharing a meal with HIV+ person (80%), from mosquito bites (68%) or from saliva (65%). Only 5% of participants believed only gay men get HIV. There were no significant differences with respect to gender and knowledge on HIV/AIDS.

Eighty percent of participants believed they can get a confidential test for HIV. Of those participants who did not believe they could get a confidential test for HIV, 9 participants did not think testing was available, 13 felt the testing site was too public, 15 did not believe the results were confidential while others did not know the location of the testing site, and reported that the testing site was too difficult to get to or that the opening hours were not convenient. Twenty-six percent of participants had had a HIV test with 59% of these having the test in the past 12 months. Sixty-one percent of tests were voluntary and a further 37% were required (as part of Alien Health Screening Program or simply required by their employer). Forty-one percent of participants received counseling before testing and 22% received counseling after testing. Seventy-seven percent had received the result of their last HIV test.

The media has played a large role in educating participants with 72% of participants reporting having heard messages about HIV on radio, 88% having seen messages about HIV on TV, 70% having read messages about HIV in newspapers and 52% reported seeing messages about HIV on billboards. Eighty-four percent had used the internet as a source of HIV information, 69% had seen the Mr. Right Guy film and 63% had seen the Prutehi film. There were no significant differences with respect to gender and participant means of education.

Table 6-7. HIV/AIDS Knowledge, Attitudes, Access and Uptake of Testing in Youth Participants, CNMI, 2006-2008

	Total n (%)
Knowledge	
Ever heard of HIV?	420(99)
Know anyone with HIV, AIDS or died of AIDS?	65(15)
Reduce HIV chance by using condom correctly during sex?	359(85)
Reduce HIV chance by avoiding anal sex	254(60)
Get HIV by sharing a meal with HIV+ person?	83(20)
Get HIV from mosquito bites?	132(31)
Reduce HIV chance by having one uninfected faithful partner?	339(80)
Reduce HIV chance by abstaining from sex?	348(82)
Can a healthy looking person have HIV?	367(86)
Get HIV by using used injecting equipment?	407(96)
Can a pregnant woman pass HIV to her unborn child?	380(89)
Can a woman with HIV pass it on by breastfeeding?	262(62)
Get HIV from saliva?	147(35)
Testing	
Can you get confidential test for HIV?	336(79)
Ever had HIV test	111(26)
Had test in past 12 months	65(59)
Test voluntary	68(61)
Test required	41(37)
Received counseling before	45(41)
Received counseling after	24(21)
Received result of last HIV test	85(77)
Participation	
Participated in HIV peer education program	145(34)
Received STD screening	102(24)
Heard messages about HIV on radio	307(72)
Seen messages about HIV on TV	373(88)
Read messages about HIV in newspapers	296(70)
Seen messages about HIV on billboards	223(53)
Read printed materials	48(11)
Used the internet as a source of HIV information	355(83)
Seen Mr. Right Guy film	292(69)
Participated in HIV education program	20(5)
Attended HIV community event	151(35)
Discussed HIV with others	78(18)
Seen Prutehi Hao film	269(63)
Received information from outreach workers	36(9)
Heard of the Napu Life Foundation	120(28)

6.12 Attitudes and Beliefs of Youth

Participants were asked their opinions on various attitudes and beliefs concerning HIV (Table 6-8). There was no significant difference between gender and participant attitudes and beliefs. A large proportion of people did not agree they were willing to share a meal with someone with HIV (65%) and buy food from someone they knew had HIV (65%). The majority of young adults surveyed would care for a relative with HIV in their household (77%) and would want a family member with HIV to remain secret (63%). While the majority of youth participants wanted newcomers tested (76%), most did not want people with HIV to have their names displayed (86%) or to live away from community (84%).

The majority of youth participants agreed with the statement that knowingly passing on HIV should be a criminal offense (65%). The majority of youth participants did not feel they were discriminated against because of their sexual orientation (93%). Eighty-five percent of young adults surveyed had a primary care physician they saw routinely with 98% of participants never having felt discriminated against by their primary care physician. Sixty percent of young adults surveyed agreed they would be comfortable in discussing their sexual orientation with their primary care physician.

Table 6-8. Stigma and Discrimination Beliefs in Youth Participants, CNMI, 2006-2008

	Yes n (%)
Stigma and Discrimination	
Willing to share a meal with someone with HIV	151(35)
Buy food from someone you knew had HIV	151(35)
Care for relative with HIV in your household	328(77)
Want a family member with HIV to remain secret	262(63)
Newcomers tested	323(76)
Names displayed	60(14)
Live away from community	70(16)
Knowingly passing on HIV should be a criminal offense	276(65)
Discriminated against because of sexual orientation	31(7)
Primary care physician routinely attended for health care	85(20)
Discriminated against by Primary care physician	8(2)
Discuss sexual orientation with Primary care physician	254(60)

6.13 Summary of the Chapter

In the first sections of this chapter, results showed that majority of youth participants interviewed were twenty years old, Micronesian, born in the CNMI, residing with family and had an average age of first sex at 16 years old. Thirty-three percent had never used a condom and during the past 12 months. Three percent had commercial sex partners, 3% with a paying sex partner, 23% with a casual/noncommercial sex partner, and half or less used a condom the last time they had sex with these partners (36%, 54%, and 37%, respectively). More males than females reported not using a condom the last time they had sex. During the last 12 months, 5% of females and 2% of males had been diagnosed with a sexually transmitted infection, the majority of which were chlamydia. The majority of youth knew that condom use could reduce HIV exposure; 59% had HIV testing during the last 12 months and the majority of participants received their HIV knowledge from TV, newspapers and radio (88%, 72% and 70%, respectively). The majority of participants wanted newcomers to the island tested for HIV but did not want the names of those diagnosed with HIV known or displayed.

7 Associated Findings and Implications of Study

7.1 Introduction to the Chapter

The survey project objectives in the CNMI were intended to both establish the prevalence of risk factors in at-risk population groups within the CNMI and to provide baseline facts and figures on the self-reported prevalence of symptoms of STIs and HIV/AIDS. The previous six chapters have provided these details while the next two chapters will highlight distinctive findings within each survey group and evaluate these findings with comparable research data. Chapter seven assesses and evaluates the currently occurring behaviors of the three risk groups in the CNMI and examines their potential to place individuals at risk for STIs and HIV. Chapter Eight will then provide further evaluation and introduce specific recommendations for the CNMI to consider for improved approaches to HIV/STI prevention in the CNMI.

7.2 Sexually Transmitted Infections of Prenatal Women

Forty-eight (21%) women had been diagnosed with STIs in the past 12 months. Those diagnosed with STIs in the past 12 months were significantly more likely to have ever used tobacco ($\chi^2=9.051$, $p=0.003$), betel nut ($\chi^2=8.286$, $p=0.004$) and other drugs ($\chi^2=5.442$, $p=0.020$) than women who had not been diagnosed with an STI in the past 12 months. The majority of women diagnosed with an STI had ever used tobacco (58%) and betel nut (54%) and more than twice as many (25%) had used other drugs when compared to women not diagnosed with an STI in the past 12 months (34%, 32% and 12% respectively).

There was no significant association ($\chi^2=0.502$, $p=0.479$) between STI diagnosis in the past 12 months and binge drinking with 27% of those diagnosed with an STI binge drinking compared to 22% not reporting an STI diagnosis. Women diagnosed with an STI in the past 12 months (29%) were significantly less likely ($\chi^2=5.331$, $p=0.021$) to have ever used a male or female condom than those who had not been diagnosed with an STI (48%). Women diagnosed with an STI in the past 12 months (40%) were twice as

likely ($\chi^2=7.940$, $p=0.005$) to have a tattoo as those who had not been diagnosed with an STI (20%).

There were significant differences between those diagnosed with an STI in the past 12 months and age at first sex ($\chi^2=-3.259$, $p=0.001$) and the number of partners in total ($\chi^2=-4.240$, $p<0.001$). Women diagnosed with an STI in the past 12 months had first sex on average at 17 years of age compared to 20 years for women who had not been diagnosed in the past 12 months and had an average of 4 partners in total compared to 2.5 partners. There were no significant differences found between women diagnosed with an STI and those not diagnosed with respect to STI/HIV knowledge and the number of partners in the past 12 months.

7.2.1 Sexually Transmitted Infection Symptoms of Prenatal Women

Twenty (9%) women reported having symptoms of STIs such as genital discharge, genital ulcer or sore and burning sharp pain. There was no significant association between the women who reported STI symptoms and ever having used a male or female condom. Thirty percent of women with STI symptoms reported having ever used a condom and 45% of women without STI symptoms reported having ever used a condom.

7.2.2 Laboratory Confirmed Sexually Transmitted Infection Diagnosis

Twenty-two women (9.6%) tested positive to chlamydia on the laboratory test. There were no significant associations between drug use or condom use and testing positive to chlamydia (Table 7-1). Twice as many women who returned a positive test (46%) had participated in binge drinking ($\chi^2=6.890$, $p=0.009$) than those who tested negative (21%). Due to small numbers, significance testing could not be done on differences in STI diagnoses for whether women had casual partners or were forced to have sex.

Table 7-1. Prenatal Women's Participants With Positive Laboratory Testing for Chlamydia, CNMI, 2006-2008

	Positive Test (N=22) n (%)	Negative Test (N=198) n (%)	P Value
Drug Use			
Tobacco	11(50)	79(38)	0.288
Betel Nut	10(46)	73(35)	0.353
Other drugs	6(27)	27(13)	0.073
Binge drinking*	10(46)	43(21)	0.009
Condom use	7(33)	93(45)	0.231
Casual partners^a	2(9)	13(6)	-
Forced to have sex^a	3(14)	14(7)	-

*significant at the 0.05 level

^a numbers too small for significance testing

7.2.3 Binge Drinking of Prenatal Women

Fifty-three women (23%) have reported binge drinking before becoming pregnant. Binge drinking was defined as consuming more than 5 standard drinks at one time. Women who reported binge drinking before becoming pregnant were significantly more likely to have ever used tobacco ($\chi^2=10.838$, $p=0.001$) and other drugs ($\chi^2=17.612$, $p<0.001$) than women who had not reported binge drinking (Table 7-2). Fifty-nine percent of women who reported binge drinking also reported using tobacco compared to 33% of women who did not report binge drinking. More than 3 times as many women who reported binge drinking before becoming pregnant were three times as likely to report using other drugs (32%) than those who did not report binge drinking.

There was no significant association between reported condom use and binge drinking before becoming pregnant. Women diagnosed with an STI in the past 12 months (29%) were significantly less likely ($\chi^2=5.331$, $p=0.021$) to have ever used a male or female condom than those not diagnosed with an STI (48%). Due to small numbers, significance testing could not be done on whether condom use was different based on women having casual partners or being forced to have sex or binge drinking.

Women who reported binge drinking (19%) before becoming pregnant were more than twice as likely ($\chi^2=6.890$, $p=0.009$) to return a positive laboratory test to an STI than those who did not report binge drinking (7%). There were no significant associations found between women reporting binge drinking and whether they had a tattoo.

Table 7-2. Prenatal Women's Participant Reporting of Binge Drinking Before Becoming Pregnant, CNMI, 2006-2008

	Binge drinking n = 53 (23%)	Not binge drinking n = 197 (77%)
Drug Use		
Tobacco*	31(59)	59(33)
Betel Nut	21(40)	62(33)
Other drugs*	17(32)	16(9.0)
Condom use	24(45)	76(43)
Casual partners^a	8(15)	7(4)
Forced to have sex^a	3(6)	14(8)
Tested Positive to STI*	10(19)	12(7)
Had a tattoo	15(28)	40(23)

*significant at the 0.05 level

^a numbers too small for significance testing

7.2.4 Human Immunodeficiency Virus Testing History of Prenatal Women

One hundred and forty-one women (61.3%) had previously had a HIV test. There were no significant associations between drug use, binge drinking or condom use and having had an HIV test. More than twice as many women who had been ever tested for HIV returned a positive laboratory test for an STI (28%) compared to women who had not been tested (10%). There was no significant difference in the total number of partners between those who had had a previous HIV test and those who had not been tested.

7.3 Discussion and Implications of the Study for Prenatal Women

The majority of CNMI pregnant women in this survey were unmarried, unemployed Micronesians that had never used a condom and were not using any form of birth control method. Most were living with a partner, accepting of the pregnancy and most stated the father of the baby was also unemployed. None of the CNMI prenatal women had ever injected drugs. The methods by which they learned about STIs and HIV was through the television, newspaper, internet, radio and talking with others. Although the vast majority of women understood that a pregnant woman could pass HIV on to their unborn child, a quarter of them were unaware that they could pass HIV on to their unborn child through breastfeeding. Over the previous twelve months, most CNMI prenatal attendees reported having one sexual partner and a large portion had never used a condom. Also over the last twelve months, the most common self-reported STI diagnosis was chlamydia, the majority of women had not consumed any alcohol, and tobacco was the drug most commonly reported as being used.

It is significant that several different high risk behaviors were observed within the baseline data from the prenatal women's survey group survey and will now be discussed in greater detail since according to the CDC (2008) age, lack of knowledge of partner's risk factors, high risk heterosexual sex, race, substance abuse, STIs and socioeconomic issues define risk behaviors and barriers to HIV prevention in women. Therefore, for the purpose of this study, all these factors and how they are featured in significance in this prenatal population survey in the CNMI should be reviewed in greater detail.

7.3.1 Implications

7.3.1.1 Age

From 1999-2005, HIV has been one of the five top leading causes of death in the US in women aged 35-44 years (WISQARS, 2005) and high risk heterosexual contact was the source of 80% of all the newly diagnosed HIV infections in the US (CDC HIV/AIDS Factsheet Women, 2008). For all races and all ethnic minorities in the US, women between the ages of 15-39 years accounted for the largest number of HIV/AIDS

diagnoses (CDC HIV/AIDS Factsheet Women, 2008). The average age of pregnant women in this survey was 29 years and at least 85% of the CNMI female population lives within the 15-39 year age range (CNMI Department of Commerce, 2000). Since most Asian Pacific Islander (API) women in the US become infected with HIV through high risk heterosexual contact, assessment of risk behavior is important for understanding potential for HIV spread in the CNMI (CDC HIV/AIDS Factsheet API, 2008).

7.3.1.2 Testing Rates

According to the CDC (2008), in spite of their risk factors, HIV testing rates among API's as a group are low. Of all ethnicities included in US statistical data on HIV, API women have the lowest HIV testing rates, so current female API infection rates may be underestimated (Fauci, 2008). Low HIV testing rates directly affect the stage of HIV disease when a diagnosis is finally made and for many APIs, the diagnosis of HIV is made late in the course of the disease (CDC HIV/AIDS Factsheet API, 2008). In fact, in the US in the year 2006, 34% of APIs that tested positive for HIV had an AIDS diagnosis within a year (Department of Health and Human Services, 2007). Only 61.8% of prenatal women participants in this survey had ever had HIV testing done and only 26.2% had had an HIV test done in the last twelve months. Since early effective HIV treatment leads to improved health and extended life, this data highlights an area of concern that needs to be addressed in the CNMI (DHHS, 2008).

7.3.1.3 Condom Usage

In focus groups, API women verbalize difficulties in getting their partners to use condoms. This is a result of gender inequalities, restrictive cultural factors and the inability to negotiate safe sex (CDC HIV/AIDS Factsheet API, 2008). In this survey, 8% of women interviewed stated they had had forced sex in the past with most of these women stating that it was their partner that had forced them to have sex. Oftentimes API women may be well aware of the fact that they are having sex with a man who has risky behaviors but due to cultural dynamics and women's relationships with men, they are forbidden to make these risky behaviors known. Twenty percent of the women interviewed found it difficult to use a condom during sex in the past twelve months with

a casual partner. Of this 20%, a few women stated the reason they had not used a condom was that their partner didn't want to (3 cases), illustrating that they lacked power to negotiate with a casual partner to use a condom for their own protection (Richards, Emrie & Weiss, 2003).

7.3.1.4 Socioeconomic Factors

Socioeconomic factors play a role with HIV transmission and susceptibility in women. The current CNMI economic hardships previously reviewed only serve to put women in a more vulnerable situation. STIs often disproportionately affect women more than men and employment, lack of education, environmental and sociocultural constraints are all factors in often makes disease more severe for women (Gerberding, 2004). The majority of participants were not formally employed at the time of the survey (51.7%). There was no association between level of HIV knowledge and binge drinking and other drug use, condom use and level of formal education.

7.3.1.5 Sexually Transmitted Infections

Women are biologically more susceptible to HIV infection and an STI infection increases a women's susceptibility even more by facilitating HIV shedding in the genital tract, recruiting HIV susceptible inflammatory cells to the genital tract and by disrupting mucosal barriers to infection (Fleming & Wasserheit, 1999). Chlamydia is the most commonly reported bacterial STI in the U.S. (CDC Factsheet Chlamydia, 2006). Of the 21% self-reported STI diagnoses in the prenatal survey, chlamydia accounted for 81% of STIs and was the only positive diagnosis established among the surveyed prenatal population.

The CNMI prenatal population surveyed had a high STI rate; 21% reported that they were diagnosed with an STI during the last 12 months; 81% of these infections were chlamydia. Although limited data exists specifically on API women, chlamydia is known to be the most common infecting pathogen for STIs in the world (WHO, 2009). Since 44% of this same population group reported never having used a male condom, these findings are predictable. Results of several studies indicate that API women in the U.S. will most likely be infected with HIV through heterosexual sex (Nemoto et al, 2003; Zaidi et al 2005; Takahashi et al, 2006).

These findings in this study indicated that a high proportion of prenatal participants who are unmarried in the CNMI. Child bearing by unmarried women has been an increasing trend in the US and according to the Annual Summary of Vital Statistics (2006), the current percent of births to unmarried women has had its highest single increase since 1989-89 (Martin et al, 2008) and one-third of all US births in the year 2000 were to unwed mothers (Qian, Lichter and Mellott, 2005).

7.3.1.6 Breastfeeding

Overall, 96.5% of this population had heard of HIV and 94.3% of these participants were aware that a pregnant woman could pass HIV on to her unborn child. However, only 73.2% were aware that a woman could pass HIV to her infant through breastfeeding. HIV transmission can occur at any stage of the pregnancy. As a result, the CDC recommends that a women that may been exposed to HIV at any time during her pregnancy, be provided with sufficient information that HIV transmission could have occurred and can therefore pass to the newborn during breast feeding (CDC, 2007). Therefore, is important to ensure that pregnant women in the CNMI, where child malnutrition is low and where the federal government provides for child nourishment support through such programs as Women, Infant and Children (WIC), are aware that if they have been exposed to HIV that the nutritional deficiencies associated with not breast feeding do not outweigh the possibility of HIV transmission from doing so (HHS, 2000).

7.3.1.7 Substance Abuse

In has been shown in this study that pregnant women in the CNMI have significant exposure to substance abuse, especially with tobacco and betel nut use. Substance abuse during pregnancy from the use of tobacco and betel nut quid⁴ is known to increase the risk of adverse neonatal and child health outcomes. Findings in a recent national US study involving API adolescents also indicate that women have the highest prevalence of substance abuse (Hahm et al, 2008). According to another study, betel nut use during pregnancy increases the chances of preterm delivery and low fetal birth weight (Yang et

⁴ Betel nut quid is the term used to define the use of both the betel nut (areca nut) and slaked lime combined into a chewing mixture which is then often combined further with a tobacco product suitable for chewing.

al, 1999). In addition, there are several reported medical cases that provide evidence for the fact that infants born to mothers abusing betel nut have significant, life-threatening withdrawal symptoms shortly after birth (Lopez-Vilchez, 2006) (García-Algar et al, 2004). The use of betel nut, mixed with slaked lime and tobacco or without, is reported by the WHO to be carcinogenic and cause cancer in humans (WHO, 2004). Substance abuse services are available in the CNMI, with the Community Guidance Center (CGC) within the Division of Public Health is the primary provider administering mental health and substance abuse health services to the youths and adults on-island. Additionally, CGC provides support services to family members and links clients to other resources that are available in the community.

Some of the federal programs administered by CGC are addiction, behavioral and prevention services, a tobacco prevention program and transitional living center services (CGC, 2009). According to CGC statistics, the most commonly abused drugs in the CNMI are alcohol, marijuana and crystal methamphetamine respectively (Todeno, 2009). Additionally, the American Cancer Society (ACS) conducts Cessation Programs on-island which provides Tobacco Quitline Conference training for health care providers instructing them on how to help a client quit smoking and assist with managing betel nut addictions in Micronesia (Pangelinan-Brown, 2008). The US Supreme Court has rulings defining drug abuse as a form of mental problem (Lester, Andreozzi and Appiah, 2004) and it is possible that the prenatal population in the CNMI be aware of the services offered by CGC and ACS and that the appropriate referral and support ensures women with problematic substance use actually do get linked into services and have access to available programs.

Of the women living with HIV/AIDS in the US by the end of 2005, 16% had been infected with HIV through injectible drug use methods (CDC HIV/AIDS Factsheet Women, 2008). According to the recognized significant risk factors for API women, IDU use is the second most common risk factor after heterosexual sex with a high risk behavior man (Center for AIDS Prevention Studies, 2007). Also of note is that many MSM do not identify themselves as gay or homosexual and that oftentimes MSM are engaging as well in oral, vaginal and anal sex with women. In one large US study reported in the Morbidity and Mortality Weekly Report (MMWR, 2006) that included

the API ethnic group, it was reported that of the API MSM taking part in the survey, 6% had had both male and female sex partners in the previous 12 months and at least 29% of sexual encounters consisted of unprotected vaginal or anal sex with women.

7.3.1.8 Public Health Law

The CDC's recommended strategies for perinatal HIV preventions include the promotion of screening of HIV for every pregnant woman and using the "opt-out" approach for testing with prenatal HIV screening adopted as a routine part of medical care for pregnant women (CDC, 2007). In 2001, the CNMI Legislature enacted a Public Law addressing this very issue after two cases of perinatal transmission were documented in the CNMI. CNMI Public Law 12-75 (Appendix 9) requires mandatory free HIV/STD education for all pregnant women in the CNMI regardless of ethnicity, health insurance or income. Of the three population groups surveyed in the project, pregnant women had the lowest HIV testing rates in the last 12 months and, the highest rate of failure to follow-up on testing results, so it is critical that further efforts are made to ensure Public Health Law 12-75 be adhered to.

7.4 Behavior Associated Findings of Men who have Sex with Men

In order to improve on the understanding of risk behaviors and possible means for transmission of infectious disease in the MSM population group, more detailed analysis of the noted risk factors with other risk factors are analyzed.

7.4.1 Sexually Transmitted Infections of Men who have Sex with Men

Thirteen (10%) men had been diagnosed with STIs in the past 12 months. Those diagnosed with STIs in the past 12 months were significantly more likely to have ever used tobacco ($\chi^2=5.194$, $p=0.023$) than men who had not been diagnosed with an STI in the past 12 months. Seventy-seven of men diagnosed with an STI had ever used tobacco compared to 44% of men who had not been diagnosed with an STI in the past 12 months (Table 7-3). Men diagnosed with STIs in the past 12 months were significantly more likely to have had an HIV test (70%) ($\chi^2=3.988$, $p=0.046$) than men who had not been diagnosed with an STI in the past 12 months (40%). Since there is "substantial

biological evidence demonstrating that the presence of other STDs increases the likelihood of both transmitting and acquiring HIV” the CDC/HRSA Advisory Committee on HIV/AIDS and STD Prevention (CHAC) recommended that “HIV testing should always be recommended for individuals who are diagnosed with or suspected to have an STI” (CDC, 2007, p.1). Men diagnosed with STIs in the past 12 months were also more likely to feel they had been discriminated against ($z=-2.492$, $p=0.013$) than men who had not been diagnosed with an STI in the past 12 months.

7.4.2 Sexually Transmitted Infection Symptoms of Men who have Sex with Men

Five (4%) men have had STI symptoms in the past 12 months. Symptoms included genital discharge, anal discharge, genital ulcer or sore, burning sharp pain, rash or itching and redness or inflammation. Men having STI symptoms in the past 12 months were more likely to feel they had been discriminated against ($z=-2.823$, $p=0.005$) than men who had not been diagnosed with an STI in the past 12 months.

7.4.3 Human Immunodeficiency Virus Testing History of Men who have Sex with Men

Forty-three percent of MSM men had been tested for HIV in the past 12 months. A significantly higher proportion of men who had been tested for HIV in the past 12 months had used tobacco ($\chi^2=6.475$, $p=0.011$) while a significantly smaller proportion had used betel nut ($\chi^2=5.700$, $p=0.017$) than men who had not been tested for HIV in the past 12 months.

Men who had been tested for HIV in the past 12 months were more likely to have oral sex ($\chi^2=9.244$, $p=0.002$), overlapping sex ($\chi^2=4.708$, $p=0.030$), female sex ($\chi^2=4.148$, $p=0.042$) and be diagnosed with an STI ($\chi^2=3.988$, $p=0.046$) than men who had not been tested for HIV in the past 12 months. Men who had been tested for HIV in the past 12 months were over three times more likely to use a condom with commercial partners ($\chi^2=5.093$, $p=0.024$). A significantly smaller proportion of men who had been tested for HIV in the past 12 months had a tattoo ($\chi^2=4.316$, $p=0.038$) compared to men who had not been tested for HIV in the past 12 months. Men who had been tested for HIV in the past 12 months had significantly higher HIV knowledge ($z=-1.946$, $p=0.052$), had been

exposed to HIV educational messages ($z=-2.250$, $p=0.024$), discriminated against others less ($z=-2.185$, $p=0.029$) and reported feeling that they had been discriminated against ($z=-2.789$, $p=0.005$).

7.4.4 Age Significance of Men who have Sex with Men

Approximately half the men who participated in the survey were aged between 18-29 years (younger men) and the other half aged 30-51 years (Table 7-3). Younger men were significantly more likely to have used other drugs in the past 12 months ($\chi^2=6.215$, $p=0.013$) than older men, and were over three times more likely to have paying partners ($\chi^2=4.077$, $p=0.043$). They were also significantly less likely to have had an HIV test ($\chi^2=4.172$, $p=0.041$) than men aged over 30.

Table 7-3. MSM Risk Behavior Association With STI/HIV Testing, CNMI, 2006-2008

	Diagnosed with STI		STI Symptoms		Tested for HIV		18-29 yrs	30-51 yrs
	Yes	No	Yes	No	Yes	No	Yes	Yes
	(n=13)	(n=119)	(n=5)	(n=127)	(n=57)	(n=75)	(n=64)	(n=63)
	%	%	%	%	%	%		
Tobacco	*77	*44	60	47	*60	*37	48	49
Betel Nut	23	40	40	38	*26	*47	47	32
Other drugs	46	35	40	36	37	36	*48	*27
Binge drinking	23	23	20	23	19	25	23	24
Oral Sex	69	60	80	60	*75	*49	56	70
Anal sex	46	59	80	37	61	55	58	62
Insertive only	15	25	0	25	23	25	23	27
Receptive only	46	36	80	35	44	32	39	38
Both insertive and receptive	8	23	0	22	25	19	23	21
Casual Partners	23	43	60	40	33	47	44	41
Commercial Partners	31	13	60	13	21	11	14.1	18
Paying Partners	8	10	20	9	7	12	*16	*5
Group sex	0	8	0	8	9	7	8	8
Overlapping sex	31	29	20	29	*39	*21	28	32
Sex with females	31	33	20	33	*42	*25	30	38
Forced to have sex	31	8	40	9	9	12	9.4	13
Condom Use	92	85	100	85	91	81	86	92
+ Oral sex	100	100	100	100	100	100	100	100
+ Anal sex	15	8	0	1	12	5	8	10
+Casual partners	15	34	60	31	23	39	31	35
+Commercial partners	23	9	60	9	*18	*5	11	11
+Paying partners	0	0	0	0	0	0	0.0	0
+Female sex	0	0	0	0	0	0	0.0	0
STI symptoms	8	3	-	-	7	1	3	5
HIV test	*69	*40	80	42	-	-	*36	*54
Diagnosed with STI	-	-	20	9	*16	*5	9	11
Tattoo	31	22	0	24	*14	*29	27	21

*significant at the 0.05 level

7.4.5 Binge Drinking of Men who have Sex with Men

Twenty-three percent of MSM men reported binge drinking (5 or more drinks at a time) in the past 12 months. Men who reported binge drinking were significantly more likely to use a condom with a casual partner ($\chi^2=3.946$, $p=0.047$) as those who did not report binge drinking (Table 7-4).

7.4.6 Condom Use of Men who have Sex with Men

The vast majority of men reported having previously used a condom (86%). Men who reported having previously used a condom were almost twice as likely to have had anal sex ($\chi^2=6.141$, $p=0.013$) than those who did not report previously using a condom.

7.4.7 Drug Use of Men Sex Men

Sixty-three percent of MSM men reported having used drugs (this includes tobacco). Men who reported having used drugs were significantly more likely to participated in oral sex ($\chi^2=15.555$, $p<0.001$), have overlapping sexual partners ($\chi^2=5.903$, $p=0.015$) compared to men who had reported never using drugs. Sixteen percent of men who had used drugs were forced to have sex ($\chi^2=6.030$, $p=0.014$) compared to 2% of men who had not ever used drugs. Men who reported drug use had significantly higher HIV knowledge ($z=-2.001$, $p=0.045$) and were more likely to feel that they had been discriminated against ($z=-2.997$, $p=0.003$) than those who did not report drug use.

7.4.7.1 Ecstasy Use of Men Sex Men

Nine men reported ecstasy use. Due to the small number of men using ecstasy, significance testing could not be done on most variables.

Table 7-4. MSM Risk Behavior Association Continued, CNMI, 2006-2008

	Binge drinking		Condom Use		Drug Use		IDU	Ecstasy Use	
	Yes (n=30)	No (n=102)	Yes (n=113)	No (n=19)	Yes (n=83)	No (n=49)	Yes (n=1)	Yes (n=9)	No (n=123)
	%	%	%	%	%	%	%	%	%
Tobacco	57	44	47	47	-	-	0	78	45
Betel Nut	37	38	38	37	-	-	100	56	37
Other drugs	43	34	37	36	-	-	100	100	32
Binge drinking	-	-	25	11	25	18	0	22	23
Oral Sex	73	57	64	42	*74	*39	100	89	59
Anal sex	67	55	*62	*32	64	47	100	78	56
Insertive only	37	21	26	16	25	22	0	11	25
Receptive only	33	38	40	21	46	22	100	67	35
Both insertive and receptive	27	20	24	5	18	27	0	22	21
Casual Partners	53	37	44	21	45	35	100	78	38
Commercial Partners	17	155	17	5	19	8	0	22	15
Paying Partners	10	10	10	11	13	4	0	22	9
Group sex	7	8	8	5	6	10	0	0	8
Sex with females	43	29	35	21	37	25	0	44	32
Forced to have sex	17	9	12	0	*16	*2	0	11	11
Condom Use	93	83	-	-	88	82	100	100	85
+ Oral sex	100	100	-	-	100	100	100	100	100
+ Anal sex	7	9	-	-	10	6	100	22	7
+Casual Partners	*47	*28	-	-	30	35	0	44	31
+Commercial Partners	13	10	-	-	13	6	0	22	10
+Paying Partners	0	0	-	-	0	0	0	0	0
+Female sex	0	0	-	-	0	0	0	0	0
STI symptoms	3	4	4	0	4	4	0	0	4
HIV test	37	45	46	23	45	41	0	44	43
Diagnosed with STI	10	10	11	5	13	4	0	22	9
Tattoo	33	20	23	21	27	16	100	44	21

*significant at the 0.05 level

7.5 Discussion and Implication of the Study for Men Sex Men

The majority of CNMI MSM participants for this study were Micronesian, well educated, unemployed and not living with a sex partner. Most had multiple oral sex partners without condom use, found it more difficult to use a condom with oral sex versus anal sex and, a large portion had multiple MSM anal sex partners where they were receptive only (the exclusion being paying partners where the majority of participants were insertive and receptive). Most commercial partners were of mixed ethnicity while most paying partners were Micronesian and Caucasian and the majority used a condom with their last sex.

Over the last six months a small number of CNMI MSM participants had multiple female sex partners who they described as a girlfriend with most reporting using condoms with their last sex with a female partner. For those CNMI MSM participants that travelled overseas in the last 12 months, a third of them had sex while away with the majority being male partners and most did not use a condom during their last sex with these partners. Also over the last twelve months, the most common self-reported STI diagnosis was HIV, most consumed alcohol monthly or less, and tobacco was the largest indicated form of drug abuse. The principal methods by which MSM learned about STIs and HIV in the CNMI were through television, newspapers, reading leaflets, radio and talking with others and although the majority participants believed you could reduce your chance of getting HIV by using a condom/avoiding anal sex/having one uninfected partner and by abstaining from sex, a large percentage believed you could contract HIV from a mosquito bite and saliva. While the majority of CNMI MSM participants indicated they would be willing to care for a relative with HIV in their household and they did not feel discriminated against by their primary care physician, the majority of participants believed that all newcomers to the CNMI should be tested for HIV.

As a group, MSM continue to be the most affected population by HIV and AIDS. Several different high risk behaviors are noted within the baseline data results obtained from the CNMI MSM survey group. Since most of the API who become infected with HIV in the US are also MSM, the levels of risk behaviors are important for further

review (CDC HIV/AIDS Factsheet API, 2008). Having an STI, engaging in risky behaviors and being subjected to stigma and discrimination are all important issues identified among MSMs; susceptibility to HIV/AIDS are always a concern given their low HIV testing rates and risk behaviors. Sixty one percent of all new male HIV cases in the US in 2007 came from male-to-male sexual contact and of the estimated number of Hawaiian and Pacific Islanders (HPIs) expected to be living with HIV/AIDS by the end of 2007, 85% of these will have resulted from male-to-male sexual contact (HHS 2007). Therefore, for the purpose of this study, all these factors and how they are featured in significance in this MSM population survey in the CNMI should be reviewed in greater detail.

7.5.1 Implications

7.5.1.1 Socioeconomic Factors

The cultural, language and socioeconomic barriers that exist within the API population group often leads to barriers in receiving public health messages and an underuse of healthcare and prevention services (CDC HIV/AIDS Factsheet API, 2008). Oftentimes, “the cultural need to maintain social harmony and tendency to avoid interpersonal conflict in the highly hierarchical systems can endorse silence rather than open dialogue about sexuality” and “for some API MSM, protecting their partners from uncomfortable feelings takes precedence over protecting themselves from HIV” (Chng et al, 2003). In addition, APIs and in particular young MSMs, are more likely to not disclose of their sexual orientation (nondisclosures) to avoid isolation, discrimination and physical or verbal abuse. Of the MSM surveyed in US studies, those who are non-disclosures report less use of HIV testing services and if infected with HIV, were less likely to be aware of their positive HIV sero-status (MMWR 2003).). In 2004, 44% of all APIs diagnosed with HIV received an AIDS diagnosis within 12 months time as compared to 43% for Hispanics, 40% for blacks and 37% for whites. Cumulatively, APIs are identified as the second highest ethnic group with MSM AIDS diagnoses made in the US at 72% (Wong, 2008).

7.5.1.2 *Age*

The CNMI MSM survey population age average is 30 years and most would not have personally experienced and seen the devastating effects of AIDS firsthand in their friends or family members during the early days of the epidemic in the 1980's. Lacking this perspective and seeing the successes of modern medical treatment allowing positive HIV individuals to lead a good quality of life, has led to a complacency of the overall personal risk of contracting HIV especially in the MSM population group (CDC HIV/AIDS Factsheet MSM, 2008). Studies with API MSM show that having unprotected anal intercourse is associated with risky behaviors such as multiple partners, self-identity issues and not identifying with safer sex norms of peers (Choi et al, 2002).

7.5.1.3 *Substance Abuse*

Research indicates that substance abuse among MSM increases risky behaviors. In surveys conducted with API MSM in San Francisco, California, 32% reported being high on drugs when having unprotected anal intercourse and 34% reported being high on alcohol when having unprotected anal intercourse (Choi et al, 2005). In this same survey, the most common drugs of choice were ecstasy (19%), marijuana (14%), inhalants (11%) and crystal methamphetamine (10%) and one third of the overall API MSM participants surveyed used drugs or alcohol during sex (Choi et al, 2005). Choi et al (2005) revealed in their study of young API MSM surveyed, that 47% had unprotected anal sex, 63% used illicit drugs and 34% had sex under the influence of illicit drugs in the previous 6 months (Choi et al, 2005). Of the self-reported positive HIV diagnosis revealed during the MSM survey, none reported any history of IDU use, all reported being transgender, and only one reported ever having sex with a female partner. Combined, these findings indicate that of the self-reported HIV positive cases identified, MSM transmission was likely the HIV source in these participants. Additionally, of the three survey groups, MSM had the highest rate of weekly binge drinking, tobacco, crystal methamphetamine, ecstasy, inhalant, cocaine and IDU use over the past 12 months. In API men, HIV transmission occurs mostly between MSM, men who have high-risk heterosexual contact and IDUs respectively (CAPS, 2007). As previously discussed, research studies indicate that substance abuse is an important risk

factor for API MSM in relation to having unprotected anal intercourse (Choi et al, 2005).

7.5.1.4 Internet Dating

Internet dating has increased substantially over the past decade and some studies currently claim that 37 million individuals in North America alone are seeking to establish personal relationships through the internet (Arnold, 2006). More specifically, some studies indicate that MSM are using the internet to seek personal relationships more than any other technique or method, accounting for 48% of the manner in which MSM find their last partner for sex (Rice, 2008). Most surveyed MSM stated they used the internet from home for 2-4 hours a day (Rice, 2008) and most state they are on-line in internet chat rooms looking for some sort of sexual encounter (casual sex, group sex, fetish sex) (Fields et al, 2006). Seeking sexual partners on the internet is an identified STI and HIV risk factor for MSMs (CDC HIV/AIDS Factsheet MSM, 2008). In addition, new research studies are investigating the approach of utilizing the internet as a tool for promoting HIV prevention education and intervention.

7.5.1.5 Knowledge on HIV

Even though 92% of the MSM participants had heard of HIV, only 46.5% thought that they could reduce their chance of getting HIV by having one uninfected, faithful partner. It is unclear whether this represents a knowledge gap, or whether the findings indicate that a lifelong, monogamous partner is not considered a realistic way of reducing HIV risk. Communicating the message of monogamy in the CNMI is an important part of HIV education.

7.5.1.6 Confidentiality

Confidentiality related to testing was a concern with the MSM group. Some MSM were not aware that HIV testing was available on the island. Some felt the testing site was too public, which demonstrates the concerns about discrimination and stigma related to HIV felt among this group. Additionally, privacy at the testing site and ensuring the test results remained confidential were concerns raised by several MSM; many indicated that they felt their HIV test results would not remain confidential. MSM were the survey group least likely to feel that getting an HIV test done on-island would

be kept confidential and less than half of the participants stated they had ever had an HIV test done (45%) and more than half of the HIV tests that were done, were done as the result of a requirement (54%) and not voluntary. This data is consistent with an API study done in San Francisco in which 24% of the participants surveyed had never been tested for HIV (CAPS, 2007). Data shows that cultural appropriateness, along with the sense of well-being and comfort associated with a testing site, are directly linked to an increase in HIV testing (Do et al, 2006).

Another option to assure testing and perceived confidentiality within this population group may be for the CNMI to consider obtaining a supply of HIV home test and/or collection kits for distribution into high-risk groups such as the MSM who acknowledged concerns with on-island confidentiality and testing. There are research studies available comparing the advantages and disadvantages of this approach to testing and a number of the advantages in confidentiality come with its use. In studies completed on home testing kit use, people that had not previously tested for HIV were more likely to use a home kit (Hecht et al, 2000) and privacy, confidentiality assurance, stigma avoidance and HIV status knowledge are all recognized advantages of home testing (Campbell & Klein, 2006). A further research study of high risk individual groups including MSM in the US established that even in the US, almost half of the high risk population surveyed were not aware of home HIV testing and therefore use of this alternative method has been limited (Greensides, 2000).

7.5.1.7 Rates of Testing

In the US, APIs have significantly lower HIV testing rates than other ethnic groups (Center for AIDS Prevention Studies, 2007). Furthermore, to increase the likelihood that high-risk groups and individuals will receive testing for HIV, the CNMI provide many opportunities to ensure that rapid HIV testing is consistently readily available to on-island NGOs, community intervention groups, health department clinics and private clinics in CNMI. In addition, it is essential that the CNMI establish and promote HIV testing as a routine healthcare norm, both at health department and in private clinics. In an attempt to increase HIV screening in healthcare settings and promote earlier HIV detection, the CDC now recommends that patients in all health care settings receive “diagnostic HIV testing and that opt-out HIV screening be a part of routine clinical care

(with the right to refuse). The CDC believes that prevention counseling should not be required with HIV diagnostic testing or as part of HIV screening programs in health-care settings” and that it “need not be linked to explicitly to HIV testing” (MMWR, 2006). However, this does not apply to HIV counseling, testing and referral for people at high risk who are seeking testing in a non-clinical setting.

Only 45.2% of the MSM in this CNMI survey had ever had an HIV test performed and only 74.1% of these individuals ever received the results from their HIV test. Since available research has shown that individuals who follow up and gain the knowledge and understanding that they are infected with HIV try to alter their behaviors as to not transmit the disease to someone else (Weinhardt, 1999),

It is important to ensure that this population in the CNMI follows up for their HIV results and post-test counseling. In addition, in spite of their risk factors, HIV testing rates among APIs as a group are low (CDC HIV/AIDS Factsheet API, 2008). According to most available studies, low HIV testing rates are associated with the level of HIV disease a person will have when their initial diagnosis is made. This indicates that for many APIs, the diagnosis of HIV is made late in the course of their disease (CDC HIV/AIDS Factsheet API, 2008). In fact, in the US in the year 2006, 34% of APIs that tested positive for HIV had an AIDS diagnosis within one year (DHHS, 2009). Since as previously noted, only 45.2% of MSM participants in this survey have ever had an HIV testing done and only 44.6% have had an HIV test done in the last twelve months, this is an area of concern that needs to be addressed.

7.5.1.8 Sexually Transmitted Infections

The total self-reported STI prevalence over the last twelve months was at 10.5% for the MSM survey group with HIV being the most prominent sexually transmitted infection reported at 46.2 percent of all reported STIs. The total number of HIV diagnoses in the CNMI is 34; 25 of these are known to be deceased or no longer residing in the CNMI. Of the remaining 9 HIV cases, only 3 had an identified MSM risk factor. During the survey years of 2006-2008 there were 5 HIV cases diagnosed in the CNMI with 2 men identifying themselves as MSM. However, the findings from this survey indicate that there were 6 MSM diagnosed with HIV during the last 12 months. It is

possible that the question was misinterpreted by the interviewee or the interviewer and therefore answered incorrectly. However, considerable effort was taken in training the interviewers delivering the questionnaires and all questionnaire responses were reviewed with the interviewer when a response seemed implausible. Other possibilities are that significant testing is taking place off the island within this participant group and that information is not being reported from the private health clinics to the CNMI DPH, or that recent immigration to the CNMI has included people who are HIV infected as part of those relocating. It seems plausible that the 6 self-reported positive HIV cases represent diagnoses in individuals at least some of whom were previously unknown HIV cases to the Department of Health in the CNMI.

The findings in this research study indicated that the same proportion of participants that sought treatment for STI symptoms over the last twelve months had their sexual partners treated (both at 17%). Seemingly, these MSM notify their partner and treatment does occur, although treatment completeness is unknown since there may be more than one partner. In comparison, 3 participants in this study did not seek treatment for STI as their symptoms resolved. Many STIs, such as chlamydia, are considered 'silent' diseases in that they do not always cause symptoms within the infected individual and according to the CDC about three quarters of infected women and half of infected men have no symptoms at all (CDC, 2010). Additionally, according to reports from the CDC the rate of young HIV-infected MSM that do not know they are infected is alarming and in one study 77% of young, urban non-black MSM aged 15-29 and 90% of young, urban black MSM who tested positive for HIV did not believe they were infected and based on CDC reports individuals that do not know they are infected might be less likely to seek ways to keep from spreading infections to others (US Department of Health and Human Services, 2009).

7.5.1.9 Public Health Law

The majority of CNMI MSM participants agreed that knowingly passing on HIV should be a criminal offense. Several cases have now been presented within the US legal system suggesting that a person with a known positive HIV status can be subject to criminal penalties by allegedly knowingly exposing others to the risk of contracting the

virus (Grishkin, 1997). Advocates against introducing criminal penalties against HIV positive individuals assert that doing so would discourage HIV testing; after all, if you are unaware of your HIV status you cannot knowingly infect another person. In turn, opponents for introducing criminal penalties argue that by not doing so the legal system is denying the injured party justice and not protecting the welfare and safety of the general public (Grishkin, 1997). No current Public Law in the CNMI exists that makes knowingly passing on HIV a criminal offense which allows for an arena of discussion on whether or not this law would be a beneficial prevention tool in the CNMI.

7.6 Youth Participants Behavior Associated Findings

In order to improve on the understanding of risk behaviors and possible roots of transmission of infectious disease in the youth population group, more detailed analysis of the noted risk factors with other risk factors are analyzed.

7.6.1 Sexually Transmitted Infections of Youth

Sixteen (4%) youth had been diagnosed with STIs in the past 12 months. Those diagnosed with STIs in the past 12 months were significantly more likely to had ever used other drugs ($\chi^2=11.966$, $p=0.001$) than those who had not been diagnosed with an STI in the past 12 months (Table 7-5). Eighty-one percent of youth diagnosed with an STI had ever used other drugs compared to 38% of young adults who had not been diagnosed with an STI in the past 12 months. Young adults diagnosed with STIs in the past 12 months were significantly more likely to use a condom (94%) ($\chi^2=4.881$, $p=0.027$) than those who had not been diagnosed with an STI in the past 12 months (68%). Due to the small number of young adults being diagnosed with STIs in the past 12 months significant testing could not be done on other variables.

7.6.2 Sexually Transmitted Infection Symptoms of Youth

Fourteen (3%) young adults had had STI symptoms in the past 12 months. Symptoms included genital discharge, anal discharge, genital ulcer or sore, burning sharp pain, rash or itching and redness or inflammation. Youth having STI symptoms in

the past 12 months were more likely use other drugs in the past 12 months (86%) ($\chi^2=12.781$, $p=0.001$) than youth who had not been diagnosed with an STI in the past 12 months (38%).

7.6.3 Human Immunodeficiency Virus Testing History of Youth

Twenty-six percent of young adults had been tested for HIV in the past 12 months. A significantly higher proportion of young adults who had been tested for HIV in the past 12 months had used tobacco ($\chi^2=14.198$, $p<0.001$), betel nut ($\chi^2=13.503$, $p<0.001$) and other drugs ($\chi^2=7.338$, $p=0.007$) in the past 12 months than young adults who had not been tested for HIV in the past 12 months.

Those tested for HIV in the past 12 months were significantly more likely to have used condoms ($\chi^2=10.118$, $p=0.001$), had casual partners ($\chi^2=15.613$, $p<0.001$), had overlapping sex ($\chi^2=4.153$, $p=0.042$) and engage in group sex ($\chi^2=9.082$, $p=0.003$) than those not tested for HIV. Youth tested for HIV in the past 12 months were twice as likely to have had a tattoo ($\chi^2=22.644$, $p<0.001$) than those not tested for HIV.

Young adults who had been tested for HIV in the past 12 months had been exposed to significantly more HIV educational messages ($z=-3.669$, $p<0.001$), exposed to significantly more culture ($z=-2.131$, $p=0.033$) and to feel they had been discriminated against ($z=-2.170$, $p=0.030$).

Table 7-5. Youth Risk Behavior Association, CNMI, 2006-2008

	Diagnosed with STI		STI Symptoms		Tested for HIV	
	Yes (n=16)	No (n=417)	Yes (n=14)	No (n=419)	Yes (n=113)	No (n=320)
	%	%	%	%	%	%
Tobacco	63	55	71	55	*71	*50
Betel Nut	63	46	71	46	*62	*42
Other drugs	*82	*38	*86	*38	*50	*36
Binge drinking	50	29	57	29	35	28
Anal sex	6	1	7	1	2	1
Casual Partners	44	22	43	22	*36	*18
Commercial Partners	0	2	0	2	2	2
Paying Partners	0	3	7	3	2	3
Group sex	6	5	14	4	*10	*3
Overlapping sex	6	12	21	11	*17	*10
Forced to have sex	19	8	36	8	11	8
Condom Use	*94	*68	93	67	*81	*64
+ Anal sex	0	0.2	0	0.2	1	0
+ Casual partners	0	0	0	0.0	0	0
+ Commercial partners	0	2	0	2	2	2
+ Paying partners	6	2	7	2	2	2
STI symptoms	38	2	-	-		
HIV test	69	25	43	26	-	-
Diagnosed with STI	-	-	43	2	10	2
Tattoo	38	25	43	24	*42	*19

*significant at the 0.05 level

7.6.4 Binge Drinking of Youth

Thirty percent of young adults reported binge drinking (5 or more drinks at a time) in the past 12 months. Young adults who reported binge drinking were significantly more likely to have used tobacco ($\chi^2=39.142$, $p<0.001$), betel nut ($\chi^2=20.876$, $p<0.001$) and other drugs ($\chi^2=45.151$, $p<0.001$) than those who did not report binge drinking (Table 7-6). Those who reported binge drinking were significantly more likely to use a condom ($\chi^2=14.455$, $p<0.001$), use a condom with a casual partner ($\chi^2=39.825$, $p<0.001$) and participate in overlapping sex ($\chi^2=12.995$, $p<0.001$). They were also twice as likely to

have had a tattoo ($\chi^2=24.857$, $p<0.001$). Young adults who reported binge drinking in the past 12 months had been exposed to significantly more HIV educational messages ($z=-2.567$, $p=0.010$) than those who did not report binge drinking.

7.6.5 Condom Use of Youth

Sixty-nine percent of youth reported having used a condom. Those who reported having used a condom were significantly more likely to have used tobacco ($\chi^2=28.678$, $p<0.001$), betel nut ($\chi^2=19.107$, $p<0.001$), other drugs ($\chi^2=21.715$, $p<0.001$) and reported binge drinking in the past 12 months ($\chi^2=14.455$, $p<0.001$) than those who did not report using a condom. Young adults who reported having used a condom were more than 3 times more likely to have had a casual partner ($\chi^2=24.544$, $p<0.001$) and more than twice as likely to have had overlapping sex ($\chi^2=6.230$, $p=0.013$) or forced to have had sex ($\chi^2=4.717$, $p=0.030$). They were also more likely to be diagnosed with an STI ($\chi^2=4.881$, $p=0.027$) and have had a HIV test ($\chi^2=10.118$, $p=0.001$). Young adults who reported having used a condom were more likely to have had a tattoo ($\chi^2=16.396$, $p<0.001$) and feel they had been discriminated against ($z=-2.163$, $p=0.031$) than those who did not report having used a condom.

7.6.6 Drug Use of Youth

The majority (64%) of youth reported having used drugs (this includes tobacco). Young adults who reported having used drugs were significantly more likely to report binge drinking ($\chi^2=47.567$, $p<0.001$), to have had casual sexual partners ($\chi^2=46.082$, $p<0.001$), to have participated in group sex ($\chi^2=8.653$, $p=0.003$) and participated in overlapping sex ($\chi^2=19.004$, $p=0.003$) than those who did not report drug use. Young adults who reported drug use were also more likely to report condom use ($\chi^2=45.744$, $p<0.001$), to have had a tattoo ($\chi^2=64.484$, $p<0.001$) and to have had HIV testing ($\chi^2=14.100$, $p<0.001$). Young adults who reported drug use had been exposed to significantly more HIV educational messages ($z=-3.522$, $p<0.001$) than those that did not report drug use.

7.6.6.1 Injecting Drug Use of Youth

Only two people reported IDU. Even though it is understood that self-reporting on such strongly stigmatized behaviors such as IDU may lead to underestimates even in the youth population, the data from this survey confirms the on-island reports from healthcare workers and those directly involved with the youth community. In addition, every assurance was made to make certain participation privacy was maintained and interviewer sensitivity on this issue was ensured.

7.6.6.2 Ecstasy Use

Five people reported ecstasy use. Due to the small number of people using ecstasy significant testing could not be done on most variables.

Table 7-6. Youth Risk Behavior Association Continued, CNMI, 2006-2008

	Binge drinking		Condom Use		Drug Use		Ecstasy Use	
	Yes (n=130)	No (n=303)	Yes (n=297)	No (n=136)	Yes (n=278)	No (n=155)	Yes (n=5)	No (n=428)
	%	%	%	%	%	%	%	%
Tobacco	*79	*46	*64	*37	-	-	100	55
Betel Nut	*64	*40	*54	*32	-	-	100	47
Other drugs	*64	*30	*47	*24	-	-	100	39
Binge drinking	-	-	*36	*18	*41	*10	40	30
Anal sex	3	1	2	2	3	0	0	2
Casual Partners	*42	*15	*30	*8	*33	*5	80	22
Commercial Partners	2	2	3	0	3	0	20	2
Paying Partners	3	3	4	2	4	2	40	3
Group sex	7	4	5	3	*7	*1	40	4
Overlapping sex	*20	*8	*14	*6	*17	*3	60	11
Forced to have sex	12	8	*11	*4	10	7	60	8
Condom Use	*82	*63	-	-	*80	*48	100	68
+ Anal sex	1	0	0.3	0	0.4	0	0	0.2
+ Casual Partners	0	0	0	0	0	0	0	0
+ Commercial partners	2	1	2	0	2	1	0	2
+ Paying partners	1	2	3	0	3	0	20	2
STI symptoms	6	2	4	1	4	1	20	3
HIV test	30	24	*31	*6	*32	*16	40	26
Diagnosed with STI	6	3	*5	*1	5	2	0	4
Tattoo	*41	*18	*31	*13	*37	*3	20	25

*significant at the 0.05 level

7.7 Discussion and Implication of the Study for Youth

In general, the current youth population may be complacent regarding risky behaviors since this population has seen not see and experienced the devastating effects of AIDS firsthand like those involved from the early days of the epidemic. Since the population of youth in the CNMI is also in isolation on the island, this aspect of HIV exposure may take on even a greater role in their overall perception. HIV education continues to be an important focus in preventing risky behaviors among API youth. Studies done with youth in the US suggest that HIV education is an important part of any strategy aimed at improving self-efficacy in HIV risk reduction behavior in youth (Takahashi et al, 2006). One study on Pacific youth sexual behavior noted that 76.1% of people aged 15 to 19 years old in the Federated States of Micronesia said they were sexually active with at least one sexual partner. More men than women (54.2% compared to 50%) had never used protection against STIs and 41.1% of youth males reported 4 or more sexual partners (Corner et al 2005). Of the Pacific countries surveyed for this study, the youth of Federal States of Micronesia were engaging in more sexual behavior than any other study group (Corner et al., 2005, p.148).

A national health-risk behavioral study involving American youth was done among college students in 1997 entitled the National College Health Risk Behavior Survey (NCHRBS). In comparing the 18-24 year old age group data from that study with the SGS youth behavioral study data in this project, similarities in the questions asked and in the risk behaviors assessed enable comparison of certain behaviors. Furthermore, the results of the data analysis suggest that the CNMI youth are often participating in risk behaviors at similar levels.

Review of several literature studies indicates that API youths are less likely to have engaged in sexual activities when compared to other ethnic groups (Schuster et al, 1998)(Okazaki, 2002)(Grunbaum et al, 2000). In the CNMI, 48% of all 9-12th graders surveyed in the YRBS reported having had sexual intercourse (YRBS, 2005) which is in line with the national US average YRBS result of 47% (MMWR, 2006). Young adults in the CNMI start receiving formal sex education in high school and according to the CNMI DPH, a health curriculum covering sexuality

and STD/AIDS has been implemented into the public school system for grades K-12 since the year 2002 (CNMI HSRTCP, 2004).

As noted previously, cultural, language and socioeconomic barriers exist within the Asian Pacific Islander population group that often leads to barriers in receiving public health messages and an underuse of healthcare and prevention services (CDC HIV/AIDS Factsheet API, 2008). In part, several on-island health providers and educators feel this issue is a result of the lack of communication between family members and the community. One on-island physician describes the lack of verbal interaction on sexuality as a relative silence that is ‘deafening’ and that there are ‘few messages out, particularly from mothers and fathers’ telling young adults to restrain their sexuality. When a pregnancy does occur, the ‘families are loving and accepting of teenage pregnancy and by extension, of teenage sex; (Khorram 2007). However in diversity, the formal National Longitudinal Study of Adolescent Health found that a young adult’s premature sexual activity may be viewed as ‘an embarrassment and a threat to family harmony’ (Hahm et al 2007). In support of this opinion one long-term on-island health educator in Saipan finds the high teenage birthrates as ‘alarming’ and believes that ‘if the families don't come together to communicate with their kids to find out what's happening, we're going to be having higher teenage pregnancy rates in the future’ (Seman 2004).

Recent studies continue to acknowledge that limited information exists for Asian and Pacific Islander youth surrounding STI risk and behavioral factors (Hahm et al 2007). Statistics drawn from the third wave study of the US National Longitudinal Study of Adolescent Health, concluded that clinicians working with Asians and Pacific Islanders should focus their educational and behavioral efforts on the number of sexual partners these youth have and health-related beliefs that this entails (Hahm et al 2007). In addition, their conclusion focused on the fact that Asian and Pacific Islander women should be a priority group for research and clinical prevention efforts to reduce their incidence of STIs (Hahm et al 2007). Therefore, for the purpose of this study, all these factors and how they are featured in significance in this youth population survey in the CNMI should be reviewed in greater detail.

7.7.1 Implications

7.7.1.1 Age

Early age at first sex plays a role in exposure to STI and HIV transmission in young people since many young people may not yet have had the educational exposure needed to prevent exposing themselves to sexual behaviors that put them at risk (CDC HIV/AIDS Factsheet Youth, 2008). The Youth Risk Behavioral Survey (YRBS) 2005 done in the CNMI reports that 9% of all 9-12th graders has had sexual intercourse before the age of 13 years and 48% of the students had had sexual intercourse (YRBS 2005). This same question was asked of youth participants in the current study, where the average age at time of participation was 20 years and the age range for the survey requirement was 18-24 years old, indicated that 67% had had sexual intercourse and the median age for first sex was 16 years for females and 17 years for males, with only 3% of students who had sexual intercourse before the age of 13 years.

7.7.1.2 Sexual Orientation

Of the youth participants in this survey, 1 identified themselves as transgender and 6 (1%) did not state an identified sex as the information was missing (information on homosexual/gay identity was not asked). However, there were five (2%) male youth that engaged in sex with other men in the past twelve months with 4 men participated in oral sex and 5 in anal sex. In studies done with youth in the US, 55% of male youth aged 15-22 who are sexually attracted to other males, do not disclose this fact to other people (MMWR 2003) thus putting themselves and their female partners at risk. MSM youth that do not reveal and make known their sexual orientation to others, are likely to have sexual relationships with females as well as males, thus putting these women at risk for HIV if HIV infected themselves (CDC HIV/AIDS Factsheet Youth, 2008). In studies done with MSM in the US, 6% of white males, 25% of black males and 14% of Hispanic males identify their sexual orientation as heterosexual/straight even though they have sex with other men (HIV/AIDS Special Surveillance Report, 2000). In another study done with MSM in 2005, 29% of the API MSM surveyed stated they had had unprotected vaginal or anal sex with female partners along with

58% of these participants also stating they had had unprotected anal sex with men as well in the 12 months prior to the survey (MMWR, 2006).

7.7.1.3 Socioeconomic Factors

The majority of youth in this CNMI survey were unemployed with high unemployment rates recognized as significant STI risk factors for young people in the Pacific (Kolo, 2006). About 43 per cent of young men and 25 per cent of young women are unemployed (Lavu, 2006). In a special presentation from the Youth Ministers of the Pacific Community in Papa New Guinea (PNG), it was suggested that the lack of education and job opportunities in PNG have placed young people into the most vulnerable group to be infected with HIV/AIDS and other STIs due mostly to the fact that this population group does not have the basic sexual knowledge of the negative consequences of unprotected sex (Kolo, 2006).

7.7.1.4 Sexually Transmitted Infections

Young, heterosexual, female minorities are known to be at high risk for STI and HIV infections. One factor that may contribute to this vulnerability is the one of the known disparities of the Pacific island countries concerns the topic of gender inequalities that exist and are widespread throughout the region. One of the most important finds of the Hahm et al study (2007) was the noted occurrence of high STI rates among young Asian and Pacific women compared to young Asian and Pacific men- 13% versus 4% respectively. An additional factor creating such high incidences of STIs in the Pacific islands may be due to the gender inequalities that exist in the Pacific between men and women and boys and girls. Tuvalu's Minister of Home Affairs, Willy Telavi, believes that females in the Pacific are differentiated by having high levels of low self-esteem, higher health risks (including exposure to HIV and AIDS) and psychological damage (Telavi 2007). Telavi believes issues such as 'the use of custom, culture and tradition as justifications for discriminatory and violent treatment; early and forced marriage, especially in Melanesia; limited access to education; teenage pregnancy and the consequent impacts on health and education' are putting Pacific girls at risk (Telavi 2007).

7.7.1.5 Substance Abuse

Drug abuse is known to lead to risk behaviors in youths and according to the CNMI YRBS survey completed in 2005, CNMI youth have been experienced to various forms of alcohol (43% having tried alcohol over the last 30 days) and drug use (58% having tried marijuana before). According to the WHO, when the purpose of alcohol consumption is drunkenness, as is often the case with youths, the result is intoxication and harm to health can be expected (Schmid & Gabhainn, 2002). In addition for youth, intoxication results in the loss of motor control and critical judgment which is likely to occur in youth even when the amount consumed is relatively small (Schmid & Gabhainn, 2002).

Of the three survey groups, youth had the highest rates of substance and drug use for betel nut and marijuana and the second highest overall use for tobacco. It is known that substance abuse in this population group is common along with engaging in high risk sexual behaviors (Grunbaum et al, 2000). The high rate of marijuana use in this population is similar to that reported in statistical reports by the Substance Abuse and Mental Health Services Association (SAMHSA) in the US which indicated the primary substance abuse for all API adolescents admitted for treatment in the US was for marijuana use (Drug and Alcohol Services Information System, 2002). Furthermore, marijuana use in early adolescence has been shown to be associated with late adolescence delinquency, multiple sexual partners with intermittent condom use, perceiving drugs as not being harmful and having future difficulties with cigarettes, alcohol, and marijuana (Brook, Balka and Whiteman, 1999).

7.7.1.6 Rates of Testing

It has been identified by the National Institutes of Health that the even though APIs are at comparable risk for HIV infection, they get tested for HIV at much lower rates than other ethnic groups (Zaidi et al, 2005). HIV testing was low across all three survey groups in the CNMI and in particular, low in the data obtained from the youth survey with only 26% of youths having ever had an HIV test done. It has been documented that one method for encouraging testing in the young adult population is to link young adults with a primary health care provider. Studies have shown that youths are influenced and more likely to have an HIV test done based on a recommendation to do so by their health provider (MMWR, 2006) and

increasing the capacity of availability of HIV testing on-island will be mentioned again in the next chapter in the recommendations section.

7.7.1.7 Knowledge of HIV

The data from the CNMI also showed that youth were the least likely of the three groups to have an accurate knowledge on HIV. Additionally, youth in this survey had the lowest overall score for HIV knowledge and information which suggests a high susceptibility to infection. The knowledge level of the CNMI youth population resembles that of US youth and, they often have the same opinions and misconceptions about STIs and HIV. For example, in one study national survey conducted by The Kaiser Foundation, one-fifth of all youths interviewed believed that they would instinctively know if someone had an STI by looking at them and one-sixth of this same population believed and STIs and HIV could be transferred only if a person had obvious symptoms of illness (Hoff, Greene and Davis, 2003). Also of note is that these same individuals expressed a need for greater education on sexual health topics indicating that they desired more information on how to recognize these diseases, improved knowledge on what aspects are involved in testing, and advice on how to improve communication about sex with their partners.

7.7.1.8 Noteworthy Finding

One female among the youth surveyed indicated an HIV positive diagnosis over the last 12 months and denied IDU, implying that exposure likely came from heterosexual contact. Furthermore, this individual identified themselves as being Chinese in ethnicity. According to the HIV information obtained from the CNMI HSRTCP, there have been no documented on-island positive cases of HIV in this ethnic group since 1999 when a 21 year old female (who would now be 31 years of age) was diagnosed (CNMI HIV Statistics, 2009).

7.8 Combining the Three Survey Groups

A summary of data comparing similar themes across the three survey groups (prenatal, MSM and youth) is presented in Table 7-7 through Table 7-9. Table 7-7 shows a comparison of demographic responses across the three survey groups while Table 7-8 highlights sexual risk behaviors. Table 7-9 displays drug use responses, and tattoo history whereas Table 7-10 examines HIV testing information responses. Finally in Table 7-11, responses on HIV knowledge and delivery across the three survey groups, is presented.

Table 7-7. Demographic Responses Across Three Survey Groups, CNMI, 2006-2008

Section Question	Well Women's Prenatal (%)	Well Men's MSM (%)	Youth (%) Combined
Age (mean)	29	30	20
Country of Birth			
CNMI	46	52	60
Philippines	33	34	10
Ethnic Group			
Filipino	37	52	22
Micronesian	54	34	52
Level of Education			
Middle School	8	2	2
Secondary School	53	54	81
University/College	34	37	15
Occupation			
Clerical/Office worker	8	8	4

Table 7-8. Sexual Risk Responses Across Three Survey Groups, CNMI, 2006-2008

Section Question	Well Women's Prenatal (%)	Well Men's MSM (%)	Youth (%) Combined
Median age	18	16	16 (male) 17 (female)
<18	58	80	87
>=18	42	21	13
Condom Awareness			
Heard of male condom	96	98	97
Heard of female condom	30	44	70
Condom Use			
Ever used male condom	52	89	62
Ever used female condom	2	1	1
Never used condom	44	7	31
Overlapping sexual relationships in previous 6 or 12 months	2	30	12
Forced to have sex	8	11	0
Traveled overseas in past 12 months	18	27	31
Had sex while overseas	7	30	19
Heard of STIs?	90	92	95
Diagnosed with STI in past 12 months	21	11	4
Percent that was chlamydia	81	8	50
Percent that was genital herpes	2	8	6
Percent that was gonorrhea	4	15	13
Percent that was HIV	0	46	
In the past 12 months had			
Genital discharge	6	2	3
Genital ulcer or sore	2	0	1
Burning sharp pain	5	4	1
Sought Treatment	6	17	57
Sexual partners treated	21	17	14

Table 7-9. Drug Use Responses Across Three Survey Groups, CNMI, 2006-2008

Section Question	Well Women's Prenatal (%)	Well Men's MSM (%)	Youth (%) Combined
4 or more times a week	1	7	6
2-3 times a week	5	15	13
2-4 times a month	7	32	23
Monthly or less	23	25	30
Never	58	11	26
Indicated they don't know	2	4	4
Not stated	5	6	1
Average number of standard drinks in one sitting			
1 or 2	37	17	27
3 or 4	18	17	22
5 or 6	16	14	19
7,8,9	7	18	14
10 to 19	2	7	8
20 or more	0	12	4
Not stated	19	10	5
Frequency of binge drinking (for prenatal, before becoming pregnant)			
Never	35	12	26
Daily	0	1	3
Weekly	15	19	18
Less than monthly	29	26	25
Monthly	13	25	23
Indicated they don't know	3	10	4
Not stated	6	7	1
Used drugs in past 12 months			
Tobacco	31	45	39
Betel nut	22	21	30
Marijuana	5	15	16
Kava	0.4	0	0.2
Amphetamines	0	0	0
crystal methamphetamine	0.4	1	0
Ecstasy	1	2	0
Inhalants	0	1	0
Hallucinogens	0	0	0
Cocaine	0	1	0
Heroin	0	0	0
Injected drugs in the past 12 months	0	1	1
Tattoos			
Ever had a tattoo	24	24	25

Table 7-10. HIV Testing Responses Across Three Survey Groups, CNMI, 2006-2008

Section Question	Well Women's Prenatal (%)	Well Men's MSM (%)	Youth (%) Combined
Can you get confidential test for HIV?	77	67	79
Ever had HIV test	62	45	26
Most recent HIV test			
Last 12 months	26	45	59
Testing voluntary	63	44	61
Testing required	36	54	37
Received information/counseling before	40	36	41
Received information/counseling after	21	38	22
Received result	48	74	77

Table 7-11. HIV Knowledge and Delivery Across Three Survey Groups, CNMI, 2006-2008

Section Question	Well Women's Prenatal (%)	Well Men's MSM (%)	Youth (%) Combined
Ever heard of HIV?	97	92	99
Know anyone with HIV, AIDS or died of AIDS?	19	32	15
Reduce HIV chance by using condom correctly during sex?	79	87	84
Get HIV by sharing a meal with HIV+ person?	25	73	60
Get HIV from mosquito bites?	35	28	20
Reduce HIV chance by having one uninfected faithful partner?	88	47	31
Can a healthy looking person have HIV?	89	84	80
Can a pregnant woman pass HIV to her unborn child?	94	93	90
Can a woman with HIV pass it on by breastfeeding?	73	76	62
HIV knowledge delivery			
Heard messages about HIV on radio	75	81	72
Seen messages about HIV on TV	90	81	88
Read messages about HIV in newspapers	77	85	70
Seen messages about HIV on billboards	59	70	52
Used the internet as a source of HIV information	76	83	83
Seen Mr. Right Guy film	15	52	69
Participated in HIV education program	18	3	5
Attended HIV community event	15	40	35
Discussed HIV with others	59	32	18
Seen Prutehi Hao film	11	76	63
Heard of the Napu Life Foundation	13	43	28

7.9 Summary of the Chapter

Chapter Seven reported on data for each high risk group surveyed. This data was then evaluated and compared with existing relevant research and similarities and differences identified. Although each high risk survey group represented has their own characteristics, combining of the three survey groups was done to demonstrate the accumulation of responses by the 785 individuals in one of the largest surveys conducted in the CNMI and certainly the largest among certain population groups. In the following section, Chapter Eight, specific recommendations will be provided as considerations for HIV/STI prevention techniques that could be beneficial within this population group.

8 Discussions, Recommendations and Conclusions

8.1 Introduction to the Chapter

Chapter Eight will provide a discussion drawn from the findings of the study and introduce specific recommendations for consideration by the CNMI to improve their approach for HIV/STI prevention with these high risk groups. This chapter will also provide suggestions for consideration in future research and projects for the CNMI. The objectives of this research project as outlined in Chapter One were to provide baseline data for the CNMI HIV, STI and risk behaviors and to provide data to inform in the planning of improved interventions to prevent and control HIV/STI infections in the CNMI. The results in Chapter 4, 5 and 6 provide this baseline data and Chapter 7 discusses several important associated findings by explaining and analyzing behaviors occurring in the CNMI which could place individuals at risk for STIs and, discusses the implications of the study for improving approaches to HIV/STI prevention in the CNMI.

8.2 Discussion

This research project was specifically designed to augment other SGS projects being conducted throughout the Pacific Islands during the same period of time. This project was undertaken to provide a baseline, routine surveillance approach and system in the CNMI that would imitate projects being conducted in other Pacific Islands collaborating in STI and HIV behavioral surveillance. Additionally, this project was of standard, reliable design for tracking STI and HIV risk behaviors over time as part of an integrated surveillance method which monitors a range of characteristics of an epidemic (Family Health International, 2000) and, which promotes ease of replication for future research projects as it is anticipated this project will foster repeated research in the CNMI. The CNMI is a Commonwealth of the US and subsequently receives health care funding from the US (where vast amounts of similar behavioral data is available), thus data assessment between the CNMI and US is suitable and appropriate.

In accordance with their tradition for oral and visual communication, participants in each survey group in this research responded most to utilizing those

HIV knowledge advertisements that were visual in nature. In national surveys conducted with adolescents in the US, HIV and STI information obtained from television, movies, magazines and the internet were close seconds after sex education in school, friends and parents (Hoff, Greene and Davis, 2003). The participants' second highest rating preference was for knowledge that was transferred through reading and thirdly, it was receiving knowledge through their own internet searching. In the salient messages used to target the high-risk groups in the CNMI, it is recommended that these messages be primarily done via advertisements that are visual in nature and secondly through written material. In particular, film appears to be a good approach to HIV prevention education in MSM, with a large majority having seen the Prutehi Hao film developed by the Guam Department of Public Health and Social Services in 2005 and there is some anecdotal evidence that seeing the movie has led to more caution and some behavior change among some youth.

The data revealed that pre-test and post-test HIV counseling was being delivered at low levels in the CNMI. The CDC has revised the guidelines around HIV counseling over the years to keep up with changes that have been experienced throughout the epidemic. Initially, HIV counseling approaches were developed at a time when no treatment for HIV was available and counseling was mainly utilized to ensure patients understood the implications of a positive test result (MMWR, 2006). Throughout the years, requirements for pre and post-test counseling have been amended and designed to provide for the needs of the variability in health care settings and the clients they serve. After it was determined in 2003 that prevention counseling requirements were potential barrier to testing in certain healthcare settings because they presented uncomfortable topics of discussion for patients and were perceived as too time consuming for providers, the CDC streamlined their counseling and testing approach (MMWR, 2006).

Recognizing that prevention counseling is desirable for all clients but often not feasible, current guidelines state that for patients in all healthcare settings, "prevention counseling should not be required with HIV diagnostic testing or as part of the HIV screening programs" (MMWR, 2006, p. 1). For those clients that are at high risk and being testing in a location that assesses risk behaviors routinely (e.g., HIV clinics), the CDC recommends that, although not required, counseling

the client be strongly encouraged but not linked to the testing being done (MMWR, 2006). It is known that “more patients accept recommended HIV testing when it is offered routinely to everyone, without a risk assessment” (MMWR, 2006, p. 5).

As previously reported, this research study identified that there are a number of HIV positive and sexually active MSM participants that were not known to health authorities. As this self-reported information was collected with considerable care for protocols and processes to ensure its reliability, MSM risk taking behavior is of concern for the CNMI as it represents a greater potential reservoir from which infection might be spread and a higher prevalence of infection in this risk group than was hitherto known.

8.3 Recommendations from the Study

According to the findings ascertained during this research survey, the following recommendations are made for consideration by the Commonwealth of the Northern Mariana Islands Department of Public Health:

1. Overall, in comparing the three survey groups, the majority of participants indicated that they were born in the CNMI and were limited in their off-island travel within the last 12 months, with the most traveled group being MSM. Therefore, it is crucial for the CNMI to utilize prevention approaches that are sufficiently broad in nature in order to ensure that messages will be to all their physical communities according their geographic locations.
2. For all three survey CNMI survey groups, the most common form of acquired knowledge for HIV and STI information was through television, radio and newspapers, respectively, therefore it would be advantageous for the CNMI to concentrate its advertising on these three venues.
3. The CNMI is culturally diverse. To ensure that any television, radio and newspaper messages produced reach the intended audience, their messages must be produced in a variety of languages. Therefore, it is advisable for CNMI STI/HIV prevention messages to target high-risk groups by

incorporating the languages of all the ethnic communities represented, or to do so by utilizing the languages of English, Chamorro, Carolinian and Tagalog.

4. Numerous anthropologists and other behavioral scientists have noted the importance of understanding culturally prescribed behavioral practices and their effect on the transmission of infectious disease agents (Ihorn & Brown, 1990). Consequently, cultural and linguistically appropriate education materials are essential given that 40% of APIs in the US indicate they have low or no English skills and studies indicate that language is the most common barrier to obtaining health care assistance with HIV/AIDS (Chin et al, 2006).
5. Since drama-based interventions have been noted to significantly increase the use of HIV/AIDS counseling and testing services in some communities (Middelkoop et al, 2006), it is recommended that this avenue be further investigated for use in the CNMI to extend and consolidate STI/HIV prevention messages. Drama-based classes could be incorporated into high school or freshman year university health curriculum programs and could be both utilized to teach HIV/STI prevention messages as well as other social intervention issues that might be deemed necessary on-island (e.g. drug use, bullying, teen pregnancy, etc).
6. Possible suggestions for drama-based community interventions should be based on identified risks. For example, internet dating is a recognized high risk activity occurring in the CNMI, so it is reasonable to incorporate education on this topic into the agenda. Additionally, knowledge that a person could reduce their chance of getting HIV by having one uninfected, faithful partner was low in the MSM population group so incorporating this theory into their drama-based learning educational tool would be beneficial.
7. This research study demonstrated that HIV testing rates are low in the CNMI. To encourage more testing, it is recommended that the CNMI ensure that routine HIV testing, not associated with risk assessment or counseling, is offered at all on-island clinics and healthcare facilities. Other than a privately owned taxi service, there is no formal transit system (public or private) available in the CNMI. Therefore, in order to reach the desired populations

and increase the amount of HIV testing done on-island, easy to use HIV testing kits should be provided without charge to all on-island health clinics and after the appropriate training has been accomplished, be made accessible for use by healthcare workers for patients attending these clinics. Such an intervention should be evaluated after its implementation as part of possible future research.

8. In calculating the potential for HIV exposure in uninfected HIV partners of MSM participants and the wider implications of the results of these exposures, it is recommended that the CNMI ensure that post-exposure prophylaxis be available at several on-island health care facilities and the CHC Emergency Department for individuals reporting high risk sexual exposures in concurrence with the current CDC recommendations for non-occupational post-exposure prophylaxis (nPEP) that follows:

For persons seeking care ≤ 72 hours after non-occupational exposure to blood, genital secretions, or other potentially infectious body fluids of a person known to be HIV infected, when that exposure represents a substantial risk for transmission, a 28-day course of highly active antiretroviral therapy (HAART) is recommended. Antiretroviral medications should be initiated as soon as possible after exposure. For persons seeking care ≤ 72 hours after non-occupational exposure to blood, genital secretions, or other potentially infectious body fluids of a person of unknown HIV status, when such exposure would represent a substantial risk for transmission if the source were HIV infected, no recommendations are made for the use of nPEP. (MMWR, 2005, p.1)

In this way, the CNMI could provide protection for those individuals having had exposure and have utilize this approach as an adjunct method for reducing transmission of HIV in the CNMI.

9. The CNMI is also a small community where the local population is often very closely or even directly related to one another. Oftentimes this makes it difficult for an individual to discreetly seek medical care and is a potential reason to avoid seeking medical testing and treatment when it is needed. Growing in popularity is the option for *at home* or *take home* medical testing kits for self-testing and disease monitoring and diagnosis. Because of the

benefits of privacy, cost savings and convenience that these at home kits provide, patients that would otherwise likely avoid formal medical assessment, might take the initiative to enter into the healthcare system by seeking treatment and follow-up from a positive home testing result.

For this reason and for the reasons listed previously, it is recommended that the CNMI consider this option for distribution in their high risk and hard to reach HIV and STI communities. When at home and take home testing is done in conjunction with DPHSS guidance, it can function as an additional method for contacting those hard to reach individuals.

10. This research study finally also makes an important recommendation of integrating STI and HIV education with substance use education and targeting those who are at risk in relation to drugs and alcohol as being at higher risk of HIV. Incorporation STI and HIV education with substance use education has been shown to be effective in settings such as Vietnam and Russia where there is high substance and drug use among the youth who are HIV positive.

8.4 Future Research

8.4.1 Further Research in Behaviors Among Specific Groups

There are a number of opportunities for continued behavioral research in the CNMI. For example, tourism and commercial sex in the CNMI have been established industries for many years. In one study conducted by the CNMI DPH in 1992, a period at which over 170 nightclubs were registered in the CNMI offering karaoke, exotic dancers and adult entertainment, 80% of all nightclub workers surveyed openly stated they were commercial sex workers (CNMI DPH, 2003). At the time, this HIV research was being undertaken the capacity was not available to target sex workers, and so did not specifically address questions on the commercial sex industry in the CNMI. This remains an area which warrants future research.

Although never formally studied, prostitution in the CNMI is known to be sizeable. This obvious high-risk group was considered for participation into this research study but in considering that fact that surveying this population in the CNMI would be very labor intensive and recognizing the current limitations and capabilities of the health department, the current resources provided for this survey could not sustain including sex-workers at the time of the study which has left a potentially significant high risk group in the CNMI on which to conduct future research.

Further research on the level of awareness to alternative testing options and their potential and effectiveness for use in HIV home testing in the CNMI is needed to determine the appropriateness of this form of testing for the CNMI. Given that the findings indicated a lack of confidence in on-island testing and low HIV testing overall, appropriate supply, distribution and use of self-testing options may be a worthwhile avenue to increase the population on-island, that become aware of their HIV status. Issues such as how those who test positive can be linked to services and whether they alter their transmission risk behaviors once armed with this knowledge need to be explored.

Since HIV positive MSM are living for longer periods when taking antiretroviral medications, there is the potential for them to infect more sexual partners with HIV if they continue to have high risk behaviors and treatment does not adequately reduce viral load. The questionnaire did not ask if a participant was on medicines to treat HIV, a potential constraint for estimating the risk for transmitting HIV. Furthermore, the questionnaire did not ask if the participant's partner's HIV status was known and therefore the study could not determine behaviors surrounding this knowledge.

MSM undertake complex risk assessments in relation to their sexual behaviors. As well, since male circumcision is known to significantly reduce the risk and protect from HIV infection (Centers for Disease Control and Prevention [CDC], 2008), the omission from the survey questionnaire of questions related to this presents a shortcoming for assessment and should be considered for future research studies.

Also noted was that the questionnaires did not inquire on sexual identity such as female same sex attraction, which represents a continued lack of knowledge on this

topic in the CNMI (although unlikely to contribute significantly to STI/HIV transmission). The questionnaire also failed to explore cultural taboos and gender inequality issues, which directly affect API women. Since this survey did not include questions on potentially perceived stigma and discrimination surrounding any cultural taboos, culturally sensitive knowledge remains limited on this topic in the CNMI.

API culture places significant importance on family structure, obligations and upholding specific gender and cultural roles (Hahm et al, 2007) and given that 81% of young adults surveyed in this study indicated they live with family, significant consideration of these factors must be taken into account when conducting future research and discussing prevention methods in the CNMI. Moreover, any effort to change human behavior must rest on such anthropological studies that answer the all-important ‘why’ question that has been reiterated by a number of anthropologists and “by identifying the social, cultural, and psychological correlates of human behavior relating to infectious disease, including indigenous beliefs about etiology, diagnosis, and cure” (Ihorn & Brown, 1990). This must be appreciated in the CNMI and recognises the importance of privileging the voices of those affected in designing appropriate health interventions..

Although this research project has been instrumental and provided essential information for the CNMI, knowledge gaps still exist and the opportunity for undertaking future research is present. For example, of the convictions filed with the CNMIs Attorney General’s Office from 2000 to 2008, cases of child sexual abuse topped the list with 25 convictions (Marianas Variety, 2008). This research study however, indicated only a low prevalence of forced sex in the surveyed population which may reflect in the case of the youth survey on the place and method of recruitment of participants and the unwillingness of people to disclose sexual abuse to non-professional strangers. Therefore, to have a broader understanding on the subject of sexual abuse in the CNMI, additional information is needed and continued research and investigation should be encouraged.

This research revealed seven self-reported positive cases of HIV in the CNMI but the questionnaire did not explore links with treatment and continued-care services. Hence, it is unknown if any of these HIV positive persons are linked to any prevention and care services that are considered essential for this population

(MMWR, 2006). Future research studies should include questions on access to continued services for positive cases as well as potential follow up on self-reported cases with HIV confirmation through sero surveys in the different risk groups.

8.4.2 Military Participation

Military participation in this research study should be mentioned since there is a considerable military presence in the islands neighboring the CNMI and specifically a significant US military presence in the island south of Saipan, on the island of Guam. Although military personnel from Guam visit the islands of the CNMI, there are no military bases currently present in the CNMI and there are only 209 persons on active military duty residing in the whole of the CNMI (CNMI HEIS, 2005). Accordingly, the minor military presence in the CNMI was not included on this study; however, the military populations on both islands could be considered in future research.

Future research in the CNMI should explore the growing importance on the use of the internet as a tool not only to gather beneficial knowledge and information on disease (such as utilizing the internet for HIV knowledge which the findings indicate with in this study) but also the internet's role in soliciting and advertising for high risk activities such as sexual services or drug use. Shared Hope International (Vardaman, 2008) noted in their report on the CNMI, that the internet is already affecting the CNMI youth and that their use of the internet could expand to soliciting sex in exchange for money to purchase goods. In a previous study done with adolescents in New York City, 55% of participants indicated that they had been exposed to sexually explicit web sites which made them more likely to have higher sexual permissiveness signifying a more permissive sexual attitude (Braun-Courville and Rojas, 2008).

Another important area in future research in the CNMI involves the use of the internet itself in conducting a research survey. In view of the fact that this research project demonstrated internet use to be significantly utilized for knowledge gain in the CNMI, investigation into its suitability locally should be evaluated. Guidance studies utilizing the internet as a tool to recruit and enroll participants into research now exist such as McFarlane et al (2005) and their exploration into internet based health promotion, Zhang et al (2009) with their research into internet behavioral

surveillance. One survey conducted by Mark et al (2008) researched email and internet use among STD clinic clientele and demonstrated that APIs were comfortable with utilizing this venue as part of their health care.

Additionally, large scale studies utilizing the internet as an avenue for the research have been done by Bolding et al (2004) study in the US with almost 5000 participants (mostly MSM) and Hidaka et al (2006) with their internet survey of over 2000 Japanese (mostly MSM). More specifically, there has been HIV focused research conducted that included internet survey done by Elford et al (2004), investigations at STI clinics that surveyed clientele on their internet use as a resource for STI prevention and education (Rietmeijer, 2003) and the internet as a method to teach HIV prevention and education (Rhodes et al, 2006). Although behavioral studies in the CNMI can provide useful information on infectious disease transmission, they are nevertheless limited in their utility if they do not proceed beyond the observational level (Ihorn & Brown, 1990) and implementation is needed in the CNMI.

8.5 Limitations of the Study

Turnover in the health department personnel that were directly involved in this project was significant. Even before the completion of the data collection for this project, not one CNMI HSTRCP employee who had assisted with the project from the beginning was still employed in any role with the health department. There were department employees that were employed only long enough to join in for a small phase of the project. In addition, partially due to the instability in program staff, reports and necessary statistical information was repeatedly requested and often not obtained. The multiple sources of data that were acquired provided numerous discrepancies in figures and it was difficult to determine which source to utilize for reporting. The self-proclaimed determination from the HIV program was that they need more personnel; “the STD Prevention Program has only two full-time personnel (STD/HIV Prevention Program Coordinator and an STD Caseworker) and does not have the needed personnel resources to provide the adequate services necessary to provide significant community and behavioral change to take place” (CNMI Sexual Transmitted Disease Report, 2005).

These limitations due to staffing issues have been a persistent problem and are noted in several CNMI DPH reports. In particular, noted in the 2005 CNMI HSTRCP Progress Report, the greatest challenge posed was listed as “not enough qualified, skilled staff to carry out prevention activities” and “in 2005, the main issue that limited the program to carry out its activities was due to limited knowledge and skills of the staff to carry out their duties” (CNMI HRSTRCP Progress Report, 2005, p.10). After several deadlines set by the health department for database input completion were passed without achieving the milestone, the data input was out-sourced. These delays combined to hinder the original timelines for completion of the study and show the challenges of undertaking surveillance and research in settings where there are challenges with organizational capacity and commitment.

Also noted were some challenges encountered in managing the different interests represented by personal aspirations, commitments to the university as a doctoral candidate, fulfilling obligations to the SPC and my personal commitment to assist the CNMI in obtaining new knowledge on which to base future program modifications and improvements. During the course of the research project, the SPC encountered many changes over in personnel which presented difficulties and delays in the project since each new SPC representative was unfamiliar with the agreed arrangements and reiteration of details was necessary each time.

There were challenges with the continued economic downturn and its overall impact on the CNMI. In the last penal briefing to the US Senate in 2006, the CNMI had a USD \$100 million dollar deficit from reduced taxes due to a 34% decline in garment sales to the US, a 25% decline in visitor arrivals, and a 23% decline in on-island gross business revenues (Donato 2006). In addition, median family income in the CNMI in 2004 was \$19,625, down from \$25,853 in 2000, along with a total population decrease of 4.7% and a rise in unemployment by 8% (Donato, 2008). The burden of such hardships would be expected to have an impact on the individual residents, the private sector and public sector of the island. These widespread financial difficulties caused concerns for many participants and the acceptance by the health department in CNMI to take on the responsibility of this project was limited.

Obtaining and acquiring condoms for use during the research project was not easy and must be noted as a limitation to intervention and education during the research project. It was understood that the CNMI DPH would provide condoms for inclusion into the interview packets for the duration of the project. However, the administrative procurement for incorporating these items was tardy and inadequate. As a result, when it was time to initiate the interviews, the health department did not have condoms available. As an alternative, the researcher exchanged gas cards for condoms from a local pharmacist that had a ready supply of these items. However, this shows that a lack of organizational capacity in the health department and an inability to promote the use of condoms as part of a comprehensive STI/HIV prevention program.

8.5.1 Limitations Specific to Prenatal Women

Questions as to the health status of the father were not obtained during this study and information such as the HIV status of the father for instance, was not obtained and potentially significant information was lost as a result. Additionally, the prenatal survey did not ask questions pertaining to primary language, stigma, discrimination and cultural issues. Furthermore, the prenatal survey did not ask details on domestic violence issues and did not obtain information as to the overall use of the Department of Public Health services. As previously mentioned, the CDC recognizes that each of these issues directly affects the level of risk for HIV in women and APIs (CDC HIV/AIDS Fact Sheet, 2008) so therefore by not inquiring on these issues there was a loss of information on the specific issues placing CNMI women at risk. Additionally, HIV testing was not done on this population as part of this project although it should have been offered as a part of routine prenatal care and this represents a loss of potential data.

8.5.2 Limitations Specific to Men Who Have Sex With Men

Questions as to the personal health status, access to health care and disease state of the self-reported positive HIV cases were not obtained during this study and potentially significant information was lost as a result. Additionally, just as in the prenatal survey, the MSM questionnaire did not ask questions pertaining to primary language and cultural issues. Furthermore, the MSM survey did not ask details on

any domestic violence issues or obtain information as to the use of the Department of Public Health services. According to the CDC, each of these issues directly affects the level of risk for HIV in MSM and APIs (CDC HIV/AIDS Fact Sheet, 2008). Not inquiring on these issues presents a loss of information that may have allowed the demonstrated a much broader picture of the specific issues placing CNMI MSM at risk.

Since HIV positive MSM are living for longer periods when taking antiretroviral medications, there is the potential for them to infect more sexual partners with HIV. The questionnaire did not ask if a participant was on medicines to treat HIV, a potential constraint for estimating the risk for transmitting HIV. Furthermore, the questionnaire did not ask if the participant's partner's HIV status was known and therefore the study could not determine behaviors surrounding this knowledge. Additionally, during this project HIV testing was not done on this population and this represents a loss of potential data for the CNMI.

8.5.3 Limitations Specific to Youth

The youth questionnaire did not address issues on stigma and discrimination, cultural attachment and further domestic violence details. As well, details were not obtained on overall use of Public Health Department services on-island, precluding better understanding of how this group utilizes these services overall. The survey also did not ask youth males their sexual orientation, and therefore did not provide information surrounding homosexual or bisexual identity preference. Additionally, during this project HIV testing was not done on this population and this represents a loss of potential data for the CNMI as there is reliance on self-reporting. Finally, the questionnaire did not inquire as to primary language spoken by the respondent and therefore we are not aware of any possible effects of language as a barrier to the survey or to on-island healthcare services.

8.6 Conclusion

The impact of HIV/AIDS has undermined decades of progress in trying to combat mortality around the world (United Nations, 2005). There has been evidence of localized epidemics within high risk groups as well as recognition of

different epidemics within countries that infections are not spread evenly within the population.

There were several aspects to this research project, with many that directly provided advancement to my professional practice and understanding. In addition to enhancing my personal research and professional experience and understanding of research undertaking, the study has also led to an increase in knowledge and capacity development for some people of the CNMI. The CNMI participants involved were encouraged to engage in the project's development, implementation and overall undertaking. It was only through their devotion, contribution and support that the research objectives were accomplished and achieved. By being involved, both in its creation and being part of the hands on research experience with its acquired knowledge, the participants in the CNMI will be able to support the information that they helped create by making future prevention decisions that add to the awareness and understanding of the cultural diversity and fragility that exists in the CNMI, and the need for its safekeeping by instituting sound HIV intervention and prevention methods.

Currently, the population of the CNMI finds itself in a daily struggle to survive economically. With the population preoccupied with their current personal hardships, accomplishing a research project of this magnitude often seemed insurmountable, however, when compared to the devastating impact that HIV could have on this small island population, the need to understand the risk behaviors and current status of HIV/STI on the island was a worthwhile objective in order to contribute to public health knowledge and planning by providing this data.

The baseline information obtained from this research project will be invaluable, although it has been identified that more work remains to be done including the need for more research in the CNMI. Considering that international donors have their own agenda, are often unappreciative of the local culture, ignore local contextual complexities, and are difficult to deal with, it is essential that CNMI select the best value for money in delivering education, prevention and chose approaches that are applicable locally, are participatory in design and involve local people in their implementation, management and evaluation.

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Appendices

Appendix 1. CNMI "Made in the USA" Legislative Law

FIFTEENTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE

THIRD REGULAR SESSION, 2007

H. B. NO. 15-238

A BILL FOR AN ACT

TO REQUIRE ALL MANUFACTURES IN THE CNMI TO LABEL THEIR MANUFACTURED, GROWN, PRODUCED OR ASSEMBLED PRODUCTS AS "MADE, IN ('ROTA, TINIAN, SAIPAN, OR ANY ISLAND TO THE NORTH OF SAIPAN'), COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS."

BE IT ENACTED BY THE FIFTEENTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE:

1 **Section 1. Short Title.** This Act may be cited as the "Made in ("Rota,
2 Tinian, Saipan or any island to the north of Saipan"), Commonwealth of the Northern
3 Mariana Islands labeling Act".

4 **Section 2. Findings and Purpose.** The Legislature finds that certain members
5 of the United States Congress and United States Labor groups for years have opposed
6 the CNMI from continually using the label 'Made in the USA' or 'Made in the CNMI,
7 USA' affixed to garments and other products that is manufactured, grown, produced or
8 assembled in the CNMI for export into the United States or abroad. The Legislature
9 further finds that the CNMI has vastly improved the garment manufacturing industry
10 through great strives in legislation, and enforcement in both public and private
11 litigation. However, the CNMI continues to suffer from the dogma of ridicule as a
12 place that fostered slave labor and low wages. The CNMI has fought diligently to
13 remove the negative image of the garment manufacturing industry and prove to the
14 world community that it is humane in its treatment and protection of foreign workers in
15 the CNMI.

16 Based on the foregoing, the Legislature finds that it is in the best interest of the
17 CNMI to prohibit the use of the label 'Made in the USA' or 'Made in the CNMI, USA'
18 for all manufactured, grown, produced, or assembled products in the CNMI. The
19 continued use of such labeling gives the US Congress and US Labor groups one more
20 reason to criticize and condemn the CNMI and the garment manufacturing industry. In

21 persons or circumstances other than those to which it is held invalid shall not be
22 affected thereby.

23 **Section 5. Savings Clause.** This Act and any repealer contained herein shall
24 not be construed as affecting any existing right acquired under contract or acquired
25 under statutes repealed or under any rule, regulation or order adopted under the statutes.
26 Repealers contained in this Act shall not affect any proceeding instituted under or
27 pursuant to prior law. The enactment of the Act shall not have the effect of terminating,
28 or in any way modifying, any liability, civil or criminal, which shall already be in
29 existence on the date this Act becomes effective.

HOUSE BILL NO. 15-238

1 **Section 6. Effective Date.** This Act shall take effect January 1st, 2008 upon its
2 approval by the Governor or becoming law without such approval.

Date: February 26, 2007

Introduced by: /s/ Rep. Ray N. Yumul

Reviewed for Legal Sufficiency by:

/s/ Antonette R. Villagomez
House Legal Counsel

http://www.cnmileg.gov.mp/documents/15th/house/HSE_Bills/HB15-238.pdf

Well Women's Survey
Commonwealth of the Northern Marianas (CNMI) 2006
Participant Information Sheet

You are invited to take part in a survey, which will provide information that will help to improve the health of pregnant women in the CNMI. The survey involves asking women about their sexual behaviors and testing women for sexually transmitted infections (STIs), and will be conducted during your normal prenatal clinic (PNC) appointment. STIs like syphilis, hepatitis B and HIV are serious infections that can harm you and your baby. The survey will help improve the CNMI's health services for pregnant women and will also help reduce STI's in the CNMI.

- ★ Confidential - Nobody will know you have participated in the survey and no-one will be told the results to any of your answers, or your test results.
- ★ Free - The tests for HIV, syphilis, hepatitis B, chlamydia and gonorrhea are free. If you are found to have any of these infections, you will be cared for by the Prenatal Clinic (PNC) and STI (Sexually Transmitted Infection) clinics according to standard CNMI protocols.
- ★ Easy to Participate - The survey involves a short interview, a urine test, and your routine prenatal visit if you are scheduled for this today.
- ★ Important for the health of you and your baby - If you are diagnosed with an STI or HIV, it will enable you to be treated to prevent your baby from becoming infected.
- ★ Useful to the community - The results of this survey will help guide the CNMI's health services to reduce STIs, and to prevent more people from becoming infected.

Voluntary – Participation is voluntary. You do not have to answer any question that you do not want to, and you can withdraw from the survey at any time. Your decision to participate or not will not in any way affect your relationship, your access to care, or the nature of any healthcare services with the Department of Health or any other public health service, or the Northern Marianas College.

See overleaf for more detailed information
Please keep this information sheet for your reference

The survey consists of a 15-20 minute interview, collection of a urine sample (to test for chlamydia and gonorrhoea). This urine test is separate from the routine blood tests offered to you as part of your routine prenatal labs (to test for HIV, syphilis and hepatitis B) or any urine tests your health provider might decide to order. Participation in this survey is separate from your prenatal clinical services. The urine testing for this study will be conducted in a laboratory in Melbourne, Australia and results of your test will be returned securely from Melbourne to the CHC Laboratory Manager. If the results of your test are positive for infection, the test results will be forwarded to the Prenatal Clinic and/or your physician and you will either be recalled to the clinic, or will be treated at your next prenatal visit. All treatment recommendations, decisions and scheduling will be done solely at the discretion of your physician, the Prenatal Clinic and CHC standard treatment protocols. All blood tests will be conducted in the Commonwealth Health Center (CHC) Public Health Laboratory at South and Central Health Centers. The survey and the urine testing for this study is free to you, and it is safe for you and your baby.

All responses and test results will remain completely confidential. Only a survey code number - no names - will appear on the interview sheet. This same survey code number will appear on your urine specimen container along with, your date of birth. In the event that your test results come back positive for infection, your date of birth will be used by the Prenatal Clinic as a link to cross-match you to your test results. This will ensure you receive follow-up counseling and/or treatment for your infection (at the discretion of your healthcare provider). The CHC Prenatal Clinic will supervise and manage any needed follow-up appointments or needed treatments (if required). To ensure confidentiality, test results will not be provided by telephone. At the completion of the project, results of all participants will be analyzed as a group. No individual results will be reported.

If you agree to participate, we will ask you some questions about yourself (age, education etc), your pregnancy, your sexual behavior (age at first sex, types of partners, use of condoms etc), alcohol and drug use and HIV knowledge. It is important that you answer the questions truthfully, however if you are uncomfortable answering any question, the interviewer will respect your decision not to answer. Remember all responses are completely confidential.

Most women who are tested will not have an STI or HIV and thus will not obtain any direct benefit from the survey. However, the survey will be very useful for the Department of Public Health to improve health services for pregnant women and their babies, as well as to develop their STI prevention programming. If you would like a copy of the results (expected towards the end of 2006) please call the HIV/STI Prevention Program at 664-4050.

Your decision to participate or not will not affect your access to, or nature of, healthcare with the DPS-PHD or any other public health service. You are free to withdraw from the survey at any time. If you have any questions or concerns about the survey, please ask the clinic staff today or do not hesitate to contact Ed Diaz, Acting HIV/AIDS Program Coordinator on 236-8703. If you have any complaints about the survey, please contact Mr. Joe Villagomez, CNMI Secretary of Public Health, at 236-8201.

Thank you for taking time to read this information sheet.
We hope you will feel able to take part in this important survey.

PNC STI Prevalence Survey, CNMI, 2006 Survey ID

No: [A | 3 | 3 | 1]

**Well Women's Health Survey, CNMI, 2006
Prenatal Clinic (PNC)**

Place
Survey ID
Sticker

Survey ID Number: (Complete the participant's survey ID number)

Country code	Survey type	Population type	(Ignore this code)	Survey participant No.
A=CNMI	3=SPS	3=PNC woman		<i>Number interviews sequentially from 001</i>
A	3	3	1	

Introduction

Hello my name is _____.

How are you today? Before we continue I just need to check:

1. You are pregnant?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → DO NOT PROCEED
2. You are attending for your first visit at <u>this prenatal clinic</u> for <u>this pregnancy</u> ?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → (Go to Question 2b)
2b. During this pregnancy have you been tested for an STD?	<input type="checkbox"/> No, Not tested	<input type="checkbox"/> Yes → DO NOT PROCEED
3. You have seen & read the information sheet	<input type="checkbox"/> Yes	<input type="checkbox"/> No → Give information sheet

Confidentiality & Informed consent:

- ★ This survey involves an interview about your behavior and a urine test for two common sexually transmitted infections. This urine test is totally separate from the routine urine and blood tests offered to all pregnant women by the Prenatal Clinic at the Commonwealth Health Center (CHC).
- ★ The survey includes some personal questions that some people find difficult to answer. The results of this survey will be used to help prevent STIs in the CNMI.
- ★ The survey is completely confidential. Your name will never be linked to any of the information in the questionnaire. A survey code number will appear on your urine specimen container along with your date of birth. In the event that your test results come back positive for infection, your date of birth will be used by the Prenatal Clinic as a link to cross-match you to your test results. This arrangement ensures your confidentiality and at the same time enables you to receive follow-up counseling and/or treatment for your infection (based upon the expert advice of your healthcare provider). The CHC Prenatal Clinic will manage and support you with any necessary follow-up appointments or recommended treatments (if required).
- ★ You do not have to answer any questions you do not to. You may end the interview any time you want to.
- ★ However, your honest answers will help us understand what people like yourself think, say and do about certain behaviors.
- ★ We would much appreciate your help responding to the survey.

- ★ The survey will take about 20 minutes to complete.
- ★ Whether you participate or not will not affect your relationship with survey team or clinic staff, or the Department of Public Health.

Participation

(Check the appropriate box)

Would you be willing to participate?	<input type="checkbox"/> Yes → Sign next page and go to Q101
	<input type="checkbox"/> No → Ask the following questions. Do <u>not</u> give gas card

For REFUSERS ONLY

For survey purposes, would you mind telling me your age?	__ __ Age in years <input type="checkbox"/> No answer/refused
Which country were you born in?	<input type="checkbox"/> CNMI <input type="checkbox"/> Other _____
Would you mind telling me why you do not wish to participate?	<input type="checkbox"/> Too busy <input type="checkbox"/> Not interested <input type="checkbox"/> Too personal <input type="checkbox"/> Other _____
Thank you for your time. Goodbye.	

Signature of interviewer

I hereby declare that the respondent has given verbal informed consent to be interviewed.

I also hereby declare that I will not disclose any information provided to me by the respondent unless the respondent first agrees to this disclosure.

Interviewer Signature: _____ Date (mm/dd/yyyy): ___/___/_____

Interviewer Checklist (Complete at end of interview)		Yes	No
Participant has sufficient information about survey and received information form		<input type="checkbox"/>	<input type="checkbox"/>
Interview / questionnaire completed		<input type="checkbox"/>	<input type="checkbox"/>
HIV pretest counseling given		<input type="checkbox"/>	<input type="checkbox"/>
Blood collected and labeled		<input type="checkbox"/>	<input type="checkbox"/>
Urine collected and labeled		<input type="checkbox"/>	<input type="checkbox"/>
Initial	Date: ___/___/_____		
Supervisor Checklist		Yes	No
Form complete and ready for data entry (check skips followed correctly)		<input type="checkbox"/>	<input type="checkbox"/>
Initial	Date: ___/___/_____		

The following instrument is based on the FHI 2000 HIV/AIDS/STD Behavioral Survey for Adults and the CDC PRAMS Phase 5 core questionnaire.

It was modified for use in the Pacific by University of NSW in association with WHO & SPC.

It was further adapted for use in CNMI by SPC (B. DeLisle)

Well Women's Health Survey, CNMI 2006
1st Booking prenatal patients – INTERVIEW FORM

Interviewer Name: _____ Interview Date (mm/dd/yyyy): ____/____/____	
Prenatal Clinic (check one): <input type="checkbox"/> Central Clinic <input type="checkbox"/> Northern Clinic <input type="checkbox"/> Southern Clinic	
Q	Section One: Background Characteristics
101	In what year were you born? _ _ _ _ Year <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
102	How old were you at your last birthday? (Compare with Q101 and correct if needed) _ _ Age in completed years <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
103	Which country or state were you born in? <input type="checkbox"/> CNMI (→Q104) <input type="checkbox"/> Guam <input type="checkbox"/> Chuuk <input type="checkbox"/> Kosrae <input type="checkbox"/> Pohnpei <input type="checkbox"/> Yap <input type="checkbox"/> Palau <input type="checkbox"/> Philippines <input type="checkbox"/> Marshall Is <input type="checkbox"/> Hawaii <input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer/refused
103b	What year did you first arrive in CNMI? _ _ _ _ Year <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
104	To which ethnic group do you belong? <input type="checkbox"/> Micronesian (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru) <input type="checkbox"/> Melanesia (Fiji, PNG, New Caledonia, Solomon Is, Vanuatu) <input type="checkbox"/> Polynesia (Cook Is, Samoa, US Samoa, Niue, Fr Poly, Tokelau, Tonga, Tuvalu, Wallis/Futuna) <input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Chinese <input type="checkbox"/> Taiwanese <input type="checkbox"/> Other Asian <input type="checkbox"/> Indian Subcontinent (Nepalese, Indian, Pakistan, etc) <input type="checkbox"/> Caucasian <input type="checkbox"/> Mixed ethnicity <input type="checkbox"/> Other _____ <input type="checkbox"/> Don't know <input type="checkbox"/> No answer
105	Are you currently living in a (an): (Read out the response): <input type="checkbox"/> Urban area or Village center <input type="checkbox"/> Outer edges of village <input type="checkbox"/> Isolated area or boonie area <input type="checkbox"/> No answer/refused
106	Which village are you currently living in? _____
107	How long have you lived in your current place of residence? (Record as "0" if less than one year) _ _ completed years <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
108	In the last 12 months have you been away from your home for more than one month continuously? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused

109 What is the highest level of education you have completed? Elementary school, Middle or High School or Higher (eg college, polytechnic, university?)

Never attended school Some Elementary School

Elementary school Middle school

High school Higher (eg college, technical)

No answer/refused

110 What is your occupation?

Housewife/Home Duties Clerical/Office work

Domestic help (maid/nanny)

Transport worker (eg driver) Fisherman/seafarer

Police/Military/Security

Farmer Businessman Entertainment/Bar work

Factory/Garment worker Construction/Laborer Food Service

Hotel/Tourism/food service Retail/Sales Assistant Health care worker

Student/teacher/teacher aid Airline More than one job

Dry cleaning/laundry service Automotive/gas/dealership

Self employed

Landscaping/construction Professional (eg Dr, lawyer)

Not employed

Other (specify) _____

No answer/refused

Q Section Two: Marital Status

201 Have you ever been married? (in a formal ceremony in a court or church or under CNMI or other country law)

Yes No (**→Q203**) No answer/refused

202 How old were you when you first married? Take your time and give your best estimate if you cannot remember exactly.

|_|_| Years old Don't know No answer/refused

203 Are you currently... **(Read out)**

Married Not married No answer/refused

204 Are you currently... **(Read out)**

Living with your spouse Not living with any sex partner

Living with a sex partner (non-married) No answer/refused

Section Three: Pregnancy Characteristics

301 How many previous pregnancies greater than 20 weeks (5 months) have you had? (parity)

Note: Multiple birth/twins = ONE pregnancy

|_|_| Pregnancies Don't know No answer/refused

302 How many miscarriages or abortions have you had?

|_|_| Miscarriages/Abortions Don't know No answer/refused

303 How many pre-term deliveries, that is, deliveries before 37 weeks (about 8 ½ months), have you had?

|_|_| Pre-terms Don't know No answer/refused

304 How many live births, that is, deliveries at 37 weeks (about 8 ½ months) or later have you had?

|_|_| Live births Don't know No answer/refused

305 How many weeks pregnant are you now? (Give your best estimate if you do not know the exact length of this pregnancy) 6w=1m, 10w=2m, 14w=3m, 18w=4m, 22w=5m, 26w=6m, 32w=7m, 36w=8m, 40w=9m
 |__|__| Weeks Don't know No answer/refused

306 Is this the very first time you are seeking medical care for this pregnancy?
 Yes No No answer/refused

307 What is the occupation of the father of your unborn baby?
 Housewife/Home Duties Clerical/Office work Domestic help
 Transport worker (eg driver) Fisherman/seafarer
 Police/Military/Security
 Farmer Businessman Entertainment/Bar work
 Factory/Garment worker Construction/Laborer Clerical/Office work
 Hotel/Tourism/food service Retail/Sales Assistant Health care worker
 Student/teacher/teacher aid Airline Food Service
 Dry cleaning/laundry service Automotive/gas/dealership
 More than one job
 Landscaping/construction Professional (eg Dr, lawyer)
 Not employed
 Other (specify) _____
 No answer/refused

308 When you got pregnant with your new baby, were you trying to get pregnant?
 Yes (→Q309) No Don't know
 No answer/refused

308a Were you accepting of your pregnancy?
 Yes No Don't know No answer/refused

309 Thinking about the three months before you got pregnant with your new baby. Were you or the father of your baby doing anything to stop you from getting pregnant? (Multiple 's allowed)
 No method Birth control pills Diaphragm
 Male condoms Female condoms Withdrawal/pulling out
 Depo-Provera/Injectables Norplant/Implants/Patch
 IUD, Loop or Coil Breastfeeding
 Natural method (calendar/temp/rhythm) Emergency contraception ("morning after pill")
 Other (specify) _____ Don't know No answer/refused

Q Section Four: Sexual History

Read out: Now I would like to ask you some questions about your sexual partners...

401 How old were you when you first had sexual intercourse? Sexual intercourse or "sex" is either vaginal or anal sex. It includes any commercial or transactional sex (where money, goods or resources were given for sex). Take your time and give your best estimate if you cannot remember exactly.
 |__|__| Years old Don't remember No answer/refused

402	Think about all your sex partners in your lifetime. <u>How many male sex partners in total</u> have you had? Remember to include your husband or any live-in partners, boyfriends, non-commercial and commercial partners you may have had. Give your best estimate if you cannot remember exactly.
	_ _ Partners <input type="checkbox"/> Don't remember <input type="checkbox"/> No answer/refused
403	Have you ever <u>heard</u> of a <u>male</u> condom? (Show a picture or sample of one)
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused
404	Have you ever <u>heard</u> of a <u>female</u> condom? (Show a picture or sample of one)
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused
405	Have you and a sex partner <u>ever used</u> a condom (male or female) during sex? (can <input checked="" type="checkbox"/> both)
	<input type="checkbox"/> Yes, male condom <input type="checkbox"/> Yes, female condom <input type="checkbox"/> No <input type="checkbox"/> No answer/refused
406	How many male sex partners have you had <u>in the last 12 months</u> ? Remember to include your husband and any live-in partners, boyfriends, non-commercial or commercial partners you have had. Take your time and give your best estimate if you cannot remember exactly.
	_ _ Partners <input type="checkbox"/> Don't remember <input type="checkbox"/> No answer/refused
407	Are you still in a relationship with the father of your unborn child? That is, he is either your husband, live-in partner or steady boyfriend even if he is away at the moment or not living with you.
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
Q Section Five: Multiple Sexual Partners	
501	In the <u>last 12 months</u> have you had any male sex partners that you <u>live, or lived with</u> ?
	<input type="checkbox"/> Yes <input type="checkbox"/> No (→Q502) <input type="checkbox"/> No answer/refused
501a	How many <u>live-in</u> , male, sex partners have you had in the <u>last 12 months</u> ?
	_ _ Regular partners <input type="checkbox"/> Don't remember <input type="checkbox"/> No answer/refused
502	In the <u>last 12 months</u> have you had any <u>commercial</u> , male sex partners? That is, partners who paid you or gave you goods or resources for having sex with them (for example they gave you food, money, clothes, alcohol, drugs, shelter or other things for sex) (eg chatmac or mistress).
	<input type="checkbox"/> Yes <input type="checkbox"/> No (→Q503) <input type="checkbox"/> No answer/refused
502a	How many commercial, male sex partners have you had in the last 12 months? Take your time and give your best estimate if you cannot remember exactly.
	_ _ Commercial partners <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
502b	Have you ever found it difficult to use a condom with a commercial partner during sex?
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
502c	The <u>last time</u> you had sex with a commercial partner, did you and this partner use a condom?
	<input type="checkbox"/> Yes <input type="checkbox"/> No (→Q502d) <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
502ci	Was it a male condom or a female condom? (After this question →Q502h)
	<input type="checkbox"/> Male condom <input type="checkbox"/> Female condom <input type="checkbox"/> No answer/refused

Why didn't you and your most recent commercial partner use a condom? (**all that apply**)

None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to
 Partner looked healthy
502d I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose opportunity for sex
 Allergy to latex Trying to have a baby Other contraception
 Don't know how to use one Don't know/no reason
 Other (*specify*) _____ No answer/refused

502e In the last 12 months, how often did you and all your commercial partners use a condom during sex? (**Read out options "Every time" through to "Never" and response**)

Every time Sometimes Don't know
 Almost every time Never No answer

503 In the last 12 months have you had any other male sex partners? That is, persons you do not live with and where no money, goods or resources were given to you for sex (ie non-live-in, non-commercial partners).

Yes No (**→Q504**) No answer/refused

503a How many non-live in, non-commercial male sex partners have you had in the last 12 months? Give your best estimate if you cannot remember exactly how many partners

|_|_|_| Non-live-in/Non-commercial partners Don't know
 No answer/refused

503b Have you ever found it difficult to use a condom with a non-live-in, non-commercial partner?

Yes No Don't know No answer/refused

503c The last time you had sex with a non-live-in, non-commercial partner, did you and this partner use a condom?

Yes No (**→Q503d**) Don't know No answer/refused

503ci Was it a male condom or a female condom? (**After this question →Q503f**)

Male condom Female condom No answer/refused

503d	<p>Why didn't you and your most recent non-live-in, non-commercial partner use a condom? (<input checked="" type="checkbox"/> all that apply)</p> <p><input type="checkbox"/> None easily available <input type="checkbox"/> Too expensive <input type="checkbox"/> I didn't want to</p> <p><input type="checkbox"/> Partner didn't mention it <input type="checkbox"/> Partner didn't want to <input type="checkbox"/> Partner looked healthy</p> <p><input type="checkbox"/> I trusted partner <input type="checkbox"/> I don't like condoms <input type="checkbox"/> I didn't think of it</p> <p><input type="checkbox"/> Sex doesn't feel as good <input type="checkbox"/> Didn't think it necessary <input type="checkbox"/> Didn't want to offend</p> <p><input type="checkbox"/> Too drunk/high to use one <input type="checkbox"/> Didn't want to lose opportunity for sex</p> <p><input type="checkbox"/> Allergy to latex <input type="checkbox"/> Trying to have a baby <input type="checkbox"/> Other contraception</p> <p><input type="checkbox"/> Don't know how to use one <input type="checkbox"/> Don't know/no reason</p> <p><input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer/refused</p>
503e	<p>In the <u>last 12 months</u>, how often did you and <u>all</u> your non-commercial sex partners use a condom during sex? (Read out options "Every time" through to "Never")</p> <p><input type="checkbox"/> Every time <input type="checkbox"/> Sometimes <input type="checkbox"/> Don't know</p> <p><input type="checkbox"/> Almost every time <input type="checkbox"/> Never <input type="checkbox"/> No answer</p>
504	<p>The last time you had sex with <u>any</u> non live-in partner (ie any commercial, paying or non-paying partner that does not live with you), did you and this partner use a condom?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused</p>
505	<p>During the <u>last 12 months</u> has there been any time when you have had <u>two or more, separate</u> sexual relationship <u>during the same time period</u>, that is, overlapping relationships?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused</p>
506	<p>In the last 12 months have you traveled <u>away</u> to another country, outside of CNMI?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (→Q507) <input type="checkbox"/> No answer/refused</p>
506a	<p>While you were away, did you have sex with anyone who does not live in the CNMI and whom you are not married to?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (→Q507) <input type="checkbox"/> No answer/refused</p>
506b	<p>How many partners did you have sex with outside of the CNMI? Give your best estimate if you cannot remember exactly. These overseas partners may be some or all of the same partners stated above (in Sections 3, 4 and 5).</p> <p> _ _ Partners <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused</p>
506c	<p>The most recent time you had sex with someone outside of the CNMI, did you and this partner use a condom?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused</p>
506d	<p>In the <u>last 12 months</u>, how often did you and <u>all</u> sex partners outside CNMI use a condom during sex? (Read out options "Every time" through to "Never")</p> <p><input type="checkbox"/> Every time <input type="checkbox"/> Sometimes <input type="checkbox"/> Don't know</p> <p><input type="checkbox"/> Almost every time <input type="checkbox"/> Never <input type="checkbox"/> No answer</p>
507	<p>Has <u>any</u> sex partner <u>ever</u> forced you to have sex, even though you did not want to? (Arrange referral for counseling at end of interview if appropriate)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (→Q601) <input type="checkbox"/> No answer/refused</p>

507a What is your relationship with the person who forced you to have sex?
 Partner Parent Other relative
 Neighbor Family friend Work colleague Stranger
 Other (*specify*): _____ No answer/refused

Q Section Six: Sexually Transmitted Infections (STIs)

601 Have you ever heard of diseases that can be transmitted (caught) during sex?
 Yes No No answer/refused

602 Have you ever been diagnosed with a sexually transmitted disease or infection by a doctor or health worker?
 Yes No (**→Q603**) No answer/refused

602a What disease/infection were you diagnosed with...? (**all that apply**)
 Genital Warts Chlamydia Syphilis Thrush
 Genital Herpes Gonorrhea Trichomonas
 HIV
 Other (*specify*) _____ Don't know No answer

603	In the last 12 months have you had a ...	Yes	No	Don't Know	No answer/refused
	Foul smelling, discolored or painful genital discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Genital ulcer or sore?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Burning, sharp pain or blood on urination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If NO to all, skip to 601					

604 In the last 12 months, have you ever sought treatment for any of these genital symptoms (eg discharge, ulcer or pain)?
 Yes (**→Q604b**) No Don't know No answer/refused

604a Why have you not sought treatment? (**Go to Q701 after this question**)
 Too scared/embarrassed Too public Too busy
 Afraid of partner Might be painful Too expensive
 No insurance Language barrier No transportation
 Didn't know what to do about it/general lack of knowledge about available services
 Symptoms cleared up Don't know
 Other: _____ No answer/refused

604b Where did you last seek treatment for any genital or anal symptoms?
 Hospital HIV/STD clinic on Navy Hill Public Health Clinic
 Private/personal doctor Pharmacy/Drug Store Traditional healer
 Treated off-island Used someone else's medicine
 Other: _____ No answer/refused

604c Were your sexual partner(s) also treated for this STD?
 Yes No Don't know No answer/refused

Refer participant to STI clinic at end of interview if they have untreated STI symptoms

Section Seven: Alcohol and Drug Use and Tattooing

Read out: Now I would like to ask you about alcohol and drug use

701 During the 12 months before you became pregnant, how often did you have drinks containing alcohol such as beer, wine, liquor, tuba, sakaw, yeast, choriu, etc. Would you say..... **(Read out responses through to “Never” and one)**
 4 or more times a week 2 to 4 times a month Never (**→Q604**)
 2 to 3 times a week Monthly or less Don't know No answer

702 During the 12 months before you became pregnant, how many standard drinks containing alcohol did you have on a typical occasion when drinking? A standard drink is a cup of yeast, sakaw or chirou, a can a beer, a glass of wine or port, a shot of liquor etc. **(Read out responses through to “1 or 2’ and one)**
 20 or more 7, 8 or 9 3 or 4 Don't know
 10-19 5 or 6 1 or 2 No answer/refused

703 During the 12 months before you became pregnant, how often did you have five or more drinks on one occasion? **(Read out responses through to “Never” and one)**
 Daily or almost daily Monthly Never Don't know
 Weekly Less than monthly No answer

Read out: Next we would like to ask you about recreational drug use. Remember that all your responses are completely confidential and will not be released to anyone.

704	Have you <u>ever</u> tried... (If “Yes”, ask if used in last 12 months)	No	Yes, (Ever tried)	If Yes, Used in last 12 months?	No answer/ Refused
	Tobacco (including chewing & snuff)	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Betel Nut	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Marijuana/Cannabis/Weed/Pakalolo	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Sakaw / Kava	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Speed/Base/Other amphetamines	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Ice / Crystal meth/Shabu-shabu	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Ecstasy/E/Eccies	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Inhalants/sprays/gasoline/propane	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	LSD/Acid/Hallucinogens	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Cocaine/Crack	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Heroin	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>

705 Some people have tried injecting drugs using a syringe. Have you injected drugs in the last 12 months? (not including drugs injected for medical reasons or treatment of an illness like diabetes).
 Yes No (**→Q706**) No answer/refused

- 705a Have you ever found it difficult to find needles or syringes or other injecting equipment such as swabs and spoons that were NOT previously used by someone else?
 Yes No Don't know No answer/refused
-
- 705b Think about the last time you injected drugs. Where did you get the injecting equipment from? (**Read out and only one**)
 Off-island drug store Friend/Relative Animal Feed Store
 Other _____ Don't know No answer/refused
-
- 705c Think about the last time you injected drugs. Did you use a needle, syringe or other injecting equipment such as swabs, spoons that had previously been used by someone else?
 Yes No Don't know No answer/refused
-
- 705d Thinking about the times you injected drug in the last month, how often did you inject with a needle or syringe that had previously been used by someone else? Would you say...
(Read out responses through to "Always")
 No injecting in last month Occasionally Most times Don't know
 Never About ½ the time Always No answer
-
- 706 Have you ever had a permanent tattoo?
 Yes No (**→Q801**) No answer/refused
-
- 706a Who was your last permanent tattoo performed by?
 Tattoo parlor Amateur tattooist (informal) Traditional artist
 Friend/relative Other (*specify*) _____ No answer/refused

Section Eight: HIV/AIDS Knowledge, Attitudes and Access to Testing

Read out: HIV is a virus (infection) that can be passed from person to person. It can make people sick. When people get sick with HIV, this is called AIDS.

- 801 Before this survey, have you ever heard of HIV or the disease called AIDS?
 Yes No (**→901**) No answer/refused

802 Do you know anyone personally who has HIV or AIDS, or who has died of an AIDS related illness?

- Yes No (**→Q703**) Don't know (**→Q703**)
 No answer/refused

Read out: Now I'm going to read you some statements about how HIV may be passed from person to person. For each statement, please indicate whether you think it is True, False or you don't know. It's OK not to know.

803 A person can reduce their chances of getting HIV, the virus that causes AIDS, by using a condom correctly every time they have sex.

- True False Don't know No answer/refused

804 A person can get HIV by sharing a meal with someone who has HIV or AIDS.

- True False Don't know No answer/refused

805 A person can get HIV from mosquito bites.

- True False Don't know No answer/refused

806 A person can reduce their chance of getting HIV by having only one, uninfected, faithful sex partner.

True False Don't know No answer/refused

807 A healthy looking person can be infected with HIV, the virus that causes AIDS.

True False Don't know No answer/refused

808 A pregnant woman who has HIV or AIDS can pass HIV on to her unborn baby.

True False Don't know No answer/refused

809 A woman who has HIV or AIDS can pass HIV on to her newborn baby through breastfeeding.

True False Don't know No answer/refused

Read out: The next few questions are about HIV testing

810 Is it possible in your community for someone to get a confidential test result to find out if they have HIV? Confidential means no one will know the result if the person being tested doesn't want them to know.

Yes (**→Q811**) No Don't know No answer/refused

810 a Why can't you get a confidential HIV test? (**all that apply**)

HIV testing is not available Testing site too difficult to get to

Testing site too public Results not kept confidential

Opening hours not convenient

Other (*specify*) _____ No answer/refused

811 Please don't tell me the result, but have you ever had an HIV test?

Yes No (**→Q812**) Don't know (**→Q812**)

No answer

811 a When did you have your last HIV test?

In the last 3 months In the last year Over a year ago

Don't know No answer/refused

811 b Did you voluntarily undergo your most recent HIV test or were you required to have the test?

Voluntary Required Don't know No answer/refused

811 c Did you receive counseling and/or information before your most recent HIV test?

Yes No Don't know No answer/refused

811 d Please don't tell me the result, but did you receive the result of your most recent test?

Yes No Don't know No answer/refused

811 e Did you receive counseling and/or information after your most recent HIV test?

Yes No Don't know No answer/refused

(Read out all activities and appropriate responses)

	Yes	No	No answer / refused
Heard messages about HIV or AIDS on radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read messages about HIV or AIDS in newspapers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on billboards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read leaflets or pamphlets about HIV or AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obtained information on HIV or AIDS from the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen the "Mr Right Guy" film or CD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participated in an HIV education program (eg workshop, school program)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attended HIV community event (eg World AIDS day, public meeting, drama production)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discussed HIV or AIDS with others such as friends, family members and work colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen the Prutehi Hao films on TV or in the theatre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received HIV information from outreach workers visiting the community/village	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever heard of the Napu Life Foundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What religion are you?

- 901
- | | | | |
|---------------------------------------|---|--|--|
| <input type="checkbox"/> Catholic | <input type="checkbox"/> Mormon | <input type="checkbox"/> SDA | <input type="checkbox"/> Episcopal |
| <input type="checkbox"/> Pentecostal | <input type="checkbox"/> Protestant | <input type="checkbox"/> Buddhist | <input type="checkbox"/> Evangelica |
| <input type="checkbox"/> Hinduism | <input type="checkbox"/> Muslim | <input type="checkbox"/> Jehovah's | <input type="checkbox"/> Assembly of God |
| <input type="checkbox"/> Methodist | <input type="checkbox"/> Lutheran | <input type="checkbox"/> Baptist | <input type="checkbox"/> Apostolic |
| <input type="checkbox"/> Presbyterian | <input type="checkbox"/> Non-denominational | <input type="checkbox"/> Ba'hai | <input type="checkbox"/> No religion |
| <input type="checkbox"/> Christian | <input type="checkbox"/> Other _____ | <input type="checkbox"/> No answer/refused | |

Section Nine: Concluding Remarks, Interventions and Referrals

This is the end of the interview. Thank you very much for taking the time to answer these questions.

- ★ Is there anything you would like to ask me?
- ★ Would you like to take home this information leaflet?
- ★ Would you like some condoms?

Health information provided?	<input type="checkbox"/> Verbal	<input type="checkbox"/> Printed	<input type="checkbox"/> No
Referral for STI symptoms?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Referral to other service?	<input type="checkbox"/> Yes (specify)	_____	<input type="checkbox"/> No
Condoms provided?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Comments on Interview (if required)			

Place questionnaire in sealed envelope in box provided
Provide voluntary and confidential counseling and then proceed to specimen collection
Give completed questionnaire to survey coordinator

Saipan Well Men's Survey 2006

Well Men's Survey

Saipan 2006

Participant Information Sheet

You are invited to take part in a survey of men who have sex with other men in Saipan. Men like yourself may be at risk of HIV and other sexually transmitted infections (STIs). In order to help prevent men from getting HIV, we need to find out more about your sexual behaviours. The results from this survey will be used to help develop HIV prevention programs in the CNMI. The survey involves an anonymous and totally confidential interview. You will be given \$10 card for participation, plus a further \$10 card for each man who has sex with men who you recruit into the survey (*up to a maximum of 3*). You can only participate once in the survey.

- ★ **Anonymous and Confidential** – Your name is not collected for this survey
- ★ **Easy to Participate** - The survey involves an interview in a private location that will take about 30 minutes to complete. You may also be offered voluntary Orasure HIV testing and will be encouraged to go to Building Number #29, on Navy Hill, the HIV Prevention Program building for free confidential testing.
- ★ **Important for your health** – Many men with STIs have no symptoms and do not know they are infected. If you would like to be tested for a HIV blood testing or testing for any other STIs, survey staff can arrange referral to a clinic.
- ★ **Useful to the community** - The results of this survey will be used to help reduce STIs and prevent further people from being infected.

Voluntary – Participation is voluntary. You do not have to answer any question you do not want to. You can withdraw from the survey at any time. Your refusal to take part will not affect your relationship with the survey team, the HIV/STD Prevention Program, the Napu Life Foundation and/or the Northern Marianas College.

In addition, **your decision to participate or not will not in any way affect your relationship, your access to care, or the nature of any healthcare services with the Department of Health or any other public health service.**

See overleaf for more detailed information

Please keep this information sheet for your reference.

This survey consists of an interview that will take about 30–40 minutes. At the end of the interview you will be given three recruitment cards to give to other men who you know who have sex with men. You will be given \$10 card for taking part in the survey. You will be given a further \$10 card for each man who has sex with other men who you recruit who completes an interview (up to a maximum of three men). Each man can only take part once in the survey.

Your name is not recorded in this survey. Nothing you tell us in this survey will be linked to your name. All interviews will be conducted in a private location to ensure confidentiality. The survey results will be grouped together into a report. No individual results will be released.

If you agree to take part, we will ask you some questions about yourself (age, education etc) your sexual behavior (eg age at first sex, types of partners, use of condoms etc), alcohol and drug use and HIV knowledge and attitudes. It is important that you answer the questions truthfully, however if you are uncomfortable answering any question the interviewer will respect your decision not to answer. Remember all responses are completely confidential.

The survey will be very useful for developing HIV and STI prevention programs in Saipan. The survey will also help plan health services. If you would like a copy of the results (expected towards the end of 2006) please call the HIV Program at 664-4050.

Your decision to take part or not will not affect your relationship with Napu Life Foundation, NMC or any public health service. In addition, your decision to participate or not will not in any way affect your relationship, your access to care, or the nature of any healthcare services with the Department of Health or any other public health service.

You are free to withdraw from the survey at any time. If you have any questions or concerns about the survey, please ask the survey team or do not hesitate to contact Ed Diaz, Acting HIV Program Co-coordinator at 236-8703. If you have any complaints about the survey, please contact the Public Health Secretary, Joe Villagomez, at 236-8201.

*Thank you for taking time to read this information sheet.
We hope you will feel able to take part in this important survey.*

Adult MSM BSS, CNMI 2006

Survey ID No: [| | | | | | |]

Healthy Men's Survey, CNMI 2006 – COVER SHEET

Introduction

Hello my name is _____. I work for _____. We are conducting a survey to find out more about HIV and who may be at risk here in CNMI.”

Eligibility

Thanks for coming in today. Before we start, I just need to check that:

1. You are 18 years or older?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → DO NOT PROCEED
2. You are a man or a transgender who has had sex with other men in the last five years?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → DO NOT PROCEED
3. You have seen & read the information sheet?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → Give copy to read
4. <u>This is the first time</u> you are being interviewed for this survey?	<input type="checkbox"/> Yes, 1st time	<input type="checkbox"/> Has been interviewed previously → DO NOT PROCEED

Confidentiality & Informed consent

- ★ The survey includes some personal questions that some people find difficult to answer. If you wish, you may also take a saliva test for HIV – no initial blood test is involved.
- ★ You will receive a \$10 gas card for taking part and a further \$10 gas card for every man or transgender you recruit who also takes part, up to a maximum of three persons.
- ★ The survey is completely anonymous and confidential. Your name is not recorded and cannot be linked to your answers. If you take an HIV test, you will need to go to the STD/HIV Prevention Program on Navy Hill with your Survey ID Card. Your results will be available in about 2-3 weeks.
- ★ Everyone involved in the survey has signed a declaration that they will not disclose any information obtained in the survey to anyone without the participant's consent. Show declaration.
- ★ You do not have to answer any question you do not want to. You may end the interview at any time
- ★ Your honest answers will help us understand what people think, say and do about certain behaviors.
- ★ We would much appreciate your help responding to the survey.
- ★ The survey will take about 40 minutes to complete.
- ★ Your decision whether or not to participate will not affect your relationship with project staff or NAPU or the Department of Public Health.

Participation:

(Check the appropriate box)

Would you be willing to participate?	<input type="checkbox"/> Yes → Interviewer sign next page and →Q101
	<input type="checkbox"/> No → Ask the following questions and finish.

For Refusers Only: Complete the following:

For survey purposes, would you mind telling me your age?	_ _ Age in years <input type="checkbox"/> No answer/refused
Record the person's sex	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender
Which country were you born in?	<input type="checkbox"/> CNMI <input type="checkbox"/> Philippines <input type="checkbox"/> Other _____
Would you mind telling me why you do not wish to participate?	<input type="checkbox"/> Too busy <input type="checkbox"/> Not interested <input type="checkbox"/> Too personal <input type="checkbox"/> Other _____ Thank you for your time. Goodbye (REFUSERS STOP HERE)

Signature of interviewer

I hereby declare that the respondent has given verbal informed consent to be interviewed.

I also hereby declare that I will not disclose any information provided to me by the respondent unless the respondent first agrees to this disclosure.

Interviewer Signature: _____ Date (mm/dd/yyyy): ___/___/_____

Record of Recruitment Card Distribution											
How would you describe your relationship with the person who recruited you into this survey?	<input type="checkbox"/> Closer than a friend <input type="checkbox"/> Friend <input type="checkbox"/> Acquaintance <input type="checkbox"/> Stranger <input type="checkbox"/> Other _____										
Please can you estimate how many men or transgender persons (aged 18 years or older and living in the CNMI) you know who have sex with other men (and who also know you), and who you have seen at least once in the last 12 months? Take time to think about your answer and give your best estimate if you cannot remember exactly how many.	_ _ _										
Number of recruitment cards given out (<i>maximum = 3</i>) Remind participants to only give cards to MSM aged over 18 years whom they know. They will only be paid for recruitment if the people they recruit participate in the survey.	_										
ID Numbers on the recruitment cards given out (ID Number of this respondent plus an extra digit (1, 2, or 3))											

Interviewer Checklist (Complete at end of interview)	Yes	No
Participant had sufficient information about survey and information sheet	<input type="checkbox"/>	<input type="checkbox"/>
Interview completed – all skip questions answered correctly	<input type="checkbox"/>	<input type="checkbox"/>
Participants ID number recorded on all pages of interview form	<input type="checkbox"/>	<input type="checkbox"/>
Recruitment cards distributed and numbers recorded above	<input type="checkbox"/>	<input type="checkbox"/>
Participant received \$10 gas card	<input type="checkbox"/>	<input type="checkbox"/>
OraSure testing offered	<input type="checkbox"/>	<input type="checkbox"/>
OraSure testing accepted	<input type="checkbox"/>	<input type="checkbox"/>
Initial _____	Date: ____/____/____	
Supervisor Checklist	Yes	No
Form complete and ready for data entry (check skips followed correctly)	<input type="checkbox"/>	<input type="checkbox"/>
Initial _____	Date: ____/____/____	

The following instrument is based on the FHI 2000 HIV/AIDS/STD Behavioral Survey for MSM.
It was modified for use in the Pacific by SPC in association with UNSW and WHO.
It was further adapted for use with MSM in CNMI by SPC (B. DeLisle).

Behavioural Surveillance Survey (BSS), CNMI 2006

Healthy Man's Survey – Interview Form

Interviewer's Name _____ Interview Date (mm/dd/yyyy) ___/___/___	
Ques	Section One: Background Characteristics
101	What sex are you/do you identify with? (<input checked="" type="checkbox"/> one) <input type="checkbox"/> Male <input type="checkbox"/> Transgender <input type="checkbox"/> Female
In what year were you born?	
102	_ _ _ _ Year <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
How old were you at your last birthday? (Compare with Q102 and correct if needed)	
103	_ _ Age in completed years <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
104	Which country or state were you born in? <input type="checkbox"/> CNMI(→Q105) <input type="checkbox"/> Guam <input type="checkbox"/> Chuuk <input type="checkbox"/> Kosrae <input type="checkbox"/> Pohnpei <input type="checkbox"/> Yap <input type="checkbox"/> Palau <input type="checkbox"/> Philippines <input type="checkbox"/> Marshall Is <input type="checkbox"/> Hawaii <input type="checkbox"/> USA <input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer/refused
104b	What year did you first arrive in CNMI? _ _ _ _ Year <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
To which ethnic group do you belong?	
<input type="checkbox"/> Micronesia (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru)	
<input type="checkbox"/> Melanesia (Fiji, PNG, New Caledonia, Solomon Is, Vanuatu)	
<input type="checkbox"/> Polynesia (Cook Is, Samoa, US Samoa, Niue, Fr Poly, Tokelau, Tonga, Tuvalu, Wallis/Futuna)	
105	<input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Chinese <input type="checkbox"/> Taiwanese <input type="checkbox"/> Other Asian <input type="checkbox"/> Indian Subcontinent (Nepalese, Indian, Pakistan, etc) <input type="checkbox"/> Caucasian <input type="checkbox"/> Mixed ethnicity <input type="checkbox"/> Other _____ <input type="checkbox"/> Don't know <input type="checkbox"/> No answer
106	Which village are you currently living in: _____
Are you currently living in an: (Read out responses):	
107	<input type="checkbox"/> Urban area or Village center <input type="checkbox"/> Outer edges of village <input type="checkbox"/> Isolated area or boonie area <input type="checkbox"/> No answer/refused
How long have you lived in your current place of residence? (Record "00" if less than one year)	
108	_ _ Completed years <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
In the last 12 months have you been away from your home for more than one month <u>continuously</u> ?	
109	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
What is the <u>highest level</u> of education you have <u>completed</u> – Elementary, Middle or High School, or Higher (eg college, polytechnic, university)?	
110	<input type="checkbox"/> Never attended school <input type="checkbox"/> Middle school <input type="checkbox"/> Some Elementary School <input type="checkbox"/> High school <input type="checkbox"/> Elementary school <input type="checkbox"/> Higher (eg college, technical) <input type="checkbox"/> No answer

What is your occupation?

Home Duties Clerical/Office work Domestic help
 Transport worker (*eg driver*) Fisherman/seafarer
 Police/Military/Security
 Farmer Businessman Entertainment/Bar work
111 Factory/Garment worker Construction/Laborer Food Service
 Hotel/Tourism/food service Retail/Sales Assistant Health care worker
 Student/teacher/teacher aid Airline More than one job
 Dry cleaning/laundry service Automotive/gas/dealership
 Self employed
 Landscaping/construction Professional (*eg Dr, lawyer*) Not employed
 Other (*specify*) _____ No answer/refused

Section Two: Marital Status

201 Have you ever been married to a woman? That is, in a formal or legal ceremony in a court, or church or under CNMI or another country's law?
 Yes No (**→Q203**) No answer/refused

202 How old were you when you first married? Give your best estimate if you cannot remember exactly.
|_|_| Years Don't know No answer/refused

203 Are you currently... (**Read out options and response**)
 Married Not married No answer/refused

204 Are you currently... (**Read out options and response**)
 Living with a female spouse Living with a male sex partner
 Living with a female sex partner (not married) Not living with any sex partner
 No answer/refused

Section Three: Sexual History and Oral Sex

Read out: Now I would like to ask you some questions about your sexual partners. Please take time to think about your answers so that we can get the most accurate information possible. Remember, this information is anonymous and strictly confidential.

301 How old were you when you first had sex? Sexual intercourse or "sex" is either oral, vaginal or anal sex. It includes any commercial or transactional sex (where money, goods or other resources were exchanged for sex). Take your time and give your best estimate if you cannot remember exactly how old you were.
|_|_| Years old Don't know No answer/refused

302 Have you ever heard of a male condom? (**Show a picture or sample of one**)
 Yes No No answer/refused

303 Have you ever heard of a female condom? (**Show a picture or sample of one**)
 Yes No No answer/refused

304 Have you and a sex partner ever used a condom? (**Can both male and female condom**)
 Yes, male condom Yes, female condom No No answer/refused

305 In the last 6 months, have you had oral sex with any male or transgender partners? That is, where another man put his penis in your mouth or you put your penis in his mouth?
 Yes No (**→Q401**) No answer/refused

- 305a How many different male partners have you had oral sex with in the last 6 months? Take your time and give your best estimate if you cannot remember exactly.
 |_|_|_|_| Oral sex partners Don't know No answer/refused
-
- 305b Have you ever found it difficult to use a condom while having oral sex with a male partner?
 Yes No Don't know No answer/refused
-
- 305c The last time you had oral sex with a male partner, did you and this partner use a condom?
 Yes No Don't know No answer/refused
-
- 305d During the last 6 months, how often did you and all your male partners use a condom while having oral sex? (**Read out options "Every time" through to "Never" and response**)
 Every time Sometimes Don't know
 Almost every time Never No answer
-
- 305e In the last 6 months did either you ejaculate in another man's mouth or did a man ejaculate in your mouth without a condom on?
 Yes No Don't know No answer/refused

Section Four: Anal Sex

Now we are going to talk about your partners you have had anal sex with. We will divide these partners into four different groups: 1) Partners you live with; 2) Commercial partners; 3) Paying partners; and 4) Other, non-live-in, non-commercial partners.

- 401 In the last 6 months, have you had anal sex with any live-in male or transgender partners? Either insertive (your penis in his anus) or receptive (his penis in your anus) or both.
 Yes No (**→Q402**) No answer/refused

- 401a How many partners did you have anal sex with in the last 6 months? Take your time and give your best estimate if you cannot remember exactly how many?
 |_|_|_|_| Live-in partners Don't know No answer/refused

	Of these male partners, for how many were you:	Number of partners	Don't know	No answer/refused
401b	<u>Both</u> insertive and receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> insertive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
Total (should equal number in Q401a)		_ _ _	<input type="checkbox"/>	<input type="checkbox"/>

- 401c Have you ever found it difficult to use a condom during anal sex with a live-in partner?
 Yes No Don't know No answer/refused

- 401d The last time you had anal sex with a live-in, male or transgender partner, did you and this partner use a condom?
 Yes (**→Q401e**) No Don't know No answer/refused

Why didn't you and this last partner use a condom during anal sex? (all that apply)

- 401d
- None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Allergy to latex Don't know how to use one Don't know
 Other (specify) _____ No answer/refused

In the last 6 months, how often did you and all your live-in partners use a condom during anal sex? (Read out options "Every time" through to "Never" and response)

- 401e
- Every time Sometimes Don't know
 Almost every time Never No answer

402 In the last 6 months have you had anal sex with any commercial, male or transgender sex partners? These are partners whom you paid money or gave goods or resources for having sex with you (for example you gave them money, food, clothes, alcohol, drugs, housing/shelter, transportation or other things for sex. (chatmac/mistress relationships).

- Yes No (→Q403) No answer/refused

402a How many commercial partners did you have anal sex with in the last 6 months? Give your best estimate if you cannot remember exactly.

- |_|_|_| Commercial partners Don't know No answer/refused

	Of these commercial partners, for how many were you:	Number of partners	Don't know	No answer/ .refused
402b	<u>Both</u> insertive and receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> insertive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	Total (should equal number in Q402a)	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>

Thinking about your most recent commercial partner, what ethnicity were they?

- 402c
- Micronesian (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru)
 Other Pacific islander Asian (eg Filipino, Japanese, Korean, Chinese, Taiwan)
 Caucasian Mixed ethnicity Other _____
 Don't know No answer/refused

Where did you find/meet this most recent commercial partner?

Karaoke Bar Other Bar/Club/Disco Street Market
 Massage Parlor Internet/phone
Port/Harbor/Wharf/Boat
402d Private House Hotel/Motel via Advert/Business
card
 Fiesta/party/picnic Porn shop/Adult video store Friend/Social gathering
 Sports Event Beach School
 Roadside Pick-up Other: _____ No answer/refused

402e Have you ever found it difficult to use a condom during anal sex with a commercial partner?
 Yes No Don't know No answer/refused

402f The last time you had anal sex with a commercial partner, did you and this partner use a condom?
 Yes (**→Q402g**) No Don't know No answer

402fi Why didn't you and this last commercial partner use a condom during anal sex? (**all that apply**)

None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Allergy to latex Don't know how to use one Don't know
 Other (*specify*) _____ No answer/refused

402g In the last 6 months, how often did you and all your commercial partners use a condom during anal sex? (**Read out options "Every time" through to "Never" and response**)

Every time Sometimes Don't know
 Almost every time Never No answer

403 In the last 6 months has any male or transgender partner paid you money or given you goods or resources for having anal sex with them? (for example they gave you money, food, clothes, alcohol, drugs, housing/shelter, transportation or other things for sex).
 Yes No (**→Q404**) No answer/refused

403a How many paying/giving male partners have you had anal sex with in the last 6 months? Give your best estimate if you cannot remember exactly.
|_|_|_|_| Paying partners Don't know No answer/refused

	Of these paying/giving partners, for how many were you:	Number of partners	Don't know	No answer/refused
403b	<u>Both</u> insertive and receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> insertive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	Total (should equal number in Q403a)	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>

403c What ethnicity was this most recent paying/giving sex partner?

Micronesian (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru)
 Other Pacific islander Asian (eg Filipino, Japanese, Korean, Chinese, Taiwan)
 Caucasian Mixed ethnicity Other _____
 Don't know No answer/refused

403d Where did you find/meet this most recent paying/giving sex partner?

Karaoke Bar Other Bar/Club/Disco Street Market
 Massage Parlor Internet/phone Port/Harbor/Wharf/Boat
 Private House Hotel/Motel via Advert/Business card
 Fiesta/party/picnic Porn shop/Adult video store Friend/Social gathering
 Sports Event Beach School
 Roadside Pick-up Other: _____ No answer/refused

403e Have you ever found it difficult to use a condom during anal sex with a paying/giving partner?

Yes No Don't know No answer/refused

403f The last time you had anal sex with a paying/giving partner, did you and this partner use a condom? Yes (**→Q403g**) No Don't know No answer

403fi Why didn't you and your last paying/giving partner use a condom during anal sex?
 all that apply

None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Allergy to latex Don't know how to use one Don't know
 Other (*specify*) _____ No answer/refused

403g In the last 6 months, how often did you and all your paying/giving partners use a condom during anal sex? (**Read out options "Every time" through to "Never" and response**)

Every time Sometimes Don't know
 Almost every time Never No answer

404 In the last 6 months have you had anal sex with any other male or transgender sex partners whom you do not live with and where no money or resources were exchanged for sex? (ie non-live-in, non-commercial partners)

Yes No (**→Q405**) No answer/refused

404a How many non live-in, non-commercial partners did you have anal sex with in the last 6 months? Give your best estimate if you cannot remember exactly.

|_|_|_| Non-live-in, non-commercial partners Don't know No answer/refused

	Of these partners, for how many were you:	Number of partners	Don't know	No answer/refused
404b	<u>Both</u> insertive and receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> insertive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Only</u> receptive	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>
	Total (should equal number in Q404a)	_ _ _	<input type="checkbox"/>	<input type="checkbox"/>

During the last 6 months, where did you meet or look for male or transgender sex partners?
 all that apply and circle the most common

404c

Karaoke Bar Other Bar/Club/Disco Street Market

Massage Parlor Internet/phone

Port/Harbor/Wharf/Boat

Private House Hotel/Motel via Advert/Business card

Fiesta/party/picnic Porn shop/Adult video store Friend/Social gathering

Sports Event Beach School

Roadside Pick-up Other: _____ No answer/refused

404d Have you ever found it difficult to use a condom during anal sex with a non-live-in, non-commercial male or transgender partner?

Yes No Don't know No answer/refused

404e The last time you had anal sex with a non-live-in, non-commercial partner, did you and this partner use a condom?

Yes (**→Q404f**) No Don't know No answer/refused

Why didn't you and this last non-live-in, non-commercial partner use a condom during anal sex? (**all that apply**)

404ei

None easily available Too expensive I didn't want to

Partner didn't mention it Partner didn't want to Partner looked healthy

I trusted partner I don't like condoms I didn't think of it

Sex doesn't feel as good Didn't think it necessary Didn't want to offend

Too drunk/high to use one Didn't want to lose the opportunity for sex

Allergy to latex Don't know how to use one Don't know

Other (*specify*) _____ No answer/refused

404f In the last 6 months, how often did you and all your non-live-in, non-commercial partners use a condom during anal sex? (**Read out "Every time" through to "Never" and response**)

Every time Sometimes Don't know

Almost every time Never No answer

Section Five: Sexual History with Females	
501	Have you ever had sex with a woman (excluding transgender persons)? Sex is defined here as either vaginal or anal sex. <input type="checkbox"/> Yes <input type="checkbox"/> No (→Q601) <input type="checkbox"/> No answer/refused

501a In the last 6 months, how many female sex partners have you had? Give your best estimate if you cannot remember exactly how many.
 |_|_|_| Female partners (if 0 → Q601) Don't know No answer/refused

501b Thinking about your most recent female sex partner, what is your relationship to this partner?
 Wife/Live-in Girlfriend Non-live-in, non-commercial partner
 Female sex worker Other: _____ No answer/refused

501c Have you ever found it difficult to use a condom during sex with a female partner?
 Yes No Don't know No answer/refused

501d The last time you had sex with a female partner, did you and this partner use a condom?
 Yes (→ Q501e) No Don't know No answer/refused

501di Why didn't you and this last female partner use a condom during sex? (all apply)
 None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Trying to have a baby Other contraception Allergy to latex
 Don't know how to use one Don't know
 Other (specify) _____ No answer/refused

501e In the last 6 months, how often did you and all your female partners use a condom during sex? (**Read out options "Every time" through to "Never" and response**)
 Every time Sometimes Don't know
 Almost every time Never No answer

Section Six: Sexually Active Men

601 Just to recap, the last time you had anal sex with ANY male or transgender partner, was a condom used?
 Yes No Don't know No answer/refused

602 During the last 6 months has there been any time when you have had two or more, separate sexual relationships (male or female) during the same time period, that is, overlapping relationships?
 Yes No No answer/refused

603 In the last 6 months, have you had sex with two or more people at the same time (in a group)?
 Yes No (→ Q604) No answer/refused

603a The last time you had sex in a group, were condoms used by you and all your sex partners?
 Yes No Don't know No answer/refused

604 In the last 12 months have you traveled away to another country outside of the CNMI?
 Yes No (→ Q605) No answer/refused

604a While you were away, did you have sex with anyone who does not live in the CNMI and whom you are not married to or living with in an ongoing relationship?
 Yes No (**→Q605**) No answer/refused

604b How many partners did you have sex with outside the CNMI? Give your best estimate if you cannot remember exactly. These overseas partners may be some or all of the same partners stated above (**in Sections 3, 4 and 5**).
 |_|_|_| Partners Don't know No answer/refused

604c Think of your most recent (non-spouse/ongoing) sex partner outside the CNMI, were they male, transgender or female?
 Male Transgender Female Don't know No answer/refused

604d The last time you had sex with this partner outside of CNMI, did you and this partner use a condom?
 Yes No Don't know No answer/refused

604e In the last 12 months, how often did you and all your sex partners outside the CNMI use a condom during sex? (**Read out options "Every time" through to "Never"**)
 Every time Sometimes Don't know
 Almost every time Never No answer

605 Has any sex partner ever forced you to have sex, even though you did not want to?
(Arrange referral for counseling at end of interview if appropriate)
 Yes No (**→Q701**) No answer/refused

605a What is your relationship with the person who forced you to have sex?
 Partner Parent Other relative Neighbor
 Friend Work colleague Other: _____ No answer

Section Seven: Sexually Transmitted Infections (STIs)

701 Have you ever heard of diseases that can be transmitted (caught) during sex?
 Yes No (**→Q703**) No answer/refused

702 Have you ever been diagnosed with a sexually transmitted disease or infection by a doctor or health worker?
 Yes No (**→Q703**) No answer/refused

702a What disease(s)/infection(s) were you diagnosed with...? (**all that apply**)
 Genital Warts Chlamydia Syphilis Thrush
 Genital Herpes Gonorrhea Trichomonas HIV
 Other (*specify*) _____ Don't know No answer

703	In the last 12 months have you had a ...	Yes	No	Don't Know	No answer/refused
	Foul smelling, discolored or painful genital discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Foul smelling, discolored or painful anal discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Genital ulcer or sore?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Anal ulcer or sore?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Burning, sharp pain or blood on urination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If NO to all, skip to 701					

704 In the last 12 months, have you ever sought treatment for any of these genital or anal symptoms (eg discharge, ulcer, sore or pain)?

Yes (**→Q704b**) No No answer/refused

Why have you not sought treatment? (**Go to Q801 after this question**)

704a Too scared/embarrassed Too public Too busy

Afraid of partner Might be painful Too expensive

No insurance Language barrier No transport

Didn't know what to do about it/general lack of knowledge about available services

Symptoms cleared up Don't know

Other: _____ No answer/refused

704b Where did you last seek treatment for any genital or anal symptoms?

Hospital HIV/STD clinic on Navy Hill Public health clinic

Private/personal doctor Pharmacy/Drug Store Traditional healer

Treated off-island Used someone else's medicine

Other: _____ No answer/refused

704c Were your sexual partner(s) also treated?

Yes No Don't know No answer/refused

Remember to refer participant to STI clinic at end of interview if they have untreated STI symptoms

Section Eight: Alcohol and Drug Use and Tattooing

Read out: Now I would like to ask you about alcohol and drug use

801 During the last 12 months, how often did you have drinks containing alcohol such as beer, wine, liquor, tuba, sakaw, yeast, choriu, etc. Would you say... (**Read out responses through to "Never" & one**)

4 or more times a week 2 to 4 times a month Never (**→Q804**)

Don't know 2 to 3 times a week Monthly or less No answer

802 During the last 12 months, how many standard drinks containing alcohol did you have on a typical occasion when drinking? A standard drink is a cup of yeast, sakaw or chirou, a can a beer, a glass of wine or port, a shot of liquor etc. Would you say... (**Read out responses through to "1 or 2" & one**)

20 or more 7, 8 or 9 3 or 4 Don't know

10-19 5 or 6 1 or 2 No answer/refused

803 During the last 12 months, how often did you have five or more drinks on one occasion? (**Read out responses through to "Never" and one**)

Daily or almost daily Monthly Never Don't know

Weekly Less than monthly No answer

Read out: Next we would like to ask you about recreational drug use. Remember that all your responses are completely anonymous and confidential and will not be released to anyone.

804	Have you <u>ever</u> tried... (If “Yes”, ask if used in last 12 months and 30 days)	No	Yes, (ever tried)	If Yes, Used in last 12 months?	If Yes, Used in last 30 days?	No answer/ refused
	Tobacco (including chewing/snuff)	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Betel Nut	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Marijuana/Cannabis/weed/Pakalolo	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Sakaw / Kava	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Speed/Base/Other amphetamines	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Ice / Crystal meth/Shabu-shabu	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Ecstasy/E/Eccies	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Inhalants/sprays/gasoline/propane	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	LSD/Acid/Hallucinogens	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Cocaine/Crack	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Heroin	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Steroids (non-medical use)	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Viagra/Cialis/sex enhancers	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>
	Other: _____		<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>	<input type="checkbox"/>

805 Some people have tried injecting drugs using a syringe. In the last 12 months, have you injected drugs? (not including drugs injected for medical reasons or treatment of an illness like diabetes).
 Yes No (→Q806) No answer/refused

805a Have you ever found it difficult to find needles, syringes or other injecting equipment such as swabs and spoons that were NOT previously used by someone else?
 Yes No Don't know No answer/refused

805b Think about the last time you injected drugs. Where did you get the needle from? (**Read out and only one**)
 Off-island drug store Friend/Relative Animal Feed Store
 Other _____ Don't know No answer/refused

805c Think about the last time you injected drugs. Did you use a needle or syringe or other injecting equipment like swabs or spoons that had previously been used by someone else?
 Yes No Don't know No answer/refused

805d Thinking about the times you injected drug in the last month, how often did you inject with a needle, syringe or other injecting equipment that had previously been used by someone else? Would you say... (**Read out all responses through to “Always”**)
 No injecting in last month Occasionally Most times Don't know
 Never About ½ the time Always No answer

806 Have you ever had a permanent tattoo?
 Yes No (→Q901) No answer/refused

806a

Who was your last tattoo performed by?

- Tattoo parlor Amateur tattooist (informal) Traditional artist
 Friend/relative Other (*specify*) _____ No answer/refused

Section Nine: HIV/AIDS Knowledge, Attitudes and Access to Testing

Read out: HIV is a virus (infection) that can be passed from person to person. It can make people sick. When people get sick with HIV this is called AIDS.

- 901 Before this survey, had you ever heard of HIV, or the disease called AIDS?
 Yes No (**→Section 10**) No answer/refused

- 902 Do you know anyone personally who has HIV or AIDS or who has died of an AIDS related illness?
 Yes No (**→Q903**) Don't know (**→Q903**) No answer/refused

Read out: Now I'm going to read you some statements about how the virus HIV may be passed from person to person. For each statement, please indicate whether you think it is True, False or you don't know. (It is OK not to know).

- 903 A person can reduce their chance of getting HIV, the virus that causes AIDS, by using a condom correctly every time they have sex.
 True False Don't know No answer/refused

- 904 A person can reduce their chance of getting HIV, the virus that causes AIDS, by avoiding anal sex.
 True False Don't know No answer/refused

- 905 A person can get HIV by sharing a meal with someone who has HIV or AIDS.
 True False Don't know No answer/refused

- 906 A person can get HIV from mosquito bites.
 True False Don't know No answer/refused

- 907 A person can reduce their chance of getting HIV by having only one, uninfected, faithful sex partner.
 True False Don't know No answer/refused

- 908 A person can reduce their chance of getting HIV by abstaining from sexual intercourse.
 True False Don't know No answer/refused

- 909 A healthy looking person can have HIV.
 True False Don't know No answer/refused

- 910 A person can get HIV by having injections with a needle or syringe that has already been used by someone else.
 True False Don't know No answer/refused

- 911 A pregnant woman who has HIV or AIDS can pass HIV on to her unborn baby.
 True False Don't know No answer/refused

- 912 A woman who has HIV or AIDS can pass HIV on to her newborn baby through breastfeeding.
 True False Don't know No answer/refused

913 A person can get HIV from the saliva of someone who has HIV.
 True False Don't know No answer/refused

914 Only gay men get HIV.
 True False Don't know No answer/refused

Read out: The next few questions are about HIV testing

915 Is it possible in your community for someone to get a confidential test result to find out if they have HIV? Confidential means no one will know the result if the person being tested doesn't want them to know.
 Yes (**→Q916**) No Don't know No answer/refused

915a Why can't you get a confidential HIV test result? (**all that apply**)
 HIV testing is not available Inconvenient clinic hours
 Inconvenient location Testing site too public
 Results not kept confidential No answer/refused
 Other (*specify*) _____

916 Please don't tell me the result, but have you ever had an HIV test?
 Yes No (**→Q917**) Don't know No answer/refused

916a When did you have your most recent HIV test?
 In the last 3 months In the last 12 months Over a year ago
 Not tested Don't know No answer/refused

916b Did you voluntarily have your most recent HIV test or were you required to have the test?
 Voluntary Required Don't know No answer/refused

916c Did you receive information and/or counselling before your most recent test?
 Yes No Don't know No answer/refused

916d Please don't tell me the result, but did you receive the result of your most recent test?
 Yes No Don't know No answer/refused

916e Did you receive information and/or counselling after your most recent test?
 Yes No Don't know No answer/refused

917 Did any of the following items contribute to you not getting an HIV test done in the CNMI? (**Read out and check all that apply**)
 There is a language barrier at the testing sites offered
 My culture doesn't approved or support the idea of getting an HIV test done
 I don't want to know if I have HIV
 I could not find a test site where the staff consisted of a culture that made me feel comfortable
 I thought it would be too expensive to get tested/did not know the HIV testing was free at PHD.

918 The following is a list of HIV prevention activities. Prior to this interview, have you ever.....?

(Read out all activities and <input checked="" type="checkbox"/> appropriate responses)	Yes	No
Participated in an HIV peer education program	<input type="checkbox"/>	<input type="checkbox"/>
Received STD screening	<input type="checkbox"/>	<input type="checkbox"/>
Heard messages about HIV or AIDS on radio	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on TV	<input type="checkbox"/>	<input type="checkbox"/>
Read messages about HIV or AIDS in newspapers	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on billboards	<input type="checkbox"/>	<input type="checkbox"/>
Read leaflets or pamphlets about HIV or AIDS	<input type="checkbox"/>	<input type="checkbox"/>
Obtained information on HIV or AIDS from the internet	<input type="checkbox"/>	<input type="checkbox"/>
Seen the "Mr Right Guy" film or CD?	<input type="checkbox"/>	<input type="checkbox"/>
Participated in an HIV education program (eg workshop, school program)	<input type="checkbox"/>	<input type="checkbox"/>
Attended HIV community event (eg World AIDS day, public meeting, drama production)	<input type="checkbox"/>	<input type="checkbox"/>
Discussed HIV or AIDS with others such as friends, family members and work colleagues	<input type="checkbox"/>	<input type="checkbox"/>
Seen the Prutehi Hao films on TV or in the theatre	<input type="checkbox"/>	<input type="checkbox"/>
Received HIV information from outreach workers visiting the community/village	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever heard of the Napu Life Foundation?	<input type="checkbox"/>	<input type="checkbox"/>

Section Ten: Stigma and Discrimination

We have almost reached the end of the interview. The final statements are about your attitudes and beliefs. For each statement please indicate if you strongly agree, agree, disagree, strongly disagree or don't know. There are no right or wrong answers, we are just interested in your honest opinions.

1001 You would be willing to share a meal with a person whom you know has HIV or AIDS.

- Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

1002 If you knew a shopkeeper or food seller had HIV or AIDS, you would still buy food from them.

- Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

1003 If a relative of yours became ill with HIV or AIDS, you would be willing to care for them in your household.

- Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

If a member of your family became ill with HIV or AIDS, you would want it to remain a secret.

- 1004 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

All newcomers to the CNMI should be tested for HIV.

- 1005 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

The names of all persons with HIV or AIDS should be displayed in a public place for everyone to see

- 1006 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

People with HIV or AIDS should be made to live apart from the general community.

- 1007 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

Knowingly passing HIV onto someone else should be a criminal offence.

- 1008 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

Have you ever felt discriminated against because of your sexual orientation?

- 1009 Yes No Don't know No answer/refused

Do you have a primary care physician that you routinely attend for health care?

- 1010 Yes No Don't know No answer/refused

At any time, have you ever felt discriminated against by your primary healthcare provider because of your sexual orientation?

- 1011 Yes No Don't know No answer/refused

Are you able to freely discuss your sexual orientation with your primary healthcare provider?

- 1012 Yes No Don't know No answer/refused

And finally, please can you tell me what religion are you?

- 1101 Catholic Mormon SDA Episcopal
 Pentecostal Protestant Buddhist Evangelica
 Hinduism Muslim Jehovah's Assembly of God
 Methodist Lutheran Baptist Apostolic
 Presbyterian Non-denominational Baha'i No religion
 Christian Other _____ No answer/refused

Section Twelve: Concluding Remarks, Interventions and Referrals

Read out: This is the end of the interview. Thank you very much for taking the time to answer the questions

- ★ Is there anything you would like to ask me?
- ★ Would you like to take home this information leaflet?
- ★ Would you like some condoms?

Health information provided?	<input type="checkbox"/> Verbal	<input type="checkbox"/> Printed	<input type="checkbox"/> No
Referral for STI symptoms?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Referral to other source? (eg for more information)	<input type="checkbox"/> Yes (<i>specify</i>)	_____	<input type="checkbox"/> No
Condoms provided?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Comments on Interview (<i>if required</i>)			

Provide participants with survey recruitment cards and record numbers on cover page

OraSure testing and counseling done

Complete checklist on cover page

Place questionnaire in box provided

Unmarried Male and Female Youth (18-24years)
CNMI 2006
Participant Information Sheet

You are invited to take part in a survey to help improve the health of people in the CNMI. The survey involves asking people about their sexual behaviors. The survey is gathering information about behaviour which may put people at risk of sexually transmitted infections (STIs) including Human Immunodeficiency Virus (HIV). The results of this survey will help the Department of Health to try to reduce these infections in the CNMI.

- ★ **Confidential** - Nobody will know you have participated in the survey and no one will be told your answers to the questions or to any test results.
- ★ **Easy** - The survey involves a short interview.
- ★ **Useful** - The result of this survey will help to guide health services to reduce STIs and prevent people from becoming infected.
- ★ **Voluntary** – Participation is voluntary. You do not have to answer any question you do not want to and you can withdraw from the survey at any time.

The survey consists of a 30 minute interview. All responses will remain completely confidential. Only a survey code number - no names - will appear on the interview sheet. At the completion of the project, results of all participants will be combined and analyzed as a group. No individual results will be reported. The results will be used to help the Ministry of Health make decisions but there will be no way of identifying you in any report.

If you agree to participate, we will ask you some questions about yourself (age, education etc), your sexual behavior (age at first sex, types of partners, use of condoms etc), alcohol and drug use and HIV knowledge. It is important that you answer the questions truthfully, however if you are uncomfortable answering any question the interviewer will respect your decision not to answer. Remember all responses are completely confidential.

The survey will be very useful for the Department of Health to improve health services, as well as develop HIV/STI prevention programs. If you would like a copy of the results (expected towards the end of 2006) please call the HIV/AIDS Program on 664-4050.

Your decision to participate or not will not in any way affect your relationship, your access to care, or the nature of any healthcare services with the Department of Health or any other public health service, or the Northern Marianas College. You are free to withdraw from the survey at any time. If you have any questions or concerns about the survey, please ask the survey staff today and/or do not hesitate to contact Ed Diaz, Acting HIV/AIDS Program Coordinator on 236-8703. If you have any complaints about the survey, please contact: Mr. Joe Villagomez, Secretary of Public Health, at 236-8201.

BSS-Youth Survey, CNMI 2006

[A | 1 | 7 | |]

**Unmarried Male and Female Youth 18-24, CNMI
2006
SURVEY COVER SHEET**

Introduction:

“Hello, my name is _____
[interviewer’s name].

I’m working for _____
[organization’s name].

We are conducting a survey to find out more about HIV and who may be at risk here in CNMI.”

8.6.1.1.1.1.1.1 Survey ID Number: (Fill in the table using the following numeric codes)

Country code	Survey type	Population type	Survey location	Survey participant number
A=CNMI	1=BSS	7=Youth	1=NMC Saipan 2= 3= <i>(Add further site codes if required)</i>	<i>Number interviews sequentially from 001</i>
A	1	7		

Eligibility:

8.6.1.1.1.1.2 Before we start, I just need to check you:

1. Have NOT previously been interviewed	<input type="checkbox"/> Yes 1 st time	<input type="checkbox"/> No, interviewed already → DO NOT PROCEED
2. Are aged between 18 and 24 years	<input type="checkbox"/> Yes	<input type="checkbox"/> No → DO NOT PROCEED
3. Are not married or living with a sexual partner for 12 months or more	<input type="checkbox"/> Yes, Single	<input type="checkbox"/> No, married or live with partner → DO NOT PROCEED

Confidentiality & Informed consent:

- ★ This survey includes some personal questions that some people find difficult to answer.
- ★ The survey is anonymous. Your name is not collected and cannot be linked to anything you tell me.

- ★ Everyone involved in conducting the survey has sworn not to release any collected information to anyone without the participant's consent. (**Show interviewer declaration**).
- ★ You do not have to answer any questions you do not want to. You may end the interview any time you want to.
- ★ However, your honest answers will help us understand what people like yourself think, say and do about certain behaviors.
- ★ We would much appreciate your help responding to this survey.
- ★ The survey will take about 30 to 40 minutes to complete.
- ★ Whether you participate or not will not affect your relationship with the Department of Public Health or the Northern Marianas College or access to health services.

Participation:

(Check the appropriate box)

Would you be willing to participate?	<input type="checkbox"/> Yes → Interviewer sign next page and →Q101
	<input type="checkbox"/> No → Ask the following questions

For Refusers Only: Complete the following:

For survey purposes, would you mind telling me your age?	_ _ Age in years <input type="checkbox"/> No answer/refused
Record the person's sex	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender
Which country were you born in?	<input type="checkbox"/> CNMI <input type="checkbox"/> Philippines <input type="checkbox"/> Other _____
Would you mind telling me why you do not wish to participate?	<input type="checkbox"/> Too busy <input type="checkbox"/> Not interested <input type="checkbox"/> Too personal <input type="checkbox"/> Other _____
Thank you for your time. Goodbye.	

Signature of interviewer

I hereby declare that the respondent has given verbal informed consent to be interviewed.

I also hereby declare that I will not disclose any information provided to me by the respondent unless the respondent first agrees to this disclosure.

Interviewer Signature: _____

Date (mm/dd/yyyy): ____/____/____

Interviewer Checklist (Complete at end of interview)	Yes No
Participant had sufficient information about survey	<input type="checkbox"/> <input type="checkbox"/>
Interview / questionnaire completed – all skip questions answered correctly	<input type="checkbox"/> <input type="checkbox"/>
Syndromic diagnosis with treatment given (if any symptoms)	<input type="checkbox"/> <input type="checkbox"/>
Information and education about HIV/STIs given	<input type="checkbox"/> <input type="checkbox"/>
Condoms offered if appropriate	<input type="checkbox"/> <input type="checkbox"/>
Initial and date:	
Supervisor Checklist	Yes No
Form complete and ready for data entry (<i>check skips followed correctly</i>)	<input type="checkbox"/> <input type="checkbox"/>
Initial and date:	

The following survey is based on the FHI HIV/AIDS/STD Behavioral Survey for Youth. It was modified for use in the Pacific by University of NSW in association with WHO & SPC. It was further adapted for use with youth in CNMI by SPC (B. DeLisle).

Youth Health Survey – INTERVIEW FORM

	Interviewer Name _____	Interview Date (mm/dd/yyyy) __/__/__
Ques	Section One: Background Characteristics	
101	Check (<input checked="" type="checkbox"/>) the sex of respondent	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender
102	In what year were you born? _ _ _ _ Year	<input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
103	How old were you at your last birthday? (Compare with Q102 and correct if needed) _ _ Age in completed years	<input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
104	Which country were you born in? <input type="checkbox"/> CNMI (→Q105) <input type="checkbox"/> Philippines <input type="checkbox"/> Other (<i>specify</i>) _____	<input type="checkbox"/> No answer
104a	What year did you first arrive in CNMI? (Give your best estimate if necessary) _ _ _ _ Year	<input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
105	To which ethnic group do you belong? <input type="checkbox"/> Micronesia (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru) <input type="checkbox"/> Melanesia (Fiji, PNG, New Caledonia, Solomon Is, Vanuatu) <input type="checkbox"/> Polynesia (Cook Is, Samoa, US Samoa, Niue, Fr Poly, Tokelau, Tonga, Tuvalu, Wallis/Futuna) <input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Chinese <input type="checkbox"/> Taiwanese <input type="checkbox"/> Other Asian <input type="checkbox"/> Indian Subcontinent (Nepalese, Indian, Pakistan, etc) <input type="checkbox"/> Caucasian <input type="checkbox"/> Mixed ethnicity <input type="checkbox"/> Other _____ <input type="checkbox"/> Don't know <input type="checkbox"/> No answer	
106	Are you currently living in a (an): (Read out the response): <input type="checkbox"/> Urban area or Village center <input type="checkbox"/> Outer edges of village <input type="checkbox"/> Isolated area or boonie area <input type="checkbox"/> No answer/refused	
107	Which village are you currently living in? _____	
108	Do you presently live: (Read out and check one response) <input type="checkbox"/> Alone <input type="checkbox"/> With family/relatives <input type="checkbox"/> With employer <input type="checkbox"/> With peers/friends <input type="checkbox"/> With co-workers/students <input type="checkbox"/> On street <input type="checkbox"/> Other: _____ <input type="checkbox"/> No answer/refused	
109	How long have you lived in your current place of residence? (Record as "0" if less than one year) _ _ completed years <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused	
110	In the last 12 months have you been away from your home for more than one month continuously? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused	

111	<p>What is the <u>highest level</u> of education you have <u>completed</u> – Elementary, Middle or High School, or Higher (eg college, polytechnic, university)?</p> <p><input type="checkbox"/> Never attended school <input type="checkbox"/> Middle school</p> <p><input type="checkbox"/> Some Elementary School <input type="checkbox"/> High school</p> <p><input type="checkbox"/> Elementary school <input type="checkbox"/> Higher (eg college, technical) <input type="checkbox"/></p> <p>No answer</p>
112	<p>What is your occupation?</p> <p><input type="checkbox"/> Student only/not working <input type="checkbox"/> Student & working (<input checked="" type="checkbox"/> job from list below)</p> <p><input type="checkbox"/> Housewife/Home Duties <input type="checkbox"/> Clerical/Office work <input type="checkbox"/> Domestic help (maid/nanny)</p> <p><input type="checkbox"/> Factory/Garment worker <input type="checkbox"/> Construction/Laborer <input type="checkbox"/> Hotel/Tourism/food service</p> <p><input type="checkbox"/> Retail/Sales Assistant <input type="checkbox"/> Health care worker <input type="checkbox"/> Student teacher/teacher aid</p> <p><input type="checkbox"/> Dry cleaning/laundry service <input type="checkbox"/> Automotive/gas/dealership <input type="checkbox"/> Self employed</p> <p><input type="checkbox"/> Landscaping/construction <input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer</p>

Q	Section Two: Sexual History
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Read out: Now I'd like to ask you some questions about your sexual partners... We know that some young people have had sex and some have sex with more than one person. Please take your time to think about your answers and try to answer the questions honestly. Remember, your name is not recorded – the survey is completely anonymous and confidential

201	<p>Have you ever had sexual intercourse? (Sexual intercourse or "sex" is vaginal or anal sex and includes any commercial sex where money, goods or resources were exchanged for sex).</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (→Q204) <input type="checkbox"/> No answer/refused</p>
202	<p>How old were you when you <u>first</u> had sex? Take your time and give your best estimate if you cannot remember exactly.</p> <p> _ _ years old <input type="checkbox"/> Don't remember <input type="checkbox"/> No answer/refused</p>
203	<p>How much older or younger than you was the person with whom you first had sex?</p> <p>(Read out and <input checked="" type="checkbox"/> one response)</p> <p><input type="checkbox"/> Person was more than 10 years older <input type="checkbox"/> Same age</p> <p><input type="checkbox"/> 5 to 10 years older <input type="checkbox"/> Younger</p> <p><input type="checkbox"/> Less than 5 years older <input type="checkbox"/> Don't know <input type="checkbox"/> No answer</p>
204	<p>Have you ever <u>heard</u> of a <u>male</u> condom? (Show a picture or sample of one)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused</p>
205	<p>Have you ever <u>heard</u> of a <u>female</u> condom? (Show a picture or sample of one)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused</p>
206	<p>Have you and a sex partner <u>ever used</u> a condom (male or female)? (Can <input checked="" type="checkbox"/> both male and female)</p> <p><input type="checkbox"/> Yes, male condom <input type="checkbox"/> Yes, female condom <input type="checkbox"/> No (→Q209) <input type="checkbox"/> No answer</p>
207	<p><u>The first time</u> you had sex, did you and your partner use a condom (male or female)?</p> <p><input type="checkbox"/> Yes, male condom <input type="checkbox"/> Yes, female condom <input type="checkbox"/> No <input type="checkbox"/> No answer/refused</p>

For **FEMALES read out**: Think about all your **male** sex partners in the last 12 months:
For **MALES read out**: Think about all your **female** sex partners in the last 12 months:

208 In the last 12 months have you had any commercial sex partners? That is, partners you paid or gave goods or other resources for sex. For example you gave them money, food, clothes, alcohol, drugs, housing/shelter, transportation or other things for having sex with you).
(eg chatmac/mistress relationship). **These are partners of opposite sex.**
 Yes No (**→Q209**) No answer/refused

208a How many commercial partners have you had sex with during the last 12 months? Take your time and give your best estimate if you cannot remember exactly.
|_|_|_| Commercial partners Don't know No answer/refused

208b What ethnicity was your most recent commercial partner?
 Micronesian (CNMI, Guam, FSM, Palau, Marshalls, Kiribati, Nauru)
 Other Pacific islander Asian (eg Filipino, Japanese, Korean, Chinese, Taiwan)
 Caucasian Mixed ethnicity Other _____ Don't know
 No answer/refused

208c Where did you find/meet this most recent commercial partner?
 Karaoke Bar Other Bar/Club/Disco Street Market
 Massage Parlor Internet/phone Port/Harbor/Wharf/Boat
 Private House Hotel/Motel via Advert/Business card
 Fiesta/party/picnic Porn shop/Adult video store Friend/Social gathering
 Sports Event Beach School
 Roadside Pick-up Other: _____ No answer/refused

208d Have you ever found it difficult to use a condom with a commercial partner during sex?
 Yes No Don't know No answer/refused

208e The last time you had sex with a commercial partner, did you and this person use a condom?
 Yes No (**→Q208f**) Don't know No answer/refused

208ei Was it a male condom or a female condom? (**After this question →Q208g**)
 Male condom Female condom No answer/refused

208f Why didn't you and your last commercial partner use a condom? (**Check all that apply**)
 None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Allergy to latex Don't know how to use one Don't know
 Other (*specify*) _____ No answer/refused

209g In the last 12 months, how often did you and all your paying/giving partners use a condom during sex? (**Read out options “Every time” through to “Never” and response**)

Every time Sometimes Don't know
 Almost every time Never No answer

210 In the last 12 months have you had any “other” sex partners? That is, any sex partner who you do not live with and where no money, goods or resources were exchanged for sex (eg casual or non-regular partners) (**Note: No-one in this survey should have a spouse or live-in sex partner**)

Yes No (**Males→Q301; Females→Q401**) No answer/refused

210a How many non-commercial/non live-in sex partners have you had during the last 12 months? Take your time and give your best estimate if you cannot remember exactly.

____ “Other” partners Don't know No answer/refused

210b Have you ever found it difficult to use a condom with a non-commercial/non live-in sex partner?

Yes No Don't know No answer/refused

210c The last time you had sex with a non-commercial/non live-in sex partner, did you and this partner use a condom?

Yes No (**→Q210d**) Don't know No answer/refused

210ci Was it a male condom or a female condom? (**After this question →Q210e**)

Male condom Female condom No answer/refused

210d Why didn't you and your last non-commercial/non live-in partner use a condom? (**Check all that apply**)

None easily available Too expensive I didn't want to
 Partner didn't mention it Partner didn't want to Partner looked healthy
 I trusted partner I don't like condoms I didn't think of it
 Sex doesn't feel as good Didn't think it necessary Didn't want to offend
 Too drunk/high to use one Didn't want to lose the opportunity for sex
 Allergy to latex Don't know how to use one Don't know
 Other (*specify*) _____ No answer/refused

210e In the last 12 months, how often did you and all your non-commercial sex partners use a condom during sex? (**Read out options “Every time” through to “Never”**)

Every time Sometimes Don't know
 Almost every time Never No answer

Section Three: Anal Sex (FOR MALES ONLY. FEMALES GO TO Q401)

ASK OF MEN ONLY: We have just talked about your female sex partners. Some men have also had sex with male partners. We are now going to talk about men that also have sex with other men.

301 Have you ever had any sexual contact with another man? That is, have you ever had oral or anal sex or have you touched the penis of another man or had another man touch your penis for sexual arousal or pleasure? Remember your answer is completely anonymous and confidential.

Yes No No answer/refused

302	In the last 12 months, have you had <u>oral</u> sex with any male sex partners? That is, either your penis in his mouth or his penis in your mouth.																				
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No answer/refused																				
303	In the last 12 months, have you had <u>anal</u> sex with any male sex partners? either insertive (your penis in his anus) or receptive (his penis in your anus) or both.																				
	<input type="checkbox"/> Yes <input type="checkbox"/> No (→Q401) <input type="checkbox"/> No answer/refused																				
303a	How many male partners have you had anal sex with during the <u>last 12 months</u> ? Take your time and give your best estimate if you cannot remember exactly.																				
	_ _ _ Male partners <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused																				
Of these partners how many were you:																					
303b	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 15%; text-align: center;">Number of partners</th> <th style="width: 15%; text-align: center;">Don't know</th> <th style="width: 5%; text-align: center;">No answer/refused</th> </tr> </thead> <tbody> <tr> <td><u>Both</u> insertive and receptive</td> <td style="text-align: center;"> _ _ </td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><u>Only</u> insertive</td> <td style="text-align: center;"> _ _ </td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><u>Only</u> receptive</td> <td style="text-align: center;"> _ _ </td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Total (should equal number in Q303a)</td> <td style="text-align: center;"> _ _ </td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>		Number of partners	Don't know	No answer/refused	<u>Both</u> insertive and receptive	_ _	<input type="checkbox"/>	<input type="checkbox"/>	<u>Only</u> insertive	_ _	<input type="checkbox"/>	<input type="checkbox"/>	<u>Only</u> receptive	_ _	<input type="checkbox"/>	<input type="checkbox"/>	Total (should equal number in Q303a)	_ _	<input type="checkbox"/>	<input type="checkbox"/>
	Number of partners	Don't know	No answer/refused																		
<u>Both</u> insertive and receptive	_ _	<input type="checkbox"/>	<input type="checkbox"/>																		
<u>Only</u> insertive	_ _	<input type="checkbox"/>	<input type="checkbox"/>																		
<u>Only</u> receptive	_ _	<input type="checkbox"/>	<input type="checkbox"/>																		
Total (should equal number in Q303a)	_ _	<input type="checkbox"/>	<input type="checkbox"/>																		
303c	Where did you <u>meet</u> your <u>most recent, male sex partner</u> ? <input type="checkbox"/> Karaoke Bar <input type="checkbox"/> Other Bar/Club/Disco <input type="checkbox"/> Street Market <input type="checkbox"/> Massage Parlor <input type="checkbox"/> Internet/phone <input type="checkbox"/> Port/Harbor/Wharf/Boat <input type="checkbox"/> Private House <input type="checkbox"/> Hotel/Motel <input type="checkbox"/> via Advert/Business card <input type="checkbox"/> Fiesta/party/picnic <input type="checkbox"/> Porn shop/Adult video store <input type="checkbox"/> Friend/Social gathering <input type="checkbox"/> Sports Event <input type="checkbox"/> Beach <input type="checkbox"/> School <input type="checkbox"/> Roadside Pick-up <input type="checkbox"/> Other: _____ <input type="checkbox"/> No answer/refused																				
303d	Have you ever found it difficult to use a condom during anal sex with a male partner?																				
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused																				
303e	The <u>last time</u> you had <u>anal sex</u> with a <u>male partner</u> , did you and this partner use a condom?																				
	<input type="checkbox"/> Yes (→Q303g) <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused																				
303f	Why didn't you and your last male partner use a condom during anal sex? (<input checked="" type="checkbox"/> all that apply) <input type="checkbox"/> None easily available <input type="checkbox"/> Too expensive <input type="checkbox"/> I didn't want to <input type="checkbox"/> Partner didn't mention it <input type="checkbox"/> Partner didn't want to <input type="checkbox"/> Partner looked healthy <input type="checkbox"/> I trusted partner <input type="checkbox"/> I don't like condoms <input type="checkbox"/> I didn't think of it <input type="checkbox"/> Sex doesn't feel as good <input type="checkbox"/> Didn't think it necessary <input type="checkbox"/> Didn't want to offend <input type="checkbox"/> Too drunk/high to use one <input type="checkbox"/> Didn't want to lose the opportunity for sex <input type="checkbox"/> Allergy to latex <input type="checkbox"/> Don't know how to use one <input type="checkbox"/> Don't know <input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer/refused																				
303g	In the <u>last 12 months</u> , how often did you and <u>all</u> your male partners use a condom during <u>anal sex</u> ? (Read out all options "Every time" to "Never" and <input checked="" type="checkbox"/> response)																				
	<input type="checkbox"/> Every time <input type="checkbox"/> Sometimes <input type="checkbox"/> Don't know <input type="checkbox"/> Almost every time <input type="checkbox"/> Never <input type="checkbox"/> No answer																				

Section Four: Sexually active youth (FOR BOTH MALES AND FEMALES)

- 401 During the last 12 months, did you ever have sex without using a condom?
 Yes No Don't know No answer/refused
- 402 The last time you had sex did you and your partner use a condom?
 Yes No Don't know No answer/refused
- 403 In the last 12 months has there been any time when you have had two or more separate, sexual relationships (male or female) during the same time period, that is overlapping relationships?
 Yes No No answer/refused
- 404 In the last 12 months, have you had sex with two or more people at the same time (in a group)?
 Yes No (**→Q405**) No answer/refused
- 404a The last time you had sex in a group, were condoms used by you and all your sex partners?
 Yes No Don't know No answer/refused
- 405 In the last 12 months have you traveled away to another country outside of the CNMI?
 Yes No (**→Q406**) No answer/refused
- 405a While you were away, did you have sex with anyone who does not live in the CNMI?
 Yes No (**→Q406**) No answer/refused
- 405b How many partners did you have sex with outside CNMI? Give your best estimate if you cannot remember exactly? (**These overseas partners may be the same as stated above**)
|_|_|_| Partners Don't know No answer/refused
- 405c Thinking of your most recent sexual partner outside of the CNMI, the last time you had sex with them, did you and this partner use a condom?
 Yes No Don't know No answer/refused
- 405d In the last 12 months, how often did you and all sex partners outside CNMI use a condom during sex? (**Read out options "Every time" through to "Never"**)
 Every time Sometimes Don't know
 Almost every time Never No answer
- 406 Has any sex partner ever forced you to have sex with them even though you did not want to? (**Arrange referral for counseling at end of interview if appropriate**)
 Yes No No answer/refused

Section Five: Sexually Transmitted Infections (STIs)

- 501 Have you ever heard of diseases that can be transmitted (caught) during sex?
 Yes No No answer/refused
- 502 Have you ever been diagnosed with a sexually transmitted infection or disease by a doctor or health worker?
 Yes No (**→Q503**) No answer/refused
- 502a What disease/infection were you diagnosed with...? (**all that apply**)
 Genital Warts Chlamydia Syphilis Thrush
 Genital Herpes Gonorrhea Trichomonas HIV
 Other (*specify*) _____ Don't know No answer

503	In the last 12 months have you had a ...	Yes	No	Don't Know	No answer/refused
	Foul smelling, discolored or painful genital discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Foul smelling, discolored or painful anal discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Genital ulcer or sore?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Anal ulcer or sore?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Burning, sharp pain or blood on urination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		If NO to all, skip to 601			

503a In the last 12 months, have you ever sought treatment for any of these genital or anal symptoms (eg discharge, ulcer, sore or pain)?
 Yes (**→Q503c**) No No answer/refused

Why have you not sought treatment? (**Check all that apply**)

Too scared/embarrassed Too public Too busy
 Afraid of partner Might be painful Too expensive
 No insurance Language barrier No transportation

503b Didn't know what to do about it/general lack of knowledge about available services
 Symptoms cleared up Don't know
 Other: _____ No answer/refused

(Go to Q601 after this question)

503c Where did you last seek treatment for any genital or anal symptoms?
 Hospital HIV/STD clinic on Navy Hill Public health clinic
 Private/personal doctor Pharmacy/Drug Store Traditional healer
 Treated off-island Used someone else's medicine
 Other: _____ No answer/refused

503d Were your sexual partner(s) also treated for this STD?
 Yes No Don't know No answer/refused

Refer participant to STI clinic at end of interview if they have untreated STI symptoms

Section Six: Alcohol and Drug Use and Tattooing

Read out: Now I would like to ask you about alcohol and drug use

601 During the last 12 months, how often did you have drinks containing alcohol such as beer, wine, liquor, tuba, sakaw, yeast, choriu, etc. Would you say..... (**Read out responses through to "Never" and one**)

4 or more times a week 2 to 4 times a month Never (**→Q604**)
 2 to 3 times a week Monthly or less D/K No answer

602 During the last 12 months, how many standard drinks containing alcohol did you have on a typical occasion when drinking? A standard drink is a cup of yeast, sakaw or chirou, a can a beer, a glass of wine or port, a shot of liquor etc. **(Read out responses through to “1 or 2’ and one)**

- 20 or more 7, 8 or 9 3 or 4 Don't know
 10-19 5 or 6 1 or 2 No answer/refused

603 During the last 12 months, how often did you have five or more drinks on one occasion? **(Read out responses through to “Never” and one)**

- Daily or almost daily Monthly Never Don't know
 Weekly Less than monthly No answer

Read out: Next I would like to ask you about recreational drug use. Remember that all your responses are completely anonymous and confidential and will not be released to anyone.

604	Have you <u>ever</u> tried... (If “Yes”, ask if used in last 12 months and last 30 days)	No	Yes, (ever tried)	<u>If Yes,</u> Used in last 12 months?	<u>If Yes,</u> Used in last 30 days?
	Tobacco (including chewing & snuff)	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Betel Nut	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Marijuana/Cannabis/Weed/Pakalolo	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Sakaw / Kava	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Speed/Base/Other amphetamines	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Ice / Crystal meth/Shabu-shabu	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Ecstasy/E/Eccies	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Inhalants/sprays/gasoline/propane	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	LSD/Acid/Hallucinogens	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Cocaine/Crack	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Heroin	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Steroids (non-medical use)	<input type="checkbox"/>	<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>
	Other: _____		<input type="checkbox"/> →	<input type="checkbox"/> →	<input type="checkbox"/>

605 Some people have tried injecting drugs using a syringe. In the last 12 months, have you injected drugs? (not including drugs injected for medical reasons or treatment of an illness).

Yes No (**→Q606**) No answer/refused

605a Have you ever found it difficult to find needles or syringes or other injecting equipment such as swabs and spoons that were NOT previously used by someone else?

Yes No Don't know No answer/refused

605b Think about the last time you injected drugs. Where did you get the needle from?

Off-island drug store Friend/Relative Animal Feed Store
 Other _____ Don't know No answer/refused

605c Think about the last time you injected drugs. Did you use a needle or syringe or other injecting equipment like swabs or spoons that had previously been used by someone else?

Yes No Don't know No answer/refused

Thinking about the times you injected drug in the last month, how often did you inject with a needle or syringe that had previously been used by someone else? Would you say...

605d **(Read out all responses through to "Always")**

No injecting in last month Occasionally Most times Don't know

Never About ½ the time Always No answer

606 Have you ever had a permanent tattoo?

Yes No (**→Q701**) No answer/refused

Who was your last tattoo performed by?

606a Tattoo parlor Amateur tattooist (informal) Traditional artist

Friend/relative Other (*specify*) _____ No answer/refused

Section Seven: HIV/AIDS Knowledge, Attitudes and Access to Testing

Read out: HIV is a virus (infection) that can be passed from person to person. It can make people sick. When people get sick with HIV, this is called AIDS.

701 Before this survey, have you ever heard of HIV or the disease called AIDS?

Yes No (**→901**) No answer/refused

702 Do you know anyone personally who has HIV or AIDS, or who has died of an AIDS related illness?

Yes No (**→Q703**) Don't know (**→Q703**) No answer/refused

Read out: I'm going to read you some statements about how HIV may be passed from person to person. For each statement, please tell me if you think it is true, false or you don't know. (It is OK not to know).

703 A person can reduce their chance of getting HIV, the virus that causes AIDS, by using a condom correctly every time they have sex.

True False Don't know No answer/refused

704 A person can reduce their chance of getting HIV, the virus that causes AIDS, by avoiding anal sex.

True False Don't know No answer/refused

705 A person can get HIV by sharing a meal with someone who has HIV or AIDS.

True False Don't know No answer/refused

706 A person can get HIV from mosquito bites.

True False Don't know No answer/refused

707 A person can reduce their chance of getting HIV by having only one, uninfected, faithful sex partner.

True False Don't know No answer/refused

708 A person can reduce their chance of getting HIV by abstaining from sexual intercourse.

True False Don't know No answer/refused

- 709 A healthy looking person can be infected with HIV.
 True False Don't know No answer/refused
-
- 710 A person can get HIV by having injections with a needle or syringe that has already been used by someone else.
 True False Don't know No answer/refused
-
- 711 A pregnant woman who has HIV or AIDS can pass HIV on to her unborn baby.
 True False Don't know No answer/refused
-
- 712 A woman who has HIV or AIDS can pass HIV on to her newborn baby through breastfeeding.
 True False Don't know No answer/refused
-
- 713 A person can get HIV from the saliva of someone who has HIV or AIDS.
 True False Don't know No answer/refused
-
- 714 Only gay men get HIV
 True False Don't know No answer/refused

Read out: The next few questions are about HIV testing

715	Is it possible in your community for someone to get a <u>confidential</u> test result to find out if they have HIV? Confidential means no one will know the result if the person being tested doesn't want them to know. <input type="checkbox"/> Yes (→Q716) <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
715a	Why can't you get a <u>confidential</u> HIV test? (<input checked="" type="checkbox"/> all that apply) <input type="checkbox"/> HIV testing is not available <input type="checkbox"/> Testing site too difficult to get to <input type="checkbox"/> Testing site too public <input type="checkbox"/> Results not kept confidential <input type="checkbox"/> Opening hours not convenient <input type="checkbox"/> Other (<i>specify</i>) _____ <input type="checkbox"/> No answer/refused
716	Please don't tell me the result, but have you <u>ever</u> had an HIV test? <input type="checkbox"/> Yes <input type="checkbox"/> No (→Q717) <input type="checkbox"/> Don't know (→Q717) <input type="checkbox"/> No answer
716a	When did you have your last HIV test? <input type="checkbox"/> In the last 3 months <input type="checkbox"/> In the last year <input type="checkbox"/> Over a year ago <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
716b	Did you voluntarily undergo your <u>most recent</u> HIV test or were you required to have the test? <input type="checkbox"/> Voluntary <input type="checkbox"/> Required <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
716c	Did you receive counseling and/or information before your most recent HIV test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
716d	Please don't tell me the result, but did you receive the result of your <u>most recent</u> test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused
716e	Did you receive counseling and/or information after your most recent HIV test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused

(After this question go to Question 718)

717	<p>Did any of the following items contribute to you not getting an HIV test done in the CNMI?</p> <p><input type="checkbox"/> There is a language barrier at the testing sites offered</p> <p><input type="checkbox"/> My culture doesn't approve or support the idea of getting an HIV test done</p> <p><input type="checkbox"/> I don't want to know if I have HIV</p> <p><input type="checkbox"/> I could not find a test site where the staff consisted of a culture that made me feel comfortable</p> <p><input type="checkbox"/> I thought it would be too expensive/ did not know free HIV testing was available</p> <p><input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> No answer/refused</p>
-----	---

718 The following is a list of HIV prevention activities. Have you ever.....?

(Read out all activities and <input checked="" type="checkbox"/> appropriate responses)	Yes	No	No answer/ refused
Participated in an HIV peer education program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received STD screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heard messages about HIV or AIDS on radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read messages about HIV or AIDS in newspapers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen messages about HIV or AIDS on billboards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read leaflets or pamphlets about HIV or AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obtained information on HIV or AIDS from the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen the "Mr Right Guy" film or CD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participated in an HIV education program (eg workshop, school program)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attended HIV community event (eg World AIDS day, public meeting, drama production)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discussed HIV or AIDS with others such as friends, family members and work colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seen the Prutehi Hao films on TV or in the theatre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received HIV information from outreach workers visiting the community/village	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever heard of the Napu Life Foundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section Eight: Attitudes and beliefs

We have almost reached the end of the interview. The final statements are about your attitudes and beliefs. For each statement please indicate if you strongly agree, agree, disagree, strongly disagree or don't know. There are no right or wrong answers, we are just interested in your honest opinions.

801 You would be willing to share a meal with a person whom you knew had HIV or AIDS.

Strongly agree Agree Disagree Strongly disagree

Don't know No answer/refused

If you knew a shopkeeper or food seller had HIV or AIDS, you would still buy food from them.

802 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

If a relative of yours became ill with HIV, the virus that causes AIDS, you would be willing to care for them in your household.

803 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

If a member of your family became ill with HIV, the virus that causes AIDS, you would want it to remain secret.

804 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

All newcomers to CNMI should be tested for HIV.

805 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

The names of all persons with HIV or AIDS should be displayed in a public place for everyone to see.

806 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

People with HIV or AIDS should live away from the general community

807 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

Knowingly passing HIV onto someone should be a criminal offence

808 Strongly agree Agree Disagree Strongly disagree
 Don't know No answer/refused

Have you ever felt discriminated against because of your sexual orientation

809 Yes No Don't know No answer/refused

Do you have a primary care physician that you routinely attend for health care

810 Yes No Don't know No answer/refused

At any time, have you ever felt discriminated against by your primary healthcare provider because of your sexual orientation

811 Yes No Don't know No answer/refused

Are you able to freely discuss your sexual orientation with your primary healthcare provider?

812 Yes No Don't know No answer/refused

What religion are you?

Catholic Mormon SDA Episcopal
 Pentecostal Protestant Buddhist Evangelica
901 Hinduism Muslim Jehovah's Assembly of God
 Methodist Lutheran Baptist Apostolic
 Presbyterian Non-denominational Ba'hai No religion
 Christian Other _____ No answer/refused

Section Nine: Concluding Remarks, Interventions and Referrals

This is the end of the interview. Thank you very much for taking the time to answer these questions, we really appreciate your participation in this important project.

- ★ Is there anything you would like to ask me?
- ★ Would you like to take home this information leaflet?
- ★ Would you like some condoms?

Complete table below

Health information provided?	<input type="checkbox"/> Verbal <input type="checkbox"/> Printed	<input type="checkbox"/> No
Referral for STI symptoms?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Referral to other source	<input type="checkbox"/> Yes (<i>specify</i>) _____	<input type="checkbox"/> No
Condoms provided?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Comments on Interview (<i>if required</i>)		

Place questionnaire in sealed envelope in box provided

性病／愛滋病毒預防計畫
公共衛生局
P.O. Box 500409, Saipan, MP 96950
電話: 664-4050/53/55/57/58
傳真: 664-4051

重要的公告

如果妳是一個18歲以上的孕婦居住在塞班島

在與公共衛生局的合作下，南太平洋委員會正在
中引導一個第二代健康調查。

CNMI

除此之外，這第二代健康調查正在塞班島的婦女診所，北方診所和南方診所
舉行。此監視調查打算為愛滋病毒，性病的傳播和在各種不同危險團體的危
險行為提供基本的資料。

多少參加者所需要？

300個女性，18歲以上

妳懷孕第一次到醫院檢查的時候

需要花多少時間？

每次會議大約20-30分鐘

評估如何進行？

直接的面談和實驗室測試

在裡面妳將得到什麼？

在免費保密匿名的實驗室化驗而且因為妳的參加將得到一張\$10.00
汽油卡！！

我將如何參加？

接受預約和未經預約的客戶，星期一至星期五，早上7:30至11:30/下午12:30
至4:30在以下地點

*醫院裡的婦女診所236-8375

*聖諾基的北方診所664-4867

*聖安東牛的南方診所664-4850

Appendix 9. CNMI Public Law 12-75: Legislation enacted in 2001 addressing mandatory free HIV/STI education for all pregnant women

TWELFTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE

Public Law 12-75

THIRD REGULAR SESSION, 2001

H. B. NO. 12-395

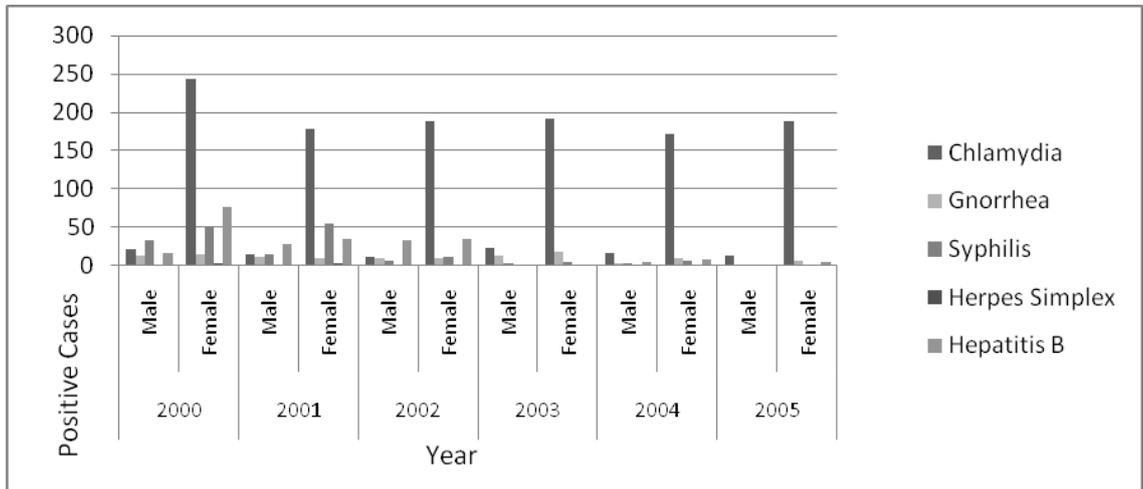
AN ACT

To require the Commonwealth Health Center to provide free counseling and screening of pregnant woman in order to prevent the prenatal transmission of Human Immunodeficiency Virus (HIV) and to provide for clear authority for medical care providers to provide medical care related to the testing and counseling of sexually transmitted diseases, who request such care without parental consent; and for other purposes.

BE IT ENACTED BY THE ELEVENTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE:

Section 1. Findings. The Legislature finds that, according to Department of Public Health statistics, HIV reached epidemic proportions in 1998. Since 1983, the first year that HIV was reported in the CNMI, there have been 0 to 1 new cases of HIV reported annually. In 1998, the Department of Public Health has seen a dramatic increase in the number of HIV cases reported. To date, there have been 38 new cases of HIV reported to the Department of Public Health. In addition to the sudden increase, the epidemiology is shifting to involve the entire community. From 1983 to 1995, HIV was reported mostly among gay and bisexual men who acquired the infection off-island. In 1996, the Department of Public Health saw a shift in the transmission patterns to a predominantly heterosexual transmission, involving people from a variety of ethnic backgrounds including the CNMI indigenous population. There are reported cases among married men and women, teenagers, and infants. In 1998, the CNMI experienced the first case of HIV transmitted from a mother to her newborn infant.

The Legislature acknowledges that segments of the CNMI population, including our young adults and teenagers, are engaging in high-risk behavior that increases the likelihood of HIV transmission. The Legislature also acknowledges that although prostitution became illegal



permission were required. As such, it seeks clear legislative authority to provide such testing to minors who come in seeking assistance and testing.

Section 2. Mandatory Prenatal HIV Education. All pregnant women in the CNMI who receive prenatal care from a physician, nurse practitioner, physician assistant, or certified nurse midwife, registered nurses, allied health worker (counselor's, social workers, etc..) at the Commonwealth Health Center, shall be provided free education regarding HIV prevention, transmission and offered free testing for HIV. The HIV education provided to pregnant women shall include information about reducing the risk of transmission of the disease between the mother and her infant. A collaborative effort between the MCH Program and the HIV Program shall be undertaken to provide the necessary training for the health care staff who provide prenatal care at the Commonwealth Health Center so that appropriate education and counseling is offered to all pregnant women in the CNMI.

Section 3. Prenatal HIV Testing. Following the provision of mandatory HIV education, all pregnant mothers who present themselves for medical attention at the Commonwealth Health Center shall be offered free HIV testing. Prior to such testing all pregnant women will be given pre-test counseling in accordance to guidelines set forth by the Department of Public Health's HIV Program. All women who test positive for HIV will be referred to the Department of Public Health's HIV Program for post-test counseling and further evaluation and treatment, if necessary. Such testing will be incorporated into the routine prenatal laboratory testing/screening protocols currently provided to pregnant women. If a pregnant woman presents herself in labor and upon evaluation, was determined that she did not receive prenatal care, then HIV counseling and testing will be offered post-partum before she is released from the hospital. Women who decline such testing shall be requested to sign a form acknowledging that they have received the mandatory HIV education, they acknowledge the availability of free HIV testing, but nevertheless refuse to undergo testing. Such refusal does not preclude denial of treatment for remaining testing/screening protocols for prenatal care. In order to preserve patient confidentiality, all tests will be conducted in accordance to a coded system developed by the Department of Public Health.

Section 4. Fees for HIV Testing Waived. The fee or fees associated with prenatal HIV testing at Commonwealth Health Center facilities will be waived. The Department of Public Health, through the federally funded HIV grant, will continue to pay for the prenatal HIV testing. At the end of each CNMI government fiscal year, the Department of Public Health will provide a financial impact report to the Legislature regarding the prenatal HIV testing.

Section 5. Consent of Minors to HIV Testing. This provision shall only apply to consents given by minors to the provision of medical care and service which involves the diagnostic examination, prescription and administration of medication and other items in the treatment of sexually transmitted diseases, the HIV virus, or AIDS. It shall not apply to surgery or any other kind of medical procedure. The consent to the provision of medical care and service by any public provider in the Commonwealth, when executed by a female minor who is or professes to be pregnant, or by a minor who is or professes to be afflicted with or is concerned with being afflicted with a sexually transmitted disease, the HIV virus, or AIDS, shall be valid and binding as if the minor had achieved the age of majority and such minor requesting medical attention shall be deemed to have and shall have the same legal capacity to consent and the same legal obligations as a person of full legal age and capacity. The infancy of the minor and any contrary provision of law notwithstanding, such consent shall not be subject to later disaffirmance by reason of such minority and the consent of no other person or persons (including, but not limited to a spouse or parent) shall be necessary in order to authorize the provision of medical care or services by such health care provider to the minor.

Section 6. Severability. If any provision of this Act or the application of any such provision to any person or circumstance should be held invalid by a court of competent jurisdiction, the remainder of this Act or the application of its provisions to persons or circumstances other than those to which it is held invalid shall not be affected thereby.

Section 7. Savings Clause. This Act and any repealer contained herein shall not be construed as affecting any existing right acquired under contract or acquired under statutes repealed or under any rule, regulation or order adopted under the statutes. Repealers contained in this Act shall not affect any proceeding instituted under or pursuant to prior law. The enactment of this Act shall not have the effect of terminating, or in any way modifying, any liability, civil or criminal, which shall already be in existence at the date this Act becomes effective.

Section 8. Effective Date. This Act shall take effect upon its approval by the Governor or upon its becoming law without such approval.