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Comprehensive Cancer Control Plan for the **Commonwealth of the Northern Mariana Islands** **2007-2012**

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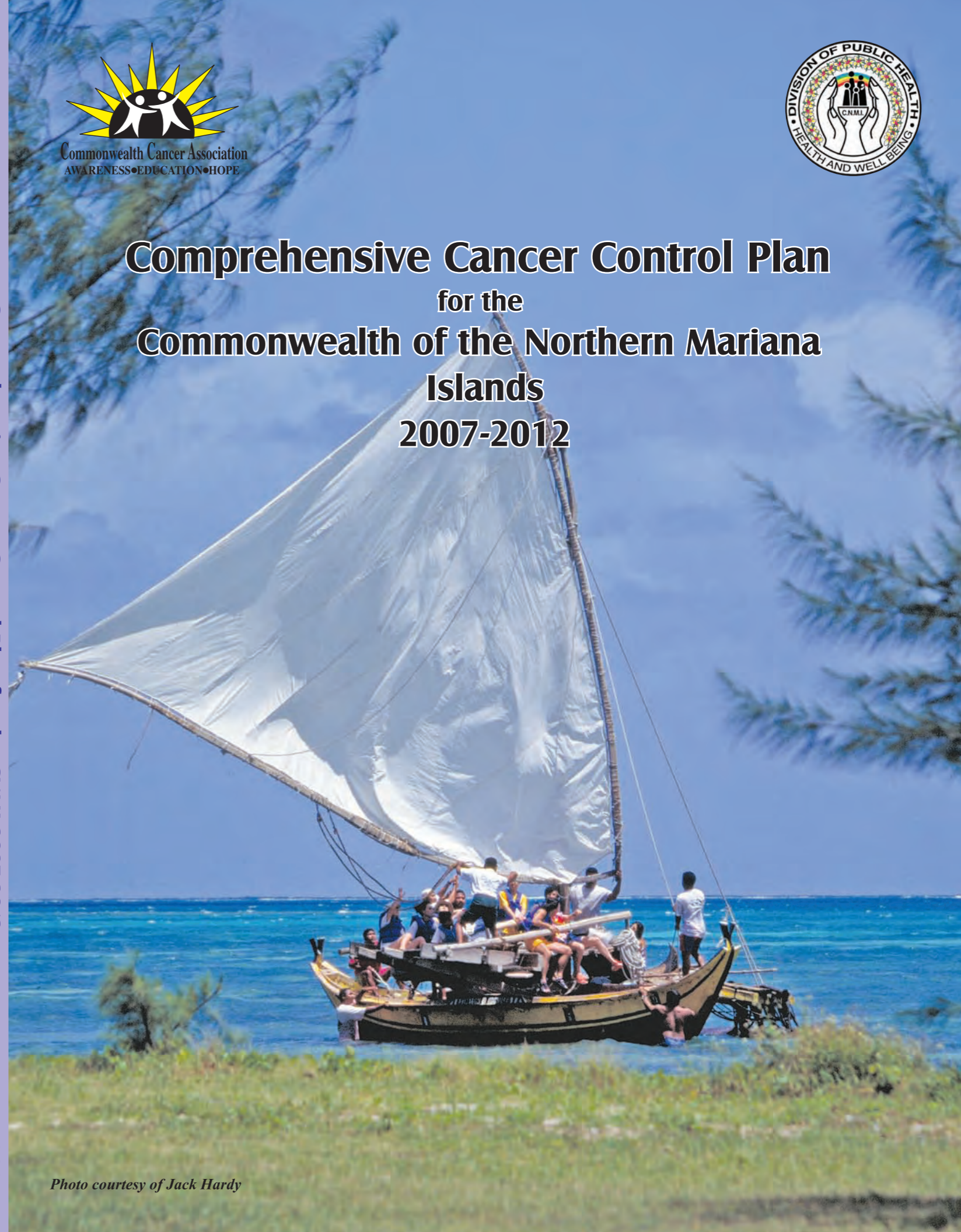


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Comprehensive Cancer Control Plan for the Commonwealth of the Northern Mariana Islands 2007-2012





Commonwealth of the Northern Mariana Islands

Department of Public Health

Office of the Secretary of Public Health



Joseph Kevin Villagomez, MA
Secretary of Public Health

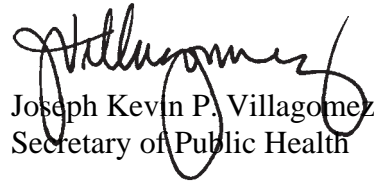
September 13, 2007

Hafa Adai and Tirow:

The Department of Public Health is pleased to endorse the first ever, Comprehensive Cancer Control Plan for the Commonwealth of the Northern Mariana Islands (CNMI) that was made possible by the support and efforts of the Commonwealth Cancer Coalition and their partners. This booklet features the hard work and dedication of individuals within the CNMI and abroad, to increase cancer awareness and to reduce the burden of cancer in our community. This disease does not discriminate on the lives of who it touches. It will take every one of us in the CNMI, working together to ensure that no more of us fall victim to cancer.

I appeal to your involvement with comprehensive cancer control efforts. Together, we can win this fight against cancer.

Si Yu'us Ma'ase yan Olomwaay,



Joseph Kevin P. Villagomez
Secretary of Public Health



Dear CNMI Residents:

Cancer is now the second leading cause of death in the CNMI. Cancer has taken the lives of many of our loved ones as well as putting so much physical, psychological, social, economic, emotional and financial burden to individuals and families of those in our community who have been diagnosed with cancer. Although Cancer is the second leading cause of death in the CNMI, it is not too far from cardiovascular disease, the leading cause of death in our region. It is the reason that as one community, we must have a plan in place to assure that the CNMI has an effective cancer prevention and control plan.

The CNMI Cancer Control Coalition is pleased to present you with the CNMI Cancer Control Plan for the next 5 years. The CNMI Cancer Control Plan describes priorities for cancer prevention and control activities in the following sections: Burden; Prevention; Screening and Early Detection; Diagnosis; Treatment; Survivorship; Palliative care; Data, Registry and surveillance and, implementation, Evaluation and evolution. In order for the CNMI Comprehensive Cancer Control Coalition to achieve this plan, we will involve many sectors of our community, including community-based organizations, social groups, Local public health agencies, local government, non-governmental organizations, regional and international partners.

This plan is a living document that represents the CNMI's determination to prevent and control cancer in a collaborative effort. The plan will be reviewed annually to determine if the goals, objectives and strategies remain relevant and updates made as needed.

On behalf of the CNMI Cancer Control Coalition and the Commonwealth Cancer Association, we thank you for using the CNMI Cancer Control Plan. We invite you to join us in our ongoing efforts to further reduce the impact of cancer in the CNMI.

Benjamin B. Seman
Chairman, CNMI Cancer Control Coalition
President, Commonwealth Cancer Association

ACKNOWLEDGEMENT

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Executive Summary

In the Commonwealth of the Northern Mariana Islands (CNMI), cancer is the second leading cause of death after heart disease. Cancer is a physical, psychological, social and economic burden not only on individuals, but on families, government and communities within the CNMI. The remote location, along with the myriad of historic political and cultural transformations of the population on this chain of Pacific Islands, compounds these burdens. It is out of this unique context, with local and regional collaboration, that we have developed this Comprehensive Cancer Control Plan.

Vision: *A cancer free CNMI.*

The CNMI Cancer Control Coalition (CNMICCC) is a diverse group of individuals and organizations working together to reduce cancer incidence, morbidity, and mortality for all people living in the Northern Mariana Islands through a coordinated, integrated approach to controlling cancer and ensuring quality of life and survivorship. The CNMICCC has developed this CNMI Comprehensive Cancer Control Plan with broad community, government, local business involvement, and CDC funding through a cooperative agreement with the University of Hawaii, John A. Burns School of Medicine. Its mission is to *provide Northern Mariana residents with education regarding cancer prevention, screening programs, early diagnosis and treatment, longitudinal patient care in a comprehensive and integrated program.*

The CCC Plan is a guide for achieving the following overarching goals:

1. Prevent cancer incidence by; providing educational programs beginning with school age children, outlining preventive measures, and reducing cancer risk factors.
2. Detect cancer at the earliest stage possible.
3. Promote access to quality comprehensive cancer care.
4. Optimize the quality of long-term care for those with cancer.
5. Monitor cancer data while improving on its reporting and surveillance.
6. Develop and support policies and initiatives that enable cancer control.

The CCC Plan describes priorities for cancer prevention and control activities in the following sections: Burden; Prevention; Screening and Early Detection; Diagnosis; Treatment; Longitudinal Patient Care; Data, Registry and Surveillance and, Implementation and Evaluation. The achievement of such comprehensive cancer care will include partnerships within our communities, with non-governmental organizations, local government, church leaders, educators, local tribal leaders, and women's groups, local healers, along with other regional and international partners.

This draft plan is a living document that represents CNMI's determination to prevent and control cancer with broad involvement at all social levels of local and regional populations. The plan will be reviewed annually to determine if the goals, objectives and strategies remain relevant and updates made as needed. Work plans to implement the goals will be developed and resources identified to help move the plan forward. With the mission of meeting the goals, objectives and strategies within this plan, we will be on our way to making the vision of a cancer free CNMI a reality.

INTRODUCTION

The CNMI consists of 14 islands about three-quarters of the way from Hawaii to the Philippines. Like the rest of the Micronesian islands, the last century of development in the Marianas saw the modernization of health care. With effective use of antibiotics and other medicines, it is now the non-communicable diseases that have become the leading health indicators. Heart disease and cancer are the leading causes of death in the CNMI. The struggle to transition to treating the complexity of the determinants of these diseases is being addressed by today's health providers. Yet, nutrition, tobacco use, alcohol, and physical activity are issues not just for the health system, but also for family and community. Therefore, a comprehensive system of health care is needed in the CNMI that provides cancer medical services along with encouraging the community toward optimum health.



History and Culture

The cultural makeup of the CNMI is unique in that it has gone through two periods of population decimation followed by high population growth. The first decimation period was during the Spanish conquest of the islands. The second was during World War II. These historic population bottlenecks have had profound effects on the political and cultural landscape of the islands.

The ancient Chamorros were a proud and self-reliant people, with a culture that maintained a practical balance between the island's human population and its available natural resources. Before the western conquest of the islands beginning in 1521 it is estimated that the Chamorro population on the islands north of Guam was close to 40,000 [1]. Most of the villages were on Rota and Saipan.

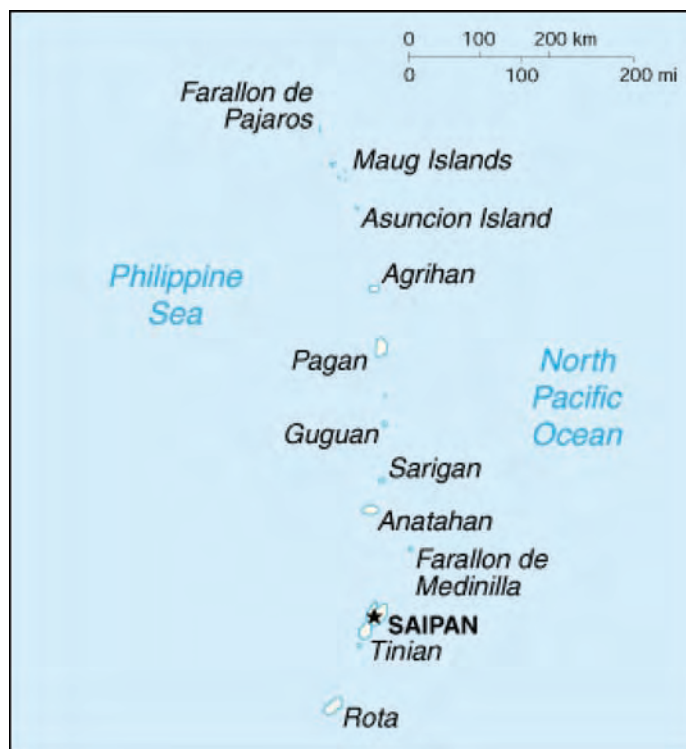
During the seventeenth and eighteenth centuries the Mariana Islands were forcibly controlled by the Spain. After a Spanish colony was established in 1668, western diseases devastated the population. Many additional Chamorros died at the hands of Spanish, Mexican, and Filipino soldiers enforcing the conversion of the Chamorros to Catholicism. In order to complete the conquest and conversion of the Chamorros, all of the Mariana Islands, other than Guam and Rota, were depopulated. The Chamorros were all moved to Guam for better control. Except for a small population that remained on Rota, the Northern Marianas were without human habitation for the next century.

In 1815 Carolinian islanders requested permission to settle on Saipan because their home islands were devastated by a typhoon. Under the watchful eye of the Spanish, the Carolinian islanders settled in the area of Garapan on Saipan. Not until the 1860s did people from Guam begin moving to Saipan. They were far different from the indigenous Northern Marianas Chamorros who had been exiled to Guam one hundred years earlier.

In November, 1899, Germany formally took over the administration of the Northern Marianas with the US administering Guam. The first measure after resettlement of the islands was the 1901 census by the German government. It records 1,330 Chamorros and 772 Carolinians for the islands north of Guam [2]. In 1914 the Japanese Navy took control of the islands from Germany. The last German census, conducted in 1914 recorded 1,920 Chamorros and 1,109 Carolinians [2]. In 1922, after World War I, Japan was awarded a League of Nations mandate over Micronesia.

The period of Japanese administration saw a remarkable growth in the Japanese population. By 1937 the Japanese population was 42,547 [3]. Thousands of farmers and fisherman immigrated predominantly from Okinawa. During this time, most of land on Saipan was used for the sugar cane industry. The subsistence farming and fishing of the Chamorro and Carolinian people that had continued through German administration had decreased greatly by the 1930s.

On June 11th, 1944, the American invasion of Saipan took place. After one of the bitterest battles of the Pacific war, the population of the Northern Marianas was changed once again. Civilian casualties were high particularly for the Japanese since they had been told that they would be tortured and killed if taken prisoner, and many committed suicide. Following the war, US military activity was slowly cut back, with the last military installation being closed in 1950. The post-war community of Chamorros, Carolinians, Japanese and those of mixed ethnicity was comprised of around 5,000 members [4].



After World War II, the Northern Marianas fell under US administration as The Trust Territory of the Pacific Islands. Administered first out of Guam by the US Navy, the Trust territory headquarters moved to Saipan in the late 1940's and was then turned over to a civilian US Presidential appointee, the High Commissioner. All public service systems were modeled from

the US Navy. All school systems, public works, health care systems etc., were identical throughout the Trust Territory jurisdictions. The US Navy selected and trained indigenous people as health professionals and paraprofessionals, sending some off island (medical officers training in Fiji, nurse training at Guam's Naval Hospital), and providing on the job training for health paraprofessionals. As the districts evolved, they maintained their Navy models.

In 1976 congress approved the mutually negotiated Covenant to Establish the Commonwealth of the Northern Mariana Islands. Under the agreement, the Commonwealth is to be viewed as a US state in terms of receiving federal health program aid. The CNMI Government adopted its own constitution in 1977, and the constitutional government took office in January 1978. The Covenant was fully implemented on November 3, 1986, pursuant to Presidential Proclamation no. 5564, which conferred United States citizenship on legally qualified CNMI residents. Under the Covenant, in general, Federal law applies to CNMI. All the health facilities (and other programs) follow US laws, including federal regulations such as FDA and, for the hospital, HCFA inspection and approval. All Public Health programs thus follow federal laws and regulations. Mandated by local law is the government Medical Referral Program, for US citizens/permanent residents. This program is responsible for the coordination of all requirements necessary for referring a patient for off-island medical care.

The CNMI is outside the customs territory of the United States and, although the internal revenue code does apply in the form of a local income tax, the income tax system is largely locally determined. According to the Covenant, the federal minimum wage and federal immigration laws "will not apply to the Northern Mariana Islands except in the manner and to the extent made applicable to them by the Congress by law after termination of the Trusteeship Agreement." Currently the minimum wage is \$3.05 an hour.

The influx of foreign workers between 1980 and 2000 contributed to a remarkable population growth. During this time population growth more than tripled from the estimated population of 18,780 in 1980. The 2000 census recorded the total population in the CNMI as 69,221, with approximately 90% living in Saipan and 5% each in Tinian and Rota. The rapid influx of non-resident workers, now estimated at 29,000, was in response to the needs of the dominant tourism and garment industries [5]. Due to the recent downturn of the regional economy directly affecting tourism in the CNMI, these contract workers are considered transient residents. Another source of immigrants, are Micronesians who come to the CNMI for employment and educational opportunities. They often have relatives in the CNMI. They qualify for Federal Housing but are not eligible for federal benefits such as food stamps and Medicare/Medicaid. They also are not eligible for off-island referral for medical care, by the government's Medical Referral Program. Their numbers are expected to continue to increase. Large segments are Micronesians from the states of Chuuk and Pohnpei in the Federated States of Micronesia. The current population estimate is; Chamorro ~18,000, Carolinian ~4,000, Palauan ~1,600, and Chuukese ~1,400 [5]. With this mix of ethnicities, this Comprehensive Cancer Control Plan uses the phrase "Northern Mariana Islanders" to mean all the peoples currently living in CNMI.

Geography and Population of CNMI

The CNMI is located in the northwestern Pacific Ocean, approximately 3,700 miles west of Hawaii, 1,300 miles southeast of Japan, and 125 miles north of Guam. The CNMI consists of a chain of 14 islands with a total land area of 176.5 square miles spread out over 264,000 square

miles of the Pacific Ocean. The population of the CNMI lives primarily on three islands. Saipan, the largest and most populated island, is 12.5 miles long and 5.5 miles wide. The other two populated islands are Tinian and Rota, which lie between Saipan and Guam. In 2000, the total population in the CNMI was 69,221 [5]. The median age of the population is 28.7 years old, which is greater than most other islands in the U.S.-associated Pacific jurisdictions, in part due to the older age distribution of foreign contract workers in the CNMI. For the entire CNMI population, 28% are age 19 years or under, 41 % are age 20-34, 18% are age 35-44, 9% are age 45-54, and 4% are age 55 or older. Females outnumber males, comprising 54% of the population.

Socio-Economic Status

Access to both screening and tools to aid in coping with and treating cancer depend greatly on socio-economic status. Unemployment, lack of insurance and living conditions all affect the level of care to which an individual can accomplish. Although the CNMI is part of the US, it has not achieved the same socio-economic status as the mainland. The median income in the CNMI, according to the 2000 census, is \$22,898 with unemployment at 4%. Over 46% of households are earning below the US poverty level. The US poverty rate is below 13%. In 1999, the poverty rate was highest on Saipan Island (39 percent), followed by Tinian (30 percent) and Rota (27 percent) islands. The CNMI has a child poverty rate of 38 percent while the US national poverty rate for children is 16 percent. Child poverty rates exceeded 50 percent in Saipan's 1st, 2nd, and 3rd districts. Saipan Island also had the highest percentage of teens ages 16 to 19 who dropped out of high school (32 percent), compared with 18 percent on Tinian Island and 8 percent on Rota Island. Living conditions for many families are inadequate for proper hygiene important for overall health. Over half (54%) of the households in the Northern Marianas do not have running water (hot and cold) in their homes. Overall, three percent of the population has no access to public water.

Barriers to Access

Insurance coverage for health care in the CNMI is very limited. Most families find that the economic burden of carrying health insurance is too high. CNMI has limited Medicaid coverage. Medicaid is available only to US citizens and follows the US poverty guidelines. When determining eligibility for Medicaid, all assets, including property are taken into account. Many low income uninsured and underinsured people in the CNMI have homestead property. Once the value of that property is taken into account these applicants no longer qualify for Medicaid.

The CNMI Division of Public Health, Department of Public Health, conducted the Kagman Community Health Survey to examine the health care status and health care needs of residents in the village of Kagman. The house-to-house survey was conducted in April and May of 2004 where 458 residents participated. The results of this survey were included in a pending Community Health Center Section 330 grant application. Kagman village is one of the fastest growing villages in the CNMI with a projected growth of 10,000 residents within the next three years. The Kagman community is primarily a residential community with a few areas involved in agriculture. Survey results indicate that 24% of the participants surveyed were unemployed. The following are some key findings of the Kagman Community Health Survey:

- 91% responded that distance and lack of transportation are the major factors for not getting health care for their family.
- 75% receive their health care from public health facilities.
- 61.7% of the household respondents admitted that they are not getting regular medical care for their chronic illness due to financial issues, lack of transportation, and distance to the nearest health facility.
- 37.3% of respondents were covered by Medicaid.
- 22.5% were covered by government health insurance.
- 10.7% were uninsured.

The challenge in reducing health disparities involves adequate health insurance coverage as well as increased funding for the Medicaid Program. Currently, 8,723 people are enrolled in the Medicaid program. The Medically Indigent Assistance Program had 912 enrollees (FY2002 latest data). The CNMI Medicaid program spends \$7,297,828 (FY'04) per year and receives a capped amount of \$2,381,000 (FY'04) in federal Medicaid funds. A major challenge Medicaid recipients face, as well as insured individuals under the government sponsored insurance, is the inability to seek health services from private providers. This has been a key limiting factor to adequate access to health care.



Commonwealth Cancer Association supports the campaign efforts on the HPV Vaccine.

1st dose of HPV Vaccine just completed.



Photos courtesy of HPV Committee

Donna White

My name is Donna White. My husband, Bud and I have lived in Saipan for 25 years. We love it here and don't want to ever leave. We wish the medical circumstances were better and we are working with those who feel the same way. In the paragraphs below you will find the story of my bout with cancer which I hope will be my last.



I am a breast cancer survivor. In October, 2005 I had my normal screening mammogram. Sometime in November my doctor called and told me that the results were not good so he had already scheduled an appointment with one of our two surgeons (currently, I understand there is only one surgeon). After talking with the surgeon we decided upon a lumpectomy in lieu of a needle biopsy. We felt that the lumpectomy would be a better test for the presence of cancer. We waited for three (3) weeks for the results to be returned from Diagnostic Laboratories in Hawaii. The results confirmed that I did have cancer.

Because there is no pathologist, no diagnostic laboratory, no oncologist, no radiologist, and limited surgical capabilities on Saipan we decided to look off island. My husband called a doctor friend who referred us to a surgeon he knew in Hawaii. We contacted the surgeon on Friday. She continued to talk with us over the weekend and because we both felt an instant rapport with her we made an appointment with her for the following Monday in Hawaii. While in her office on Monday morning she told us that she had put together a team of doctors for us to meet with on Monday and Tuesday. There was an oncologist, a radiologist, a pathologist, and an anesthesiologist for us to talk with. She told us that if we were unhappy with anyone of these people they could be replaced including her. My husband and I talked about the merits of having another extended lumpectomy (because the margins on the previous lumpectomy were not clear and no seminal lymph node was taken) or a mastectomy. With a lumpectomy there would be a need for 6 weeks of post surgical radiation. With the mastectomy I would not have to undergo the radiation treatment. We selected the lumpectomy and felt we could always have the mastectomy if the cancer was found to have spread.

During the recovery from the two surgeries further tests were done to see if I would need chemotherapy and radiation or radiation only. I was one of the lucky ones and I only needed radiation. I was estrogen positive. I was negative for the Her2neu protein.

The Medical Referral people were very kind and as soon as I was approved we were allowed to move into the Pagoda Hotel where I stayed until the completion of the radiation at the end of February, 2006. After I had recovered from the surgeries, my husband returned home to work. My family and friends supported me with cards, letters and email. The medical referral staff in Honolulu was very kind and always available to take me for my daily appointments for radiation, as well as the numerous other appointments required. I also had two children who lived in Hawaii, but unfortunately not near enough. Regardless, they came to visit as often as possible and made sure that I had everything I needed. So indeed, I was one of the lucky ones to have all of this support. I still return to Hawaii for my follow up visits since that is where I have established a network of medical professionals who know me and my circumstances.

THE BURDEN OF CANCER IN THE NORTHERN MARIANAS

The overall health status of the population of the CNMI continues to change along with the economic growth and development of the Commonwealth. In general, the health status remains in transition away from the health profile of a developing nation to that of a more industrialized nation. Compared with the mainland US, however, the CNMI spends much less per capita on health care.

For the five-year period 1997 to 2001, there were 815 recorded deaths in the, CNMI. The leading cause of death was cardiovascular disease, followed by cancer (Table 1). When analyzed by gender, cardiovascular disease remained the leading cause of death for both men and women (not shown in table). Cancer was the second-leading cause of death for women and third-leading cause of death for men (after cardiovascular disease and injuries/trauma) [6].

Cancer incidence data for Northern Mariana Islanders was first reported in 1991. There were 215 identified cancer deaths for the ten year period 1992 to 2001 (Table 2). The leading cause of cancer death was lung cancer (accounting for 18% of cases), followed by cancer of unknown origin (14%), breast cancer (10%), colon cancer (7%), and cervical cancer (6%). There was little difference in the number of cancer cases in men (112) and women (103). However there were differences by gender by types of cancer leading to death (not shown in table). For men, the five leading causes of cancer death were lung cancer (26%), cancer of unknown origin (14%), head and neck cancer (10%), colon cancer (9%), and liver cancer (9%). Curiously, no deaths from prostate cancer were reported. For women, the leading cause of death was breast cancer (21%), followed by cancers of unknown origin (15%), cervical cancer (13%), lung cancer (10%), and lymphoma, leukemia, or other cancer of the blood (6%) [6].

Table 1. Leading causes of death in the CNMI, 1997-2001

<u>Cause</u>	<u>N</u>	<u>(%)</u>
Cardiovascular disease	156	(19.1)
Cancer	119	(14.6)
Other	84	(10.3)
Injury/trauma	81	(9.9)
Stroke	72	(8.8)
Unknown	67	(8.2)
Infection	57	(7.0)
Respiratory	39	(4.8)
Diabetes	35	(4.3)
Suicide	34	(4.2)
Liver failure	15	(1.8)
Renal disease	14	(1.7)
Alcohol-related death	12	(1.5)
Prematurity	9	(1.1)
Hepatitis	5	(<1)
Sudden infant death syndrome	4	(<1)
Tuberculosis		
Total deaths	815	(100.0)

Table 2. Cancer deaths in the CNMI, 1992-2001

<u>Cancer source</u>	<u>N</u>	<u>(%)</u>
Lung	39	(18.1)
Cancer of unknown origin	31	(14.4)
Breast	22	(10.2)
Colorectal	14	(7.9)
Cervical	13	(6.0)
Head and neck	13	(6.0)
Stomach	13	(6.0)
Liver	12	(5.6)
Lymphoma/leukemia/blood	11	(5.1)
Central nervous system	9	(4.2)
Pancreatic	8	(3.7)
Uterine	5	(2.3)
Esophageal	4	(1.9)
Gallbladder	4	(1.9)
Renal	4	(1.9)
Bladder	3	(1.4)
Ovarian	3	(1.4)
Skin	3	(1.4)
Soft tissue/sarcoma	2	(<1)
Lip	1	(<1)
Other	1	(<1)
Total cancer deaths	215	(100.0)

A total of 550 cases of cancer were observed for the eleven-year period 1991 to 2001 (Table 3). For cancer cases, the most common cancers seen were similar to the leading causes of cancer death, including breast cancer (accounting for 16% of all cases), lung cancer (12%), cervical cancer (11 %), cancers of unknown origin (10%), and head and neck cancers (7%). Again, gender differences were seen (not shown in table). Of the 550 cases, 246 were in males; lung cancer was the leading cause of cancer morbidity (accounting for 20% of cases), followed by cancer of unknown origin (12%), head and neck cancers (10%), colorectal cancer (9%), liver cancer (8%), and prostate cancer (7%). Of the 304 cases of cancer in females, 29% were breast cancer, 20% were cervical cancer, 8% were of unknown origin, 7% were uterine cancer, and 5% lung cancer [6].

Cervical Cancer

For females in the CNMI, cervical cancer rates are among the highest in the world. The incidence of cervical cancer in the CNMI is comparable to third world countries. While the US rate of cervical cancer in women ages 25-34 is 9/100,000, the CNMI's cervical cancer rate in the same age group is 44.2/100,000 – a 5-fold increase. However, overall incidence of cervical cancer in the CNMI of 42.6/100,000 is in line with East Africa's incidence of 44.32/100,000, Central America's incidence of 40.28/100,000 and South America's incidence of 30.92/100,000 [7].

Table 3. Cancer cases by type of cancer, CNMI

Cancer type	N	(%)
Breast	88	(16.0)
Lung	64	(11.6)
Cervical	62	(11.3)
Unknown	53	(9.6)
Head and neck	38	(6.9)
Colorectal	32	(5.8)
Liver	23	(4.2)
Stomach	20	(3.6)
Uterine	20	(3.6)
Lymphoma / leukemia / multiple myeloma	17	(3.1)
Prostate	16	(2.9)
Renal	16	(2.9)
Skin	16	(2.9)
Central nervous system	13	(2.4)
Ovarian	12	(2.2)
Pancreatic	11	(2.0)
Soft tissue/sarcoma	11	(2.0)
Bladder	9	(1.6)
Esophageal	7	(1.3)
Thyroid	7	(1.3)
Gallbladder	4	(<1)
Lip	4	(<1)
Other	4	(<1)
Testicular	3	(<1)
Total cancer cases	550	(100.0)

Table 4. Division of Public Health measure of Cervical Cancer rates in CNMI per 100k (2005).

Age	Chamorro	Carolinian	Filipino	Other Pacific Islander
25-34	44.2	88.9	19.3	42.1
35-44	61.4	49.4	31.9	42.1
45-54	58.0	40.0	38.5	25.0

Current Medical Service Perspective

Currently the health care system consists of five private providers (Saipan Health Center, Pacific Medical Center, PacifiCare, Marianas Medical Center and Island Medical Center) and the government facilities. The private providers, with the exception of Pacific Care, with few exceptions, provide outpatient services only. The government facilities include the Commonwealth Health Center (CHC) on Saipan, Rota Health Center on Rota, and Tinian Health Center on Tinian. Over 80% of all health care provided in the CNMI is provided by the CHC. Although the system provides excellent care, resources at all levels remain strained since most of the infrastructure planning was based on 20 year old population models. Since the late 1980s, the population has increased without an equal

expansion of health care infrastructure. Current strategic planning by the Division of Public Health to address this issue is hampered by a lack of human and material resources.

Cancer can be diagnosed and treatment initiated at the Commonwealth Health Center and by physicians in private practice, but most often, care continues in off-island facilities. Cancer prevention counseling and screening practices are not standardized among physicians, and cancer screening may not be a priority in physicians' practices in light of concerns about diabetes, which has high prevalence in the CNMI, and heart disease, which is the leading cause of death. Many cancers diagnosed at the Commonwealth Health Center are detected at late stages, and many cancers are believed to go undiagnosed. Additionally, many private-practice physicians are kept busy conducting annual screening for tuberculosis, HIV, and syphilis of the CNMI's 29,000 foreign contract workers.

There are no oncologists in the CNMI, although one physician has received training in the management of cancer patients. Diagnostic services such as colposcopy, sigmoidoscopy, colonoscopy, and various tissue biopsies can be performed locally, but interpretation of these biopsies is not locally available. Non-complicated cancer-related surgeries can be performed in the CNMI. Chemotherapy generally is initiated off-island, but maintenance chemotherapy can be provided by nurses who have attended a three-week chemotherapy training program in Hawaii. Currently, only two nurses have completed the course.

Radiology services for cancer diagnosis include mammogram, ultrasound, and CT-guided biopsies. The hospital laboratory can perform guaiacs and complete blood counts with manual differentials. Other lab tests used in cancer diagnosis; including cancer tumor markers, Pap tests, and biopsy-specimen analysis, are performed by Diagnostic Laboratory Services (DLS) in Hawaii. The turnaround time for tests sent to Hawaii is two to three weeks.

The discrepancy is clear; cancer is the second leading cause of death, yet the required care and services occur off-island. This unfortunate arrangement is of considerable financial hardship and is not considered an option for those patients without insurance or adequate funds. Most off-island transfers are to the Philippines or Hawaii and, in addition to being a financial burden to the family, require time away from employment and supportive community. Because of this, many people of the community do not return for follow up visits if cancer is being screened for, or they simply do not seek an initial visit if cancer is suspected.

The Commonwealth Cancer Association



Since 1998, a core group of individuals with an interest in building awareness and increasing prevention of cancer within the CNMI have been holding regular meetings [Appendix I]. This group continues to meet, raise funds, and discuss strategies of prevention, treatment, survivorship and the ability of the CNMI to provide palliative care. In 2002, these

individuals organized the Commonwealth Cancer Association (CCA), which continues to work with the American Cancer Society (ACS) but remains an independent organization. The formation of the CNMI Cancer Control Coalition has centered on this CCA community involvement.

The Commonwealth Cancer Association's goals are to raise awareness about cancer risk factors and cancer prevention, to coordinate peer-support programs for cancer patients, and to raise funds.

The CCA engages in awareness and outreach activities and has produced educational publications, such as brochures and pamphlets, tailored for the diverse community of the CNMI. The association participates in community events such as Cervical Cancer Awareness Month; Prostate Cancer Awareness Month; Breast Cancer Awareness Month; Great American Smoke out; and Family Fitness / Health Fair, Kick Butts Day, World No Tobacco Day. Cancer education presentations to small and large groups, such as classes or workplace settings are available from the CCA upon request. For professional advice or education, the association maintains a roster of health care practitioners willing to confer with patients and families, outside of clinic hours. Several cancer survivors are also willing to talk with newly diagnosed patients. These two avenues provide support and education.

The CCA holds regular cancer support meetings with newly diagnosed cancer patients and survivors. These occasionally include guest presentations on various cancer-related subjects. Support meetings offer people facing cancer many things: an avenue to meet others in similar circumstances, to share methods of coping, to develop new relationships at a time of isolation, and a place to exchange information about cancer and its treatment as well as offer encouragement. Financial assistance is available for cancer survivors, of up to \$250 per year for qualifying expenses such as items associated with diagnosis, treatment, comfort measurers, nutritional supplements, wound-care products, wigs, Not covered: medication or surgical procedures, including radiation or chemotherapy, any travel, etc. This annual assistance is available for NMI residents of three (3) years or more.

Through the Marianas March Against Cancer (MMAC), its main fundraising event, the CCA has grossed approximately \$230,000. Other fundraising activities such as the Marianas Diva Pageant and coin drive collections were also performed in the 2005 fiscal year. These funds are expended for community outreach on cancer, the purchase of treatment equipment, and direct assistance to patients for qualifying expenses.

Goals

The overall goals of this proposed plan are as follows;

1. **Prevention:** To reduce and prevent the incidence of cancer through education and behavioral change strategies.
2. **Screening:** To detect conditions that may lead to cancer and find all cancer cases at the earliest possible stage.
3. **Diagnosis:** Improve availability and access to diagnostic techniques that lead to earlier recognition of malignant disease.
4. **Treatment:** When cancer is diagnosed, treat the patient and family with the most appropriate therapy as close to home as possible.

5. **Longitudinal Patient Care:** To provide physical, social, mental and spiritual care that would help a person attain the best quality of life as his/her cancer progresses.
6. **Data, Registry and Surveillance:** To collect complete, accurate, and timely data on cancer in the CNMI.

These goals will be supported by activities to enhance or improve the existing health care system. These include: massive public education utilizing all modes of media to focus on tobacco use cessation, betel nut use cessation, alcohol use cessation, improve nutritional intake, encourage physical activities and provide education to prevent the spread of infectious disease.

The current health system in the CNMI has several significant gaps in cancer care. One of these is the inability of the CNMI to provide complete cancer screening to its target population. The lack of laboratory supplies, equipment and trained staff remains a central problem in the CNMI. With cancer screening and diagnostic tests being sent to Hawaii for analysis, the time and cost associated with a far away link create a prohibitive healthcare context in which physicians must make decisions. In this atmosphere, guesswork and empirical treatment often take the place of complete screening and diagnostic procedures. This can lead to incomplete care for the patient and frustration for the physician. Through the implementation of this comprehensive plan, the CNMI will be able to provide cancer screening to its target population and to complete needed diagnostic tests.

It is crucial for CNMI to be able to provide adequate on-island cancer treatment. The CNMI realizes that sending patients off-island for treatment not only depletes the financial resources of the Department of Health, but also adds emotional hardship to patients and their families. This added strain may decrease the capacity for the patient's recovery. Through the implementation of the Comprehensive Cancer Control Plan, the CNMI will be able to improve its infrastructure to be able to provide a reasonable level of treatment to cancer patients.

The CNMI also needs to improve survivorship and palliative care to its patients. The importance of these services is to strengthen the stage while the patient is home to provide quality service and care.

Finally, the bolstering of data collection and the development of a cancer registry is sought in this plan. The collection of accurate and timely data is needed to make informed decisions on how to best use resources to address the cancer burden in the Northern Marianas.

The objectives and strategies for each of these goals are addressed in the following sections.

Nora Mae Sablan

I was lying down in bed when a commercial on TV came on about breast cancer and it was right before Christmas when I realized that I hadn't done a self exam for the month. As I lay in bed, I raised my arm and started the exam when I felt a tiny little lump on the right side of my breast.

As months have passed with exams, mammograms, ultra sounds, blood tests, the lump was confirmed but no threat according to the doctors. "It's just a cyst, nothing to worry about" said one surgeon.

No further exams were required, according to the surgeon on island. Not feeling all comfortable about his diagnosis, I left to Guam then to Honolulu for a second opinion.

It has been 5 years this month when I was told that I had cancer. I cannot remember ever experiencing anything more terrifying than that day when my doctor told me that I had this dreadful disease.

As I sat in the doctors office, I remembered being told I have to go through another surgery, radiation, possibly chemotherapy and tamoxifen for the next 5 years. Not letting the news set in, I was being told all this at one time and yet still feeling numb and totally lost. I left the doctors office that day and I had forgotten everything I was told.

Depression set in, constantly crying for my children who I didn't have with me because all this was being done away from home. I didn't know if I was dying or whether I was going to be ok after the treatments.

All I remember was that my husband was always by my side supporting and constantly reminding me that I was not alone and we were going to fight this disease together. The love and support from my family was what made me stronger and wanted so much to get better.

Because of all love and support from my husband, children and friends, I will be celebrating 5 years of CANCER FREE this 18th day of August, 2007.

BACKGROUND AND NEED

Cancer Burden: The CNMI, which is located about three-quarters of the way from Hawaii to the Philippines, has a complex history that is reflected in its culturally varied population. The Northern Mariana Islands consists of 15 islands inhabited by an ethnically diverse population. To address the cultural complexity of the Marianas, this document uses the phrase “Northern Mariana Islanders” to mean all of the people living on these islands and therefore offered care under the Department of Health.

Like the rest of the Micronesian islands, the last century of development in the Marianas saw the modernization of health care. With effective use of antibiotics and other medicines, non-communicable diseases have become leading health indicators. Heart disease and cancer are the leading causes of death in the CNMI. The struggle to transition to treating the complexity of the determinants of these diseases is being addressed by today’s health providers. Yet, nutrition, tobacco use, alcohol, and physical activity are issues not just for the health system, but also for family and community. Therefore, a comprehensive system of health care is needed in the CNMI that provides cancer medical services along with encouraging the community toward optimum health. This is the goal of our Comprehensive Cancer Control Plan.

Cardiovascular disease is the leading cause of death in the CNMI, followed by cancer. Cancer was the second-leading cause of death for women and third-leading cause of death for men (after cardiovascular disease and injuries/trauma). In 2002-03, with support from the National Cancer Institute under the leadership of Dr. Neal Palafox, the family medicine residents and faculty from the University of Hawaii Department of Family Medicine and Community Health, and Dr. Henry Ichiho conducted a cancer infrastructure needs assessment in each of the USAPIN jurisdictions. The assessment teams met with key informants in the curative and preventive services to compile cancer-related data from death certificates, hospital records and off-island referral databases. In addition, the teams also asked key informants to assess the gaps in existing programs and services for cancer. After appropriate verification and clearances, the assessments were published in a special issue of the *Pacific Health Dialog* on cancer in the Pacific [1]. These assessments form the basis of the CNMI’s determination of priority cancers. Assessment teams used the best available cancer data at the time (data prior to the reporting period were either unavailable, so incomplete or so flawed that it was not worthy of reporting).

Cancer incidence data for Northern Mariana Islanders began to be recorded 1991. There were 215 identified cancer deaths for the ten year period 1992 to 2001. The leading cause of cancer death was lung cancer (accounting for 18% of cases), followed by cancer of unknown origin (14%), breast cancer (10%), colon cancer (7%), and cervical cancer (6%). There was little difference in the number of cancer cases in men (112) and women (103). However, there were differences by gender by types of cancer leading to death. For men, the five leading causes of cancer death were lung cancer (26%), cancer of unknown origin (14%), head and neck cancer (10%), colon cancer (9%), and liver cancer (9%). Curiously, no deaths from prostate cancer were reported. For women, the leading cause of death was breast cancer (21%), followed by cancers of unknown origin (15%), cervical cancer (13%), lung cancer (10%), and lymphoma, leukemia, or other cancer of the blood (6%).

A total of 550 cases of cancer were observed for the eleven-year period 1991 to 2001. For cancer cases, the most common cancers seen were similar to the leading causes of cancer death, including breast cancer (accounting for 16% of all cases), lung cancer (12%), cervical cancer (11%), cancers of unknown origin (10%), and head and neck cancers (7%). Of the 550 cases, 246

were in males; lung cancer was the leading cause of cancer morbidity (accounting for 20% of cases), followed by cancer of unknown origin (12%), head and neck cancers (10%), colorectal cancer (9%), liver cancer (8%), and prostate cancer (7%). Of the 304 cases of cancer in females, 29% were breast cancer, 20% were cervical cancer, 8% were of unknown origin, 7% were uterine cancer, and 5% lung cancer.

For females in the CNMI, cervical cancer rates are among the highest in the world. The incidence of cervical cancer in the CNMI is comparable to third world countries. While the US rate of cervical cancer in women ages 25-34 is 9/100,000, the CNMI's cervical cancer rate in the same age group is 44.2/100,000 – a 5-fold increase. However, overall incidence of cervical cancer in the CNMI of 42.6/100,000 is in line with East Africa's incidence of 44.32/100,000, Central America's incidence of 40.28/100,000 and South America's incidence of 30.92/100,000. The cervical cancer rate is of great concern for the cancer coalition. The initial focus of screening within the CCC Plan will be to increase breast and cervical screening rates.

Assessing the cancer burden in the CNMI has been challenging but it has initiated the discussion at the local, regional, national and international levels to address the problem.

Experience in Developing and Implementing CCC Activities: Funding from a National Cancer Institute grant (Pacific Cancer Initiative) allowed for a preliminary needs assessment to be done in 2002 (see below in “Regional CCC efforts”) and for development of health promotion programs and materials. After the Pacific CCC planning grant was awarded to the University of Hawaii Department of Family Medicine and Community Health in 2004, the CCC process began in the FSM, American Samoa, Guam, the Commonwealth of the Northern Marianas Islands and Republic of the Marshall Islands. Palau competed for and received its own funding for CCC planning. The jurisdictions began forming community coalitions and further examining existing resources in late 2004. Because the CCC process was so foreign to the USAPIN jurisdictions, a Comprehensive Cancer Control leadership institute was developed specifically for the USAPIN and conducted in March 2005. After the Leadership Institute, the CCC program coordinators, CCPI members and policy makers were more empowered to establish or enhance their CCC infrastructure, mobilize support and build partnerships.

There are two programs operated by the Department of Health (DPH) offering prevention opportunities for the community. The Tobacco Prevention and Control Program, and the Breast and Cervical Screening Program are current cancer prevention programs managed by the DPH. Tobacco prevention activities have included, an annual kick butts day march and rally, life skills, problem solving and leadership skills building with junior high school students, and education of licensed tobacco retail establishments. The Breast and Cervical Screening Program is currently operating a once a week breast screening and Pap test clinic, during which breast exams and Pap tests are performed by health practitioners.

Community education programs are run by DPH in the areas of Nutrition, Physical Activity and Alcohol. Additionally the DPH Immunization program offers community education outreach regarding cold and flu prevention, runs a flu vaccination program and will soon begin its HPV vaccination program.

Existing Infrastructure, Coordination and Collaboration: Cancer is diagnosed and care initiated at the Commonwealth Health Center and by physicians in private practice. Most often this care continues in off-island facilities. Cancer prevention counseling and screening practices are not standardized among physicians, and cancer screening may not be a priority in physicians'

practices in light of concerns about diabetes, which has high prevalence in the CNMI, and heart disease, which is the leading cause of death. Many cancers diagnosed at the Commonwealth Health Center are detected at late stages, and many cancers are believed to go undiagnosed. Additionally, CNMI's 29,000 foreign contract workers place a heavy burden on the health care system with the high need of screening for tuberculosis, HIV, and syphilis.

Cancer is the second leading cause of death, yet the required care and services occur off-island. This unfortunate arrangement is of considerable financial hardship and is not considered an option for those patients without insurance or adequate funds. A medical referral committee meets regularly to determine eligibility and suitability for any patients that need referral, including cancer patients. The medical referral program maintains a logbook registry of all referrals. The CCC Program will work with the referral program to improve referral process for all cancer patients. This includes coordination between the referral program and cancer case management activities. Most off-island transfers are to the Philippines or Hawaii and, in addition to being a financial burden to the family, require time away from employment and support systems. Because of this, many people of the community do not return for follow up visits if cancer is being screened for, or they simply do not seek an initial visit if cancer is suspected. The CNMI CCC Plan addresses areas of focus for education and awareness campaigns to increase both initial and follow-up visits with a physician. It is hoped that with the implementation of the CCC Plan the Commonwealth Health Center will be able to improve its services to provide adequate diagnosis, and a reasonable level of treatment to cancer patients.

Existing Infrastructure Within Which CCC Will Occur: In cooperation with the Department of Health, the Commonwealth Cancer Association (CCA) will be involved in the development and implementation of key areas of the CCC Plan. The CCA works with the American Cancer Society (ACS) but remains an independent organization.

The dedication and community involvement of the senior members of the CCA is at the heart of the viability of the CNMI Cancer Coalition. It is the intense level of community commitment by the senior members and all volunteers of the CCA that has allowed navigation through the often stormy waters of organizing a diverse cancer coalition (Appendix VI). The organization's goals are to raise awareness about cancer risk factors and cancer prevention, to coordinate peer-support programs for cancer patients, and to raise funds. The CCA has engaged in awareness and outreach activities and has produced educational publications, such as brochures and pamphlets, tailored for the diverse community of the CNMI. The association participates in community events such as Cervical Cancer Awareness Month; Prostate Cancer Awareness Month; Breast Cancer Awareness Month; Great American Smokeout; and Family Fitness/ Health Fair. Cancer education presentations to small and large groups, such as classes or workplace settings are available from the CCA upon request. For professional advice or education, the association maintains a roster of health care practitioners willing to confer with patients and families, outside of clinic hours. Several cancer survivors are also willing to talk with newly diagnosed patients. These two avenues provide support and education.

The CCA holds regular cancer support meetings with newly diagnosed cancer patients and survivors. These occasionally include guest presentations on various cancer-related subjects. Support meetings offer people facing cancer many things: an avenue to meet others in similar circumstances, to share methods of coping, to develop new relationships at a time of isolation, and a place to exchange information about cancer and its treatment as well as offer encouragement. Financial assistance is available for cancer survivors, of up to \$250 per year for qualifying expenses such as items associated with diagnosis, treatment, comfort measurers,

nutritional supplements, wound-care products, wigs, Not covered: medication or surgical procedures, including radiation or chemotherapy, any travel, etc. This annual assistance is available for NMI residents of three (3) years or more. The Marianas March Against Cancer (MMAC) is the main fundraising event for the CCA. Funds raised are retained in the CNMI, and are expended for community outreach on cancer, the purchase of treatment equipment, and direct assistance to patients for qualifying expenses.

The existing infrastructure of the Department of Health will also be involved in the implementation of the CCC Plan. The Secretary of Health, as a Board member of the Pacific Island Health Officers Association (PIHOA), is also charged with coordinating the implementation of regional strategies that may arise. As such, most goals of the CNMI CCC Plan directly support the Regional CCC plan (Appendix II) and efforts to attain a set of minimum standards for cancer control throughout the U.S. Associated Pacific Island Nations (USAPIN).

Regional CCC Efforts and Infrastructure: Many challenges and needs exist at the jurisdiction level, so a Regional approach to larger issues affecting CCC has been developed over the past 5 years. The USAPIN Pacific Regional Cancer Plan (Appendix II) speaks to maintaining a U.S. Associated Pacific regional format for discussing and addressing cancer. The Pacific Regional Cancer Plan is a long-term plan, designed to be coordinated in conjunction with the Pacific Islands Health Officers Association (PIHOA) efforts. The Plan aims to develop minimum standards for cancer care for the US Associated Pacific largely through education and assisting with implementation of the jurisdiction-specific CCC plans, develop regional policies regarding utilization of cancer data, provide access to regional expertise in cancer care, providing regional technical support for all parts of the comprehensive cancer plan, and developing regional Cancer advocacy at the US National level. Coordinated planning will also be conducted over the next five years to determine the feasibility of developing systems to better coordinate cancer care, developing regional laboratory services for cancer diagnosis (over time) and regional cancer referral centers (over time). Separate funding is being sought for development of a Regional Cancer Registry. The Regional efforts directly support the jurisdiction CCC efforts and therefore a Regional CCC Program Infrastructure which also serves as the Secretariat for the Cancer Council of the Pacific Islands must be developed. This grant application includes a \$50,000 subcontract to the University of Hawaii Department of Family Medicine and Community Health to continue guiding us with our implementation activities in our jurisdiction and the Region. The other jurisdictions are also contracting with University of Hawaii for the same amount and scope of work.

In order to achieve several regional goals, PIHOA and CCPI agree to recommend *Minimum Regional Indicators* for cancer control. Several of the objectives and strategies in the CNMI CCC Plan aim toward achieving these minimum regional indicators. Those will be noted with an asterisk (*) in the plan.

Funding Will Enhance Existing Efforts: Funding the CCC Plan will enhance the existing focus areas of the CCA. The goals and objectives of the Prevention and Screening sections of the CCC Plan can be met with the education and awareness outreach activities CCA. Coordination and collaboration of the CCA with the DPH Tobacco Prevention and Control plan and the Breast and Cervical Cancer Screening plan will occur at this level. The existing infrastructure of the CCA for Survivorship will be augmented by CCCP Longitudinal Patient Care funding. It is the hope of the coalition that with the implementation of the Comprehensive Cancer Control Plan, the

CNMI will be able to improve its infrastructure to offer a reasonable level of prevention, screening, diagnosis, treatment, and supportive care to patients that are diagnosed with cancer. Additionally, because of resource limitations in the CNMI as well as the rest of the region, it is critical to have infrastructure in place to implement the Regional CCC efforts.

Collaborative Partnerships and Community Involvement

Coalition: The Cancer Coalition for the Northern Marianas consists of collaboration between the Commonwealth Cancer Association (CCA) and the CNMI Department of Health. This coalition has worked through difficulty of maintaining community support without a paid coordinator position. Without an active coordinator position consistently filled during 2005 and most of 2006, the CNMI has worked on its CCC Plan. The CCA has acted as the coordinating body during development of the CNMI CCC Plan by including community members during its monthly meetings to increase a broad based coalition of support. During this stage, there was full community involvement as a comprehensive plan was developed. Attendees of these meetings included business leaders, religious leaders and cancer survivors to improve collaboration and participation in the development of the CNMI CCC Plan. By the end of 2006, an active coalition coordinator was hired by the CCA. The employment of this coordinator is scheduled to be transferred to DPH in June, 2007. With an active coalition coordinator, wider input to the CCC Plan has been achieved. Members of the cancer coalition comprise of at least one to two representatives from CCA, Department of Public Health, Northern Marianas College, Public School System, Tinian Health Center, The Center for Living Independently, and the CNMI Legislature.

Since the USAPIN Regional Cancer coalition has been formed, the Program Coordinators have more leads and contact information for new partners. Specific assistance from U.S. National and International agencies will be requested primarily from the Regional CCC Administrative staff (for those training and educational areas that are region-wide) or through the Secretary of Health, as mentioned in the “Existing Infrastructure” and “Communication Plan” sections.

The Coalition broad base of support. Legislation: A “sin-tax” on tobacco started in the CNMI in 2004. After initial funding was delivered to CHC in 2004, no new money has been allocated. The coalition is working with the current administration to re-secure funding acquired under the “sin-tax” for tobacco prevention and cessation programs. **Other sources of funding:** Currently there are no steady sources of funding. There are, however, periodic donations by families in honor of loved ones and occasional special gifts from business sponsors. **Dedicated staff:** Despite limited work force, the coalition is composed of a dedicated group of individuals. The program coordinator, outreach coordinator and the facilitators for each area of cancer control have dedicated time and energy into implementing the CNMI Comprehensive Cancer Control Plan. Most feel personal involvement, being cancer survivors themselves.

Regional collaboration: The Lance Armstrong Foundation is a current partner with the coalition, and has agreed to continue providing educational materials and resources. The American Cancer Society field office in Guam is also a regional collaborator. They have provided patient services, assistance and educational resources in the past and have agreed to continue doing so (Appendix I).

The Coalition plans to collaborate with national anti-tobacco activities, such as Fresh Start and World No Tobacco Day, continue ACS partnership with programs such as Reach to Recovery, and Tell a Friend, Look Good-Feel Better. Additionally, identifying cancer research that addresses issues specific to Pacific Islanders will be conducted in partnership with ACS.

Through the current Regional efforts during the CCC planning process, the US National Cancer Partners have been made well-aware of the many issues facing the region and in each individual jurisdiction. Additional Hawaii-based partners at the Cancer Research Center of Hawaii are also aware and interested in working collaboratively with the Region to help address some of the more pervasive issues common to each jurisdiction. Our external evaluation plan includes regular communication with several National partners. For issues and strategies that are common to most of the jurisdictions, the Regional CCC staff will work primarily with the National partners to help facilitate communication, organization and coordinated efforts for health workforce training, sharing resources that work and planning for long-term sustainability in the Region.

Management Plan

Program administrative staff will include: Coordinator – Joanne Ogo; Community Outreach Worker – Open Position; and Data clerk/Registrar – Open Position

Organization: Representative Benjamin B. Seman is the chairman of the coalition. The broader coalition is made up of members from local businesses, the community, The Commonwealth Cancer Association and staff from the Department of Public Health. The CNMI Cancer Coalition is a Non-profit community-based organization formed to: 1.Assist Commonwealth Cancer Association in developing and implementing the Comprehensive Cancer Control Plan; 2.Monitor quality of cancer patient treatment and services provided at the Department of Health (Prevention, Screening, Treatment, and Longitudinal Care); 3.Assist in developing and implementing public education; 4.Provide assistance for policy review of cancer related services, directives or policies; 5.Organize and provide a support group for cancer survivors and families.

The CNMI CCC coalition is also part of the Regional USAPIN coalition (comprised of all the jurisdictions) and all coordinators communicate directly with the Regional coordinator. The Cancer Council of the Pacific Islands serves as the regional coordinating and oversight body for cancer control efforts in the PIHOA member states (*PIHOA Resolution 01-083006 “Cancer Council of the Pacific Islands (CCPI) Affiliate Membership to PIHOA”*). PIHOA serves as the Advisory Body to the Pacific Cancer Coalition. Please refer to the Pacific Cancer Coalition diagram in the Appendix III.

Commonwealth Cancer Association: The CCA is a dedicated group of individuals, many of whom are cancer survivors. Active involvement by business and community members of the CCA varies from year round support to seasonal participation in fundraising and awareness campaigns (Appendix VI). Membership is open to all residents of the CNMI who demonstrate an interest in cancer awareness, prevention and support of patients after the diagnosis. Includes all patients previously diagnosed with cancer and their family members. Key personnel who will be involved in program activities include:

President: Benjamin B. Seman - Schedules and conducts meetings of CCA, provides guidance for the Board and general membership.

Vice President: Alex Sablan- In the absence of the President schedules and conducts meetings of CCA; assists President in providing guidance for the Board and general membership.

Treasurer: Kim Prinz- records income from all sources, records obligations incurred by CCA, issues checks in payment of authorized expenditures, collaborates with accountant to prepare financial statements and submit annual reports to CNMI tax authority.

Secretary: Jocelyn Songsong - prepares notices of meetings for inclusion in newspapers, and in writing or via electronic media to the Board and members.

Senior Advisor: Jack Hardy

Department of Health: The CNMI Department of Public Health will provide healthcare service and support from existing staff. The Department of Public Health is a department within the CNMI government. The main offices of the Department of Public Health are located within the Commonwealth Health Center Complex. The Secretary of Public Health is the department's project director. Routine oversight of program components is under the Deputy Secretary for Public Health Administration. Key personnel who will be involved in program activities include:

Secretary of Public Health: Joseph Kevin P. Villagomez, MA, has overall responsibility for all activities within the Department of Public Health. In 1998 and again in 2006 he was appointed by the CNMI Governor to be the Secretary of Public Health for the Commonwealth of the Northern Mariana Islands. As Secretary he became Board member of the Pacific Island Health Officers Association (PIHOA); where he works closely with the Ministers of Health for the other USAPIN countries to address common health issues. Mr. Villagomez represented PIHOA in various meetings with the US Department of Health and Human Services, the US Department of Interior and the World Health Organization to work with officials in expanding health programs to the Pacific regions. As Secretary, he helps to develop health policies for health systems for the Marianas and throughout the region.

Deputy Secretary for Public Health Administration: Lynnette F. Tenorio, oversees the Division of Public Health, which focuses on the preventive health aspect of women and children, dental services, and administers federally funded programs.

Public Health Director: Richard Brostrom, MD, provides medical oversight and direction for CNMI's Public Health Programs, including the Diabetes Program, Breast and Cervical Cancer Program, Pediatric and Obstetric Clinics, HIV/STD Program, Outreach Clinic and Outreach activities, Tuberculosis Control Program, Alien Worker Health Program, Bioterrorism Program, Epidemiology Program and communicable Disease Program.

Departmental staff for current Plan: Breast and Cervical Cancer Program: Jocelyn Songsong; Tobacco Prevention and Control Program: Reyna Malone. (see DPH chart Appendix III)

Coordination of DPH and CCA: The Tobacco Prevention and Control Program, and the Breast and Cervical Screening Program are current cancer prevention programs managed by the Department of Public Health. Tobacco prevention activities have included, an annual kick butts day march and rally, life skills, problem solving and leadership skills building with junior high school students, and education of licensed tobacco retail establishments. The Breast and Cervical Screening Program is currently operating a once a week Family Paps night, during which Pap tests are performed, breast and cervical exam educational materials are offered. Community leaders from the coalition for areas of prevention and screening will work with the Department of Public Health Tobacco, Breast and Cervical Cancer screening and control area heads. As outlined in the prevention section of the plan, CCCP will support tobacco prevention and control activities as well as the adoption and implementation of the comprehensive tobacco

control policy. Legislation needed for tobacco control will be sought by the CCCP. Due to the high rate of cervical cancer in the CNMI, community education, awareness, involvement and follow-up are essential to this screening program. The CCCP calls for an outreach coordinator to provide extensive community involvement. Diagnostic data collection and reporting will be covered by healthcare providers within the Commonwealth Health Center. Implementation of, and coordination with, regional data collection systems are addressed under the Plan through the goals of creating a more robust CNMI cancer database and providing education to health care providers. With an accurate, up-to-date cancer database, the CNMI will be able to report to the Regional Cancer Registry. Additionally, the logistics of on-island treatment and cooperation with the Medical Referral program in the decision making process regarding cost effective patient care will be augmented with funding for information infrastructure during CCCP implementation.

Communication System: Internal. Information is being shared through formal and informal meetings. The coalition coordinator has set up an email/phone network to relay files and contact members of the coalition. Phone contact with all coalition members is heavily used augmented by an email list for communication and transfer of documents, workgroup reports, and data. Teleconferencing of coalition meetings is set up through Northern Marianas College to bring in members of the islands of Tinian and Rota. This is scheduled to occur once every month.

Communication System: External. External communication to the public, stakeholders and potential National and International partners will occur through a variety of means. The CNMI Public School System is set up for regional communication within the Pacific Basin via its teleconferencing system. Additionally, to facilitate communication of the National and State Plans, the plans will be printed, bound and distributed to major stakeholders, the U.S. National Cancer partners, WHO WPRO, AusAID, NZAID, JICA and other potential donor countries/agencies.

Communications with PIHOA (the other Ministers/Secretaries/Directors of Health) will occur primarily through the Secretary of Health (as a PIHOA member), but also through the CCPI. CCPI is an affiliate member of PIHOA, so there will always be a representative to the PIHOA meetings presenting reports and discussing regional issues. Communication with International donor agencies and countries will be through the Secretary of Health

Monthly phone calls will occur with the Regional CCC coordinator to discuss issues and progress in implementation. Monthly progress reports will be shared with the regional CCC coordinator. The Regional coordinator will compile those reports and distribute a compilation to the other Program Coordinators in the region. Significant events and activities will also be posted on the Regional CCC website once it is developed.

Fiscal Management System: The recipient of this cooperative agreement will be the CNMI Government. The CNMI is the recipient of approximately \$9 million in U.S. HHS grants (HRSA, CDC, USDA) for public health programs that are implemented on Saipan, Tinian and Rota, since that is where health service delivery occurs. The CNMI government administers the grants and has in place an accounting system that will record receipts and expenditures of Federal funds in accordance with accounting principles, Federal regulations, and terms of the cooperative agreement or grant. The contractors to implement the CCC Program and the regional CCC plans/cooperative agreements also have similar accounting systems in place.

Core implementation team: The core implementation team consists of the Coalition Chair, Program Coordinator, Outreach Coordinator, Data Clerk/Registrar, and the Facilitators for each area of the plan, Prevention, Screening/Early Detection, Diagnosis, Treatment and, Survivorship and Palliative Care. Additionally the specific Prevention and Screening/Early Detection sub-focus areas of Tobacco and Betel Nut, Nutrition, Physical Activity and Alcohol, Environmental Contaminants, Infectious Agents, Breast and Cervical Screening, Colorectal Screening and, Prostate Screening will have assistant facilitators (see organizational chart Appendix III). For the CNMI, the facilitators for each area of the plan come from the core group of dedicated coalition members. Most of these individuals have been involved in CCA activities for the last two years. The key members of the coalition that have created the continuity of the development of the CCC Plan have volunteered to facilitate the area of their expertise. The core implementation team will be organized around the Executive Committee, which will be comprised of the Coalition Chair, Program Coordinator, one cancer survivor, and one member each from DPH and CCA (Appendix III).

The Cancer Council of the Pacific Islands members (2 per jurisdiction) will also continue to play a large role in guiding CCC implementation efforts at all levels and are especially critical to successful implementation of the strategies for early detection, treatment, quality of life and data quality.

Roles/Responsibilities: Program Coordinator will be working with the Director/Secretary/Minister of Health to obtain data exchange agreements and coordinate with other agencies, conducting team meetings, and for implementation of project strategies as described in the work plan. The Outreach Coordinator will be responsible for increasing the awareness of cancer in the community through various community events, media, and developing and distributing public education materials on cancer regularly. The Data Clerk/Registrar is responsible for collecting information from medical records, lab and other data sources and entering it into the cancer database, handle day-to-day operations of the central cancer database in CNMI working with the hospital QA department and regional cancer registry staff to develop a QA program related to cancer data, working with lead physicians (CCPI members) and Regional Registry staff on implementing QA activities for physicians related to proper documentation in the medical record. Please see attachments for position descriptions and curriculum vitae. The Facilitators will be working with the program coordinator and the outreach coordinator to implement the project activities for their specific area. The facilitators have been most intimately involved in developing this plan and are the core group of dedicated individuals from the coalition that will be implementing their focus area.



Photo courtesy of Michael Thomas

Joseph E. Billotti, S.J.



When I arrived on Saipan in February of 2000 at age 68, I must have been the darling for any medical insurance provider. I just did not get sick and had had no major maladies. That all changed in October of 2000.

While living on Pohnpei, I had had two prostate biopsies, both of which were negative. In 2000 once again my PSI hit 18 and my acid phosphate was not normal. Three doctors (Hawaii, Pohnpei and Saipan) conspired against me and insisted that I should have another biopsy, this one taking 12 samples. They were right, for cancer showed up in two of the twelve sectors.

I was advised to consider some treatment because of my family history (my father died in his 93rd year and my mother in her 92nd) and present good health. While contemplating this for a week, the biopsy on a lump on my neck came back. I was informed that I also had non-Hodgkin (follicular) lymphoma. It turned out that the latter was in Stage Two and would eventually have to be treated. Being more at risk from lymphoma than prostate cancer, there seemed to be no choice but to treat the prostate cancer right away.

Since my Gleason Number was seven, there was a two-in-three chance that the prostate cancer had metastasized. So I opted for hormone and radiation treatment. That took place in the spring of 2001. By 2003 the lymphoma had reached Stage Four and so I received Rituxan once a week for six weeks in the spring of 2003. I went into complete remission.

At present my prostate cancer is still in remission. But in November of 2006 my lymphoma returned and I just finished six weeks of treatment for that on April 18th of this year.

Some observations on these last seven years. Receiving word within one week that I had two cancers was a bit of a shock, to say the least. As had been planned for some time my sister, Cam, arrived four days after I had confirmation of the prostate cancer. I did not tell her until she arrived for the obvious reason that she did not need to worry about this on her long trip from New York. A few days later she was with me when I received the news of the second cancer.

It so happened that when she and I returned from the hospital, members of St. Jude Parish were in the church praying for others who needed their prayers. Cam joined them and they graciously added prayers for me (in English, I might add, so she could join in). I told her that I really needed time by myself and so did not join the group in the church. I watched a movie or two upstairs as the shock settled in.

I had been given some books by victims of prostate cancer. They were books of hope revived. But the authors also wrote about the stages of anger, denial and depression they had to work through to reach hope. I mention this because of what happened when I woke up the following morning.

I moped around and made coffee. As I sipped the second cup of coffee and prayed over the events of the last week, I suddenly said to myself: I am not going to get depressed and angry and

self-absorbed over this. Nobody likes to be around someone obsessed with his health problems. Besides if I cannot accept this then I have no right to preach to others that they should accept sickness and offer it up in union with Our Lord's suffering on the cross.

In that moment I moved on with living the rest of my life. Have there been anxious moments, frightening moments, uncertainly mixed with fear, discomfort with the long term effects of therapy, the underlying knowledge that I am living with two time bombs in my body? Certainly! But I have never seriously asked the question, 'Why me?', or had any significant depression. It was as if I went through all of the usual stages of acceptance in an instant. I must put this to the prayers of the parishioners that night and the grace of having my sister with me at this critical stage. That I continue in this attitude to this day I put to the support and prayers and obvious concern of so many who surrounds me.

What I have had to struggle with, however, is what the cancers and treatments have done to my body and stamina, especially after the two attacks of atrial fibrillation which happened this year in May in New York. It has taken me a long time to come to terms with the effects of these last seven years on my body and life style. It only recently got through my thick skull that I never did return to full capacity after the radiation in 2001. I have often been tired and impatient and testy. I have been operating at only 75 or 80 percent and resenting that. Perhaps this shows an inordinate pride in my good health as if it was under my control.

We are complex creatures. So with all of my protestations that I accepted the events of these last seven years with equanimity; I also must state that it is not that simple. The debilitating effects of these diseases take their toll. I might 'consciously' accept their reality and hopefully deepen my spiritual life through them, but I must also accept that they have forever changed my life in ways that I am not at all happy about and rage against in some deep cavern of my soul.

A final note. I truly feel blessed by the events since 2000. I have been the recipient of an abundance of care and love. My two cancers can be treated. The therapy for the lymphoma is not chemotherapy but new targeted biological therapy with none of the terrible side effects suffered by those who must undergo chemical therapy. So my question, as I said, is not "Why me – why do I have cancer?" but 'Why me to have been blessed with so much less suffering and uncertainty than my fellow survivors?' I truly marvel at their resiliency. I wonder if I would have their courage.

It is not that I am looking to suffer more than others. How presumptuous that would be. It is not ours to choose the amount. Jesus only asks us to accept whatever is given to us, promising whatever graces are necessary that we might freely unite our sufferings with his, to never lose faith in our Father's providential love.

Our Father is not 'testing' us in our diseases. He is simply asking us to love him as his Son loves him, to be willing to carry our own crosses side-by-side with his Son and each other in spreading his Kingdom here on this fragile earth. I pray that all who have faced or will face the words, 'You have the Big C,' will see that the Father is not punishing them but seeking to envelop them in his infinite and universal love. He first asked his Son and now he asks us.

PREVENTION

Provide activities that help reduce the risk of cancer.

Goal for Prevention:

Reduce and prevent the incidence of cancer through education and behavioral change strategies

Cancer occurs when factors of lifestyle, heredity, and environment coincide allowing for the optimal cellular context for its development. An individual's actions can affect some of these factors while others are simply not controllable. A person can choose not to use tobacco, but has no control over inherited factors. This prevention section focuses on how to decrease controllable risk factors and increase protective factors. These factors include alcohol consumption, physical activity, and obesity. Of all of these factors, tobacco may be the single largest modifiable cancer risk factor.

There are two programs operated by the Department of Health (DPH) offering prevention opportunities for the community. The Tobacco Prevention and Control Program, and the Breast and Cervical Screening Program are current cancer prevention programs managed by the DPH. Tobacco prevention activities have included, an annual kick butts day march and rally, life skills, problem solving and leadership skills building with junior high school students, World No Tobacco Day Activities, Wise Women Project, and education of licensed tobacco retail establishments. The Breast and Cervical Screening Program is currently operating a once a week breast screening and Pap test clinic, during which breast exams and Pap tests are performed by health practitioners.

TOBACCO

Introduction

Tobacco has been associated with lung cancer since the 1950s. There is also an increasing amount of evidence that it may be related to other cancers. The 2004 Report of the U.S. Surgeon General concluded that smoking causes cancers of the oral cavity, pharynx, larynx, esophagus, lung, and bladder. Lung cancer was the leading cause of cancer death in 2005, and cigarette smoking causes the majority of lung cancers. Smoking causes about 90 percent of lung cancer deaths in men and almost 80 percent in women. Men who smoke are 23 times more likely, and women who smoke are 13 times more likely, to develop lung cancer. For cancers caused by smoking, the risk increases with the number of cigarettes smoked and the number of years a person has been smoking. The risk decreases after quitting completely, though it may take years [8].

Impact of Tobacco and Betel Nut Use on Islanders Health

Cancer is the second leading cause of death in CNMI and tobacco is a known causal agent in many of the reported cancers. Between 1993 and 2005 there were 138 cases of lung cancer diagnosed at the Commonwealth Health Center. No measure of overall adult smoking rates in the Northern Marianas presently exists. Yet in 2000 a report from the village of Tanapag (n=1218) on Saipan showed that 41% of males were regular smokers, with 22% having a 20-

pack/yr history, and 22% of females were reported as regular users of tobacco [9]. In 2000, Commonwealth Youth Tobacco Survey found that nearly 55% of middle school and 85% of high school students reported smoking in the last 30 days. This makes teen smoking in the CNMI the second highest in the world with 64% of males and 57% of females reporting cigarette use [10]. Although recent Youth Risk Behavior Assessments from 2003 and 2005 have shown a marked decrease in youth smoking (49% and 36% respectively), cigarette use among youth in CNMI is still a major concern [11, 12]. Use of smokeless tobacco is also high, with 37% of high school students reporting chewing tobacco, snuff, or dip [12]. It is worth noting that chewing of cigarette tobacco is common in the Marianas. Tobacco from cigarettes is often removed and added to betel nut for chewing. Many current surveys have not specifically measured the oral practice of chewing cigarette tobacco. The use of tobacco is therefore even greater than the high rates already reported.

Oral cancer is three to four times higher in Mariana Islanders compared to the U.S (12% compared to 3%). The heightened oral cancer diagnosis found in the Mariana Islands is due, in large part, to a high incidence of chewing betel nut. Betel (areca) nut chewing may begin at an early age and often is used in combination with tobacco.

Areca nut is the fourth most commonly used substance of abuse in the world after tobacco, alcohol and caffeine [13]. In the Marianas as well as most of Micronesia, chewing of unripe areca nut is very common. Areca is chewed as a betel quid. A betel quid generally consists of betel leaf (from the Piper betel vine), areca nut (from the Areca catechu tree), and slaked lime (predominantly calcium hydroxide). In the Marianas, tobacco from a cigarette is frequently added to the quid. Unlike India and other countries, Northern Mariana Islanders do not add other ingredients or flavoring agents to the quid mixture. The Chamorro name for the areca nut is pugua and the leaf is called pupulu. Betel nut is sold in gas stations, grocery stores, roadside stands and can be obtained from homegrown trees. It is easily available throughout the Mariana Islands and there is no minimum age for purchase.

Betel quid chewing results in exposure to areca nut alkaloids, *N*-nitroso-compounds formed from these compounds during chewing, polyphenols, trace elements and, in some cases, to tobacco. Many studies now provide evidence for the carcinogenicity of betel quid without tobacco for oral cancer and for betel quid with tobacco for cancers of the oral cavity, pharynx and esophagus [14]. Oral leukoplakia and oral submucous fibrosis are well characterized as oral lesions caused by chronic use of areca nut [14-18]. Potentially malignant submucous fibrosis has been specifically linked to areca nut chewing [19].

Use of betel in adults is very high in CNMI and starts at a young age. The average age of initiation of chewing betel is 12 years [20]. In 2005, the World Health Organization conducted a survey of high school students at three public schools in Saipan. The survey found that a majority of students (63.4%) claimed to use betel nut regularly. Oral cavity examination of the student population revealed high incidences of, chewer's mucosa (10.3%), lichenoid lesion (4.8%), leukoplakia (12.9%), and submucous fibrosis (8.8%) [20]. Since the addictive nature of betel has been reported [21-24], it is likely that these children will continue to use betel nut into adulthood.



The ingredients for betel nut chewing: half a betel nut, sprinkled with lime powder, the betel piper leaf, and a cigarette, which is sometimes broken and added to the mix



Medium sized palm fruit containing a number of betel nuts



Department of Public Health, Community Guidance Center, Substance Abuse Prevention and Treatment Program staff educates a participant during the Great Marianas Smoke Out about the benefits of giving up tobacco use.

Participant celebrates the Great Marianas Smoke Out by agreeing to throw away his pack of cigarettes.



Photos courtesy of Community Guidance Center

Goals, Objectives & Strategies for Tobacco Use Prevention

GOAL

Decrease incidence, illness, and death from cancer due to tobacco and betel nut use.

OBJECTIVE *Prevention/Tobacco 1:*

Reduce the percentage of adult CNMI smokers by 5% by 2012.

Baseline: 41% of males and 22% of females in the representative village of Tanapag

Strategy a: Increase access by islanders who wish to stop smoking to sources of information on how to quit.

Strategy b: Raise awareness of, and access to, tobacco call-in quit line and nicotine replacement therapy.

Strategy c: Work with Tobacco Program and elected officials to use the CNMI “sin-tax” money to fund cancer control activities, public health initiatives, smoking cessation options, access to health care, prevention and family support.

Strategy d: Work with elected officials to create a minimum distance that smoking can occur around government buildings.

Strategy e: Support efforts to promote smoke-free workplaces and facilities to local business owners.

Strategy f: Support the local community advocacy efforts to retain clean indoor air policies.

OBJECTIVE *Prevention/Tobacco 2:*

Reduce the high acceptance of betel nut use by 2012.

Baseline: High social acceptance of betel nut use while community knowledge of cancer risk is low.

Strategy a: Establish public education campaign that stresses the addictive and carcinogenic nature of betel nut use.

Strategy b: Ensure that all CNMI locals who wish to stop using betel nut have access to information on how to change undesired behaviors.

Strategy c: Develop specific betel nut control initiatives addressing adults and youth to assure comprehensive, culturally appropriate media messages reach the intended audience.

OBJECTIVE *Prevention/Tobacco 3:*

Design and implement training for a CNMI specific tobacco and betel nut treatment specialist by 2012.

Baseline: No training exists in 2007

Strategy a: Develop a tobacco and betel nut treatment curriculum for specialist position.

Strategy b: Establish the tobacco/betel nut treatment counselor position within the DPH.

OBJECTIVE *Prevention/Tobacco 4:*
Reduce the percentage of CNMI youth smokers by 10% by 2012.

Baseline: 49% male and 36% female Youth Tobacco Survey 2001

Strategy a: Collaborate with Tobacco Program in its efforts to decrease illegal tobacco sales to minors.

Strategy b: Increase tobacco control media messages and education programs addressing the youth, including education aimed at parents.

Strategy c: Encourage health care workers to ask parents of young children and youth if they use tobacco and if tobacco is used in their homes, to determine their readiness to quit and advise them accordingly.

Strategy e: Design and implement a strategy to collect tobacco use rates for Mariana Island children (K-6 grade) by 2012.

OBJECTIVE *Prevention/Tobacco 5:*
Contribute to the knowledge and understanding of the risk of tobacco and betel nut use among the leaders in Rota, Tinian and Saipan by 2012.

Baseline: Regular presentations were not given in 2007

Strategy a: Present research findings and evidence based best practices to leadership at local, regional and inter-island gatherings and conferences.



Photo courtesy of James Montenegro

NUTRITION, PHYSICAL ACTIVITY AND ALCOHOL

Introduction

An unhealthy diet and insufficient activity account for almost one-third of the 550,000 cancer deaths that occur in the United States each year. The Harvard Report on Cancer Prevention estimates that cancer deaths in the United States may be reduced by about 30 percent through improvements in nutrition and physical activity [25]. The Harvard Report estimates 25 percent of all cancers are attributable to poor adult nutrition and obesity. Another five percent of cancers are due to sedentary lifestyles. Factors that affect cancer risks include the type of food eaten, the preparation method, portion size, variety, and overall caloric balance [26].

Although some data on diet patterns of Northern Mariana Islanders exist, there is no consistent, ongoing monitoring program for any population group within the CNMI. Many gaps exist in the data, especially on subsistence foods, quantity of fruits and vegetables eaten, and nutrient content of Mariana Island foods.

Nutrition

Subsistence agriculture was the source for food for both the Carolinians and Chamorros during the resettlement period of the Northern Marianas (1815-1914). Subsistence agriculture diminished during the Japanese occupation and by the end of World War II had become rare. Since World War II, the consumption of fruits, vegetables and root crops has decreased while the consumption of highly processed meats (SPAM, corned beef, and Vienna sausages) has skyrocketed. Overall, the Marianas diet tends to be low in calcium, fruits and vegetables; high in fat, protein, starch and sodium. Regular, large family and religious gatherings often have an abundance of high fat, high starch food with little or few fruit and vegetable side dishes.

Numerous studies have shown that a healthy diet with appropriate caloric intake, reduced animal fat, reduced alcohol consumption, and increased vegetable and fruit consumption can reduce the risks of certain kinds of cancer such as breast, colon, lung, and prostate cancer. Low folic acid intake is associated with cervical, colorectal, and other cancers. High-fat diets are associated with increased risk of colon, prostate, and endometrial cancer [27]. Unfortunately, it is these higher risk foods that are often found on the tables of Mariana Islanders.

As in many Pacific Island communities, large physical size is considered a mark of beauty and social status. Since most of the population depends on imported foods, which are often high in fat and sugar, these imported and convenience foods have been afforded a higher status. In the consumer based grocery economy, local stores import what will easily sell in large volume. This has unfortunately given the health conscious island community few choices. It has not proven profitable for stores to import healthy foods. Even in the largest grocery stores on Saipan, there is a very limited supply of whole grain breads, unsweetened cereals, fat free milk fortified with vitamin A and D, or low fat versions of common products.

Physical Activity

A healthy amount of daily physical activity is known to be important in the reduction of cancer as well as helpful in adult-onset diabetes, heart disease, and depression. Colon, breast, and prostate cancer are all associated with lower physical activity. As with most of the developed world, the Northern Marianas have seen the introduction of many mechanical aids to daily living. Additionally, laborious farming as a way of life diminished drastically during the Japanese

occupation of the islands as a rental real-estate economy was developed. This has decreased the overall amount of physical activity of the population. In 1996, the first U.S. Surgeon General’s Report on Physical Activity stated that the risk of premature death due to cancer could be reduced by regular physical activity [28].

A number of studies have shown the positive effects of physical activity on reducing the risk of developing cancer. The CNMI has many barriers to physical activity, including year round hot and humid temperatures, lack of sidewalks and a large population of dangerous stray animals. An improvement in public sports facilities (gyms, sport fields and swimming pools), infrastructure and animal control are needed to bolster physical activity programs sought after by the community.

Alcohol Use

Despite its high price on the islands, alcohol is as abused within the CNMI as it is in most other places in the world. Alcohol brings many unhealthy attributes with its use. Besides family, community and other social disruption, excess alcohol can increase an individual’s risk of cancer. There is convincing evidence that alcohol increases the risk of cancers of the mouth, pharynx, larynx, and esophagus [29]. Oral cancers are six times more common in alcohol users than in non-alcohol users. Smokers who also drink are at much higher risk than those who only smoke or drink [30]. Alcohol is a primary cause of liver cancer and its use is linked with increased risk of breast and colorectal cancer. Additionally, the poor nutrition associated with alcohol abuse increases the risk of head, neck, and esophageal cancers.



Photos courtesy of Community Guidance Center

Goals, Objectives & Strategies for Nutrition, Physical Activity, & Alcohol

GOAL

Mariana Islanders will make healthy nutrition, physical activity, and alcohol consumption choices to prevent cancer.

NUTRITION OBJECTIVES & STRATEGIES

OBJECTIVE *Prevention/Nutrition 1:*

Increase by 2% the proportion of CNMI adults 18 and older who have a Body Mass Index (BMI) below 27 by 2012.

Baseline: Currently being researched.

Strategy a: Work with CHC staff and community events to obtain data points to establish baseline BMI measures for CNMI adults by 2008.

Strategy b: Increase awareness through media campaign, community events, and religious leaders, that a healthy diet is a major factor in the promotion and maintenance of good health and a healthy weight to encourage weight loss in overweight adults

Strategy c: Increase awareness through media campaign, community events, and religious leaders, that there is a link between overweight and obesity to many types of cancer. Emphasize the promotion of weight loss by encouraging consumption of plant based foods, decreased consumption of fat and red meat and attaining and maintaining a healthy weight.

Strategy d: Provide educational opportunities to promote healthy preparation and cooking methods and establishment of appropriate portion size.

Strategy e: Develop educational materials to help islanders learn to use familiar, inexpensive, and readily available foods to improve their diets and meet nutritional recommendations for cancer prevention.

OBJECTIVE *Prevention/Nutrition 2:*

Decrease from 17% the proportion of CNMI adolescents who have a Body Mass Index-by-age at or above the 85th percentile to 12% by 2012.

Baseline: 17% (Risk Behavior Assessment, 2005)

Strategy a: Increase the awareness of CNMI adolescents about the links between diet and cancer, including the importance of maintaining a diet rich in plant-based foods, reducing the consumption of store-bought animal fat, and attaining and maintaining healthy body weight, involving the Parent Teacher Association and health fairs when appropriate.

Strategy b: Continue and expand education efforts aimed at school food preparers and distributors on the importance of healthy diets in CNMI youth.

Strategy c: Increase opportunities to learn healthy cooking methods and disseminate healthy recipes to students that are ethnically and culturally appropriate and based on available foods.

OBJECTIVE *Prevention/Nutrition 3:*

Increase by 10% the proportion of CNMI adults 18 and older who eat at least five servings of fruits and vegetables every day (excluding potatoes and other starchy tubers) by 2012.

Baseline: Data currently does not exist

Strategy a: Increase the ability of health care providers, work with existing community programs and Northern Marianas College to measure and record eating habits of adults.

Strategy b: Collaborate with faith organizations to discourage unhealthy food choices at multi-day events.

Strategy c: Work with industry and local farmers to make healthy produce less expensive to produce, cheaper to purchase and more accessible to the public.

OBJECTIVE *Prevention/Nutrition 4:*

Increase from 67% the proportion of CNMI adolescents who eat one or more servings of fruits and vegetables in the last seven days to 100% by 2012.

Baseline: 67% (Youth Risk Behavior Assessment, 2005)

Strategy a: Increase the capability of health care providers to measure and record eating habits of adolescent patients for obesity prevention.

Strategy b: Determine barriers to healthy eating in adolescents and plan effective strategies to overcome these barriers.

Strategy c: Develop messages for radio, TV and newspaper that stress the importance of eating five or more servings of fruits and vegetables every day.

PHYSICAL ACTIVITY OBJECTIVES & STRATEGIES

OBJECTIVE *Prevention/Physical 1:*

Increase by 10% the proportion of adults 18 and older who meet Healthy People 2010 recommendations for moderate and vigorous activity by 2012.

Baseline: Data not available

Strategy a: Increase public awareness of the benefits of physical activity through media campaign.

Strategy b: Encourage business and government to increase opportunities and develop policies that promote physical activity (e.g., health club membership discounts, workout rooms, flexible work hours, walking groups, on-site fitness classes, and accessible stairways).

Strategy c: Increase physical activity in communities by addressing excessive stray dog issues, and maintenance of safe walking paths.

Strategy d: Encourage communities to provide physical activity opportunities by hosting a mini-fair promoting different sports, and establish a village sport group.

Strategy e: Partner with transportation and land use planners to build walking paths for community access.

Strategy f: Collaborate with faith organizations to encourage an increase in physical activity within their organization.

Strategy g: Identify and collaborate with on-island resources (e.g. hotel physical educators, Diabetes Coalition) to disseminate physical activity information.

OBJECTIVE *Prevention/Physical 2:*

Increase to 65% the proportion of adolescents grades 9 to 12 who report participating in moderate or vigorous physical activity during the past seven days by 2012.

Baseline: 55% (Risk Behavior Assessment, 2005)

Strategy a: Work with Public School System to enforce existing implementation of compulsory Physical Education.

Strategy b: Improve existing areas intended for physical activity including playgrounds, sidewalks, and designated areas for walking, basketball, baseball, and similar activities.

Strategy c: Increase access to school gyms and sport fields for community recreation on evenings and weekends.

ALCOHOL OBJECTIVES & STRATEGIES**OBJECTIVE *Prevention/Alcohol 1:***

Increase to 85% the proportion of high school students who report not initiating alcohol use before 13 years of age by 2012.

Baseline: 74% (Youth Risk Behavioral Assessment 2005)

Strategy a: Identify the group of children with minimal supervision at home or have parents who drink to excess and may therefore be at high risk for problem drinking themselves.

Strategy b: Work with schools and other organizations to provide intervention to the high risk children wherever it is needed

Strategy c: identify and collaborate with organizations that provide alcohol training and materials targeted at youth.

Strategy d: Collaborate with schools and children to identify and implement positive alternative activities that help to prevent alcohol abuse on weekends.

Strategy e: Increase alcohol prevention messages in the media targeted at pre-school and elementary age children

OBJECTIVE *Prevention/Alcohol 2:*

Decrease the proportion of adults 18 and older who drink more alcohol than the moderate level (adult women one drink per day and adult men two drinks per day) by 2012.

Baseline: Data currently being researched

Strategy a: Disseminate patient educational materials on the harmful effects of alcohol to health care providers.

Strategy b: Implement interventions to increase awareness of the relationship between alcohol use and increased risk for cancer.

Strategy c: Increase efforts targeting community and government leaders to increase the awareness of the societal costs of alcohol use.

OVERALL CANCER EDUCATION OBJECTIVES & STRATEGIES:**OBJECTIVE *Prevention/Education 1:***

Increase the availability and effectiveness of culturally relevant cancer prevention and risk reduction materials and programs for Mariana Islanders by 2012.

Baseline: Cancer education materials have been developed yet limited materials specific for Mariana Islanders are available in 2007.

Strategy a: Create brochures, handouts, posters that focus on healthy lifestyles for cancer prevention.

Strategy b: Increase the number of health education materials that are presented in culturally appropriate ways.

Strategy c: Create videos for prevention focus areas to play in hospital and clinic waiting areas.



Photo courtesy of James Montenegro

ENVIRONMENTAL CONTAMINANTS

Introduction

CNMI benefits from a clean environment, particularly with very low air pollution. However, water resources are scarce and there have been increasing pressures that have affected both the availability and quality of fresh water in the CNMI. Because the population in the CNMI is relatively small, it would be very difficult to demonstrate statistically significant cancer rate increases from environmental sources.

The data on contaminant exposure, particularly among Mariana Islanders, is far from complete. It will take years before health implications are clearly understood. The current understanding is that known risks due to contaminants are small. This is particularly true compared to risk factors such as tobacco use

Soil and groundwater contamination is a significant issue in the CNMI. The fragile water lens has been affected by long-term exposure to the organic chemicals used in the garment manufacturing processes and the dry-cleaning industries. Unsafe levels of TCE and TCEE, both known carcinogens, have caused a closure for a number of important water wells used in Saipan. Other wells have been affected by old military facilities, including the discovery of massive amounts of jet fuel on top of an underground water source at the old U.S. military airport.

Other sites with military fuel storage tanks have been evaluated, but most have not been characterized sufficiently. Soil samples have demonstrated the presence of lead and other heavy metals. While there are no obvious known or provable health effects from this environmental contamination, cleanup of these areas is a high priority to the CNMI Department of Health, and the CCCP.

To-date there is little known about the burden of persistent organic pollutants (POPs) in Pacific Islander populations. However, in a recent unpublished study done in Tanapag Village, a northern fishing village on Saipan, the CNMI Department of Public Health evaluated all 1218 villagers for their exposure and screened for the presence of cancers from one environmental pollutant, namely PCB.

The villagers in Tanapag were exposed to PCBs from US Army capacitors and transformers brought in from another FUDS site elsewhere in the pacific. Over time, these items degraded and leaked considerable amounts of PCB onto the local soil and eventually into the local habitat. Land crab, a delicacy and a significant food source in that region of the island, were found to have measurable amounts of PCB.

A combination of local and federal experts worked together to evaluate the local population. The screening of 1,218 residents for exposure to PCB's represents the largest study of PCB's in an exposed population ever performed by CDC and ATSDR. A handful of individuals in the community had elevated results, but the overall numbers indicated that exposures to organic pollutants from external sources were minimal.

A number of Pacific Island populations continue to suffer from elevated cancer rates from tragic albeit inadvertent exposure to nuclear fallout from U.S. atomic bomb testing. Currently there is little evidence that the local population in the Marianas was exposed to significant amounts of radioactive fallout from the egregious legacy of nuclear testing in the U.S. Pacific basin.



Division of Environmental Quality staff and volunteers take a break during the clean up brigade.

The U.S. Environmental Protection Agency (EPA) and the Commonwealth of the Northern Mariana Islands Division of Environmental Quality (DEQ), with cooperation from the U.S. Army Corps of Engineers (Corps) removed some of the old military above-ground oil storage tanks and associated contamination from Tanapag Village. This joint effort will not only rid the Tanapag community of these potential health hazards, but also trained DEQ staff in the areas of planning, assessment, sampling, health and safety monitoring, cleanup and project management.



The deteriorating tanks presented several hazards to both people and animals: structural instability, sharp surfaces from the rusted and ripped steel and easy access to inside and outside the tanks. Chemical hazards vary depending on the tanks and locations but included total petroleum hydrocarbons (oil) as the primary contaminant of concern, and some metals (arsenic, cadmium, chromium and iron). Background soil samples indicate that elevated levels of arsenic and possibly iron are likely naturally occurring in Saipan soils. The Tanapag Fuel Farm Project was completed on the June 13, 2006. Six fuel tanks were successfully removed from the village of Tanapag.

Photos courtesy of Division of Environmental Quality

Goals, Objectives & Strategies for Environmental Contaminants

GOAL

Reduce cancer in the CNMI by minimizing the exposure of Mariana Islanders to harmful levels of carcinogenic environmental contaminants.

OBJECTIVE *Prevention/Environment 1:*

Educate Marianas Islanders about ways to reduce harmful exposure to contaminants in the soil and water.

Baseline: Few environmental education programs exist in 2007.

Strategy a: Work with Division of Environmental Quality to insure safe drinking water for all residents of the CNMI.

Strategy b: Work with Division of Environmental Quality to insure clean up of abandoned military storage tanks throughout the CNMI.

Strategy c: Raise awareness about the risks associated with continued application of carcinogenic compounds in the environment.

Strategy d: Advocate for reduction in global use of carcinogenic contaminants.

OBJECTIVE *Prevention/Environment 4:*

Increase the understanding of the benefits of traditional foods as well as the risk considerations when studying contaminants in traditional foods.

Baseline: Few educational resources are available that emphasize the benefits of traditional foods.

Strategy a: Support the development of material specific to benefits of traditional foods in the Northern Mariana Islands.

Strategy b: Raise awareness about the cancer risks associated with processed foods.

OBJECTIVE *Prevention/Environment 3:*

Educate Marianas Islanders about ways to reduce harmful exposure to contaminants in indoor air.

Baseline: CNMI residents are not properly educated about the health effects of contaminated indoor air.

Strategy a: Support the development of Smoke-free Workplace legislation for the CNMI.

Strategy b: Work with the CNMI OSHA Office to insure that workplaces are measuring ambient levels of potentially carcinogenic chemicals at places of employment.

INFECTIOUS AGENTS & CANCER

Introduction

Certain human infections, such as Human Papilloma Virus (HPV), Hepatitis B, Hepatitis C, Epstein - Barr virus, and Helicobacter pylori (H pylori) are proven carcinogens. These are discussed briefly below.

Human Papilloma Viruses

Human papilloma virus (HPV) causes cervical cancer. Of the 30 known types of HPV, more than 13 types have been shown to lead to cervical cancer. Two of these types alone are associated with 70 percent of all cases of cervical cancer.

HPV vaccines were approved by the FDA in 2006. Beginning in 2007 the CNMI DPH instigated a HPV vaccination campaign. The three year vaccination campaign targets all females ages 9-26 years old. As will be discussed in the following section, cervical cancer is extremely high in the CNMI, making this vaccination campaign very important. For the CNMI, the Vaccines for Children Program will provide free vaccines to children and adolescents under the age of 19 years, who are either uninsured or Medicaid-eligible. The rest of the cost along with the administrative cost of the campaign will be assumed by the HPV-Vac. coalition and its partners. There is great optimism in the CNMI for this program considering the effectiveness of the vaccine and the modest size of the target population. The one-year student cohort of females is around 500 making this a highly attainable target population.

Cervical screening (pap tests) will continue to be necessary. The incidence of HPV is high in the CNMI. As covered in the next section, all women at high risk for HPV are currently the target population for cervical screening. Yet lack of awareness of the link between HPV and cervical cancer continues to be a barrier. In conjunction with the vaccination program, continued education is needed in the CNMI.

Hepatitis B and Hepatitis C

Infections with hepatitis B (HBV) and hepatitis C (HCV) viruses can result in liver cancer. On mainland US, screening of carriers has led to detection of liver cancer at an earlier stage and has to improved survival rates. Although there is awareness in the CNMI of the complications associated with hepatitis, no programs exist to address the problem. Two populations are of current concern, pregnant female carriers, and the prison population. Screening and immunization programs are currently in the planning stages. Additionally, public awareness and education programs are minimal in the CNMI.

Epstein - Barr virus and Helicobacter-pylori (H. pylori)

Epstein - Barr virus (EBV) causes infectious mononucleosis. H. pylori is a bacterium that can live in the stomach and in the duodenum. Although, both of these infectious agents are of low prevalence in the CNMI a basic awareness needs to be added to health curriculums. Physical educators and high school health care workers in the CNMI should be provided adequate resources to increase awareness in young adults about EBV. Additionally, a basic awareness of H. pylori should be added to health education campaigns in the CNMI.

Goals, Objectives & Strategies for Infectious Agents

GOAL
Reduce cancer deaths in Mariana Islanders due to infectious agents.

OBJECTIVE Prevention/Infec.Agents 1:
Increase awareness among Mariana Islanders of the relationship between certain infectious diseases and cancers emphasizing vaccinations.

Baseline: High incidence of positive HPV in the CNMI and HBV concerns in certain populations. Current information available to Mariana Islanders is very limited in 2007.

Strategy a: Develop media messages on infectious disease vaccinations and cancer.
Strategy b: Monitor emerging science investigating the relationship between infectious agents and cancer.

OBJECTIVE Prevention/Infec.Agents 2:
Vaccinate 10% of females ages 9-26 against HPV by 2011.

Baseline: HPV-Vac. Coalition and vaccination program planning stage begun in 2007.
Strategy a: Work with HPV-Vac. Coalition during implementation of vaccination program.

OBJECTIVE Prevention/Infec.Agents 3:
Each jurisdiction will achieve completed hepatitis B vaccination series in 90% of 2 year old children by 2012.

Baseline: HBV vaccinations or currently only in the planning stages
Strategy a: Work with Regional Comprehensive Cancer Program to implement HBV vaccination program.

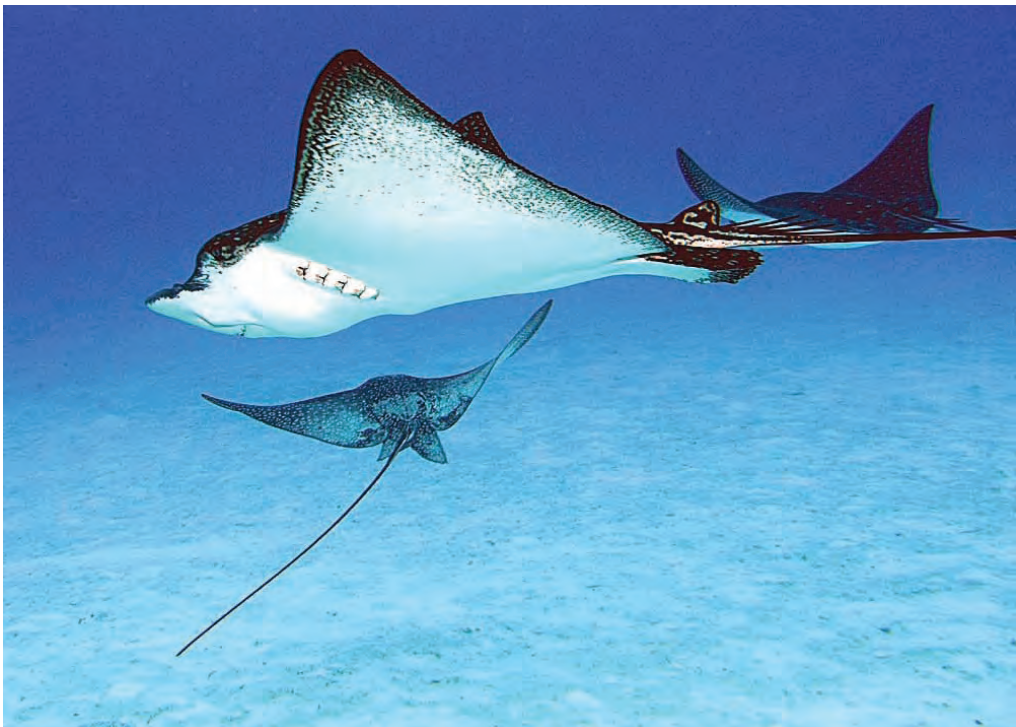


Photo courtesy of Dr. Mark Robertson

Rica Shavonne Hamilton Ada

Hafa Adai, my name is Rica Shavonne Hamilton Ada and I am a cancer survivor.

In January of 2006 when I was only thirteen years old, I was sat down by my father and my doctor and was told the most shocking news of my life. They explained to me that I had CANCER. I didn't know what to feel at that moment. I just kept on wondering, "why me, of all people", "what did I do"? I was really angry, worried and mostly scared.



February came around and I was ready to face my battle. I was referred to Shriner's Hospital in Honolulu, Hawaii where they had confirmed that I had Ewing Sarcoma, a cancer that had affected my humerus bone.

I had undergone a limb salvage surgery to remove the tumor from my right arm. After my surgery, I had to undergo a series of fourteen treatments of chemotherapy and a month and a half long of radiation. That first week of chemo was the worst of all my ordeals. I was feeling sick all the time, loss my hair and I hated the fact that I was away from my family. But as time passed, I started to heal from the inside and began to feel comfortable with my deck of cards. I wanted to be well and strong so that I can come back home and share my story with other people.

A home away from home, I was later transferred to the Ronald McDonald House for a period of eight months. While I was there, I met a lot of great people who helped me accept my sickness and had become my inspiration. Meredith, 17 and Ruthie, 5 had shown me the new meaning of "BEAUTIFUL".

Everyday of my life while I was in Hawaii was always challenging and hard, from chemo to radiation, you name it. Going through this journey became the biggest challenge of my life. But in the end, I came through it with a positive attitude and results to be thankful for, thanks to the Lord up above and the angels and saints that he had sent to watch over me during my trying times. This is where my faith and the faith of my families helped me to overcome my fears and had given me the courage to continue to fight.

I want to thank my dad, Juan Sablan Ada for being by my side from the very beginning and being strong even when you just wanted to break down and cry-you are the BEST, I LOVE YOU! My mom, Paula Jane Hamilton for being there and keeping my spirits high, my step mom, Carrie Delos Reyes Ada, for sacrificing so much of your time to see to it that I am well, strong, and happy and for giving me your unconditional love and support. Grandpa and Grandma's for believing in me and always being there to remind me that God will guide me and lead me through this ordeal. To my cousins and friends, new and old, thank you for your thoughts, prayers and words of comfort. And lastly, to the doctors, surgeons, nurses and medical referral offices, from Hawaii and Saipan, thank you for all you have done for me and my family.

To my fellow survivors, young or old, male or female, always remember, there is hope out there, but it must begin with you. "Believe in yourself, have faith in God for tomorrow he will bring better and brighter days".

May God Bless You!
Rica

SCREENING AND EARLY DETECTION

Methods to identify pre-cancerous or cancerous conditions at the earliest possible stage.

Goal for Screening and Early Detection:

To detect conditions that may lead to cancer and find all cancer cases at the earliest possible stage

It is the awareness about cancer itself and the institution of screening programs, in tandem, that can assist in lowering the incidence of and the earlier diagnosis of certain malignant diseases. Malignant disease is most frequently discovered in one of four ways:

- a.** As a result of screening in persons who fall into a recommended group, thought to be at increased risk for a particular disease.
- b.** As a result of investigation of signs or symptoms in a patient who seeks attention for these.
- c.** As an incidental finding during an investigation of another problem.
- d.** At autopsy

Of the three methods **b.** and **c.** yield a diagnosis that may lead to successful treatment of the problem, while **a.** anticipates a potential problem in a group thought to be at risk, and offers potential cure at an earlier stage. Method **d.** may be vital for statistical and scientific purposes but is not appropriate while addressing cancer control.

Many Government and Professional bodies have recognized the importance of early detection of disease and have produced guidelines regarding awareness and screening for several of the most common malignancies. These include the American Cancer Society (ACS), the National Institute of Health (NIH), and the Agency for Healthcare Research and Quality (AHRQ). Of consideration is the similarity of most of the proposed guidelines for each disease. The single aim is to reduce the cancer burden by educational processes that may help prevent malignant changes, and screen to establish diagnosis at a stage when cure may be possible.

Screening is strongly recommended for three of the most common malignancies detected in the CNMI – Breast, Cervical and Colorectal cancers. Screening for oral cancer has not been found to yield any earlier diagnosis with direct examination of the oral cavity in high risk groups being recommended. Similarly, there is insufficient evidence to recommend a screening program for lung cancer. For both oral and lung malignancies, the obvious impact on incidence can be addressed through tobacco prevention programs. Each recommended screening program is specific to the organ affected and has been arrived at over years of accumulated data from multiple sites. This data has been pooled and a consensus obtained.

This section focuses on three cancers--breast, cervical, and colorectal. Each of these cancers has strong scientific evidence supporting screening.

Breast & Cervical Cancer Screening

Breast and cervical cancer remain the first- and second-most prevalent cancers and the first- and third-leading causes of cancer death in women in the CNMI. Not only do both of these

malignancies have a higher incidence than the U.S. mainland, they are diagnosed at a much more advanced stage in the CNMI than in the rest of the U.S. The result is a corresponding cure rate that is lower.

Currently, the Commonwealth Health Center is the only hospital in the CNMI and the only location to offer mammography. There is no radiologist on staff at CHC and all films must be sent to Guam for interpretation. Due to a lack of funding for mammograms, there is frequently a delay in the completion of the screening process.

The breast and cervical cancer screening program was federally funded in 1996 and began in 1998 to provide free Pap tests and mammograms to medically underserved women. In October 2002, the funding ended. During the five years that the program was funded, 1,861 women were enrolled and 2,172 Pap tests and 536 mammograms were performed. Approximately 1.4% (30) of Pap tests and 5% (27) of mammograms were abnormal. The program sought to overcome significant challenges that include lack of awareness about breast and cervical cancer, distrust of the health care system, loss of privacy in small communities where there are few female physicians, transportation and language barriers, and embarrassment of gynecological exams. Yet the low number of abnormal results in a population with these cancers being the first and third leading cause of death suggests that the target population was not adequately reached during this program.

In October 2005 the Breast and Cervical Cancer Screening Program received funding from the federal Title X Family Planning program. With this funding a weekly free breast and cervical cancer screening clinic was established. This clinic is specifically for women who have not had a pap test in 4 or more years, are older than 25 and have an intact uterus. During the two hour evening clinic, focused exams (clinical breast exam and Pap test) are performed. Mammograms are not covered under Title X funding. The number of women seen each week depends on how much time the single outreach worker has to reach women - typically 6 to 12.

Indigenous Northern Marianas women are the target population for this clinic. Table 4 (Chapter 2) shows that Chamorro and Carolinian women of the Northern Marianas are at extremely high risk for developing breast and cervical cancer. Unfortunately, this population is participating in low numbers at the weekly clinic. Most of the women who show up are from the Philippines. The program plans on addressing this issue by moving out into the villages and having roaming Pap clinics at churches, community centers, even large extended family barbeques if necessary. The outreach coordinator currently uses community and family contacts for recruitment and schedules follow up visits for abnormal test results.

The high rate of mortality from these cancers continues to offer evidence that the barriers to reaching the target population still exist (Tables 2 and 3; breast cancer, 88 cases, 22 deaths; cervical cancer, 62 cases, 13 deaths). Lack of awareness, distrust in the health care system, and lack of transportation are obstacles that must be overcome to reach adequately the target population. Many CNMI women living in rural communities without access to transportation must make special arrangements to travel to Garapan for diagnostic imaging and other services needed to rule out or confirm a cancer diagnosis.

At this time, local funding supports the salaries of four staff members to continue the program, as well as funds free breast exams and Pap tests. Women with abnormal findings who require off-island workup or treatment but are not eligible for the Medical Referral Program must pay for

care on their own. Since the program targets uninsured low-income women, many of the women enrolled in the program have not continued annual screening because continued services are not free. Since breast and cervical cancer rates are extremely high in the CNMI, funding for follow up visits and annual screening programs is desperately needed. If continued sources of external funding for this program are not sought, the CNMI will witness a significant decrease in breast and cervical cancer screening and outreach efforts to the population most affected by these cancers. The likelihood of late stage diagnoses of breast and cervical cancer in the CNMI will increase as a result.

Colorectal Cancer Screening

Screening for colorectal cancer before a person has symptoms can help the doctor find polyps or cancer early. Finding and removing polyps may prevent colorectal cancer. Treatment for colorectal cancer is more likely to be effective when the disease is found early.

Screening to detect colorectal cancer at an early stage includes looking at the inside of the colon. The colon can be viewed directly with a colonoscope (a fiber optic, lighted instrument that views the entire colon from the rectum to the cecum) or with a flexible sigmoidoscope (a similar, shorter instrument that views the rectum, sigmoid and descending colon). During a colonoscopy, a polyp or other suspicious area can be biopsied (sample taken) or removed, then sent to the laboratory for tissue identification. Removal of a polyp not only allows diagnosis of cancer, if present, but also prevents the spread of cancer from that polyp.

Another type of colorectal cancer screening is the fecal occult blood test. While this is a commonly recommended screening test, health care providers do not currently recommend this test. This is due to an exceedingly high number of (false) positive results due to chronic blood loss from *H. pylori* infection related to chronic gastritis.

Colorectal cancer screening resources

are not readily available outside of CNMI's larger communities. Three problems contribute to the diagnosis of colorectal cancer in the Northern Mariana Islands. One is the high demand on health care providers to provide acute care services. The second is that flexible sigmoidoscopy and colonoscopy are generally performed by physicians and specialists (gastroenterologists), who are only available at the Community Health Center. A third problem is the high cost of transportation to locations where screening services and follow-up care are available.

In general, screening resources in CNMI for colorectal cancer are insufficient to address the recommendation that all persons over age 50 be screened with colonoscopy.



Photo courtesy of Commonwealth Cancer Association

Goals, Objectives & Strategies for Screening & Early Detection

GENERAL GOALS

- Detect conditions that may lead to cancer.
- Detect cancer in its earliest stages.
- Reduce the mortality rate for all cancers.

BREAST & CERVICAL CANCER GOAL

Reduce death from breast and cervical cancer.

BREAST & CERVICAL CANCER OBJECTIVES & STRATEGIES

* OBJECTIVE *Screening/Breast 1:*

Increase the percentage of CNMI women who receive regular breast and cervical cancer screenings by 30% by 2012.

Baseline: Between 1998 and 2002, 536 mammograms and 2,172 Pap tests were performed. Weekly free exams are not reaching indigenous Mariana Islanders.

Strategy a: Establish and maintain a high profile education program explaining preventive and diagnostic methods through community partnerships, business collaboration, and mass media campaign.

Strategy b: Identify cultural, social & system issues that are barriers to sexually active women having breast examinations and Pap tests.

Strategy c: Support the wide distribution of educational material promoting the importance of regular breast and cervical screenings.

OBJECTIVE *Screening/Breast 2:*

Reduce incidence of cancer mortality from breast and cervical cancer to 10% by 2012

Baseline: Low detection (5% breast and 1.4% cervical), and high mortality (25% and 21%) suggests target population not being reached.

Strategy a: Work with Breast and Cervical Cancer Program in its establishment of a mobile clinic that can provide educational materials and free Pap tests in identified high risk populations.

Strategy b: Work with Breast and Cervical Cancer Program to establish a mobile community outreach team to provide tracking and follow-up care.

OBJECTIVE *Screening/Breast 3:*

Increase collaboration with women's health programs.

Baseline: Best areas for collaboration have not been identified in 2007.

Strategy a: Integrate health care providers, local leaders and womens groups to develop cancer plan implementation activities. Ensure cooperation and understanding between local, political and village leaders during cancer plan development.

Strategy b: Collaborate with Women Infant Child program, religious organizations, business community and other stake holders on education, screening and developing priorities.

OBJECTIVE Screening/Breast 4:

Ensure accurate, high quality data on which to make policy, program and planning decisions.

Baseline: Data being collected by Breast and Cervical Cancer Screening Program tracking system.

Strategy a: Enhance existing tracking system by working with Breast and Cervical Cancer coordinator position to maintain the database and integrate the tracking system with clinic visits and mobile community outreach for recall of women at appropriate screening intervals.

COLORECTAL CANCER GOAL

Reduce morbidity and mortality from colorectal cancer.

COLORECTAL CANCER OBJECTIVES & STRATEGIES**OBJECTIVE Screening/Colorectal 1:**

Develop a colorectal screening database for CNMI for clinical case management and surveillance purposes by 2009.

Baseline: A database specific to colorectal cancer does not exist in 2007.

Strategy a: Support development of a tracking procedure that will be used by a clinical coordinator to track screening needs and follow-up of patients for colorectal screening.

Strategy b: Support development of a database for tracking first degree relatives of colorectal cancer patients.

*** OBJECTIVE Screening/Colorectal 2:**

Increase the colorectal cancer screening rates by 10% in CNMI by 2012.

Baseline: There currently is no data for CNMI.

Strategy a: Increase documentation and coding by health care providers for entry into database.

Strategy b: Increase awareness regarding colorectal cancer screening.

Strategy d: Investigate ways to allow healthcare providers to enhance screening rates in communities with low rates of screening.

MODERNIZATION GOAL

Allow no gap in current screening ability and implement the most cost effective and up to date screening techniques.

MODERNIZATION OBJECTIVES & STRATEGIES**OBJECTIVE Screening/Modernization 1:**

Maintain most cost effective screening tools in stock for screening activities based on scientific literature.

Baseline: Screening tools are often not up to date with frequent inventory gaps.

Strategy a: Inventory current medical supplies and develop recommendations for restocking and maintaining inventory levels.

Strategy b: Track scientific literature and explore funding sources for maintenance of the most cost effective and best available screening tools.

DIAGNOSIS

Diagnosis confirms or rules out the presence of cancer.

Introduction

Of all cancer cases diagnosed in the CNMI between 1991 and 2001, breast cancer was the most common followed by lung cancer. These and all cancer diagnoses affect everyone, including, patient, family, friends, and community. With a cancer diagnosis comes mental, emotional, spiritual, and financial stress to the patient, family, and the community.

A shortage of trained personnel and equipment, as well as the difficulty coordinating healthcare services and travel logistics in the CNMI all increase the time to cancer diagnosis for patients. The CHC has a CT scanner and mammography unit. Patients may have to travel from other islands or lack a vehicle to travel to the CHC in Garapan for a diagnosis confirmation. The distance between the three main islands of the CNMI is small, but travel necessitates a journey by plane (or occasionally boat). Lack of a vehicle to travel from home to the CHC, family situations and other reasons often result in cancellation or rescheduling of preliminary, or even definitive diagnostic procedures. Although flights between Tinian, Rota and Saipan are scheduled daily, operation is sporadic due to weather and airplane maintenance. Most families find the cost of airfare and taxi fare prohibitive even when making decisions based on their health. This hinders efforts to increase early diagnosis of cancer within the CNMI population. Late diagnosis of cancer has become a burden on the health system of the CNMI.

In order to complete a diagnosis and accurately assess the staging of a cancer so that appropriate treatment may be instituted (with the exception of patients who are locally determined to have disease that is at a stage where palliative procedures would be appropriate), all patients must travel to destinations outside of the CNMI. Guam (100 miles) has an MRI scanner and can provide chemotherapy. Manila (1,700 miles) offers most of the latest diagnostic and treatment techniques. The majority of CNMI patients travel to Hawaii (3,900 miles), or west coast mainland facilities (over 5,000 miles), where state of the art diagnosis and treatment exist.

Other factors that affect the increasing demand for cancer services include: increases in the CNMI population, life expectancy, incidence of cancer, and the number of types of treatment patients may receive.

Diagnosis Data

A total of 550 cases of cancer were observed for the eleven-year period 1991 to 2001 [6]. For cancer cases, the most common cancers seen were similar to the leading causes of cancer death, including breast cancer (accounting for 16% of all cases), lung cancer (12%), cervical cancer (11%), cancers of unknown origin (10%), and head and neck cancers (7%). Gender differences were observed between cases. Of the 550 cases, 246 were in males; lung cancer was the leading cause of cancer morbidity (accounting for 20% of cases), followed by cancer of unknown origin (12%), head and neck cancers (10%), colorectal cancer (9%), liver cancer (8%), and prostate cancer (7%). Of the 304 cases of cancer in females, 29% were breast cancer, 20% were cervical cancer, 8% were of unknown origin, 7% were uterine cancer, and 5% lung cancer [6].

Diagnostic Procedures and Barriers

In the CNMI a combination of on and off-island services are used to diagnose cancer. Radiology services for cancer diagnosis include mammogram, ultrasound, and CT-guided biopsies. The CHC laboratory can perform guaiacs and complete blood counts with manual differentials. Other lab tests used in cancer diagnosis; including cancer tumor markers, Pap smears, and biopsy-specimen analysis, are performed by Diagnostic Laboratory Services (DLS) in Hawaii. Currently there is no resident pathologist on Saipan. This necessitates each surgical specimen being flown to Honolulu, interpreted and the result transmitted back. The turnaround time is between ten to fourteen days.

Sadly, a major factor affecting both diagnosis and treatment of cancer patients from the CNMI is insurance coverage and overall cost. These factors control the location of the treatment center and even if workup or treatment is possible. By choice, the facility to be selected would be on US soil, but this is not always possible. The next section covers the off-island medical referral system.

Goals, Objectives & Strategies for Diagnosis

GOAL

Improve availability and access to diagnostic techniques that lead to earlier recognition of malignant disease.

OBJECTIVE *Diagnosis 1:*

Identify diagnostic services and techniques most needed in all health facilities by 2012.

Strategy a: Use a CHC health care provider workgroup involving local clinicians and professional bodies to, ensure up to date knowledge, identify needed diagnostic services, and techniques.

OBJECTIVE *Diagnosis 2:*

Identify population appropriate resources needed to support patients and healthcare providers with cancer diagnosis and monitoring by 2012.

Strategy a: Collaborate with clinical, legislative and professional bodies to develop a plan to identify and recommend cost effective, needed staff and state of the art equipment.

The Rev. Ewing W. {Bud} Carroll, Jr.
former Pastor of Immanuel United Methodist Church



My first bout with prostatitis was in 1996. My PSA shot up to 83 – an indication of infection. Fortunately, my New York City urologist was not "surgery happy" and encouraged me to wait. Eight months later I did have biopsies at Columbia Presbyterian Medical Center. The results were good - no cancer. Most likely, the rising PSA was due to prostate infection, not cancer.

In early 2005 my PSA began to gradually rise. My local doctor [Tony Stearns] worked closely with me. He indicates, "Although most men die WITH prostate cancer, I would urge you to seek further consultation and possible treatment. It is important to have both quantity and quality of life." I remain ever so grateful to Dr. Stearns for his encouragement and support!

My second round of biopsies was in Guam in November 2005. There were four cells indicating malignancy. By then my PSA was up to 14 and a Gleason Score of 6. Although this indicated the earliest stages of prostate cancer, I wanted to heed Dr. Stearns' admonitive encouragement - "Both quantity and quality of life." I knew I did NOT want traditional surgery I was not interested in Ziploc bags and doing nothing strenuous for six weeks or more. I then learned about the Loma Linda University Medical Center's Proton Treatment Program.

"Proton Bob" who lives in Boston had been treated there some seven years ago. Since that time over 13,000 men have received the same treatment at Loma Linda. What a blessings! What a joy! I have frequently told people, "I'm so blessed to have had prostate cancer."

Loma Linda University Medical Center is the pioneer in the proton treatment program. It is highly holistic. In addition to doctors and other medical staff, there are nutritionists, social workers, an excellent gym and all the wonderful co-patients. We were truly an ideal community on earth.

Medicare covers some 80% of the costs. Yes, I had to rent living quarters and a car, but the 44-day treatment program, spread over two+ months was really a vacation. Many of my patient friends would say, "Please don't tell my children what a great time I'm having."

Many of my co-patients received their treatment early each day, Monday to Friday and were then out on the golf course, of climbing mountains, fishing, etc. So different from the traditional treatment programs.

There were four support groups. Two were self-programmed based in apartment complexes where many patients lived. The other two were provided by the Proton Treatment Center. These were inspiring, informative and necessary. The sharing first developed in these programs continues to this day. I frequently receive emails from co-patients, scattered all over the world. We try our best to encourage other men facing prostate cancer to consider this program.

Since 2006 there are now five such programs in the U.S. More are being developed. But the LLUMC program is by far the most experienced and has treated the most patients. Today, there are also women with early breast cancer receiving similar treatment. Young and old who have undergone brain tumor surgery are also being treated.

I am both eager and available to share my story with any and everyone. I want to encourage my brothers in the CNMI to consider this program. It is painless, financially affordable and miraculous.



CCA member converses with a student to draw her attention away from her fear of needles.



"I've joined the fight against cervical cancer."



Pacific Regional Epidemiologist, JP Chaine, educates high school girls on the benefits of the HPV Vaccine.

CCA Coordinator places an HPV Charm Bracelet on a student who just received her 1st dose of the vaccine and explains the significant of the bracelet and the charm



Photos courtesy of HPV Committee.

TREATMENT

Treatment offers to cure the disease, and/or reduce illness to sustain quality of life.

Introduction

Treatment is the final stage in the recognition and management of a malignant disease. It may be classified as curative or palliative, but in each case, is an attempt to either remove the disease process, or extend life. In the CNMI, after cancer diagnosis, treatment options for the patient are minimal. In optimal healthcare situations, cancer treatment generally involves one or a combination of treatments including surgery, radiation, chemotherapy, immunotherapy, and hormonal therapy. Ideally, the patient's physician develops a treatment plan based on the type and stage of cancer, the patient's overall physical health and recommended treatment protocols based on National Comprehensive Cancer Network (NCCN) guidelines. Quality of life is a paramount issue and although some treatment regimes may temporarily cause a worsening of patient symptoms, the major guideline is to provide a treatment plan that will not worsen quality of life, if survival is in doubt.

Treatment Concerns

Typically, what happens in the CNMI is that all cancer patients are referred off-island for verification or completion of diagnosis. They receive treatment at the referral center and then return to Saipan. The center discharges the patient with a follow up schedule for intervals that would be normal for that center. These requests are made without the realization by the center of how far the patient has traveled and the fact that some of these follow ups may be done on Saipan. This typical scenario is quite beyond CNMI's financial means. Certain levels of care currently available locally, or within the region, must be aggressively promoted.

For the CNMI, since final diagnosis usually occurs off-island, health care providers rarely are able to arrive at the final staging of the disease process. On Saipan there is one physician who has extensive experience in oncology and provides maintenance chemotherapy with the help of a few trained nurses when patients arrive back on the island. These maintenance providers must rely on the decisions made by tertiary care centers in other parts of the world. Unfortunately, CHC referring physicians rarely receive adequate reports regarding the treatment of the patient from the treating center. This is despite the fact that an integral part of ongoing management is access to records of the previous treatment regime and any problems that have arisen along the way. Referral centers also vary in their scope of recommendations regarding final diagnosis and follow up treatment of the cancer. Yet the providers within the CNMI are forced to rely on those decisions, with no input.

For some cancers, only surgery or chemotherapy is needed. Unfortunately, for many others, a combination of two and sometimes three treatments (surgery, radiation, and chemotherapy) are needed. This full regimen of cancer treatment is simply not available in the Northern Marianas. Radiation therapy is unavailable on either Saipan or Guam. Patients who require this are either sent to Manila or Honolulu, where they frequently also have chemotherapy.

On-island cancer surgeries are limited to noncomplex cases. Definitive surgical treatment is available for breast, oral, colorectal, and gynecological malignancies, but complicated procedures for these malignancies, along with operative procedures for lung and prostate cancers

must be referred off-island. These referrals are extremely costly and include a lifetime cap on the amount of government funding for each patient. It is obvious that priority is given to those patients who have a chance of cure. This highlights the paramount importance of adequate prevention, education, awareness, and screening programs.

The remoteness of the Northern Mariana Islands presents a major treatment problem. Treatment may mean leaving home and require long absences from family, jobs, traditional foods, spiritual support, and familiar social settings. Treatment requires traveling between care providers often located at different facilities in an unfamiliar setting with problems of travel, language, and cultural differences. Due to the sociological structure within the Pacific Islands, many patients and their families are reluctant to have a family member travel the distance necessary for treatment. Major efforts must be made to bridge the gap between tradition, local medicine and the western model of treatment.

Optimal treatment for cancer changes rapidly. Cancer research findings, new drugs, and clinical trials provide new ways to treat patients, reduce side effects, and increase survival rates. Some of these advances result in increased use of outpatient services and shortened hospital stays. Advances in outpatient treatment are of particular interest to CNMI healthcare providers. Because of this, the most up-to-date cancer treatment recommendations are monitored by CHC staff. When available and appropriate, they are offered to cancer patients.

It is clear that many cancer therapies are not available in the CNMI. The treatment of cancer is an actively researched area in the world scientific community. New diagnostic and treatment techniques and procedures currently under development may help Mariana Islanders remain closer to home; reduce the time away from home; and reduce the pain and symptoms associated with cancer treatment.



Photo courtesy of Commonwealth Health Center Volunteers Association

Goals, Objectives & Strategies for Treatment

GOALS

When cancer is diagnosed, treat the patient and family with the most appropriate therapy as close to home as possible.

OBJECTIVE *Treatment 1:*

Decrease the amount of time a patient spends between diagnosis and treatment by 2012.

Baseline: There is no coordinated patient navigation program and minimal off-island infrastructure for cancer referrals 2007.

Strategy a: Create a coordinated patient navigation program for on and off-island resources relating to cancer treatment.

Strategy b: Develop off-island infrastructure based in Honolulu for off-island cancer referrals.

Strategy c: Identify collaborative and financial means to support establishing a coordinated patient navigation program for on and off-island locales.

Strategy d: Establish a cancer patient tracking system to monitor long-term cancer side effects and recurrence.

Strategy e: Support the development of an Oncology Support Program (OSP) to provide primary care and cancer support services for Mariana Islanders who need to travel off island for long periods.

OBJECTIVE *Treatment 2:*

Increase healthcare capacity regarding cancer treatment on-island by 2012.

Baseline: Cancer patients must often take long airline flights to hospitals for diagnosis and treatment services in 2007.

Strategy a: Provide training for health professionals in interpreting/reading CT films and mammograms.

Strategy b: Increase the number of nurses and doctors trained in chemotherapy administration.

Strategy c: Establish a mechanism to update regularly all members of the cancer care team about new diagnostic tests and treatment procedures.

Strategy d: Conduct cost/benefit analysis to determine which off-island healthcare providers could be beneficial in partnerships with CHC.

Strategy d: Encourage partnerships with most beneficial off-island healthcare providers when treatment modalities are not available at CHC.

Strategy f: Collaborate with the other USAPIN Jurisdictions, via the Pacific Regional Cancer Coalition staff and PIHOA to determine the feasibility of developing a regional comprehensive cancer center.

OBJECTIVE *Treatment 3:*

Establish a pain and symptom management program to ensure that cancer patients receive timely and effective pain and symptom therapy.

Baseline: *There is no comprehensive pain program within CNMI in 2007.*

Strategy a*: Collaborate with CHC Pharmacy, PHI Pharmacy, palliative care providers, and other resources to initiate a pain and symptom management program.

OBJECTIVE Treatment 4:

Educate physicians on accessing clinical guidelines by 2012.

Baseline: *Clinical guidelines not readily available to some physicians within CNMI in 2007.*

Strategy a: Plan, implement, and evaluate training for physicians.



Photo courtesy of Dr. Mark Robertson

Maggie Camacho



A month before I left for my son's graduation from Seattle University in 2004, I managed to have my annual mammogram done at CHC. After my return, in a month's time, I received a letter from CHC that I needed to consult with my referring doctor about the results of my mammogram. When I visited Dr. Alou, he indicated to me not to be alarmed, and that perhaps it was not serious as he hadn't received a copy of the results from CHC. Since I was not feeling any pain, I dismissed the issue temporarily. During my next quarterly follow up with Dr. Alou, however, I showed him the letter I received if he hadn't then. He subsequently requested CHC for his copy, and had his staff inform me to get another mammogram on one of my breast, in more detailed, or rather microscopically. Without hesitation, CHC performed the test and immediately sent it to Guam for further review and recommendation. At this time, I was filled with fear, and was praying over and over again.

As soon as Dr. Alou received word on my second tests, he summoned me to his clinic and informed me that the lump on my breast was questionable, and that an off-island trip was better to have a biopsy performed. Dr. Alou was so comforting, telling me over and over that it might not be cancer at all. However, my head was spinning then, and my heart was both throbbing so fast and crying at the same time, internally. I knew then, that I had to act fast, to even pass up arrangement with CHC regarding an off-island medical referral for it normally would take months after months. So, within a couple of days, I was able to make an appointment with a doctor who could see me in one week's time. Off I went to Seattle, Washington, by myself, to meet my fate.

The doctor referred me to the hospital the very next day, and another set of mammogram was performed on both breasts, to compare with the films I had taken along with me from CHC. As I was waiting in the examination room, I was really scared for the worst news in my life: to be diagnosed with the dreaded word – CANCER. They next performed an ultra sound, and followed by the biopsy. Imagine how I was feeling when in less than two hours' period in that hospital, I was informed that the lump on one of my breasts was positive! Whew, so much for praying and watching my diet...

My discussion with the oncologist was thorough and reassuring as the lump was rather small in size, and that I did not have to go through chemo treatment at all. I also met with all the doctors who were to be part of the surgery in two weeks' time. I even met with a therapist for the post operation exercises. The hospital was quite helpful in preparing myself and my family deal with all aspects of cancer and various treatments. All questions floating on my mind were answered. One of major concern was my physical appearance. Would my husband think of me differently? I was rather disturbed with that line of thinking. Thank God I had a choice whether to have lumpectomy or mastectomy. Much to my relief, I was able to accept what our Lord handed to me. The bomb was dropped when after the surgery I was told that because I have H2R positive, I NEEDED to go through chemotherapy. I was stricken with numbness, head spinning like crazy, speechless, and not even listening to the doctor explaining the series of treatments

required. Tears then starting flowing down my face slowly, trying to swallow the news, which was initially was not part of the deal because of the minute size of the cancer. Even my lymph nodes were not affected.

I realized then that my husband sitting next to me, squeezing my hand made all the difference. I knew then, that he would extend all the support he could to make life for myself worth living. I also thought of all my families and friends who were expressing all the well wishing before I left Saipan, and all the special intentions of prayers at churches throughout the island. The graces of our Lord were constant in everyone and that hope was right in front of me.

Within a week, I was receiving chemo every other week for a series of four. Then a set of radiation was administered daily for six weeks. Since our house was an hour's drive to the hospital, I had to wake up very early to be at the hospital at 9 am, every morning including holidays, even Christmas Day and New Year's. I had to wear warm, hats which were comfortable during the winter months to remind myself less of the baldness of my head. Thank God, I purchased a couple of wigs in preparation of being bald, another side effects of chemotherapy with the help of my daughter Reina and son Ryan.

I encountered quite a number of inconveniences all throughout the treatments. I had loss of appetite, but I knew I had to eat to be able to get the next chemo otherwise if my white cells were low, they would not administer the medication. I felt so bored, even reading was not much help, and going out during the winter months was not even thought of. Ate quite a bit of red ginger to help me gain appetite and drink a lot of water. I found out that I needed to drink tons and tons of water in order that my veins be visible. At one point, I had to wait a couple of hours for the nurse to patiently try to find my veins in the only arm that could be used.

With abundance of family members and friends coming to visit me, including sister in law from Arizona, nieces from Hawaii, California, and Virginia, friends from Oregon and Saipan, my spirit and uncertainties in life were much more positive than ever before. I really was feeling loved and cared for that I did not want to let them down. I had to look at life in a different perspective and be more caring on my part as well. After all, it was me who was not well.

On the most part of this communication, timing was mentioned, simply because early detection is foremost important. I never felt any pain in my breast, nor did I encounter any pain after the surgery. But because I was religiously getting my mammogram, the cancer was detected early and did not suffer pain unlike some ladies. Of equal importance are to be open minded, to possess a strong positive attitude, and be able to share or question anyone about the illness. Having great support from the community is a gratifying feeling and at the same time healing for us, victims of cancer. And most of all, I am standing up embracing the fact that I am blessed with the love and graces of our Lord for giving me another life to further strengthen relationships to my families and friends alike. That is WHY me.

LONGITUDINAL PATIENT CARE

The physical, mental and spiritual issue of dealing with cancer, beginning with diagnosis, continuing through treatment, follow-up, and lasting the remainder of life.

With its small village and family based community structure, survivorship, hospice, and palliative care can all be summed up as a cancer patient's longitudinal care in the CNMI. Longitudinal patient care occurs as cooperation between the physician, patient, family, extended family, and friends. After diagnosis and treatment, the follow-up care for a cancer survivor in the CNMI is driven by the health protocol for the type of cancer that they had.

Following a cancer diagnosis if a patient cannot be treated on-island they are referred off-island for definitive primary care. Since, only definitive primary care is offered off-island, hopefully a patient returns after treatment with a good prognosis. Off-island funding for cancer follow-up and palliative care is not part of the CNMI medical referral system. Off island transport of ill patients is costly and logistically difficult. Terminally ill patients' typically call on family and friends to help them home. Home care then is given with no resources offered by the hospital.

After off-island treatment, when a patient returns home they will need continued medical follow-up on island. Unfortunately the department of health currently has no method for tracking all cancer survivors that need follow-up care. A survivor tracking system would aid in bringing cancer survivors in to the clinic to be rechecked on a regular basis to detect possible complications or reoccurrences.

Health care providers can assist family members in knowing what to expect when the patient returns and what adaptations to the home or the lifestyle might be necessary. With a patient tracking system, health providers may also be able to support long-term survivors in offering support groups for those having experienced similar diagnoses and treatment, and assuring recommended follow-up care is provided. Currently, although there are loosely organized groups, there are no *formal* CNMI cancer support groups.

Most patients prefer to spend the last part of life in their home community. Developing a longitudinal care program that begins with the premise that the patient will go home, provides an opportunity to identify unique regional, CHC, governmental and private resources to assist the patient. Therefore, it is important that a long-term care discussion takes place at the time of diagnosis, or soon afterwards.



Photos courtesy of Commonwealth Cancer Association

Goals, Objectives & Strategies Longitudinal Patient Care

GOAL

To provide physical, social, mental and spiritual care that would help a person maintain the best quality of life.

OBJECTIVE *Longitudinal Care 1:*

Develop cancer patient tracking system to maximize follow-up protocol treatment, minimize recurrences, and detect secondary cancers early by 2012.

Baseline: A formal cancer patient follow-up care tracking system does not exist within CNMI in 2007.

Strategy a: Develop a tracking system to monitor care of survivors and provide recommended protocol for follow-up treatment.

Strategy b: Develop an ‘end of cancer treatment’ summary form for off-island hospitals to submit to incorporate into a patient’s medical records for access by follow-up care providers throughout the CNMI.

Strategy c: For patients returning from off-island treatment, educate and train providers to assess for potential complications of the provided treatment, and offer appropriate resources using National Comprehensive Cancer Network (NCCN) guidelines for treatment of cancer and survivorship.

OBJECTIVE *Longitudinal Care 2:*

Develop a community based survivorship program that offers support to cancer survivors, family, and friends to address physical, mental, spiritual, and practical issues throughout cancer diagnosis, treatment, and follow-up by 2012.

Baseline: There is no comprehensive survivorship program within CNMI in 2007.

Strategy a: Maintain an updated cancer patient information guide and cancer care support kit.

Strategy b: Develop a patient navigation program to improve coordination of care.

Strategy c: Expand spiritual support for patients and families who are away from home for lengthy periods.

Strategy d: Develop community based support groups working with patients and families of survivors to provide assistance to cancer patients returning home after cancer treatment.

Strategy e: Offer training for individuals willing to facilitate cancer support groups.

OBJECTIVE *Longitudinal Care 3:*

Train healthcare providers how to address palliative care with patients.

Baseline: Currently unknown what percentage of healthcare providers have received adequate palliative care training.

Strategy a: Encourage and support national palliative care certification for healthcare providers including physicians, nurses, social workers, and pharmacists.

Strategy b: Establish a culturally appropriate palliative care training program and curriculum for healthcare providers.

OBJECTIVE *Longitudinal Care 4:*
Enhance current long term, terminal patient care strategies that provide for dying at home with community support by 2012.

Baseline: Culturally appropriate and legal requirements may not be met for terminally ill patients cared for at home.

Strategy a: Develop culturally appropriate advance directives and education programs that adhere to all legal requirements and allow for death with dignity.

Strategy b: Develop culturally appropriate palliative care materials for providers, family members, and community members.

Strategy c: Develop strategies to provide respite care to allow support for caregivers.

OBJECTIVE *Longitudinal Care 5:*
Lessen the financial burden on cancer patients and/or family members by 2012.

Baseline: Financial burden is high for cancer patients and their families.

Strategy a: Continue to fundraise for financial assistance program to newly diagnosed cancer patients.

Strategy b: Locate funds and/or donations that aid in lessening the financial impact.

Strategy c: Assure Medicare funding requirements are met for home care options.



Photo courtesy of James Montenegro

DATA, REGISTRY, and SURVEILLANCE

The prevention and management of cancer relies on information that is easily accessible. This information must come from accurate and timely data. The creation of a historical record of analyzed data is important to make informed decisions on how to best use resources to address the cancer burden in the Northern Mariana Islands. The collection of this historical record is surveillance. The ongoing activities needed for strong and relevant surveillance are; data gathered on the occurrence of cancer (incidence), cancer deaths (mortality), risk factors for the development of cancer (tobacco use, overweight, fruit and vegetable intake), cancer screening activities (use of mammography, colonoscopy, Pap tests), and the use of diagnostic and treatment services. All aspects of the Comprehensive Cancer Program rely on data surveillance.

In CNMI, cancer surveillance would provide important information for use in:

- *Identifying those at increased risk*
- *Describing and monitoring cancer trends*
- *Evaluating cancer educational programs*
- *Planning for future needs for diagnostic and treatment services*
- *Offering evidence to media regarding numbers of cancer cases*
- *Providing data to raise awareness of public health problems and support the appropriate adjustment of health policies*

Although the Department of Public Health maintains electronic databases that allow the CNMI to answer some cancer-related research questions, including breast and cervical cancer tracking, the CNMI does not have a cancer registry. Current data staff has requested training and technical assistance in developing and maintaining a cancer registry. They also have requested training in coding (especially cancer coding) using the *International Classification of Diseases* (ICD) standard, analyzing and interpreting cancer data, and writing reports.



Photos courtesy of James Montenegro

Goals, Objectives & Strategies for Data, Registry & Surveillance

GOAL

Collect complete and accurate cancer data in a timely manner.

DATA, REGISTRY, AND SURVEILLANCE, OBJECTIVE AND STRATEGIES

* OBJECTIVE *Registry/Surveillance 1:*

Establish a formal cancer registry by 2009.

Baseline: No CNMI Cancer Registry is in place, additionally, no family cancer risk registry exists. Cancer data are recorded in patient's records.

Strategy a. Identify the in-country personnel who would serve as the primary person to develop into the 'registrar' by August 2008.

Strategy b. With the assistance of the Pacific Regional CCC and Regional Cancer Registry staff, establish appropriate protocol and procedures to ensure accurate and reliable tracking of screening, diagnosis, treatment, and discharge summaries for all identified and suspect cancer patients by 2009

Strategy c. Work in close collaboration with the Pacific Regional Cancer Registry staff to develop a CNMI Cancer Registry that will coordinate with the regional central cancer registry

OBJECTIVE *Registry/Surveillance 2:*

Increase public and health workforce awareness on the importance of having a cancer registry by December 2007.

Baseline: No CNMI Cancer Registry is in place.

Strategy a. Conduct educational sessions on the importance of establishing and maintaining a cancer registry, the important role that each member of the health team plays (patients and health technicians) so that training and quality improvement activities are better accepted.

OBJECTIVE *Registry/Surveillance 3:*

Begin providing relevant foundational, health information management (HIM) and registry-specific training to appropriate personnel that would be involved in the flow of information to a cancer registry by mid-2008.

Baseline: Personnel are not trained in information flow, coding or abstracting information to contribute to a cancer registry; information from off-island referrals is not tracked centrally.

Strategy a. With the assistance of the Regional CCC and Regional Cancer Registry staff, work with the local community college and/or other regional experts to conduct basic foundational training in human anatomy, physiology, medical terminology, chart review and health record coding for the medical records personnel.

Strategy b. Work with the local and/or regional experts to conduct quality improvement training so that laboratory, medical records, selected public health and the off-island referral office can develop quality improvement projects relevant to cancer control

Strategy c. Utilize the training modules from the CDC/ NAACCR website for medical records and physicians.

Strategy d. Utilize the Web Plus abstract fields in the development/modifications of existing databases that contain case-specific cancer information

IMPLEMENTATION and EVALUATION

Implementation

The CNMI Cancer Control Coalition (CNMICCC) will implement the CNMI Comprehensive Cancer Control (CCC) Plan. Community organizations and coalition members will work together on cancer control activities. Committee structure for the implementation of the plan is described below with the Steering Committee as the governance and decision-making body. Communication and Evaluation will continue as standing committees. Ad hoc committees will meet as needed.

The Steering Committee will oversee all implementation activities by establishing timelines, guiding data and communication priorities, and identifying resources. It will continue to recruit, maintain memberships, and build new partnerships. The Communication Committee will develop short- and long-range media communication plans. While the Evaluation Committee will ensure that CCC Plan objectives are measurable, and include identified data sources, baseline data, and target outcomes whenever possible. The Evaluation committee will also develop the evaluation framework, and the evaluation plan, to guide, monitor, and assess the entire program.

The CNMICCC members will all be involved in the implementation teams. Implementation teams will be organized around the CCC Plan sections of Prevention, Screening and Early Detection, Diagnosis, Treatment, and Longitudinal Patient Care.

As the program is implemented, workgroups organized around specific topic areas may need to be formed as smaller groups within the implementation teams. These workgroups will be used as specific research groups to identify tools, projects, best practices, and resources in their areas of expertise. As implementation progresses, evaluation will be key to ensuring that the program continues to meet goals and is sustainable.

Evaluation

Evaluation will occur for three areas;

1. The Comprehensive Cancer Control Program
2. The CNMI Cancer Control Coalition
3. The CCC Plan implementation process

An evaluation protocol will be developed by the Evaluation Committee. The committee will develop and oversee implementation of an evaluation plan. This plan will examine;

- Infrastructure needs and capacity
- Level of support
- Gaps in data
- Partnership composition and satisfaction
- Burden of cancer
- Progress in achieving program objectives

Members of the committee will be responsible for an annual progress report to be presented at a cancer control conference. Evaluation results will be used to improve the CCC Program, the

coalition structure and function, the implementation process, change or develop cancer control activities, and improve progress toward desired outcomes.

As evaluation outcomes are assessed, change may be needed. The Comprehensive Cancer Control Plan being a living document is the necessary starting point as a guide for addressing cancer in the CNMI. The plan will change and evolve with time, information, new opportunities, and changing needs. As the Evaluation Committee makes recommendations to the Steering Committee, adjustments to the Coalition, Program, and Implementation will be made.



Coalition members listen while Dr. Shearer discusses his work on the Comprehensive Cancer Plan.

Coalition members working together to address the plans for Comprehensive Cancer.



Members listen as Dr. Rita Inos shares her ideas and strategies.

Appendices

Appendix I

Background for Cancer Support Activities in the CNMI

Prior to my arrival on Saipan in July, 1989 there had been sporadic awareness and fund raising activities for cancer, with support by the ACS Unit on Guam. The largest event was a golf tournament that raised approximately \$25,000.00, with the proceeds going to ACS. I do not know the date of that event, nor who was involved, other than Ms Carmen Castro Gaskins.

ACS over a period of time preceding my arrival had given financial assistance to CNMI residents being treated for cancer. They also provided educational materials to the medical personnel in the CNMI.

In December, 1997 approximately sixteen people from the CNMI attended a program in Honolulu entitled “Western Pacific Islands Conference Partnership for Cancer Control in Underserved Populations”. This meeting was funded and hosted by the American Cancer Society, the National Cancer Institute, and the Center for Disease Control as I recall.

In January, 1998 sporadic meetings were begun with what was called the “Core Group”. Primarily, these were people who had attended the conference in Honolulu and other interested volunteers and medical personnel. The discussions centered around developing awareness and prevention programs, and support for patients after the diagnosis of cancer had been made. The group met at CHC, and meetings were usually called and coordinated by Lauri Ogumoro, a Social Worker employed at CHC.

In the late spring of 1999 a group of volunteers, spearheaded by Ms Carmen Gaskins, decided to conduct the first Relay for Life on Saipan. The chairperson was Robert Torres. The event was outstandingly successful, raising approximately \$68,000.00. The amount per capita for the local population was among the highest in the USA. A Relay was held in 200, 2001, and 2002 raising a total of approximately \$250,000.00 with the funds being sent to ACS National. There were no programs in place that met the guidelines for funding by ACS, so minimal return was experienced in the CNMI.

In the spring of 2002, under the guidance of Brian Farley a mini-grant was written and funded by ACS Hawaii for cancer support activities in the CNMI. The total of this grant was \$30,000.00 and this amount included the salary of a part-time Program Coordinator and administrative fee for the Pacific Way Institute. PWI was headed by Brian Farley, and he personally supervised Ms Pam Dunlap, the Program Coordinator. PWI was a 501(c) (3) non profit organization under the laws of the CNMI, and the IRS.

ACS-PWI was designated a Presence Unit by ACS national This designation is reserved for Units that did not have the patient population or geographic size or general population to be a full fledged Unit within ACS.

ACS-PWI received support from the Department of Public Health in the form of free office space in a building within the Community Guidance Center. This was spelled out in a MOU executed by Dr. James U. Hofschneider as the Secretary of Health and Ms Josephine Sablan, Director of the CGC. ACS-PWI was the recipient of generous donations of office equipment, including computers, a printer, desk and chair, filing cabinet and shelving. Verizon, the local telephone company, donated a landline for local telephone service and a free dial up Internet connection, and a pre-paid cellular phone.

ACS-PWI participated in Health Talk on Marianas Cable Vision, the Great American Smoke out in conjunction with Northern Marianas College and various schools within PSS (Public School System), and the Heart of the Marianas a community awareness event for fitness and preventative measures for general health and specifically cancer prevention. An information booth was staffed at the Flame tree Festival, including a dental hygienist, distributing information regarding prevention and diagnosis of cancer.

ACS-PWI took the lead in cancer survivor activities including information meetings, health walks, and luncheons. Meetings were held in the evening of the first Wednesday and the 3rd Saturday morning of each month. Guest speakers discussed topics such as nutrition, skin care, physical fitness, and emotional needs of the cancer patient and their family.

In August, 2002 PWI convened a meeting with representatives from all the private health care providers and DPH with the plan to implement a CNMI Health Consortium. This plan would be the equivalent of what was developed on a national level as the Cancer Control Consortium.

A conference call was held on October 18, 2002 between local cancer support volunteers and Ms Elaine Low of ACS-Guam and Ms Eleanor Waterhouse of ACS-Hawaii. The CNMI group expressed their displeasure with the financial arrangements wherein the national organization would not return any significant amount of money to the CNMI. Their rationale was that we had no local programs in place that qualified for funding. They declined to deliver programs to the CNMI, saying that the programs needed to be developed locally. It was a Catch-22: we did not have access to the funds we had raised and did not have the expertise or manpower to develop local programs.

In December, 2002 the plans were set in motion to sever ties with ACS, and conduct fundraising under the name of the Marianas March Against Cancer. The first MMAC event was held in the spring of 2003. Shortly after the MMAC event, an organizational meeting was held in May to establish the Commonwealth Cancer Association. CCA was invited to become a division of CHCVA (the Commonwealth Health Center Volunteer Association). It was believed that this would afford CCA the benefit of 501 (c) (3) status; that was not the case, and the tax exempt status is still in the application process.

In May, 2003 Ms Dunlap announced that her family would be relocating to the USA Mainland, and she would be resigning her position. She was replaced by Ms Christine Kapileo beginning in August, 2003.

In August, 2003 Brian Farley underwent exploratory surgery with the finding of advanced carcinoma of the abdominal cavity. His postoperative course was of rapid decline, and he expired on September 22, 2003.

The initial meeting of CCA in May led to Ms Reina Camacho agreeing to be the acting President of CCA and a small group of volunteers who had been involved with RFL and then MMAC wrote the document “Organizational Structure for the Commonwealth Cancer Association.

In February, 2004 Hans Mickelson, a cancer survivor and employee of Verizon, agreed to be the Chairman of the Board of CCA. He assembled a group of local business people to serve on the Board, and regular meetings were held for several months. Guidelines for disbursement of funds were established and several major equipment purchases made, including two special couches for patients receiving chemotherapy, and two infusion pumps, and a new laptop computer with software for the Program Coordinator to use.

CCA, working in conjunction with CHCVA and the social workers at CHC (Commonwealth Health Center), has provided support garments for postoperative lymphedema, nutritional supplements, and dressings. Durable medical equipment such as hospital beds, bedside commodes, and walkers have been purchased or rented for the use of qualified cancer patients.

Unfortunately, the Verizon organization became involved in a very lengthy and stormy negotiation for acquisition by an International company. This drained the available time of Mr. Mickelson at a time when the local economy was experiencing a very severe downward spiral.

The activities of CCA, and of the emerging Cancer Control Consortium, were carried out by a very small group of volunteers including Dr. Robin Shearer, David Rosario, Kim Prinz, Father Joseph Billotti and me. Christine Kapileo resigned as Program Coordinator to return to CHC as a midwife. Her last day of employment was January 31, 2006. The Coordinator Position remained vacant until October, 2006. It was filled briefly by Ms Roslyn Leon Guerrero, and beginning December 15, 2006 is under contract to Ms. Joanne Ogo until the present time, 2007.

CCA members contracted with a video production company to produce a Breast Cancer Awareness video, involving cancer survivors, their family members, and medical personnel from CHC and private medical clinics. The video has been distributed to the community, and used for one minute cancer awareness public service announcements on the local cable broadcasts. The production company also videotaped the entire MMAC in May, 2006 and the raw footage is archived for future production needs.

CCA members have arranged for the translation into the local vernacular of prostate cancer awareness pamphlets. The original documents were produced by Papa Ola Lokahi, and used with their permission.

Workplace presentations have been given for prostate cancer awareness at the offices of various government agencies and private companies. The presentations were accompanied by the distribution of educational materials and T-shirts. Production of the T-shirts was funded in part by the Office of the Mayor of Saipan, who also had roadside billboards produced during the

awareness periods. Awareness was also supported by an activity called Celebrity Baggers, where volunteers, cancer survivors, politicians, and entertainment performers bagged purchases at local department stores. Educational materials were distributed to the customers.

Celebrity Baggers also supported the Breast Cancer Awareness events, and the commemorative Pink Ribbons produced by local high school students were distributed.

Awareness activities also involved proclamation signings by the Governor or Lt. Governor of the CNMI, and the Mayor of Saipan. The signings were covered by the local news media, and footage was aired on the cable company and articles appeared in the major newspapers.

Father Joe Billotti has written a series of articles for the North Star, the newspaper produced by the Archdiocese of Chalan Kanoa. The articles have included information about the formation of the Cancer Coalition, nutritional awareness in a healthy lifestyle, and the importance of proper screening of males for prostate cancer and females for breast cancer.

The CHCVA is currently raising money to purchase a spiral CT scanner, which will be used to facilitate earlier and more accurate diagnosis of cancer.

CCA, acting as the principal force behind the Cancer Coalition, contracted with Michael Thomas to write the grant proposal for the CCCP funding. That proposal is pending at this time, with a definitive answer expected within the next few weeks.

In summary, the cancer support activities in the CNMI have been in place for over a decade with great success in the area of fundraising. The management of the organization has suffered from attrition due to relocation, death, severe local economic decline, and disrupted funding of the prevention activities that should be the responsibility of the local central government.

With the recent resurgence in support for the grant proposal process, the employment of an experienced Program Coordinator, and support from the personnel of the University of Hawaii John Burns Medical School we are optimistic that the organization will have an easier path for the future.

Jack Hardy

Senior Advisor for CCA and MMAC

Retired general surgeon (John C. Hardy, D.O., F.A.C.O.S.)



Benjamin B. Seman

Representative

House of Representatives

15th Northern Marianas Commonwealth Legislature

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March 14, 2007

Joseph Kevin P. Villagomez
Secretary of Health
Commonwealth Health Center
Middle Road, Saipan 96950

Dear Secretary of Health:

On behalf of the CNMI Cancer Control Coalition (CNMICCC), this is to wholeheartedly give our full support to your organization in your application for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry. The CNMI Cancer Control Coalition was established to provide Northern Mariana Islanders with cancer prevention, screening, diagnosis, treatment, survivorship and palliative education and care in a comprehensive and integrated program.

The CNMI Cancer Control Coalition has partnered with the Commonwealth Cancer Association in promoting awareness through community presentations, health fairs and walkathons. We have managed to expand our reach through our collaborative efforts.

By this support, we re-affirm the importance of working closely together with you to better the situation we face with cancer. CNMICCC is fully committed to the goals and objectives set forth by the Department of Public Health in the proposal. We feel that by partnering with the Department of Public Health we will be able to achieve success in addressing cancer.

In closing, let me reiterate our unreserved commitment and support of our Department of Public Health for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry proposal. It is essential that we continue to establish and strengthen our partnership with the Department of Public Health. We look forward to being a productive partner in this endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read "Benjamin Seman".

Rep. Benjamin Seman
President

Commonwealth Cancer Control Coalition

March 14, 2007

Joseph Kevin P. Villagomez
Secretary of Health
Commonwealth Health Center
Middle Road, Saipan 96950



Imi Hale circa 1940

Imi Hale

Native Hawaiian Cancer Awareness
Research & Training Network
A Program of Papa Ola Lōkahi

894 Queen Street
Honolulu, HI 96813
Telephone: (808) 597-6550
Fax: (808) 597-6552
Email: imihale@yahoo.com

Dear Secretary of Health:

Imi Hale Native Hawaiian Cancer Network (Imi Hale), a program of Papa Ola Lōkahi, strongly supports the CNMI's Breast & Cervical, Comprehensive Cancer and Cancer Registry grant application to CDC. These grants will continue to build CNMI's capacity and expand existing efforts cancer prevention and control. This program addresses priorities that strongly resonate in the CNMI communities, where cancer health care disparities are significant.

Imi Hale is one of 25 Community Network Programs, funded by the Center to Reduce Cancer Health Disparities, NCI. Our program is beginning its eighth year and has been involved in the Breast and Cervical Cancer Control programs in Hawaii, Palau and American Samoa at multiple levels. We provided and will continue to provide the following

- tailored cancer education materials
- resources and assistance for culturally relevant educational campaigns
- training and technical assistance in community organization and outreach

We look forward to our continued partnership with the CNMI Department of Public Health. Your staff continues to provide a significant service to the people of the CNMI and we are proud to be your working partners.

Sincerely,

Dr. Clayton Chong
Principal Investigator

Ms. JoAnn Tsark
Director

*Helehuiki, in Hilo Hawaii, was the family home of Hawaiian composer Helen Desha Berman. It was a gathering place for family, friendship and music.
Imi Hale is supported by a grant from the National Cancer Institute.

March 20, 2007

Centers for Disease Control and Prevention

To Whom It May Concern:

The Lance Armstrong Foundation (LAF) is willing to provide The Commonwealth Cancer Association (CCA) with educational materials or resources that will help them to address the physical, practical and emotional needs of the cancer survivors they serve. The materials provided by the LAF will include copies of the *Living After Cancer Treatment* brochures and the LIVESTRONG™ Notebook for cancer survivors and access to the LIVESTRONG SurvivorCare resource.

These resources will further the work of CCA in meeting the needs of Pacific Islander cancer survivors.

If you have any questions, please do not hesitate to contact me directly.

Sincerely,



Haley D. Justice, MPH
National Partnerships Program Specialist
Lance Armstrong Foundation
P: 512.279.8388
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March 21, 2007

Joseph Kevin P. Villagomez
Secretary of Health
Commonwealth Health Center
Middle Road, Saipan 96950

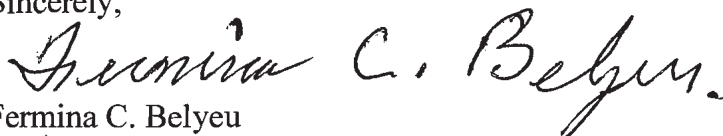
Dear Secretary of Health:

Please allow me to introduce myself. My name is Fermina C. Belyeu and I am a cancer survivor. I wholeheartedly support your organization in your application for the National Breast & Cervical Cancer Early Detection Program Grant; National Comprehensive Cancer Control Program Grant; and the National Program of Cancer Registries Grant. The physical and emotional stress a cancer patient goes through is beyond expression. I support your efforts to ensure that all cancer patients have access to quality care.

Cancer treatment is a very difficult experience. My diagnosis did not only affect me but my children and grandchildren as well. It is extremely important to do what we can to reduce the number of people diagnosed with cancer in the CNMI. As a mother and a cancer survivor, I want to protect my daughters and granddaughters from this terrible illness. With the goals and objectives you have outlined in the proposal, I am confident that we will achieve success in addressing cancer.

In closing, I would like to thank you for your dedication and commitment in ensuring a comprehensive and integrated cancer program.

Sincerely,



Fermina C. Belyeu
Cancer Survivor

Magdalena C. Camacho

P O Box 503408
Saipan, MP 96950
maggieccamacho@gmail.com

March 21, 2007

Mr. Joseph Kevin P. Villagomez, MA
Secretary, Department of Public Health
Commonwealth of the Northern Marianas
P O Box 500409
Saipan, MP 96950

Dear Mr. Villagomez:

This letter is to express my support towards the application for the Breast and Cervical grant, the Comprehensive Cancer grant, and for the Cancer Registry grant, which are currently being prepared and to be submitted to the respective federal agency by your department.

As a cancer survivor, I am fully committed to assisting the Department of Public Health in its projects, most especially in the area of cancer. I am aware that outreach programs and cancer registry are in dire need, as I am finding it rather difficult to reach out to cancer patients and survivors, when in fact, desired. As an indigenous cancer survivor, I feel that I can be a strong advocate in our community in encouraging our local women population to be screened regularly, as early detection saves lives.

Sincerely yours,



Magdalena Camacho

Donna White
Box 5525
Saipan, MP 96950

March 22, 2007

CNMI Department of Public Health
Office of the Secretary of Public Health
PO Box 500409
Saipan, MP 96950

Attn: Joseph Kevin P. Villagomez

My husband and I give our full support to your organization's application for the Breast and Cervical Grant, Comprehensive Cancer Grant, and the Cancer registry.

As a survivor of breast cancer I am very aware of the need for additional funding for the diagnosis and treatment of cancer.

I was diagnosed with breast cancer in October of 2005. A lumpectomy was performed at the Commonwealth Health Center (CHC) in Saipan and we waited two (2) weeks for the results to come back from Honolulu where the laboratory was located. At this time we learned that I had cancer and that the surgical margins were still positive for cancer.

At this point we both decided that it would be best if we traveled to Honolulu and worked with a team of medical specialists consisting of a surgeon, oncologist, pathologist, anesthesiologist, radiologist, and laboratory all under one roof who could work together to determine the type of cancer, degree of involvement and recommended treatment options. This off island treatment entails leaving your family and friends for an extended period of time and in our case my husband stayed with me through the second surgery and the initial recovery but eventually he had to return to Saipan for work prior to the completions of my treatment.

We were not unhappy with the treatment we had received from the doctors and staff at CHC. They are seriously hampered because they do not have the professional staff, laboratory equipment, treatment options or diagnostic equipment available.

My husband and I feel that receiving this grant will go a long way towards enhancing the awareness, early detection, and prevention of cancer.

I completely support the need for this grant to strengthen the ability of the Department of Public Health to provide the essential services required to deal with cancer.

Sincerely,


Donna White



Team PTI
 c/o Marianas March Against Cancer (MMAC)
 P.O. Box 501601 C.K.
 Saipan, MP 96950
 Tel: (670) 682-0050
 E-mail: mmac_saipan@gmail.com



March 21, 2007

Joseph Kevin P. Villagomez
 Secretary of Health
 Commonwealth Health Center
 Middle Road, Saipan 96950

Dear Secretary of Health:

On behalf of the Team PTI of the Marianas March Against Cancer (MMAC), this is to wholeheartedly give our full support your organization's application for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry.

Team PTI's dedicated annual participation at the Marianas March Against Cancer (MMAC) has been very rewarding in which we join in the largest fundraising activity in the CNMI for cancer programs. We firmly believe that through awareness and prevention, we come closer to victory over cancer.

By this support, we re-affirm the importance of working closely together with you to better the situation we face with cancer. Team PTI of the MMAC is fully committed to the goals and objectives set forth by the Department of Public Health in the proposal. We feel that by supporting the Department of Public Health, we will be able to achieve success in addressing cancer.

In closing, let us reiterate our unreserved commitment and support of the Department of Public Health for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry proposal. It is essential that we continue to establish and strengthen our support of the Department of Public Health.

Sincerely,

Shirley Dotts
 Team Captain for Team PTI
 2007 Marianas March Against Cancer



Team Holomua
c/o Marianas March Against Cancer (MMAC)
P.O. Box 5411 CHR
Saipan, MP 96950
Tel. (670) 322-9599

March 22, 2007

Joseph Kevin P. Villagomez
Secretary of Health
Commonwealth Health Center
Middle Road, Saipan 96950

Dear Secretary of Health:

On behalf of the *Team Holomua* of the Marianas March Against Cancer (MMAC), this is to wholeheartedly give our full support your organization's application for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry.

Team Holomua's dedicated participation at the Marianas March Against Cancer (MMAC) is very rewarding as we join in the largest fundraising activity in the CNMI for cancer programs. We firmly believe that through awareness and prevention, we come closer to victory over cancer.

By this support, we re-affirm the importance of working closely together with you to better the situation we face with cancer. *Team Holomua* of the MMAC is fully committed to the goals and objectives set forth by the Department of Public Health in the proposal. We feel that by supporting the Department of Public Health, we will be able to achieve success in addressing cancer.

In closing, let us reiterate our unreserved commitment and support of the Department of Public Health for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry proposal. It is essential that we continue to establish and strengthen our support of the Department of Public Health.

Sincerely,

Loran K. Moses
Team Captain for *Team Holomua*
2007 Marianas March Against Cancer



AYUDA NETWORK, INC.

An Alliance of Northern Marianas Human/Social Service Providers



Parent Information And Resource Center (PIRC) Parents As Teachers Program

March 15, 2007

Mr. Joseph Kevin P. Villagomez
Secretary of Health
Commonwealth Health Center
Saipan, MP 96950

Dear Secretary of Health:

Ayuda Network, Inc. (ANI) is a non-profit organization that provides networking ability to all social and human service providers for the Commonwealth of the Northern Mariana Islands. We serve public and private organizations, especially programs needing a sponsor with a 501© (3) status. One of our partners is the Commonwealth Diabetes Coalition (CDC) that was created to provide opportunities for improvement, capacity building, and wellness enhancement for persons with diabetes and those at risk. CDC has partnered with Ayuda Network on several projects promoting awareness to the community such as health fairs, presentations, education, and finance.

As the Executive Director of ANI, I am fully in support of the Breast and Cervical Grant, Comprehensive Cancer Grant, and the Cancer Registry that is being submitted by the Department of Public Health. The cancer program support to the community will bring enhancement in health and prolong livelihood.

Therefore, we are very committed and support the Public Health for the grant applications being submitted and we look forward to being of service to the program in the outreach effort to bring more public awareness and education.

Sincerely,

Maria C. Pangelinan
Executive Director

#1253 Capitol Hill, P.O. Box 503019 CK, Saipan, MP 96950-3019
Tel.: (670) 322-7469 • Fax: (670) 322-7468 • E-mail: ayudanet@gtepacifica.net



Hyatt Regency Saipan
P. O. Box 5087 CHR
Saipan, Mariana Islands
MP 96950 U.S.A.

Phone: 1-670-234-1234
Telefax: 1-670-234-7745

March 22, 2007

Kevin P. Villagomez
Secretary of Health
CHC Middle Road, Saipan 96950

Dear Secretary of Health:

On behalf of the *Hyatt Regency Saipan* of the Marianas March Against Cancer (MMAC), this is to wholeheartedly give our full support your organization’s application for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry.

Hyatt Regency Saipans dedicated annual participation at the Marianas March Against Cancer (MMAC) has been very rewarding in which we join in the largest fundraising activity in the CNMI for cancer programs. We firmly believe that through awareness and prevention, we come closer to victory over cancer.

By this support, we re-affirm the importance of working closely together with you to better the situation we face with cancer. *Hyatt Regency Saipan* of the MMAC is fully committed to the goals and objectives set forth by the Department of Public Health in the proposal. We feel that by supporting the Department of Public Health, we will be able to achieve success in addressing cancer.

In closing, let us reiterate our unreserved commitment and support of the Department of Public Health for the Breast & Cervical Grant; Comprehensive Cancer Grant; and the Cancer Registry proposal. It is essential that we continue to establish and strengthen our support of the Department of Public Health.

Sincerely,

Jacob Muna & Kaylani Shiro
Team Captains for
Hyatt Regency Saipan
2007 Marianas March Against Cancer



Appendix II *Contributors List*

Prevention Work Group:

Tobacco Prevention

Reyna Malone
Prevention Program Coordinator
Department of Public Health
Community Guidance Center
Tobacco Cessation Prevention

Ricky Itibus
Assistant Tobacco Health Educator
Department of Public Health
Community Guidance Center
Tobacco Cessation Prevention

Polly Omechelang
4-H Youth Extension Agent
Northern Marianas College, Cooperative Research, Extension and Education Services
Community Member
Substance Abuse Coalition Member

Naydine Aguon
Money Management Program Coordinator
Northern Marianas College, Cooperative Research, Extension and Education Services
Substance Abuse Coalition Member
Community Member

Donna White
Cancer Survivor
Community Member
CNMI Cancer Coalition Member

Nutrition, Physical Activity and Alcohol Prevention

Patricia Coleman
Expanded Food Nutrition Education Program Coordinator
Northern Marianas College, Cooperative Research, Extension and Education Services
Physical Activity

Louise Oakley
Department of Public Health
Registered Dietician
Nutrition

Tayna Belyeu-Camacho
Program Coordinator
Department of Public Health
Diabetes Prevention and Control Program
Nutrition

Juanita Malone
Cancer Survivor
Northern Mariana Protection and Advocacy Systems Inc. (NMPASI)
Physical Activity

Augusta Ogo
Community Member
San Vicente Elementary School, Parent Volunteer
Nutrition, Physical Activity and Alcohol Prevention

Environmental Contaminants

Jesus C. Borja, Chairman
Mariana Islands Nature Alliance (MINA)
Environmental Contaminants

Elizabeth Rechebei, Vice Chairman
Mariana Islands Nature Alliance
Environmental Contaminants

Kathy Yuknavage, Secretary
Mariana Islands Nature Alliance
Environmental Contaminants

Maria Paz Younis, Treasurer,
Mariana Islands Nature Alliance
Environmental Contaminants

Ron Smith, Member
Mariana Islands Nature Alliance
Environmental Contaminants

Charles Sayon, Member
Mariana Islands Nature Alliance
Environmental Contaminants

Reina Camacho, Member
Mariana Islands Nature Alliance
Environmental Contaminants

Fran Castro, Member
Mariana Islands Nature Alliance
Environmental Contaminants

Lino Olopai, Member
Mariana Islands Nature Alliance
Environmental Contaminants

Infectious Agents and Cancers

Ray Masga
Environmental Specialist
Department of Environmental Quality

Dr. Robin Shearer
Hospital Medical Director, CNMI
Commonwealth Health Center

Dr. Richard Brostrum
Medical Director, Division of Public Health, CNMI.
Department of Public Health

Screening and Early Detection

*Dr. Robin Shearer
Hospital Medical Director, CNMI
Commonwealth Health Center*

*Donna White
Cancer Survivor
Cancer Coalition Member
Breast and Cervical Screening*

*Jocelyn Songsong
Data Management Coordinator
Department of Public Health
Breast and Cervical Screening Program
Cancer Coalition Member*

*Dr. Rita H. Inos
CNMI Cancer Coalition, Member
Breast and Cervical Screening*

*Father Joseph Billotti
Cancer Survivor
Faith Base Community Member
CNMI Coalition Member
Colorectal Screening*

*Bud White
CNMI Coalition Member
Colorectal Screening*

*Bryan Jones, Teacher
Marianas High School
Community Member
Cancer Coalition Member
Colorectal Screening*

*David Rosario
Commonwealth Cancer Association
Colorectal Screening*

Diagnosis

*Dr. Robin Shearer
Hospital Medical Director
Commonwealth Health Center*

*Commonwealth Cancer Coalition
Cancer Survivors and family
Diagnosis*

Treatment

*Dr. Robin Shearer
Hospital Medical Director, CNMI
Commonwealth Health Center*

*Vicente Borja
Medical Referral Officer
Commonwealth Health Center
Referral Office*

Longitudinal Patient Care

*Maya Kara
Community Member*

*Bud Carroll
Cancer Survivor*

*Kim Coats, President
CHC Volunteers Association
Community Member
Commonwealth Cancer Association*

*Jack Hardy, Senior Advisor
Commonwealth Cancer Association
Community Member*

*Bryan Jones
Community Member*

Data, Registry and Surveillance

*Elizabeth B. Palacios, Systems Administrator
Department of Public Health*

*Sid Ogarto
Public Health Statistician
Department of Public Health*

Implementation and Evaluation

*Benjamin Seman
Congressman, 15th Legislature
Commonwealth Cancer Coalition, Chair
Commonwealth Cancer Association, President*

*Jack Hardy, Senior Advisor
Commonwealth Cancer Association
Community Member*

*Dr. Robin Shearer
Hospital Medical Director, CNMI
Commonwealth Health Center*

*David Rosario
Commonwealth Cancer Association*

*Alex Sablan, Sales Manager
Saipan Shipping Company
Commonwealth Cancer Association, Vice President*

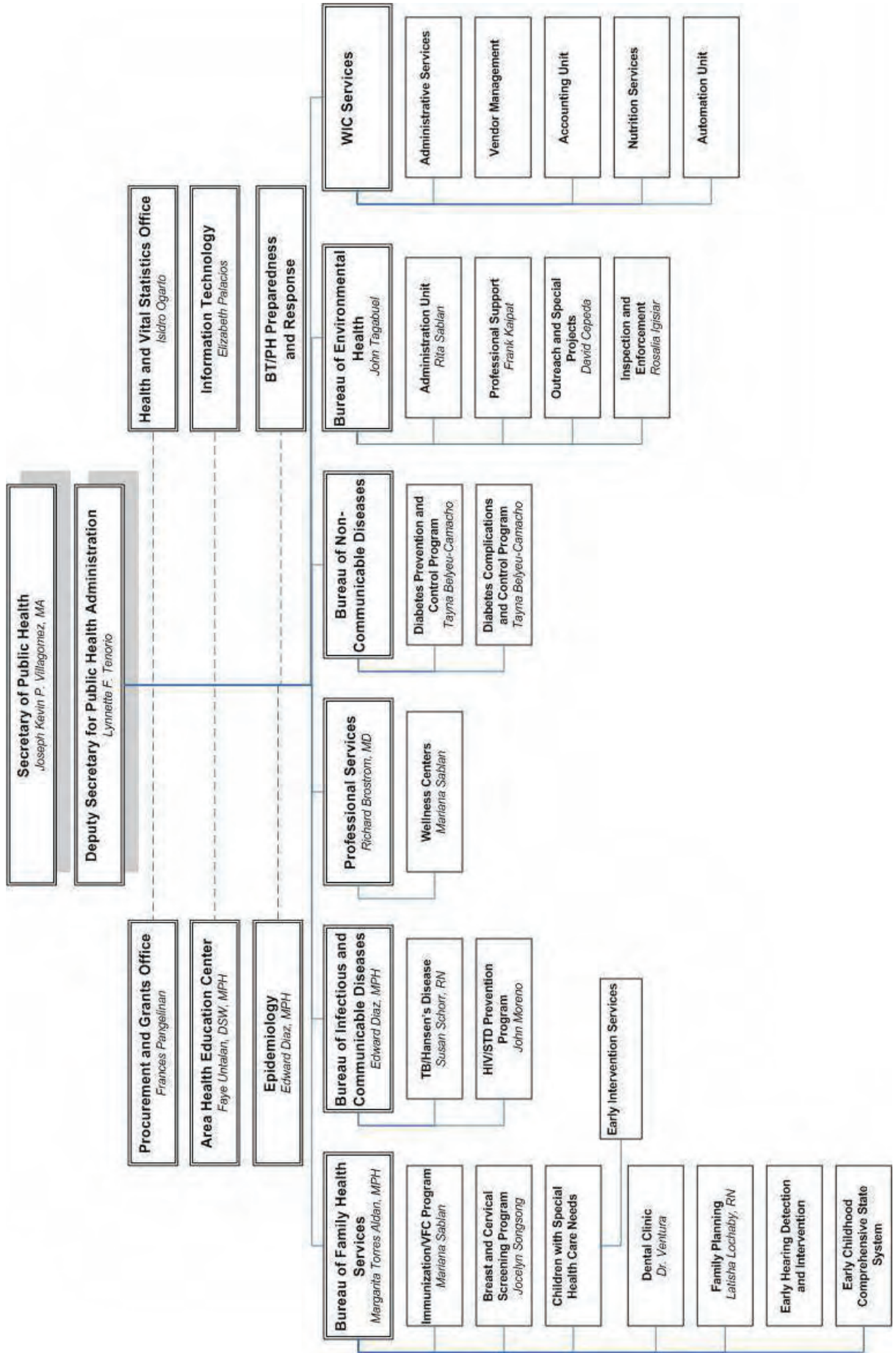
*Kim Coats, Treasurer
Commonwealth Cancer Association*

*Jocelyn Songsong
Data Management Coordinator
Department of Public Health
Commonwealth Cancer Association, Secretary*

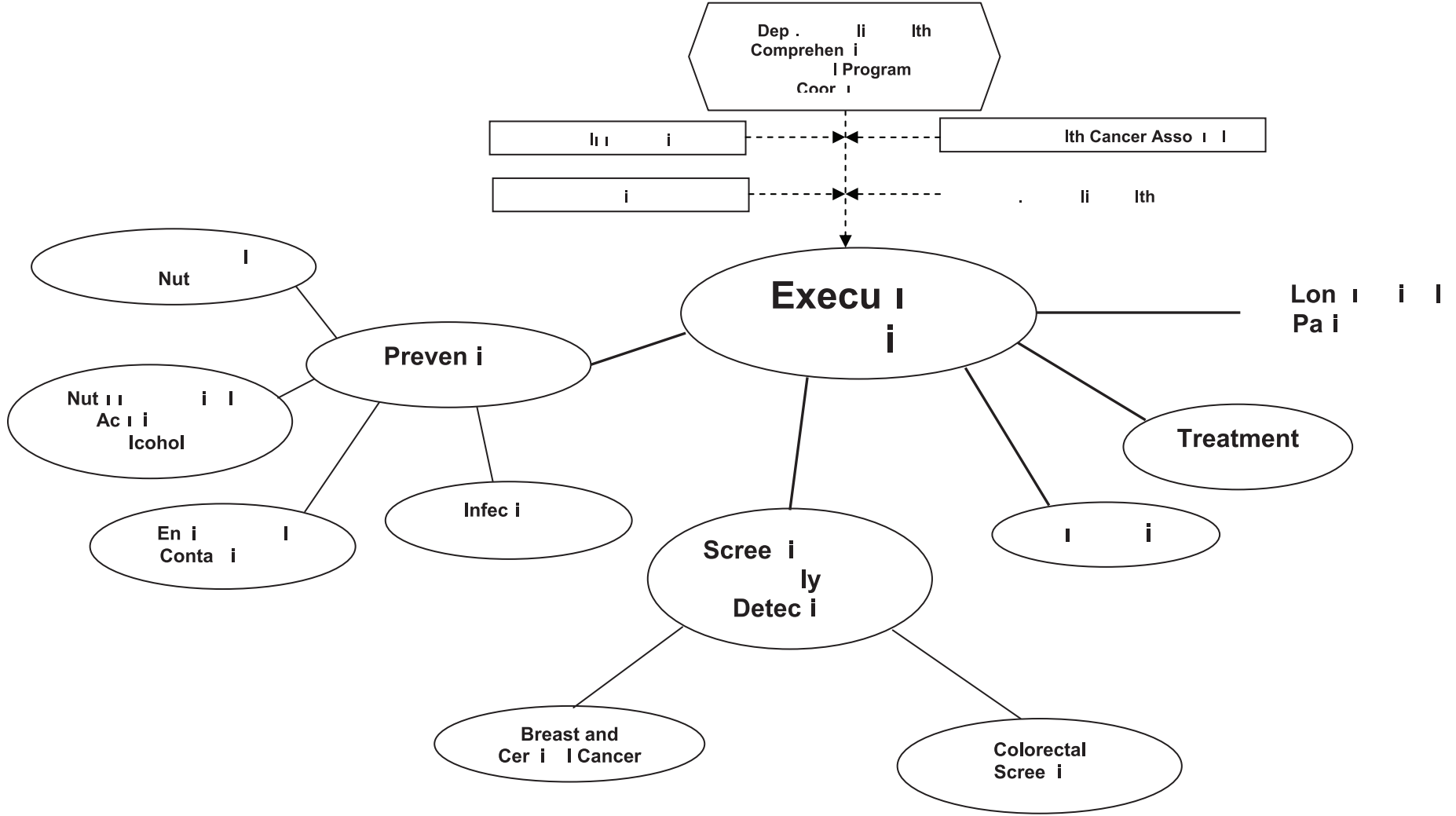
*Carlene Reyes-Tenorio
Pacific Telecom, Inc.
Commonwealth Cancer Association
Commonwealth Cancer Coalition*

[Appendix III] Organizational Charts

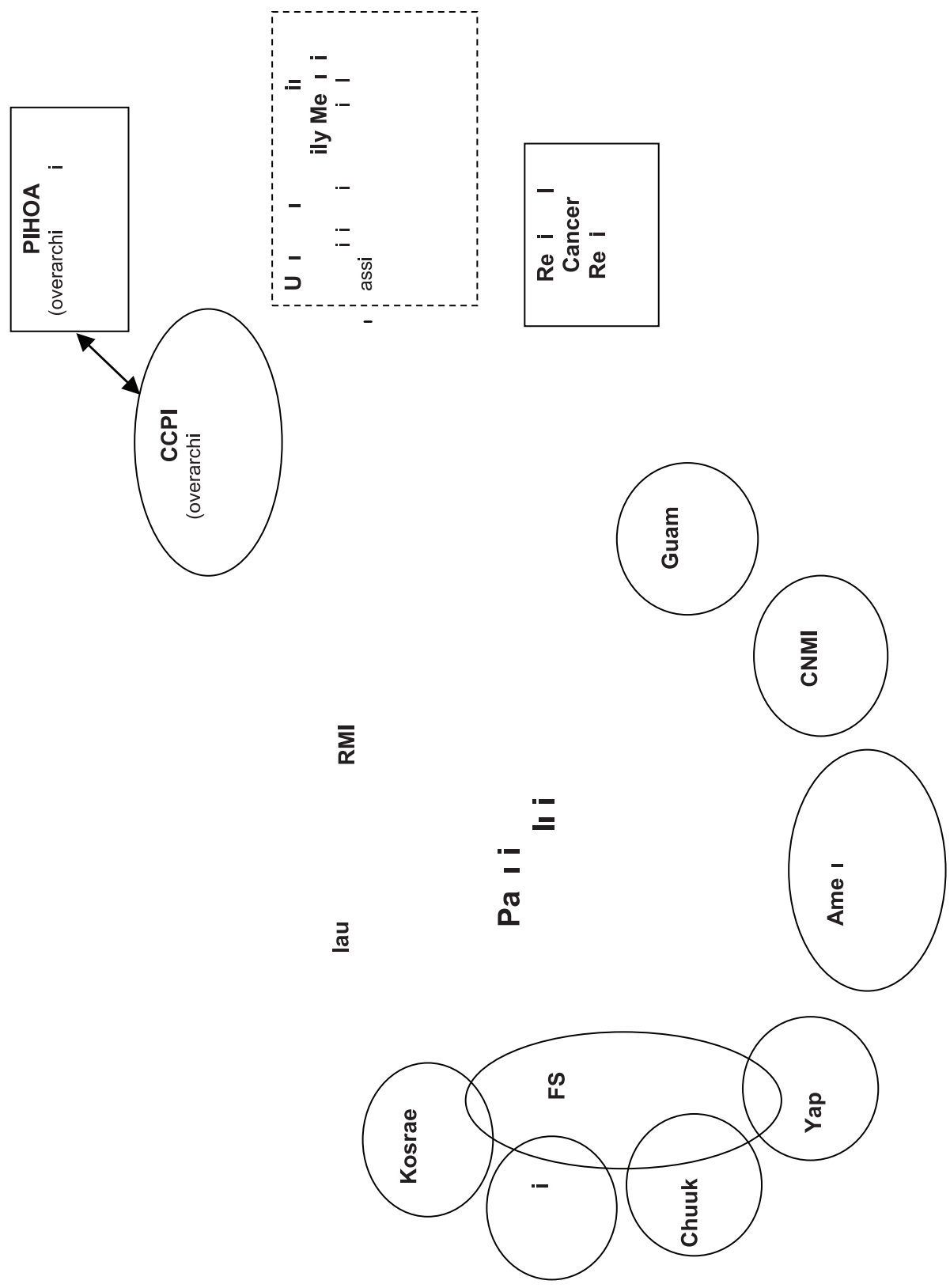
DPH chart



CNMI Coalition Chart



Pacific Cancer Coalition Chart



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