

# **National Cancer Strategic Plan for Palau**

**2007 - 2012**

*To all Palauans, who make the Cancer Journey  
May their suffering return as skills and knowledge  
So that the people of Palau and all people can be  
Cancer Free!*

### **Special Thanks to**

The planning groups and their chairs whose energy,  
Interest and dedication in working together  
to develop the road map for cancer care in Palau.

We also would like to acknowledge the support provided by  
the Center for Disease Control and Prevention  
(CDC Grant # U55-CCU922043)

October 15, 2006

Dear Colleagues,

This is the National Cancer Strategic Plan for Palau.

The National Cancer Strategic Plan for Palau provides a road map for nation wide cancer prevention and control strategies from 2007 through to 2012. This plan is possible through support from the Centers for Disease Control and Prevention (USA), the Ministry of Health (Palau) and OMUB (Community Advisory Group, Palau).

This plan is a product of collaborative work between the Ministry of Health and the Palauan community in their common effort to create a strategic plan that can guide future activities in preventing and controlling cancers in Palau. The plan was designed to address prevention, early detection, treatment, palliative care strategies and survivorship support activities. The collaboration between the health sector and community ensures a strong commitment to its implementation and evaluation.

The Republic of Palau trusts that you will find this publication to be a relevant and useful reference for information or for people seeking assistance in our common effort to reduce the burden of cancer in Palau. This is a dynamic plan that will require continuous feedback and modification to adapt as time progresses.

This plan is only as strong as its implementation, evaluation and continued improvement. The National Cancer Control and Prevention Program, within the Bureau of Public Health (Ministry of Health) in Palau, is the key agency responsible for ensuring that this plan is carried out to maximize benefits for the people of Palau.



# Message from the Minister of Health

Hon. Victor M. Yano, MD  
Minister of Health



Message from the Minister

Cancer is a complex chronic illness characterized by uncontrolled growth and destruction caused by the derangements in the genetic material of susceptible hosts interacting in a conducive environment.

It is the leading cause of death, major reason for medical referrals to tertiary medical centers, leading reason for prolonged terminal in-hospital care, pain and suffering. It does not discriminate and has affected us all.

In 1972 efforts by Dr. Ulai Otobed initiated a manual tabulation of all cancer cases in an attempt to quantify the burden of the disease in our community. Further development resulted in legislation passed in 1998 that formalized the collection and analysis of cancer data in a computerized Cancer Registry. Regional awareness and efforts followed in 2001 by the Pacific Basin Medical Association and the Pacific Islands Health Officers Association.

Prevention, Early Detection, Diagnosis, Treatment, Life after Cancer, End of Life are some of the issues that must be addressed in the Public Health Response to this disease. The Palau National Cancer Strategic Plan for Palau is a concerted effort of community members, survivors, clinicians, ancillary medical services, public health services and the cancer program to respond to the specter of Cancer and provide a measure of Hope to our communities.

I look forward to its implementation.

Sincerely,

Victor M. Yano, M.D.  
Minister of Health



# Words from the Director of Public Health

Stevenson Kuartei, MD  
Director, Bureau of Public Health



The determinants of health in Palau are defined by factors that guard our environments, behaviors, heritage, gender, age and the politics that define health services. To that extent, evaluating the burden of cancer in Palau must emanate from such determinants risks and factors that influence health services.

Our environment harbors the effect of natural and man made risk factors for cancer such as ultraviolet rays, remnants of wars and the litters of modernity for which policies may not adequately address at this particular time.

Behaviors and the choices that people living in Palau makes on a daily basis bring about the cumulative risk factors for cancer. These choices of behaviors include the use of substances such as tobacco and alcohol. The risk of sexually transmitted infections such as human papilloma virus and human immunodeficiency virus contributes to the overall risk for cancer in Palau.

While heritage is constantly changing, the genetic make up of the people who live in Palau presents ever changing risk factors. We now have Caucasians and Asians living in our midst who possess different genetic disposition to certain cancers or medical maladies.

Then there is gender that presents its own health risk factor peculiarities depending on our different anatomical make up where male have prostate and testicles and female have uterus and ovaries. While there are common risk factors for both genders, the systems of cancer care must be gender competence.

While age and gender can not be changed, the Palauan legend of Ngerchokl (river of youth) brings about the spirit of rejuvenation, the very essence of getting rid of risk factors. Such ideal must be adopted as the motto of cancer program in Palau, minimizing the risk of cancer.

With all these risk factors, cancer has become the number one killer of people living in Palau and carries with it a surmountable use of resources. This strategic plan MUST serve to provide the mechanism to maneuver the communities in Palau through the health systems to prevent, screen, treat and care for cancer. In the event that cancer is not prevented, that the suffering be minimized, that quality of life is enhanced and that social, mental and spiritual health is maximized. In the end, the plan should be evaluated on the quality rather than quantity life in Palau.



# Preface

Joseph "Joe" Aitaro  
Chairman  
OMUB/Belau Cancer Coalition



Palau's cancer challenges are no different from other countries. Although we are separated by the vast ocean, we are all linked by consequences and syndromes of cancer; the emotional, financial, and spiritual behaviors that bond us as human beings.

Palau, however, unlike some countries, is a very close-knit cultural society that can easily "brand" a negative connotation to a disease that could potentially pose life ending situations, such as Cancer.

In the drafting of the "National Cancer Strategic Plan for Palau" the OMUB members were guided with the principle that the Plan must be owned by and linked to the community. In doing so, the Plan itself will become a "living document" that will change according to the culture and times of the community.

One of the major highlights of the plan – underscores the recognition of "traditional healing and medicine." The very fact that the plan identifies traditional knowledge, herbs and practices demonstrates the holistic manner in which OMUB members and Ministry of Health officials tried to ensure every community aspect of the plan is captured as a "living document" that evolves with social change.

Joe Aitaro  
Chairman, OMUB

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# Executive Summary

The goals of the National Cancer Strategic Plan for Palau are to reduce cancer incidence, morbidity and mortality in Palau through prevention, screening, treatment and palliative support. The Plan was put together by the Ministry of Health in collaboration with OMUB (Community Advisory Council for Cancer in Palau), and is supported by funding from Centers for Disease Control and Prevention (USA).

The Plan documents the heavy burden of cancer in Palau in terms of cost and suffering to the families and clans. It is clear that the burden of cancer leads to increased on and off-island health care costs. However, what is not captured is the loss of earning potential, and associated mental and social issues. The Plan provides a framework by which data can be managed and used to guide activities to ensure that limited resources are spent in a cost-effective and beneficial manner.

Prevention efforts could reduce the rates of certain cancers by addressing the identified determinants of cancer such as tobacco and alcohol use, which are currently addressed under the Palau Non-Communicable Disease Strategic Plan and the Division of Behavioral Health Strategic Plan. The Plan also supports and applauds the efforts to prevent sexually transmitted diseases as addressed in the HIV/AIDS/STD Strategic Plan. Cancer prevention, detection, and treatment services have been provided by other sectors within the Bureau of Public Health, including the Family Health Program and Home Health-Geriatric Program. While limited cancer surgery can be done locally, most tertiary cancer care is sent off island to Tripler Army Medical Center or to tertiary centers in Philippines.

The Plan also highlights the necessity for the availability of tertiary and quaternary care to be at the forefront of discussion. The lack of trained oncologists, radiation and chemotherapy treatment availability, and other critical diagnostic services necessitate clients be sent off-island for cancer care. The Plan recognizes the limited resources in Palau, but clearly outlines areas of improvement when feasible.

Cancer survivors will continue to grow in numbers during the next decade as better treatment becomes available. The goals of this plan are to ensure that these survivors continue to lead healthy and productive lives with and beyond cancer. Survivorship standards will be addressed for individuals, families, healthcare professionals and businesses. When cancer leads to a terminal diagnosis, these patients must receive compassionate care and pain management.

The implementation of the Plan will be ongoing, beginning with fostering collaboration and coordination of primary, secondary, tertiary and palliative care. Gaps in services, information and data must be identified and resources dedicated to those tasks. The reduction in disparities for some populations must receive priority attention, particularly in the areas of screening and treatment management, thus enhancing access to quality treatment and support services for all cancer patients. The implementation of the strategies and the evaluation of its outcomes are essential to its success. The probability of cancer becoming part of one's life in Palau is high – if you are not affected personally, a family member, a neighbor, a co-worker or a friend might be affected. Although great progress has been made in the fight against cancer, much remains to be done.

# Introduction

Global influences and modernization are presenting the Republic of Palau (Palau) with new issues that have the potential to exploit the unique geographic, socio-economic and cultural characteristics. The influence of new ethnicities, behaviors, worldviews and vulnerabilities are interchanging with what used to be traditionally homogenous population. The issues that emanate from this cultural exchange are creating many new challenges in terms of developing a cancer program in Palau.

The new causes of morbidity and mortality occurring in small island nations of the Pacific and Micronesian islands have not spared the Republic of Palau. Over the last century, Palau has transitioned towards a more westernized culture. With the introduction of effective antibiotics, health indicators indicate a shift from communicable diseases to non-communicable diseases. The determinants of these new diseases including malnutrition (under and over nutrition), tobacco use, alcohol abuse and lack of physical activity coupled with wars (WWI & WWII) and natural disasters, has led to an increase in cancers rates, and created challenges in providing appropriate cancer care. While Palau has learned to observe and monitor behavioral determinants that could lead to cancer, it continues to struggle with environmental factors such as chemical pollutants and heavy metals. The recent Behavioral Youth Survey indicates a need to visit the risks of cancers among youth in Palau with regards to their sexual and substance abuse behaviors. The recent events of emerging and re-emerging infectious diseases in our region of the world presents a double jeopardy in managing health care, and such forms the backdrop of improving cancer care in Palau.

The advent of modernity brought about new technologies in the health sector that are useful in screening and diagnosing cancers. This has improved Palau's ability to diagnose various cancers, including those that are infectious in origin, such as liver and cervical cancers. The level of acceptance of these modern technologies has not been fully internalized by the community and therefore, many cancers are diagnosed later than they could be. Palau currently can only offer minimal cancer services and most of these cases are referred off-island to Hawaii or the Philippines for definitive care, at a great financial burden to health services and families.

Palau, like many other Pacific Islands, is experiencing an unprecedented increase in cancer rate. With the increasing rate of cancer, and comparatively minimal level of cancer services, Palau is experiencing more early deaths when compared to U.S. rates. The solution to address such disparity is found in a comprehensive improvement of all systems of cancer care that is appropriate with the level of health care in Palau. The development of a system for cancer

care must focus on making medical service available to people with cancer, with an interest in promoting their quality of life.

The Comprehensive Cancer Control Program, through the implementation of the National Cancer Strategic Plan for Palau, specifically deals with cancer prevention, screening, treatment and palliative services that provide the framework to improve and advance overall cancer care. Achieving such comprehensive cancer care would include partnership with our communities, non-governmental organizations, regional and international partners.

Cancer in Palau causes a heavy toll in both lives lost and burden of the disease for patients and their families. Cancer in Palau recently surpassed heart disease as the leading cause of death for citizens under the age of 85. This, in turn, has an enormous impact on social, economic and personal costs related to cancer.

The Bureau of Public Health at the Ministry of Health has taken a proactive approach to public health. Public Health has established innovative programs which keep Palau safe and healthy. Cancer prevention and control is a logical and important step in achieving the goal of Healthy Island of Palau by 2010 and beyond.

The National Cancer Strategic Plan for Palau Part I will be published December 2006, the culmination of two years of work by the Palau Cancer Coalition Team. The Healthy Islands of Palau goals and objectives are outlined in that document. The 28 member partnership, with representatives from organizations and agencies across the islands, identified five key strategies to accomplish its mission. These included fostering collaboration for primary, secondary and tertiary/palliative care, thereby reducing duplication of services and optimizing resources; identifying gaps in services and optimizing resources; reducing disparities in cancer screening and management; enhancing access to quality treatment and support services; and identifying, implementing priorities and strategies to evaluate outcomes.

The group identified several specific cancer areas, which were selected based on the frequency and severity of the disease and the availability of prevention, screening and early diagnosis effort that could reduce morbidity and mortality. Those cancers include Lung and bronchus, Cervix, Breast (female), Liver and Intrahepatic, Oral Cavity and Pharynx, Prostate and Thyroid. The groups were presented with clinical and epidemiological characteristics of cancer and the research needed to understand the unmet public health problems. In addition, the initial planning process defined the key cross-cutting issues that would need to be addressed for both specific cancers and cancer care.

The phase II process organizes the workgroups around the Continuum of Care, which includes more comprehensive recommendations for prevention, early detection, treatment and survivorship as it pertains to the above priority cancers.

Addressing the burden of cancer includes preventing cancers from occurring, screening to detect cancer at its earliest stage, treating cancer with the most comprehensive, /highest quality treatments available, and addressing survivorship and end of life issues for cancer patients.

A comprehensive approach to the prevention and control of cancer in Palau provided the framework for these workgroups to explore available resources, identify interested individuals, groups and businesses and access the network of providers and programs that are currently involved in efforts to reduce the disease burden and mortality rate. The culmination of this effort will provide the platform for an implementation plan based on the combined efforts of various organizations and partners that are currently participating in activities dealing with cancer issues.

# Background and Needs



## Geographic Characteristics



The Republic of Palau sits about 500 miles equidistant from the Philippines to the west and from Papua New Guinea to the south. It consists of more than 340 islands, of which only 9 are inhabited. These are, from Northeast to Southwest: Kayangel, Babeldaob, Koror, Peliliu, Angaur, Sonsorol, Pulo Anna, Hatohobei, and Helen Reef. Babeldaob is the largest island, making up 80 percent of the total land area. These nine islands make up the 16 states in Palau.

Palau covers 189 square miles of land area including rock islands. The surrounding sea area is very large, including an exclusive economic zone extending over 237,850 square miles. The capital of Palau is located in Koror with a land area of 7.1 square miles, where two thirds of the population resides.

Palau's distance to major cities in nautical miles: Guam (722 miles), Hong Kong (1,739 miles), Honolulu (4,449 miles), Manila (528 miles), San Francisco (5,751 miles), Shanghai (1,679), Sydney (3,319), and Tokyo (1,890 miles). The Palau Island is 9 hours ahead of Greenwich Mean Time.

Given the unique characteristics of the island, several significant geographic barriers to cancer services exist. Most travel in Palau is by boat, with only Koror and parts of neighboring Airai having fully accessible paved roads. While the primary road is under construction throughout Babeldaob, connecting roads are frequently impassable during the six-month tropical rainy season. Likewise, boat travel is very dependent upon weather and tidal conditions, since traveling to several locals (i.e. Angaur, Peliliu, Sonsorol, Hatohobei, Kayangel) necessitates going outside the safety of the reef and into the open water.

<b>Table 1. States, Population, Distance from Central Health Facility, and Mode of Transportation</b>			
Geographic Area States	Population	Mileage from Koror Central	Mode of Transportation
Aimeliik	270	8	Land/water
Airai	2,723	5	Land/water
Angaur	320	37	Air/water
Kayangel	188	53	Water
Koror	12,676	0	Land
Melekeok	391	20	Land/water
Ngaraard	581	29	Land/water
Ngerchelong	488	38	Land/water
Ngardmau	166	25	Land/water
Ngeremlengui	317	19	Land/water
Ngatpang	464	13	Land/water
Ngchesar	254	14	Land/water
Ngiwal	223	25	Land/water
Peleliu	702	25	Air/water
Sonsorol	100	208	Water
Hatobei	44	377	Water
<b>Total</b>	<b>19,907</b>		
Source: 2005 Statistical Yearbook; Office of Planning and Statistics, ROP and Bureau Land & Survey and Palau automated Land and Resource information System			

Table 1 shows the distribution of residents by states along with the distance and mode of transportation to the central healthcare facility.

The geographic isolation of Palau also affects access to quality cancer services abroad. The majority of cancer patients have to travel to the Philippines or Hawaii for diagnosis and treatment. Travel is very expensive, especially between Palau and Hawaii. Palauans are not eligible for Medicaid and often time cancer patients are not able to pay for their treatment.

## Demographic Characteristics

**Table 2. Population by Ethnicity & Gender**

Ethnic Group	Total	Male	Female
<b>Palauan</b>	14,438	7,331	7,107
<b>Other Pacific Islanders</b>	667	324	343
<b>Asian</b>	4,566	2,901	1,665
Filipino	3,253	1,875	1,378
Chinese	317	181	136
Taiwanese	70	57	13
Korean	83	50	33
Vietnamese	321	319	2
Others	522	419	103
<b>White</b>	186	116	70
<b>Other</b>	50	27	23
<b>Total</b>	<b>19,207</b>	<b>10,699</b>	<b>9,208</b>
Source: 2005 Census of Population and Housing, Republic of Palau			

The 2005 Census of Population & Housing, for the Republic of Palau, shows a total population of 19,907 persons. Palauans make up 73% (14,438) with non-Palauans at 27% (5,469). For non-Palauans, Asians represent the biggest ethnic category with a total of 23% (4,566) persons, of which 3,253 are Filipinos, 317 Chinese, 70 Taiwanese, 83 Koreans, 321 Vietnamese and other Asians at 522. The remaining 5% of total population is made up of 667 Pacific Islanders, 186 Whites and 50 other ethnicities. Cancer services are available to both Palauans

and all other residents of Palau.

The population breakdown by sex and age group shown in Table 3 indicates that Palau has a predominantly young population, with the biggest age group category being 35 to 39 years (1,965), and 10 to 14 years (1,914). The overall median age is 32.3, with median age for males at 30.5, and females at 32.0. The significance of this information is important in identifying the proportion of the population that will eventually age in the coming years and also to identify the at risk populations, especially the 10 to 14 year-olds.

**Table 3. Population by Age Group & Gender**

<b>Age Group</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
Under 5 years	1,363	685	678
5 to 14	3,435	1,769	1,666
15 to 24	2,728	1,427	1,301
25 to 34	3,439	2,014	1,425
35 to 44	3,852	2,228	1,624
45 to 54	2,716	1,466	1,250
55 to 64	1,238	647	591
65 to 74	630	289	341
75 to 84	365	127	238
85 and over	141	47	94
<b>Total</b>	<b>19,907</b>	<b>10,699</b>	<b>9,208</b>
Source: 2005 Census of Population and Housing, Republic of Palau			

## Socio-Economic Characteristics

Socio-economic characteristics play an important role in determining the quality and accessibility to cancer services. High rates of unemployment, lack of medical insurance (cancer insurance), and living conditions in Palau have been shown to be predictive of the level of care a person receives.

According to the 2005 Census of Population and Housing, 52.6% (1,897 of 3,580 families) had an income below the poverty level. Census data indicates that the average household is comprised of 5 individuals, with a median annual household income of \$18,000. Of the total 10,203 in the labor force, 9,777 were employed and 426 were unemployed. The overall unemployment rate is 4.4%.

Insurance coverage for cancer is very limited. Currently, there are only two insurance companies in Palau that provides very minimal coverage for cancer patients. The one-time coverage for Palauans is limited to \$20,000 per person if and when they are diagnosed with cancer. During coverage period of 20 years, if a person insured does not get cancer, he/she will be reimbursed all premiums paid. Palauan citizens are also not eligible for Medicare or Medicaid benefits.

Socio-economic status and rural living conditions have an impact upon the health status of residents. Even though 73% of the population has access to public water, it frequently requires boiling to ensure complete safety from parasitic and bacterial contamination. The sanitation and hygienic conditions are below US standards, with only 48% of the houses having adequate sewage disposal, and 41% lacking complete plumbing. Nearly 64% have only cold water available and 2% have no piped water. Complete kitchen facilities and refrigeration are lacking for 11% of the population.

## Cancer Burden

### Incidence Rates

**Table 4. Cancer Incidence Rates, All Sites/Race Combined per 100,000, 1999-2003**

	Men	Women
Palau	430.2*	411.8*
US	555.8	417.9

*\* Palau rate is statistically lower than US All Races Incidence rate.*

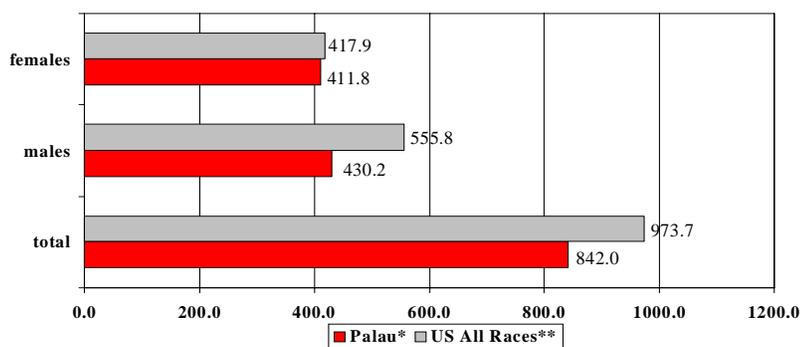
Source: Palau Cancer Registry 1999-2003 Incidence Data

For Palauan men and women, the incidence rate for all cancers combined was lower than US counterparts in 1999–2003. Table 4 summarizes incidence rates for cancers of all sites/races combined in Palau and the US (All rates in this summary are age adjusted to the Palau 2000 Census and the US

2000 standard.)

In both Palau and US, as illustrated in Figure 1, the incidence rates for men were much higher than those for women. Although incidence rates in Palau are lower than those for the US, incidence rates for several specific sites are much higher when compared to similar cancer sites for US.

**Chart 1**  
Incidence Rates per 100,000 All Cancer Sites  
Palau comparison to US All Races:



\*From the Palau Cancer Registry Data 1999-2003; Age-Adjusted to the Republic of Palau 2000 Census  
\*\*From the National Cancer Institute, SEER Cancer Statistics Review 1975 - 2000

Table 5 compares the incidence rates for the top five cancers in Palau to the incidence rates for similar sites for US (All rates in this summary are age-adjusted to the Palau 2000 Census and the US 2000 Standard) Table 2

**Table 5: 1999-2003 Age Adjusted Incidence Rates for Top Five Cancers in Palau compared to US SEER All Race Incidence Rates.**

Site	Ranking	Republic of Palau		US All Races	
		Men	Women	Men	Women
Lung & Bronchus*	#1	125.3	69.6	80.8	49.6
Cervix Uteri*	#2	-	65.0	-	9.6
Breast	#3	9.1	73.6	1.2	135.0
Liver & Intrahepatic*	#4	44.5	14.0	9.0	3.4
Oral Cavity & Pharynx*	#5(tied)	9.71	39.5	16.3	6.5
Prostate	#5(tied)	107.9	-	170.1	-

\*Cancer site in Palau with higher rates compared to US SEER All Races Incidence Rates shows that oral & pharyngeal cancers are tied with prostate cancers as the number five most common cancers in Palau

**Table 6: 1999-2003 Age Adjusted Incidence Rates for Top Five Cancers in Palau compared to US SEER All Race Incidence Rates.**

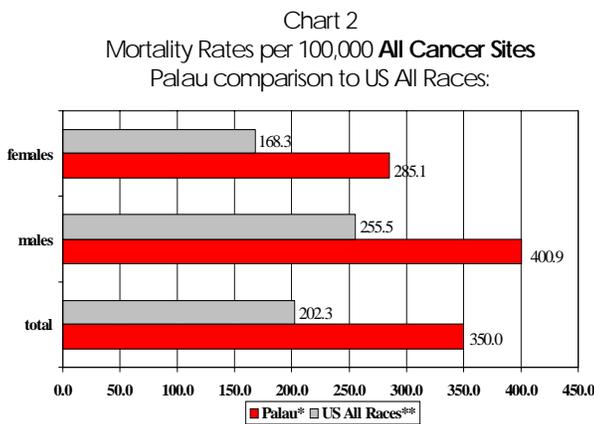
The six most common cancers in Palau, from 1999-2003, were cancers in lung & bronchus (19% of total incidence cases), cervix uteri (16%), breast (11%), liver & intrahepatic (9%), oral cavity & pharynx (8%) and prostate (8%). Out of these, the six most common cancers among men in Palau, 1999-2003, were cancers of the lung & bronchus (29% of total number of cases), prostate (16%), liver & intrahepatic (16%), pancreas (5%) and oral cavity & pharynx (5%). During the same period, the six most common cancers among women were those of the cervix uteri (26% of total incidence cases), breast (16%), thyroid (10%), lung & bronchus (9%), oral cavity & pharynx (8%) and ovary (4%).

Site	Ranking	Republic of Palau		US All Races	
		Men	Women	Men	Women
Lung & Bronchus*	#1	125.3	69.6	80.8	49.6
Cervix Uteri*	#2	-	65.0	-	9.6
Breast	#3	9.1	73.6	1.2	135.0
Liver & Intrahepatic*	#4	44.5	14.0	9.0	3.4
Oral Cavity & Pharynx*	#5 (tied)	9.71	39.5	16.3	6.5
Prostate	#5 (tied)	107.9	-	170.1	-

\*Cancer site in Palau with higher rates compared to US SEER All Races Incidence Rates

## Mortality Rates

Table 6 also shows that 4 out of the 6 top cancers in Palau have higher incidence rates compared to SEER US All Races similar sites. In comparison to their US counterparts in 1999-2003, Palauan men have higher incidence of lung & bronchus cancers (125.3), liver & intrahepatic cancers (44.5), and breast cancers (9.1), compared to their US counterparts in 1999-2003 while, Palauan women have higher incidence of lung and bronchus cancers (69.6), cervix uteri cancers (65.0), oral cavity & pharynx (39.5) and liver & intrahepatic cancers (14.0). The incidence of oral cavity & pharynx cancers (16.3) in US men was much higher than Palauan men (9.71). For US females, the incidence of breast cancers (135.0) was much higher than Palauan females (73.6).



\*From the Palau Cancer Registry Data 1999 – 2003; Age-Adjusted to the Republic of Palau 2000 Census  
\*\*From the National Cancer Institute, SEER Cancer Statistics Review 1975 - 2000

Although incidence rates (Table 4) for all sites combined in Palau tend to be lower than or similar to those for US All Races for men and women, mortality rates from cancer are higher in Palau than in the US for all race/sex groups (Table 7). As with incidence rates, the mortality rates are higher for men than for women in both Palau and US. Chart 2 further illustrates this difference graphically.

The top five death causing cancers in Palau, from 1999-2003, were cancers in lung & bronchus (27% of total cancer deaths), prostate (12%), liver & intrahepatic (10%), pancreas (7%) and cervix (5%). The top five death causing cancers for men were cancers in lung & bronchus (29% of total cancer death for men), prostate (22%), liver & intrahepatic (14%), pancreas (8%) and oral & pharynx (8%). During the same period, the top five death causing cancers for females were lung (26% of total cancer death for women), cervix (9%), ovary (9%), oral & pharynx (8%) and liver (6%).

**Table 7. Cancer Mortality Rates, All Sites/Race Combined per 100,000, 1999-2003**

	Men	Women
Palau	400.9*	285.1*
US	255.5	168.3

\* Palau rate is statistically higher than US All Races Incidence rate.

Source: Palau Cancer Registry 1999-2003 Mortality Data

## Risk Assessment

### Tobacco Use

Tobacco use is recognized as one of the leading preventable health risks in Palau. It has become a major public health concern because it is a risk factor for the development of oral cancers, and cancer of the lung, larynx, mouth, esophagus, or bladder.

In 2001, the Tobacco Control Program conducted a Youth Tobacco Survey of high schools in Palau. A total of 1,129 students in grades 9-12 were eligible, and 1,013 participated in this survey, a response rate of 89.73%. Based on this survey, almost all (92.0%) of the students had tried using some form of tobacco (in betel nut, smoking, or chewing smokeless tobacco).

**Table 8. Age at First Betelnut Use With or Without Tobacco**

Age Category	Percent
5 or younger	13.0
6 to 8 years old	17.1
9 to 10 years old	14.8
11 to 12 years old	18.1
13 to 14 years old	21.0
15 to 16 years old	12.7
17 or older	3.3

2001 Youth Tobacco Survey,  
Republic of Palau

When asked about betel nut use, an overwhelming majority (82.0%) of high school students in Palau have tried chewing betel nut with or without tobacco. Table 8 shows that of the total students who answered that they had ever tried chewing betel nut, about two-thirds (63.0%) had first chewed betel nut (with or without tobacco) by age 12. Students of Palauan origin were significantly more likely to have tried betel nut than students of other ethnic backgrounds.

When asked about betel nut use with tobacco, the majority (68.9%) of high school students answered that they usually added tobacco to their betel nut chew. 67.5% usually added cigarettes; 1.4% usually added smokeless tobacco. Table 9 shows the proportion of high school student currently using betel nut with tobacco. More than half (53.9%) had started using tobacco with betel nut before age 12. More than two-thirds of high school students have tried smoking cigarettes. About 34.8% of the students said that they had ridden in a car on one or more days of the past week with someone who was smoking cigarettes, cigars or a pipe.

**Table 9: Age at First Tobacco Use in Betel Nut**

Age Category	Percent
5 or younger	5.0
6 to 8 years old	13.1
9 to 10 years old	15.1
11 to 12 years old	20.7
13 to 14 years old	26.3
15 to 16 years old	15.5
17 or older	4.3

2001 Youth Tobacco Survey,  
Republic of Palau

## Alcohol Use

Far too many people are using and abusing alcohol in Palau. The 2003 community assessment survey showed that almost half (48.2%) of the total persons (9,185) 15 years and older has consumed alcohol. Table 8 shows that of the 4,347 surveyed, 88.9% have consumed alcohol within the past 12 months.

When asked about the number of alcohol drinks per day, 5.7% of total respondents reported that when they drink

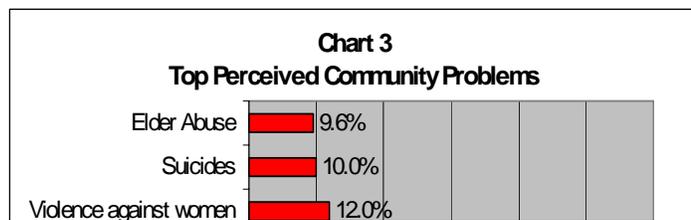
alcohol, they consume 15 or more drinks per day; 30.9% consume 5 to 9 drinks, and 48.2% consume 1 to 4 drinks per day.

**Table 10: Consumption of alcohol for the last 12 months.**

Consumed within last 12 months?	Total		Yes		No	
	Total	Percent	Total	Percent	Total	Percent
<b>Total</b>	4,347	100.0	3,866	88.9	481	11.1

Source: Community Assessment Adult Data: Ages 15+

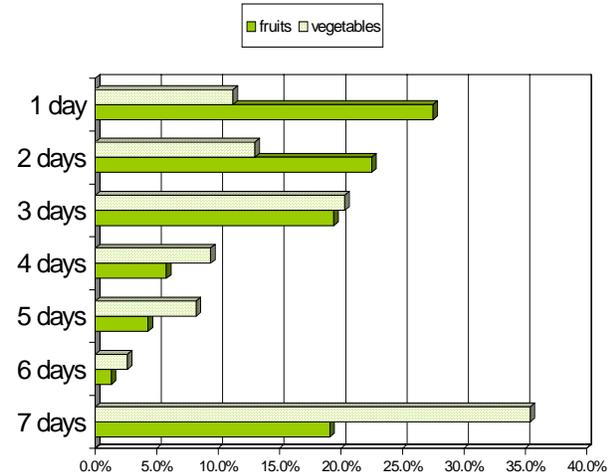
Chart 3 demonstrates the most commonly perceived community problems, the top 3 being alcohol (52%), marijuana (43%) and tobacco (41%). The significance of alcohol consumption can be related to the current dietary guidelines where moderate drinking for women is defined as an average of 1 drink or less per day. Moderate drinking for men is defined as an average of 2 drinks or less per day. Likewise, heavy drinking could be associated with the guidelines of alcohol consumption in excess of 1 drink per day on average for women and greater than 2 drinks per day on average for men.



## Nutrition

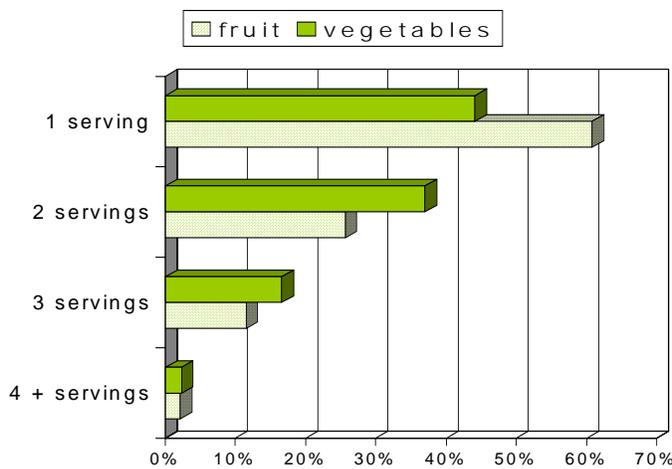
The 2003 community assessment survey also looked at the intake of fruits and vegetables. Chart 4 shows that 50% of respondents eat fruit one or two days per week, whereas only 24% said they eat vegetables one or two days per week. Approximately 19% of respondents said they eat fruit 7 days a week, and 35.4% eat vegetables 7 days a week.

Chart 4  
In a typical week, how many days do you eat fruit?  
In a typical week, how many days do you eat vegetables?



From the Community Assessment Adult Data: Ages 15+

Chart 5  
How many servings of fruit do you eat on one of those days (*when you eat fruit*)?  
How many servings of vegetables do you eat on one of those days (*when you eat vegetables*)?



From the Community Assessment Adult Data: Ages 15+

Respondents were also asked about the number of servings of fruit they eat. Chart 5 indicates that the majority of respondents (60.8%) only eat one serving of fruit per day; 44.1% of respondents eat one serving of vegetables per day; 37% eat 2 – 3 servings of fruit per day; 54% eat 2-3 servings of vegetables per day. The overall consumption of fruit and vegetables is lower than the recommended

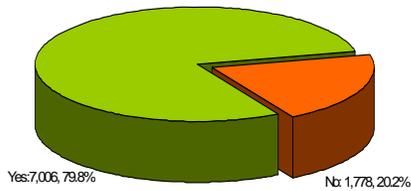
dietary guidelines of 5 to 13 servings of fruits & vegetables per day.



## Physical Activity

Analysis indicates that 78.9% of the 8,784 surveyed respondents worked at a job that required sitting or standing with walking not lasting more than 10 minutes at a time. Approximately 74.1% of the respondents answered that their work does not involve vigorous activity, like heavy lifting, digging, or construction work for at least 10 minutes at a time. Further illustration of the level of physical activity during leisure time is seen in Figure 7 & 8.

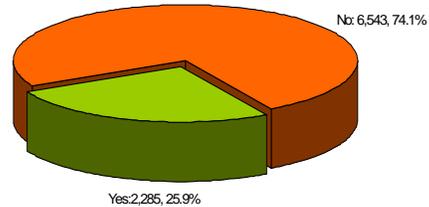
Chart 6  
Does your *leisure time* involve mostly sitting, resting, or standing with no physical activity lasting more than 10 minutes at a time?



Leisure time mostly sitting?	Total		Yes		No	
	Total	Percent	Total	Percent	Total	Percent
Total	8,784	100.0	7,006	79.8	1,778	20.2

From the Community Assessment Adult Data: Ages 15+

Chart 7  
In your *leisure time*, do you do any vigorous activities like running, strenuous sports, or weight lifting, etc.?



Leisure time involve vigorous activities?	Total		Yes		No	
	Total	Percent	Total	Percent	Total	Percent
Total	8,828	100.0	2,285	25.9	6,543	74.1

From the Community Assessment Adult Data: Ages 15+

## **Existing Infrastructures & Services**

### ***Medical Services***

Health care services in the Republic of Palau are provided primarily through the Ministry of Health. The Ministry provides comprehensive primary, secondary and limited tertiary services, including both preventive and curative care, through an 80-bed hospital and Public Health Clinic. In addition, there are two private clinics in Koror and dispensaries located in Kayangel, Ngarchelong, Melekeok, Ngeremlengui and Peleliu. The dispensaries are staffed by medical personnel trained in primary health care, while in the Public Health clinics and the Belau National Hospital (BNH) are staffed with physicians, medical officers, registered nurses, graduate nurses, laboratory technicians, and health assistants. The implementation of the National Cancer Strategic Plan for Palau will use most of these existing services to support activities and functions.

### ***Cancer Prevention & Control Program***

The Palau Cancer Prevention & Control Program is an umbrella of three programs (BCCEDP, PCRCP and CCCP). Currently, the Breast & Cervical Cancer Early Detection Program (BCCEDP) provides pap-smear testing, clinical breast examinations and mammogram services to eligible women. The program also teaches cancer awareness through outreach and health education. However, the scope of this program is limited to breast and cervical cancer early detection. The implementation of CCC (Comprehensive Cancer Care) will help improve existing cancer screening services and develop new screening opportunities to address common cancers in Palau. The screening surveillance system (CaST) will be customized for the data collection for screening of different types of cancers.

The Palau Cancer Registry Program (PCRCP) currently provides cancer information for public health planning and promotional activities through the collection and analysis of cancer data. Through CCC implementation, the existing cancer registry surveillance system will be customized to accommodate both the clinical and administrative needs of the program.



## ***Tobacco Prevention & Control Program***

The Tobacco Prevention & Control Program, also known as "STUN" – Stop Tobacco Use Now – is another program that provides tobacco prevention & control activities. The main activities of this program are tobacco free sports, hall of horrors, quit & win contests, vendor inspections and independent advertising campaigns against tobacco use. The program also has a Palau Tobacco Coalition comprised of thirty members representing different organizations and/or agencies. Current activities of this coalition include education, training, cessation programs and the proposed comprehensive tobacco control legislation. This legislation is aimed at enforcing existing laws such as requiring a license to sell tobacco, no vending machine sales, no selling of tobacco products to those less than 19 years of age and no smoking within government buildings. Additional legislation would address the issues of advertising, tobacco sponsorships of community events, increasing the fees/fines and smoke free workplaces including all schools, sports complexes and health care facilities. As outlined in the "prevention" section of the plan, CCCP will support tobacco prevention & control activities as well as the adoption and implementation of the comprehensive tobacco control policy.



***"Bol betik a rengum er tial bedengem leng diak el sebechem el mecherar a techil ra stouang. Moilil e moldeu ra rengum e lak di momdasu er tial rrakt. Bo meses el ngara ukeruul e bom kerekikl a delsechem"***

Take care of your body because you can't buy a replacement at the store, have fun and enjoy. Stop worrying about your illness. Get regular check-up and avoid things that make you sick.

Early detection is your best protection.  
Adelina Blailes Survivor

## ***Referral Program***

All suspected and diagnosed cancer cases are referred to Tripler Army Medical Center (TAMC) in Hawaii and St. Lukes Medical Center in the Philippines for work-up and treatment. A medical referral committee meets regularly to determine eligibility and suitability for any patients that need referral, including cancer patients. The 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.

## ***Laboratory Services***

The Ministry of Health Laboratory has a total of seven personnel and six medical technology students. The laboratory is able to provide most routine laboratory services. Cancer related services include PSA, stool occult blood, tumor markers such as AFB, CA-125, CA-19, CA-153, and CEA. Pap smears and biopsies are sent to Clinical Laboratory of Hawaii or Diagnostic Laboratory Services in Hawaii for analysis. Other specimens are sent to Tripler Army Medical Center in Hawaii for further analysis. The implementation of CCC will use existing cancer related laboratory services, and support the need for reagents and other relevant cancer tests.



## ***Radiology Services***

The Ministry of Health's Radiology Department provides routine services such as X-rays, CT scan and ultrasound. Currently, mammograms are performed locally by a technician who has had practical training, but is not certified. All mammograms are read on-island by a contracted radiologist from Guam. If there are suspicious mammograms, they can be sent to Guam for timely evaluation. The CCC funding for implementation will assist both in personnel (i.e. mammography technician) and radiology supplies directly related to cancer diagnosis and staging.

## ***Surveillance & Health Information Systems***

In addition to the Palau Cancer Registry and the BCCEDP CaST surveillance systems, the Ministry of Health provides comprehensive data management system called "Health Information System." The Bureau of Public Health also provides data collection and analysis of health information through the Public Health Data & Statistics Section. These existing information infrastructures, personnel & services will benefit the

### **Spiritual Message**

***"Ngikel Oumerang  
ra rubak a dingar el  
mo cherechar. A  
kasinoma a diak el  
mukar, engdi sel  
reng erkau a  
omnguu a rubak el  
mo osobelem, eng  
sebechem el mo  
remuul a rokui"***

Those who believe  
Jesus Christ will  
have eternal life.  
There is no cure for  
cancer, but taking  
Jesus to be your  
savior, you can do  
anything."

Benhart Wong  
Deacon

overall data management (data collection, analysis, data submissions) for CCC.

## ***Non-Governmental Organizations***

The PCPCP program at the Ministry of Health has established a partnership with Non-Governmental Organizations within the community to address the burden of Cancer in Palau. These organizations include the Palau Cancer Coalition and Tabesul Blengur Coalition.



The Palau Cancer Coalition is a non-profit community-based organization formed to:

1. Assist PCPCP in developing and implementing the National Cancer Strategic Plan for Palau;
2. Monitor quality of cancer patient treatment and services provided at the Ministry of Health
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.

"Don't be afraid of Cancer! And don't give up! We have a wonderful hospital and services are improving, Get your check up and don't wait till it's too late."

Debbie Rengiil  
Survivor

## ***Palau Cancer Coalition***

The Coalition is comprised of 29 members representing different agency and/or organizations that include cancer survivors, elected governmental officials, women's group representatives, ethnic organizations, business and community representatives. Overall, the cancer coalition is the main organization in which CCC activities are implemented. These activities are outlined in the CCC strategic plan.

Tabesul Blengur is a newly formed community-based organization formed to address the issues regarding nutrition within the Republic of Palau. It currently has ten members and their activities include revisiting and updating the existing National Nutrition Plan, which is linked to the

National Cancer Strategic Plan for Palau as addressed in the Prevention section.

### ***Media & Health Communications***

Community Advocacy Program (CAP) works with PCPCP to develop and implement culturally appropriate educational materials to all schools and out-lying States. The media is also used to educate citizens regarding the burden of Cancer in Palau. The Palau Cancer Coalition currently has two representatives from the media. These members have worked with the PCPCP in educating the public through live talk shows, Question and Answer Activities, and Cancer promotional-awareness activities. In addition to the current breast & cervical cancer education, implementation of this strategic plan will mean that the overall cancer burden in Palau can be brought to attention through media. Sources such as Cable TV through Palau cable television and the three local newspaper businesses will be approached for promotional activities.

### ***National and International Organizations***

None of the physicians are members of any national or international organizations that are related specifically to cancer education, networks or resources. They do, however, participate with other organizations such as WHO, CDC, Pacific Basin Medical Association and Pacific Islands Health Officers Association to address health care issues in the Pacific, which include cancer. The role of CCC implementation is to establish formal memberships with these organizations. A huge part of the success of CCC implementation relies on continues training and workshops sponsored by these organizations.

## Existing Resources

The Republic of Palau has a number of resources to help address the burden of cancer. The plan will help coordinate and target ongoing efforts, in addition to assisting in identifying new approaches.



- ◆ The Republic of Palau has access to strong data resources and the ability to expand this system.
- ◆ The Palau Cancer Registry has recorded cancer incidence in Palau since 1990, and will continue to track long-term effects in cancer screening and treatment efforts.
- ◆ Ministry of Health, Bureau of Public Health recently conducted a house-to-house assessment.
- ◆ Analysis of data collected will help target activities to areas or age group to reduce burden of cancer.
- ◆ Access to cancer information is currently available from the Health Education Section at Public Health.
- ◆ Screening and detection services for breast and cervical cancer are available through Cancer Section at Bureau of Public Health. Early detection is for women meeting income and age guidelines.
- ◆ About 88 percent of Palauan women are eligible for the early detection program.
- ◆ Through the Ministry of Health, a number of resources exist to help spread the word and expand on programs to address the burden of cancer, including community support groups, school health programs, local

***"Lak momart ra rektem, ea rakt el rokui a di meringel e di ngarngii. Bai dekasbesubed e dosaod erngii mebo lak de medakt. Elak domdasu a tekoii ra udoud, ma ringel el ngii tial secher a mla meskid. Mnguu a rubak me bol keldemem el osobelem" --- Survivor***

Don't hide your illness, all diseases are painful and bad. Let's talk about it amongst ourselves, so we do not live in fear, stress about financial burden and all the hardship it might bring us. Accept Jesus to be your partner and savior.

Mitsko Ngirchomlei  
Survivor

cancer coalitions, media, and  
recreational activity departments

## Barriers

A number of barriers must be dealt with in order to address the burden of cancer. These barriers are related to the existing resources as mentioned earlier. These barriers to cancer care and prevention covers a spectrum of issues from access, location, screening, equipment, treatment availability, political priorities, insurance concerns and health care provider trainings.

- ◆ While cancer data exists, there are gaps in the existing system, linkage problems and areas where specific information is not collected or utilized.
- ◆ Information about cancer for the public and provider is often deficient, hard to understand and difficult to access.
- ◆ Cancer has not been a consistent political priority. Issues such as managed care, insurance services and coverage also are barriers to screening tests and quality treatment.
- ◆ Funding for cancer treatment programs needs to become a priority.
- ◆ Access to cancer screening, diagnosis, and treatment are issues.
- ◆ Currently the Breast and Cervical Cancer early detection program is the only established cancer-screening program.
- ◆ Other cancer are screening based on health care provider discretion. Geographical, weather, and transportation issues also exist that limit health care services primarily in remote areas.
- ◆ Quality care, once cancer is diagnosed, can impact individual longevity and life-style.
- ◆ Palau does not treat cancer locally. Patients diagnosed with cancer are sent off-island for treatment.
- ◆ The only treatment that can be provided in Palau is surgical removal of the tumor.
- ◆ Individual lifestyle, including risk-taking behaviors such as smoking, chewing tobacco, increasing obesity and the lack of physical activity continue to contribute to the burden of cancer in Palau.
- ◆ Environmental issues such as exposure to carcinogens, air pollution, exposure to chemicals and etc. are other concerns.
- ◆ Training of health care providers. Currently there is no trained oncologist, radiologist and cytologist or pathologist on the island.
- ◆ The incidence of cancer is increasing in Palau and the need of cancer care in the island is becoming more important.
- ◆ Survivorship issues, as individuals live longer with cancer, will have long-term effects in the health care arena.



“Your family will always be there for you, but it’s also best to seek support from people outside your family, don’t keep it to yourself”.

EMS

# Operational Plan

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## Operational Plan

The overall goals of this proposed plan will be as follows:

1. To reduce and prevent the incidence of cancer through education and behavioral change strategies.
2. To detect all cancer cases at the earliest possible stage, and ensure the coordination of cancer management services through the Palau National Cancer Prevention and Control Program.
3. To improve the quality and availability of cancer treatment in Palau.
4. To provide physical, social, mental and spiritual care to assist people with cancer to ensure quality of life as his/her cancer progresses.
5. To assist cancer patients in pain and symptom management as cancer progresses.

These goals will be supported by activities to enhance or improve the existing system. These include: expansive public education programs through media presentations focused on tobacco cessation, alcohol cessation, improved nutrition, promoting physical activity and enforcing safe-sex education.

The description of the current health care delivery system highlights where significant gaps exist. It is hoped that by implementing this plan through the listed goals, Palau will be able to expand its cancer screening program to include prostate cancer, ovarian cancer, oral cancer, and colorectal cancer. Most importantly, Palau needs to be able to provide some form of cancer treatment. Palau recognizes that sending patient off-island for treatment not only depletes financial resources for the Ministry of Health, but also contributes to emotional turmoil for individual patients and their families. It is hoped that with the implementation of the comprehensive cancer control program, Palau will be able to improve its infrastructure to provide some sort of treatment to cancer patients. Lastly, Palau needs to improve the availability of survivorship and palliative care programs for patients. This will ensure that patients can receive care at home, and have access to the survivor and palliative care they require, thus allowing patients to live comfortably if the disease progresses. It is

imperative that the cancer control program collaborate with other programs in the Ministry of Health to share resources in order to reach its goals.

## **PREVENTION**

Cancer is the results of a complex mixture of factors related to lifestyle, hereditary, and environment. Some of these factors are within and individual's control and other are not. A person can choose not to use tobacco, but has no control over inherited factors.

Primary prevention of cancer includes actions taken by individuals, family, clan, community and villages to prevent occurrence of cancer by promoting healthy lifestyle choices and control of environmental risk factors.

Prevention of cancer is an integral part of overall reduction and management of the cancer burden in Palau. Prevention efforts will provide the basic groundwork and large encompassing effort of this plan. Many cancers are preventable with sound health initiatives and awareness of the factors that contribute to the disease. The individual cancer risk is a barrier to sound public health efforts. Lifestyle choices are hard to effect and people often choose to take risks with their health now that will have consequences later in life.

Tobacco use prevention and cessation is a priority in Palau with measures of best practices currently in place. Much of the promise for cancer prevention comes from studies that show strong association between lifestyle factors and specific cancers. The most consistent findings, over decades of research by National Cancer Institutes (NCI) and other cancer research agencies world wide, is the strong association between tobacco use and various cancer.

Additional work and community approach will continue as Palau strives to provide services to individuals who want to quit smoking, chewing, support enactment from behavioral health at the Bureau of Public Health and Tobacco program aimed at reducing exposure to secondhand smoke and empower youth to adopt healthy, tobacco-free lifestyle.

**Goal: To reduce the incidence rate of cancer among Palauans.**

**Objective 1. By 2012, reduce the prevalence of tobacco use among Palauans aged 15 years and older to 60%**

**Baseline: 85.1% age 15 years and older (Palau Community Assessment 2004)**

**Timeline:** Tobacco use among Palauan age 15 yrs. and older will be decreased by 5% annually.

Strategy 1: To reduce the use of tobacco among youth by promoting and supporting the Stop Tobacco Use Now (STUN) which promote tobacco preventing and control activities.

Strategy 2: To develop tobacco cessation program for health care workers as well as patient in the hospital.

Strategy 3: Support the adoption and implementation of the Comprehensive Tobacco Control Policy for Palau as well as continue to support the tobacco coalition to promote educational training and cessation program throughout Palau.

**Objective 2. By 2012, increase the consumption of fruits and vegetables intake among Palauans aged 15 years and older to at least 50% eat vegetables 7 days/week and 50% eat fruits at least 5 days/week.**

**Baseline:** 34.4% eats vegetables 7 days/week (Community Assessment 2004)  
50% eats fruits 1 to days/week (Community Assessment 2004)

**Timeline:** The percentage of Palauan eating fruits and vegetable will be increase by 5 percent annually.

Strategy 1: Support the implementation of the National Plan of Action for Nutrition (NPAN) within Palau.

Strategy 2: Support (Tabesul Blengur) Palau nutritional coalition that promote education and other program to improve or encourage healthy eating among Palauns that really focus on intake of fruits and vegetables.

Strategy 3: Coordinate and collaborate with NPAN to develop and implement educational program that promote healthy eating to all states in Palau.

Strategy 4: Coordinate and collaborate with Community Advocacy Program (CAP) and NPAN to implement nutritional counseling to all patients in the hospital.

Strategy 5: Coordinate and collaborate with CAP and NPAN to implement nutritional activities to all schools in Palau.

**Objective 3. By 1012, increase the percentage of Palauans aged 15 years and older doing physical activities regularly to 60%.**

**Baseline: 40.1% age 15 years and older (Community Assessment 2004)**

**Timeline: Palauans ages 15 years and older will participate in physical activities will be increased by 4% annually.**

Strategy 1: Coordinate and collaborate with all school in Palau to implement physical activity as part of school curriculum.

Strategy 2: Coordinate with CAP to implement and promote physical activity to organization, agencies and program such as aging centers, women's organization and etc.

Strategy 3: Coordinate with CAP to develop and implement appropriate physical activities to all states in Palau.

Strategy 4: Collaborate with governor's association to promote physical activities in their states.

Strategy 5: Coordinate with other program within the Bureau of Public Health and other program outside of public health to promote walk-a-thon.

**Objective 4: By 2012, decrease the percentage of Palauan aged 15 years and older consuming alcohol within 12 months period to less than 70%**

**Baseline: 88.9% aged 15 years and older consume alcohol in the last 12 months (Community Assessment 2004).**

**Timeline: Palauans ages 15 and older consuming alcohol in the last 12 months will be decreased by at least 3 percent annually.**

- Strategy 1: Coordinate and collaborate with Public Safety to enforce legislation that prohibits minors from purchasing alcohol.
- Strategy 2: Coordinate with Substance Abuse in the Bureau of Public Health to promote activities that promote alcohol cessation program.
- Strategy 3: Coordinate with Palau Olympic Committee to promote after school activities that involve school age children and young adult. eg. (basketball, softball and volleyball tournaments).
- Strategy 4: Expand school health curriculum to include alcohol issues.

**Objectives 5: By 2012, increase the percentage of High School students who report using a condom when having sex to 60%.**

**Baseline:** 42% of High School student survey reported to use condom in 2003 (Integrated Epidemiologic Profile for HIV/AIDS and STD Prevention and Care Planning).

**Timeline:** High school students using condom when having sexual intercourse will be increased by 4% annually.

Strategy 1: Coordinate and collaborate with HIV/AIDS program to promote appropriate sexual behavior to the community.

Strategy 2: Coordinate with all school in Palau to strengthen health curriculum in school and expand that curriculum to include sexual health.

Strategy 3: Collaborate with Sexually Transmitted Disease program (STD) and CAP to provide prevention education program to the public.

Strategy 4: Coordinate with school groups that promote good sexual behavior.

**SCREENING/EARLY DETECTION**

It is easier to treat and cure cancer when it is found early. If the tumor continues to grow, it can invade and damage nearby tissues and organs. Cancer cells can also break away from the tumors, enter the bloodstream

or lymphatic system, and spread to other parts of the body. When that happen, treatment becomes more difficult. Detecting cancer early is important to increase the chance of treating it successfully.

Early detection may help save lives and reduce suffering from various cancers, such as breast, colon, rectum, cervix, prostate, testicles, oral cavity and skin. Some of these cancers can be found by individual who perform regular self-examination.

Screening people early when they are still asymptomatic is essential part of early detection. Results of the examination, tests, or procedures used in cancer screening alone usually do not results in cancer diagnosis. If screening results are positive, further testing may be required to identify cancer or pre-cancerous lesions or to rule out cancer.

Screening for cancer across the population will help detect the disease at its earliest stages when it is treatable and curable. Not all cancers are preventable, but in some cancers that are more common in the Palauan population, early detection and treatment may help save lives. Screening barriers include limited financial and human resources for testing and early detection of cancer. Information gaps also constitute a barrier to fighting the disease, as well as confusion about guidelines to screen for cancer.

**Goal: To reduce mortality and morbidity of cancer by developing and implementing cancer screening for all types of cancer that are detectable.**

**Objectives 1: By 2012, increase the percentage of women aged 18 years and older screened for cervical cancer with in five years period to 70%.**

**Baseline: 55.2% women age 21 years and over had received pap smear within five years.**

**Timeline: Increase pap smears by 3% annually**

**Strategy 1: Coordinate and collaborate with Breast and Cervical Cancer Program to increase number of outreach visit to outlying states and communities.**

Strategy 2: Coordinate and collaborate with other Bureau of Public Health program to participate in client identification and recruitment.

Strategy 3: Coordinate and collaborate with other organization and agencies to improve recruitment of women, such organization and agencies are women's group, women's affairs agency and etc.

Strategy 4: Coordinate with health care provider schedule clinic time that are more convenient with clients.

**Objective 2: By 2012, increase the number of women aged 50 years and older receiving mammography screening with in five year to 70%.**

Baseline: **57.9% women age 50 years and over had receive mammogram screening with in five years.**

Timeline: **Increase mammography screening by 3% annually**

Strategy 1: Coordinate and collaborate with Breast and Cervical Cancer Program to increase number of outreach visit to outlying states and communities.

Strategy 2: Coordinate and collaborate with other Bureau of Public Health program to participate in client identification and recruitment.

Strategy 3: Coordinate and collaborate with other organization and agencies to improve recruitment of women, such organization and agencies are women's group, women's affairs agency and etc.

**Objective 3: By 2009, men screening for prostate cancer will receive appropriate information regarding cancer screening and its risk and benefits are made available to client to allow informed decision making regarding screening.**

Baseline: **Not available.**

Timeline: **January 2009.**

Strategy 1: Make available education materials that contain risk and benefits of prostate cancer screening.

Strategy 2: Make available a standardized prostate cancer screening protocol for all health care providers.

**Objective: 4. By 2012, increase the percentage of Palauan men aged 45 and older receiving PSA screening for prostate cancer to 20%.**

**Baseline:** .05% male age 45 and older (PSA Screening Log Book 2006).

**Timeline:** PSA screening increased by 3% annually.

Strategy 1: Develop prostate cancer screening protocol.

Strategy 2: Coordinate and collaborate with Family Health program within Bureau of Public Health in strengthen efforts to recruit male for prostate screening.

Strategy 3: Coordinate with council of chief and governor association to strengthen recruitment for male for prostate cancer screening.

## **TREATMENT**

Cancer treatment generally involves one or a combination of treatments including surgery, radiation, chemotherapy, immunotherapy and hormonal therapy. For some cancer only surgery is involved. For others, combinations of two or three treatments (surgery, radiation and chemotherapy) are needed. The treatment plan is dependant on the status of cancer when it diagnosed.

Palau does offer limited treatment for cancer. The only option for cancer treatment here in Palau is surgery. People living in Palau diagnosed with cancer have to seek treatment from off-island.

Once cancer is diagnosed, prompt and thorough treatment is essential for prolonging the patient's survival and improving the patient's quality of life. Although as varied as the individuals and their illnesses, cancer treatments can entail surgery, radiation, chemotherapy, and any

combination thereof. The choices of treatments are often dictated by the patient's age, underlying disease, performance status, stage at diagnoses, available treatments and access to care.

The barrier to treatment are lack of affordable care, timely referral access to services, and lack of communication between the health care providers, patients and care givers.

**Goal: Improve the quality and availability of treatment option for cancer patients.**

**Objective 1: By 2012, all patients diagnosed with cancer will be referred to treatment facility within 45 days from diagnosis.**

**Baseline: over 2 months (Patients referral log book).**

**Timeline: January 2009.**

Strategy 1: Explore availability of cancer treatment grants and other funding that can assist cancer patients seeking treatment from off-island facilities.

Strategy 2: Coordinate and collaborate with the Minister of Health to lobby Palau Congress on taking active action on the pending health insurance regulation for all people of Palau.

Strategy 3: Coordinate with Ministry of Health Referral Committee to take quick action on referring cancer patients.

**Objective 2: By 2012, a formalize support services will be established to provide services to patients diagnosed with cancer.**

**Baseline: no formalize support services.**

**Timeline: June 2008.**

Strategy 1: Organize a multidisciplinary team that consist of different discipline individuals who can provide counseling to patients diagnosed with cancer.

Strategy 2: Develop a directory for all services available for cancer patients.

**Objective 3: By 2012, a mechanism that assures all appropriate medication for cancer patients is in place to allow availability of medication at all times.**

**Baseline: Cancer medications are always out of stock.**

**Timeline: October 2009.**

Strategy 1: Assure that all required medication for patients diagnosed with cancer are available at all time in the Ministry of Health.

**Objective 4: By 2012, establish a maintenance chemotherapy services for cancer treatment in Palau.**

**Baseline: no chemotherapy available in Palau**

**Timeline: January 1012**

Strategy 1: Nurses will be able to provide continuous chemotherapy in Palau for cancer patients who have receive initial treatment outside of Palau.

Strategy 2: Oncologist will be available to provide services to Palau.

## **SURVIVORSHIP/PALLIATIVE**

Recent advances in the prevention, early detection, diagnosis and treatment of cancer help cancer patient live longer. As a result the number of cancer survivors is increasing. There is recognition of the complication of both cancer and its treatment, and the resulting physical, social, and mental challenges encountered by survivors over the near and long term following a cancer diagnosis and the practical daily issues of living with cancer.

Cancer survivor is a continuum that begins with diagnosis and continues through the remainder of a survivor's life. Even after treatment is finished, cancer survivors have concern about the disease. Survivors face a myriad of including an increased risk of cancer returning, fear of cancer recurrence, increased risk of second cancer, late appearing side effects resulting from treatment, fatigue, cognitive problems, sexual dysfunction

or fertility problems, changes in family roles and daily activities, financial impact of cancer treatment, employment issues and other disability.

In addition to the survivorship concerns previously mentioned, people living in Palau also have unique problem as cancer survivors. These may include returning to their families and community after being away for extended length of time for treatment; difficulty keeping appointment and follow-up; lack of support group in the community; cancer care interfering with daily activities, loss of family support, but most important barrier is the expense of traveling to access care.

Survivorship/End of Life care is and will continue to play an important role in addressing the burden of cancer in Palau. Recovery and reintegration into family, society, and workplace are all issues a cancer patient must face. And just as critical, when the disease is terminal, palliative care including quality of the medical delivery, pain management, therapies, acceptance, and culturally sensitive and compassionate support are all important.

**Goal: To provide physical, psychological and spiritual care that would help person have the best quality of life as his or her cancer progress.**

**Objective: 1. By December 2007, cancer clinic will be established to provide regular follow-up care to cancer patients.**

**Baseline: None.**

**Timeline: December 2007.**

Strategy 1: All pain medication are affordable and available at all time at the Belau National Hospital.

Strategy 2: Make available a directory of traditional pain management medication and services to all cancer patient.

Strategy 3: Make available a directory of available support services to cancer patients.

## **Follow-up**

Follow-up is a very necessary and valued component of surveillance in comprehensive cancer care. Its purpose is to monitor a patient's progress during and after curative treatment, to detect any recurrence of disease, and to implement a plan of care to palliate any problems related to the disease. Follow-up care can include home care, occupational or vocational therapy, pain management, physical therapy, and support groups.

Initially planned by the treating physician, who may initiate interventions and referrals, follow-up care is tailored to meet the individual patient's anticipated needs, depending on the type of cancer, the stage of disease, the type of treatment received, and the person's age and overall health. Effective channel of communication between providers and coordination of services are essential for appropriate, effective, and timely intervention.

Research is just beginning to show what people can do to lower their risk of getting certain cancers; however, the reason cancer recurs in some people and not others is still unknown. Cancer survivors are encouraged to engage in certain activities that can make them feel better and lower the chance of developing other health problems, for example, eating better and exercising more, lowering alcohol consumption, and quitting smoking.

Pain and symptoms associated with treatment may still be present during follow-up care. Survivors must be aware of the need to discuss all symptoms with their health care providers. Understanding that pain and symptoms associated with cancer can be managed is important to increasing the quality of life of cancer survivors.

Currently there is no single agency in Palau that collects follow-up data for individual patient diagnosed with cancer, and many patients are lost to follow-up. A statewide database is required to identify all cancer cases and their follow-up treatment and care-related activities, from the time of diagnosis and long the entire disease continuum. Data collection should include relevant patient and caregiver demographic variables, frequency and location of services accessed by individual patients, and types and complexities of services required. The information provided by a statewide database will identify the needs of individuals and groups of cancer patients and highlight any services inconsistencies and inequities. It will also allow geographic comparisons of service demand and supply and thus enable more efficient and effective cancer services to be implemented to the Republic of Palau.

**Goal:** All people living in Palau who are cancer survivors will participate in a life-long follow-up care and services.

**Objective 1:** Increase awareness among health care professionals about the importance of routine follow-up care surveillance, continuum of care services to meet the needs of cancer survivors.

**Baseline:** Cancer survivors are not followed-up on a regular basis, the patient is only seen when there is problem.

**Timeline:** March 2008.

**Strategy 1:** Promote awareness among health care professionals about the importance of routine follow-up care, surveillance, continuum of care services to meet the needs of cancer survivors.

**Strategy 2:** Promote supportive care and follow-up care guidelines provided by National Cancer Institute (NCI) and NCCN.

**Strategy 3:** Compile and disseminate information about availability of the continuum of care and supportive services, including palliative care (especially for pain, ataxia, dizziness, neurotoxicity, lymphoma, etc.); rehabilitation/physical therapy/occupational therapy; body image awareness/aesthetics; insurance and employment issues (job retraining, workplace barriers); and other supportive programs.

## **Surveillance**

The accurate and timely collection, analysis, and interpretation of cancer data is essential to analyze trends in cancer incidence and mortality, to identify ways in which risk factors can be reduced and to plan, implement, and evaluate public health practices. More specifically, cancer surveillance data are crucial to identify areas where greater prevention effort is needed and for identifying potential causes or risk factors of cancer.

In 1997, the Palau Cancer Registry (PCR) began collecting National Program of Cancer Registry requires data element, prior to that Palau kept logbook for all cancer cases started in 1975. PCR data is used to identify cancer trends, patterns, and variation for directing cancer control efforts, planning and carrying out public health practices. The final step of the PCR is application of the data to cancer prevention and control programs by evaluating program effectiveness and planning for the future. Cancer mortality rates are determined by data from both PCR and death certificate.

**Goal 1: To make available an accurate and updated cancer data on annual basis.**

**Objective: By June 2008, all cancer patients living in Palau will be registered in the cancer registry data base at the cancer program section.**

**Baseline: 95% of cancer patient are registered**

**Timeline: June 30, 2008**

Strategy 1: Conduct review on laboratory manual log book and extract cancer cases that are not recorded in the cancer registry data base.

Strategy 2: Visit the two private clinics in Palau to identify cancer cases and extract ca

Strategy 3: Set schedule to visit laboratory and private clinic on a quarterly basis to ass

## **Implementation Plan**

To address the cancer issues in the Republic of Palau, the nation must first agree to a comprehensive plan that outlines specific intervention strategies. The plan encourages and strengthens partnerships between agencies, organizations and individual commitment to fight against cancer.

The Republic of Palau agreed that a comprehensive plan and approach outlining strategies and addressing cancer issues should be the first step in nationwide cancer control effort. The plan will serve to mobilize the partnership and agencies, organizations and individuals committed to fighting the disease of cancer. The workgroups were united in their efforts to find solution to the problems identified, developed strategies that were workable and prioritize their actions to reach a united goal.

A recurring area of focus regarding cancer prevention revolves around implementing behavioral change programs. All of the groups indicated that an increased awareness of behaviors that may increase one's risk of cancer would motivate individuals to modify their behavior. Improved data will provide critical information that can be disseminated to the general public and health care providers, and will help target efforts particularly in the areas of cancer prevention and screening.

Improved programs that motivate individuals to change behavior first steps will consist of

- Use of tobacco
- Alcohol
- Nutrition
- Physical Activity
- Infectious Disease particularly sexually transmitted disease.

### ***Education, Information & Communication***

The key elements of education, information and communication were recurring themes discussed by the workgroups. Each group identified gaps in these elements that needed to be filled, recognizing that a comprehensive effort was needed to provide current and accurate information to target both the general public and health care professionals. Education and information is needed through the continuum of care, from prevention through end of life issues and was desired by patients, care givers, and health care professionals from nurses to physicians.

### ***First Steps to Treatment Access***

Another major concern of treatment workgroups centered on improving access to treatment and regulations regarding payments and reimbursement for cancer treatment and services. Access to treatment is a major problem for people in Palau due to lack of availability.

### ***First Steps for Survivorship***

The survivorship workgroups discussed a number of issues including the need for a patient navigator system. The idea for this system stemmed from the lack of coordinated services to help patients newly diagnosed with cancer through the myriad of treatment courses, insurance issues, support groups, employment concerns and financial issues. Currently there are no established services that assist patients once they are

diagnosed with cancer. The first step is to organize support systems through the development of a multi-disciplinary team. The team will be used to medical, physical, social, mental and spiritual support to cancer patients.

### ***Policy and Legislation***

Legislative action in the Republic of Palau is critical for the success of National Cancer Strategic Plan for Palau to ensure that the burden of cancer is reduced. The Republic of Palau's leader must seek an appropriate insurance policy for the people of Palau that can cover early detection as well as treatment of cancer. An initiative taken by the Tobacco Program to strengthen education programs in the community and the legislation to increase taxes of tobacco by the congress has lead many people to quit using tobacco. Educating and informing Republic elected officials and policy makers is needed on a number of issues, including health insurance, coverage for medical advocacy services and coverage for expenses involving medical treatment.

### ***Pilot Communities***

Cancer prevention must be guided by a nationwide effort that is carried out on a community level. It will take individual lifestyle changes, and continued community support of initiatives and programs. The partnership workgroups were interested in implementing comprehensive and collaborative efforts at the community level. This effort would address the problem at the local level where change action is most productive and effective. The partnership will identify at least 5 communities to target with education and information efforts for general public and health professionals, surveillance and data gathering, and identification of resources and risk reduction factors.

## ***Expanding & Establishing Workgroups***

Palau cancer partnership currently consists of a number of organizations and individuals dedicated to the reduction of cancer incidence and mortality. The partnership will play key role as the implementation phase of the plan is initiated. The workgroups may be expanded, reorganized and/or refocused to help initiate, implement, monitor, assess and prioritize activities.

## ***Evaluation***

Evaluation of the Plan will help measure the implementation process and progress toward reaching the outlined goals. It is anticipated that several tools will be utilized including evidence-based, process and outcome evaluation. The plan will be monitored against the plan objectives to ensure continuous improvement. Evaluation and monitoring will be incorporated into the data review process each year. Several of the strategies and actions pointed to the need to assess the current infrastructure, especially in the areas of data collection and gaps, professional training, education, and public information. The current approach allows for plan implementation feedback, and the identification of emerging challenges in relieving the burden of Cancer for the people of Palau.

## ***Cross-cutting issues***

A number of cross-cutting issues exist which must be addressed in order for the prevention and control of cancer to receive the attention it needs in Palau. The issues are often complex with interlocking concerns and unclear surrounding aspects. These include:

### ***Disparity***

A burden of cancer exists in Palau because of factors such as age, sex, socio-economic, geography and other factors. These barriers mean that individuals are not getting screened early enough. A person diagnosed with cancer is unable to access treatment due to inability to pay for medical treatments, as well as transportation to off-island treatment sites. Patients also must overcome treatment and recovery issues that may be life altering.

### ***Socioeconomic/Financial***

The burden of cancer care affects the staggering economy in Palau. Only a small number of Palauans are insured. Patients are often

diagnosed with cancer but unable to access treatment because of funding and lack of medical insurance accessibility.

### **Call to Action**

The Cancer Program at the Ministry of Health and OMUB (Cancer Coalition) are working together to strengthen programs and activities for Cancer Prevention. The identification of current resources to fight cancer will help determine if they are allocated correctly. These resources need to be identified and the best sources of revenue must be sought out. Funding sources beyond government dollars needs to be acknowledged.

### ***Data***

The ability to measure cancer incidence, morbidity and mortality is critical to determining the impact of cancer in Palau. This includes being able to measure the effectiveness of intervention methods and the access to care. Palau Cancer Registry provides an important tool to collect and analyze cancer cases in the state and will serve as a vehicle for successful comprehensive cancer prevention and control. The PCR has identified objectives toward this pursuit including: continued data management and surveillance, hospital, physician, laboratory and radiation reporting and emphasis toward case completeness, data quality and information dissemination.

### **Call to Action**

The addition and modification of questions related to comprehensive cancer control will start with a community survey in order to begin gathering and analyzing the required data. This data collection will help determine the scope, nature and extent of the cancer problem in Palau. The partnership will also look at other data collection opportunities, particularly in accordance with the strategies and support needed to follow up with patients for the collection of additional information.

### ***Public Education/Information***

Increasing the knowledge of the general public and coordinating education and information dissemination is critical to the prevention and screening efforts to detect cancer. Those individuals affected by cancer need direct, accurate, and current information readily accessible through the Internet. A wealth of information on cancer currently is available on cancer in written and electronic form. However, coordination of this information in comprehensive format is critical to avoid duplication of efforts and ensure that those seeking information will be able to obtain it quickly and reliably. A comprehensive media campaign, using

coordinated messages, would benefit the national effort by raising awareness of the general public through marketing and media efforts.

### **Call to Action**

The development and promotion of a common theme to raise awareness about cancer and the options available to cancer patients in needed. Quality cancer care in Palau "Close to Home" will provide the basis for a public information education and medical advocacy program.

### ***Professional Education***

Health Care Professionals need additional education and training to adequately manage cancer and its risks. A systematic approach to disseminating newly identified cancer strategies to Palau's doctors, nurses, dentists and other allied health care professionals is needed. Providers are often unaware of the prevention methods and screening guidelines for the diseases and clinical treatment trials available for their clients. Other improvements in communication methods for professionals also are needed in Palau.

### **Call to Action**

Programs at medical and nursing school should cover the whole spectrum of the cancer continuum including end of life needs. Training for health professionals in cultural competencies, including disparities in education and literacy levels of patients is needed. Primary care physicians should be engaged in the spectrum of cancer prevention and the continuity of care.

### ***Resources***

The risk, occurrence, suffering and death from cancer must be minimized by making sound societal decisions and utilizing resources to deal with this important public health issue. Existing resources must be used wisely and additional sources of revenue, opportunity and collaboration must be explored.

### **Call to Action**

The partnership will support each other and their respective organizations in the implementation of the cancer plan, consistent with the outlined goals and objectives. A clear commitment is needed along with the identification of resources including grants, additional funding and in-kind services.

## The Phase I Plan

The National Cancer Strategic Plan for Palau is scheduled to be published in July 15, 2007. The partnership was formulated by the request of the Director of Public Health to develop a Comprehensive Cancer Control Strategic Plan for Palau. The 29 member partnership, with representatives from various organizations and agencies, identified five key strategies to accomplish its mission:

- Identify and implement priorities and strategies to evaluate outcome
- Enhance access to quality treatment and support services
- Reduce disparities in cancer screening and management
- Foster collaboration for primary, secondary and tertiary/palliative care thereby reducing duplication of services and optimizing resources
- Identify gaps in services and optimizing resources

The planning process began in July 2004 with a 15 member coalition, with partnership defining its tasks and procedures including priority cancer areas and cross-cutting issues to focus on. On March of 2005, this membership increased to 29. Work groups were formed around four areas of comprehensive cancer care including prevention, screening, treatment and palliative/end of life. The groups were presented with the epidemiological characteristics of cancer.

## Partnerships



Omellemei ma Ulekerreuil a Bedenged (OMUB) which is a Palau Cancer Coalition, a cancer Partnership consist of a number of organizations, agencies, and individuals interested and dedicated to reducing the incidence of cancer. Individuals from different agencies and

organizations serve on the Palau Cancer Coalition.

Joe Aitaro	-	Private Citizen
Gov. Lazarus Kodep/ Aholiba Albert	-	Governor's Association
Cathy Francisco	-	Private Citizen
Obodei S. Iyar	-	Cancer Survivor
Debbie Rengiil	-	Private Sector Representative
Debbie Nagata	-	Ministry of Education
Del. Toribiong, Joel/Russ Williams	-	House of Delegates (Palau Congress)
Inez Remengesau	-	Women's Interest Representative
Adelina Blailles	-	Cancer Survivor
Benhart Wong	-	Protestant Religious Group Rep.
Henaro Antonio	-	Catholic Religious Group Rep.
Mitsko Ngirchomlei	-	Survivor
Eduardo Aguas	-	Philippino Association of Palau
Senator Otto, Caleb	-	Senate (Palau Congress)
Arlyn Ignacio	-	Friends for Life
Yumie Morishita	-	Tobacco Program
Patrick Moses	-	Media, T8AA Radio Station
Kazuki Topps Sungino	-	Palau National Olympic Committee
Dison B. Sbal,	-	Rubekuul Belau (Council of Chief)
Noe Yalap	-	Business and Education Alliance
Rosania Victor	-	Hatobei State
Patrick Nestor	-	Sonsorol State
John Mengidab	-	Media
Josepha Tiobech	-	Public Health Nurse
Ingeang Rimirch	-	Geriatric Health
Merlyn Basilius	-	School Nurse
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Rudimch Kuroda	-	Media, KR Radio Station

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