U.S.-Affiliated Pacific Island (USAPI) Jurisdictions

American Samoa – CNMI – Guam – FSM – RMI - Palau

PACIFIC REGIONAL COMPREHENSIVE CANCER CONTROL STRATEGIC PLAN 2017 – 2022

(updated January 2021)

FORWARD MESSAGE

Talofa, Hafa Adai, Tirow, Iakwe, Alii, Ran Annim, Len Wo, Kaselehlia, Mogethin, Hello!

On behalf of the Cancer Council of the Pacific Islands (CCPI) and the Pacific Comprehensive Cancer Control Coalition, we are pleased to present the updated Pacific Regional Comprehensive Cancer Control (RCCC) Plan for 2017-2022. This document is a work in progress, as the CCPI will continually refine strategic priorities and activities based on changing resources and health system infrastructures in each of the six USAPI.

Cancer places a particularly heavy burden on our individual small countries and states; chronic disease places an even bigger burden, such that the Pacific Islands Health Officer Association (PIHOA) declared a Regional State of Emergency due to Non-Communicable Diseases (NCD) on May 25, 2010. Our populations and absolute numbers of cancer are relatively small compared to the United States, but because of the many challenges that exist in our jurisdictions' economic and health care infrastructure, the burden is high. Given the high rates of obesity in children and adults and tobacco use among youth, we anticipate that the NCD and cancer burden will increase drastically while our health systems remain inadequately prepared to address this NCD burden.

Awareness and advocacy about cancer-related issues were brought to U.S. Affiliated Pacific Island (USAPI) Regional and U.S. National attention starting in the mid-1990s. After several years of advocacy by dedicated physicians and public health leaders in the USAPI and Hawaii, the Pacific Cancer Initiative was started in 2002. With funding from the NCI National Center to Reduce Cancer Health Disparities and the NIH National Center on Minority Health and Health Disparities, assistance from Papa Ola Lokahi and 'Imi Hale (who held an NCI Special Populations Network grant) and under the leadership of Dr. Neal Palafox, an indigenous advisory council was formed, The Cancer Council of the Pacific Islands (CCPI). Together with the University of Hawaii Department of Family Medicine and Community Health, also under the direction of Dr. Neal Palafox, Cancer Needs Assessments were performed in 2002. From there, preliminary regional and jurisdiction-specific priorities were formed. In 2004, the University of Hawaii, designated as the bonafide agent for 5 of 6 USAPI, received a National Comprehensive Cancer Control Planning grant; Palau received its own NCCCP grant. In 2005, a feasibility study for a regional cancer registry was conducted. In 2007, the CCPI developed the first RCCC plan, designed as an adjunct to each jurisdictions' NCCCP implementation funding. As part of the RCCC plan, in 2011, a region-wide assessment on cervical cancer prevention (immunization, screening) was conducted to evaluate and improve cervical cancer control efforts throughout the region.

The original Pacific Regional CCC Plan was developed in conjunction with the individual CCC plans for the three Flag Territories, and the three Freely Associated States (FAS). The Flag Territories are American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI). The Freely Associated States include the Republic of the Marshall Islands (RMI), and the Republic of Belau (also known as Palau) and the Federated States of Micronesia (FSM), which consists of Yap, Pohnpei, Kosrae, and Chuuk States. Each of these jurisdictions has developed its own CCC plan – 9 in total – to address their specific needs. With the increase NCD burden and emphasis on collaboration with other NCD programs, the 2012-2017 RCCC Plan was updated and developed with several regional NCD partners and initiatives (tobacco, diabetes, regional surveillance, quality assurance) and includes collaborative objectives and strategies in several goal areas. The 2017–2022 RCCC plan narrows the focus back to four main areas Prevention, Screening, and Early Detection, Treatment and Quality of Life, as well as continues to focus on local capacity building, which is critical for successful and sustained efforts in CCC.

The Pacific Regional Cancer plan speaks to maintaining a U.S.-Affiliated 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 in improving public health infrastructure and policies within the USAPI. The Regional efforts support jurisdiction efforts by leveraging resources, conducting assessments and training, providing technical assistance and some degree of uniformity in addressing cross-cutting issues that impact the resource-limited USAPI countries and jurisdictions.

The 2017-2022 Plan works collaboratively to support coordinated local efforts in health promotion messaging, education, support of evidence-based policies in cancer prevention, cancer screening, palliation and patient navigation programs for the U.S. Affiliated Pacific, and develop regional policies regarding utilization of cancer data, provide regional technical support for all parts of the comprehensive cancer plan, and expands regional Cancer advocacy at the U.S. National level. Coordinated assessments will also be conducted over the next five years to determine the capacity and feasibility of increasing in-region capacity to prevent, screen and treat common cancers. While not explicitly stated in the plan, the

Regional cancer programs and partners continue to work with PIHOA and the Regional lab to improve the capacity for in-region chronic disease testing and diagnostic capacity. In addition to the jurisdiction-specific and Regional CCC projects, there is a CDC National Program of Cancer Registries (NPCR)-funded Pacific Regional Central Cancer Registry (PRCCR), which has established a cancer registry in each jurisdiction and the region. Over time, as health information systems and data quality improve, the Registry data will allow for a more robust analysis of cancer risk factors (in cancer patients), comorbidities, long-term efficacy of screening and immunization programs (Hepatitis B and Human Papillomavirus), mortality and survivorship data. The PRCCR is linked with CDC-funded Breast and Cervical Cancer Early Detection Programs in Guam, CNMI, American Samoa, Palau and, recently, RMI, and with cervical cancer screening programs in the FSM. Cancer registrars in each jurisdiction are integral parts of their CCC programs and, under the current CDC FOA DP17-1701 will be part of the CCC Leadership Team in each jurisdiction. The University of Hawaii, as the Administrative Lead/prime grantee for NPCR, will continue to play a critical role in helping to ensure the cancer surveillance data is used appropriately for public health / CCC / BCCEDP program planning and evaluation, identification of high priority services and identification of health disparities and populations that are higher risk for late-stage cancers. PRCCR will continue to participate with PIHOA and other partners to improve data quality and mortality reporting. The regional CCC program and PRCCR will also work with colleagues at the University of Hawaii (Pacific Basin Telehealth Resource Center and Pacific Health Informatics and Data Center) to help implement telehealth relevant to cancer control priorities.

A Regional approach to Comprehensive Cancer Control has borne some successes in cancer registration, palliative care curriculum, cervical cancer screening, community-CCC program partnerships and assessing the impact of community-driven projects and programs on controlling cancer along the continuum. In September 2013, an expert panel on cervical cancer screening in the U.S. Territories and Pacific Island Jurisdictions was convened to more closely examine capacity, barriers and challenges to achieving high levels of cervical cancer screening in the USAPI. The Expert Panel findings informed an ACOG Committee opinion that recommended that non-cytology options for cervical cancer be explored, as those might be more appropriate for resource-limited settings like most of the USAPI. However, many barriers and challenges remain. We are thankful to the Centers for Disease Control and Prevention for supporting our effort and also thankful to the many other U.S. CCC National Partners, U.S. HHS agencies (HHS, HRSA, NCI) and University of Hawaii and other Hawaii-based partners who have contributed resources and talent to the overall Pacific Cancer Initiative and Pacific Cancer Coalition. International partners (Secretariat of the Pacific Communities, World Health Organization, Pacific Monitoring Alliance for NCD Action, Union for International Cancer Control, International Cancer Control Partnership) continue to be invaluable in assisting all of USAPI in addressing the NCD issue in a more coordinated fashion. The largest credit goes to the people of each USAPI jurisdiction who have come together over the past seventeen years, struggled and worked hard to create community-driven CCC plans that incorporate each location's community strengths, structure, and culture. Through this CCC process, there is renewed interest in communication and collaboration among the many sectors and partners that can impact individual and population health. Through this CCC process, momentum is gaining, support is broadening and we have developed plans that serve to guide present and future leadership for our jurisdictions and the Region.

We thank you for your interest in the U.S. Affiliated Pacific Island jurisdictions and welcome your support and collaboration in helping us on our journey toward "A Cancer-Free Pacific".

Ms. Martina Reichhardt
Yap State, Federated States of Micronesia
President
Cancer Council of the Pacific Islands

Dr. John Kay Taitano, MD, MSS, FACP
Guam
Vice-President
Cancer Council of the Pacific Islands

Mr. Lawrence O. Alam
Guam
Secretary
Cancer Council of the Pacific Islands

Cancer Council of the Pacific Islands Strategic Plan 2017–2022

Vision: A cancer-free pacific

The U.S.-Affiliated Pacific Islands (USAPI) consists of three Flag Territories, and three Freely Associated States (FAS). The Flag Territories are American Samoa, Guam and the Commonwealth of the Northern Mariana Islands (CNMI). The Freely Associated States include the Federated States of Micronesia (FSM), which consists of Yap, Pohnpei, Kosrae, Chuuk; the Republic of the Marshall Islands (RMI), and the Republic of Belau (also known as Palau) (ROB). The population of the USAPI is approximately 445,000 people, with 176,000 of the inhabitants living in the FAS. The expanse of the USAPI is twice the size of the continental United States and crosses 5 time zones and the International Date Line.

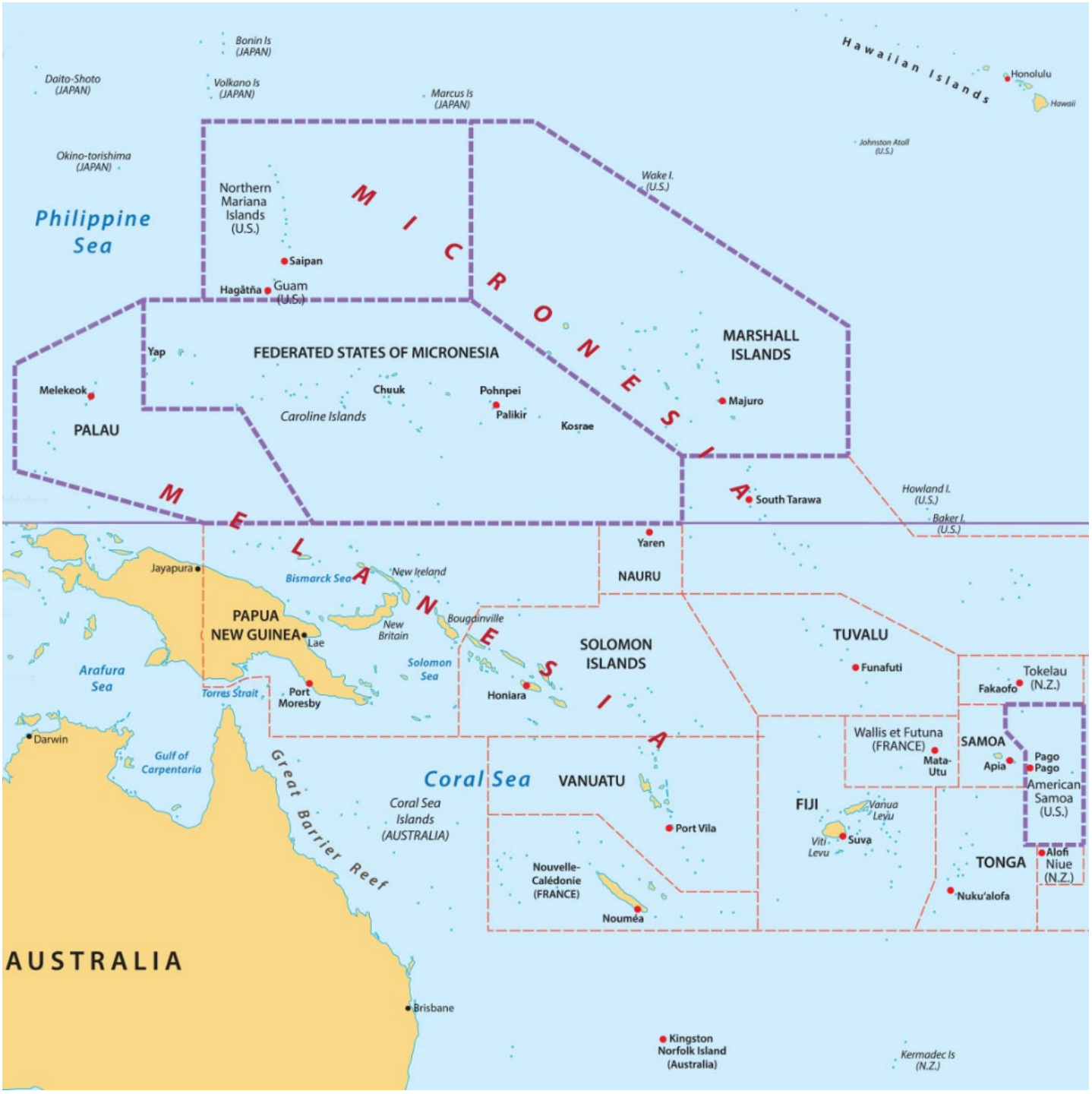

Figure 1 - Map of U.S. Affiliated Pacific Islands

American Samoa has been a territory of the United States since 1900 and Guam was annexed as possession of the United States in 1898. In 1947, under a United Nations Mandate, the United States took responsibility for the health education and welfare of the U.S. Trust Territories of the Pacific Islands (TTPI), which included what are now the FAS and the CNMI. The FAS countries are full members of the United Nations and are sovereign except for military matters. They share a treaty with the U.S. Government under separate Compacts of Free Association that qualify them to participate in specified Federal programs, including U.S. Health and Education programs.

As former colonies of the United States, the USAPI have become heavily dependent on U.S. assistance. The current political relationship of the USAPI to the U.S. Government defines the level of political, economic, and grant support from the U.S. The citizens of the Flag Territories are classified as U.S. citizens, however, they cannot vote in U.S. presidential elections. FAS citizens are classified as non-immigrants, cannot vote in U.S. elections, but can freely immigrate to the U.S. to work without a VISA. Guam and American Samoa have non-voting representatives to the U.S. Congress. The CNMI has a representative in Washington DC who is not a Congressional member. The FAS has no representatives in Washington. The citizens of the Flag Territories qualify for Medicare, Medicaid benefits, and all U.S. Federal Grants. The citizens of the FAS do not qualify for Medicare or Medicaid, and can access those U.S. Federal Grants where legislation about that grant defines their eligibility.

Each of the USAPI has unique cultures, histories and languages. The economic, health and political development of each jurisdiction of the USAPI is related but not similar. There are significant health disparities between the U.S. and the Flag territories and appalling health and education disparities between the U.S. and the FAS. The HRSA funded Institute of Medicine (IOM) report in 1998 entitled "Pacific Partnerships for Health", explained that the life expectancies among FAS countries are 9-12 years less than the U.S., and that infant mortality rates are 4-6 times that of the U.S. UNICEF has designated 5 countries in the Pacific which need special attention because of malnutrition[1] -- two of these countries are in the FAS. Tuberculosis and Hansen's disease are endemic in parts of the FSM and the RMI.

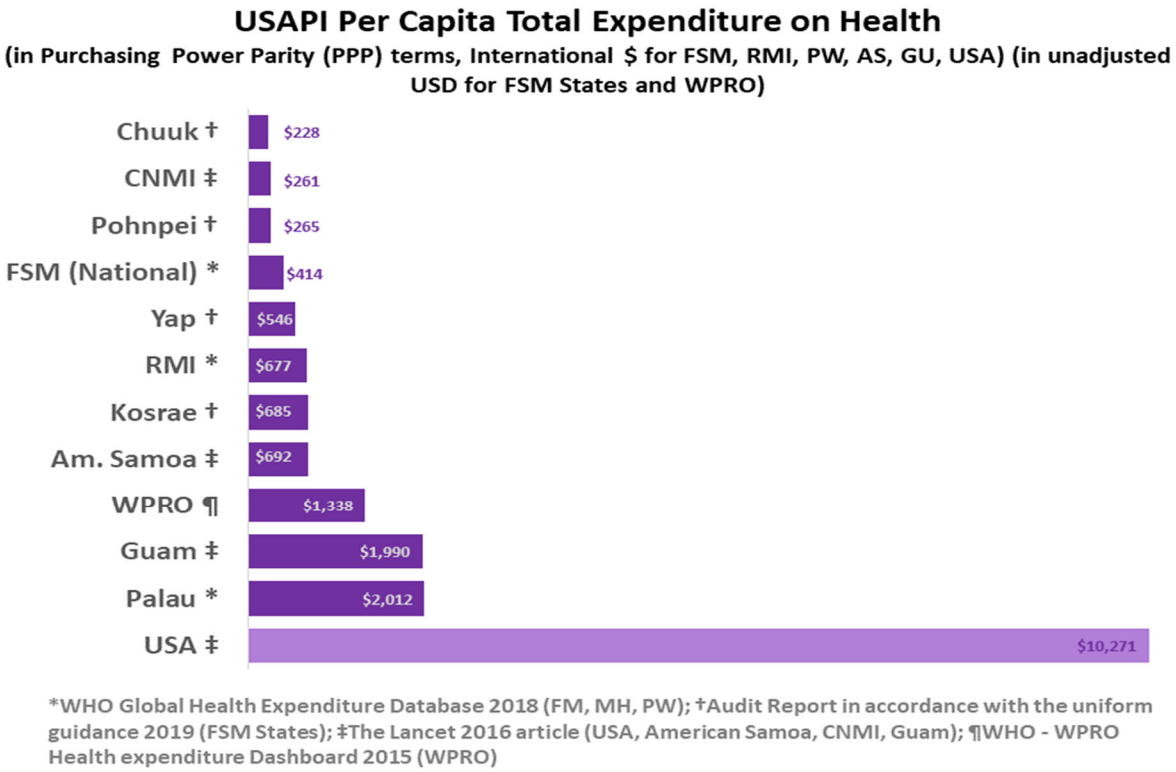

Figure 2 - USAPI Per Capita Total Expenditure on Health

1 Palafox NA. Chief Editor. Marshall Islands Position Paper on Nutrition Related Illness in the Republic of the Marshall Islands for the 1992 FAO/WHO Sponsored International Nutrition Conference in Rome.

The ability of each jurisdiction to respond to meet the health needs of the region is dependent on the health infrastructure, financial resources, and the quanta and level of training of the health workforce. The health care budgets expressed as a per capita expenditure of the jurisdiction is far below that of the U.S., ranging from $228 to $2,012[2] in comparison with $10,271 spent in the U.S. in 2019. Expensive tertiary care is purchased from Hawaii, the Philippines, Taiwan, or other countries for advanced cases of cancer, heart, or kidney disease through medical referrals. Nearly 1/4 of the already inadequate health budgets are expended on tertiary care abroad. The 1998 IOM Report described the grossly inadequate health facilities in most of the USAPI. The amended U.S. Compact of Free Association funding is austere and does not significantly improve health care financing for the FSM and RMI, and in fact, will be reduced[3]. The health services in the FSM and RMI already feel the impact of the decremental Compact payments[4]. In September 2008, the U.S. Office of the Inspector General issued a report entitled "Insular Area Health Care: At the Crossroads of a Total Breakdown"[5], which further describes some of the challenges that are, unfortunately, still challenging most of the USAPI.

The reasons for the present health status and health infrastructure in the USAPI are protean. Factors influencing policy issues, political relationships, economy, environment, culture, health system, education and human resource development all play a role. Rapid Westernization has affected the human and environmental island ecology and the traditional and cultural practices which previously maintained good health status. The epidemiologic transition, the name given to the change of morbidity and mortality patterns from infectious disease to chronic illnesses as less industrialized nations adopt Western dietary and lifestyle patterns, has brought a double burden of infectious and chronic illnesses to the Western Pacific.

The NCD morbidity and mortality rates[6] in the USAPI are among the highest in the world. The prevalence of diabetes among 25 to 64-year-old adults was 33.6% in American Samoa, 18.7% in the CNMI, 50.6% in the Federated States of Micronesia, 27% in the Marshall Islands and 21.1% in Palau. The prevalence of hypertension was 39.8% in American Samoa, estimated 56% in the CNMI, 19.7% in the Federated States of Micronesia (Pohnpei), 21% in the Marshall Islands and 30.1% in Palau. The obesity rates (BMI≥30kg/m^2) were 80.2% in American Samoa, 29.2% in the CNMI, 44.1% in the Marshall Island, 35.9% in the Federated States of Micronesia and 37.7% in Palau. Risk factors for developing cancer and NCD are also quite high:

- Daily tobacco use: 21.5% in American Samoa, 25.2% in the CNMI, 30.8% in the Federated States of Micronesia, 22.5% smoke / 21.6% smokeless in the Marshall Islands and 20.4% smoke / 45.8% smokeless in Palau.

- Adults consuming less than the recommended five daily servings of fruit and vegetables: 91.5% in American Samoa, 75.4% in the CNMI, 81.8% in the FSM, 94.5% in the Marshall Islands and 90.1% in Palau.

- High prevalence of sedentary lifestyles: Adults reported not having participated in any physical activity or exercise in the past month are 24.5% for American Samoa, 33% in the CNMI, 29.5% in RMI and 52.6% of adults do not engage in vigorous Physical Activity in the FSM and 49.1% for Palau.

- Binge drinking (i.e., consumed five or more standard drinks per day for men, and consumed four or more standard drinks per drinking day for women): 11.6% of adults in American Samoa, 23% for the CNMI, 37.8% in the FSM, 26.2% of men and 4.5% of women in the Marshall Islands, 36.5% for men and 17.8% for women in Palau.

One of the key indicators of the immense impact of Western dietary and lifestyle patterns is the prevalence of lifestyle behavior related to cancers in the USAPI. Cancer mortality now ranks as the second or third most common cause of death

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[2] *WHO Global Health Expenditure Database 2018 (FM, MH, PW); †Audit Report in accordance with the uniform guidance 2019 (FSM States); ‡The Lancet 2016 article (USA, American Samoa, CNMI, Guam); ¶WHO - WPRO Health expenditure Dashboard 2015 (WPRO)

[3] Palafox N. Medical Analysis: Current Inadequacies and a Future Proposal to Adequately Address Medical Needs Resulting from the U.S. Nuclear Weapons Testing Program in the Republic of the Marshall Islands; Petition Presented to the Congress of the United States of America Regarding Changed Circumstances Arising From U.S. Nuclear Testing in the Marshall Islands; September 11, 2000.

[4] GAO-07-163 Compacts of Free Association: Micronesia and Marshall Islands Face Challenges in Planning for Sustainability, Measuring Progress and Ensuring Accountability. U.S. Government Accountability Office, December 2006.

[5] U.S. Department of the Interior, Office of the Inspector General. "Insular Area Healthcare: At the Crossroads of a Total Breakdown". Report No. HI-EV-OIA-0001-2008, September 2008. http://www.doioig.gov/images/stories/reports/pdf/HI-EV-OIA-0001-2008.pdf

[6] References as follows: American Samoa: Various. AMS Hybrid Survey Data Dissemination Workshop. In: American Samoa NCD Prevention & Control; 2019.
CNMI: Cruz R. D., Cash H. NON-COMMUNICABLE DISEASES & RISK FACTOR HYBRID SURVEILLANCE.Commonwealth Healthcare Corporation;2016.
FSM: Affairs FDoHaS. FSM Combined STEPS Survey. In: FSM Department of Health and Social Affairs; 2014.
Palau: Health PMo. Palau Hybrid Survey Final Report. 2017.
RMI: Ritz S., Cash H. Republic of the Marshall Islands Hybrid Survey Final Report. In:2018:50.

in nearly all USAPI jurisdictions. There are very high rates of thyroid cancers and nodules in the RMI[7-8] , many attributable to the U.S. Pacific Nuclear Weapons testing program in the 1950s. Lung and oral cancer rank highly in all countries. Potentially curable cancers such as cervical and breast cancers are often found in far advanced stages. The availability of supplies or money to ship and process pap smears varies tremendously; in the FSM, less than 16% of eligible women receive pap smears; in the outer atolls of the RMI, no screening services are available at all. There is no mammogram in one urban area of the RMI, Ebeye, as well as in the FSM. A working colposcope for diagnosis and early treatment of cervical cancer is non-existent in several areas of the FAS. The availability of fecal occult blood testing, colonoscopy or prostate-specific antigen varies. The FSM has no pathologist or radiologist and most countries do not have an oncologist. Some areas are able to perform limited maintenance chemotherapy when the patients return from the Philippines but lack the proper equipment and training in the pharmacy. Medications for palliation are often in short supply and health personnel require more training in this area. In 2005, no support groups, hospice, home health, or patient navigators existed in ANY jurisdiction. In 2019, most jurisdictions had at least one cancer survivor support group and budding support systems and personnel to help guide patients through the cancer journey. Traditional medicine and healing practices are used in most of the jurisdictions, but not well incorporated into the developing palliative care programs. Traditional leadership continues alongside modern democracy in the RMI and FSM. Religion and spirituality play important roles in the lives of people. Even if proper funds and facilities were made available for the region, the strength in the fight against cancer comes by acting as a community to provide education on prevention, early detection, and palliative care and to drive policy decisions and systems improvement.

[7] Palafox NA, Katz A., Johnson D., Minami J., Briand K. Site-specific Cancer incidence in the Republic of the Marshall Islands. Cancer 83:1821-4.
[8] Palafox, NA, Minami J. Cancer in the U.S. Associated Pacific countries: Cultural Considerations. Asian American and Pacific Islander Journal of Health Vol. 6 No. 2:401-404.

	American Samoa	CNMI	Guam	FSM	Palau	RMI
Political status with U.S.A.	Territory	Common-wealth	Territory	Freely Associated	Freely Associated	Freely Associated
Total Population	57,400	52,300	168,322	102,116	17,661	53,952
Land surface area (sq. km)	199	477	541	702	458	181
Coastline (sq. km)	116	1,482	125	6,112	1,519	376
Public transportation	Yes	Yes	Yes	None	None	None
4-year University or College	-	-	X	-	-	-
2-year College	X	X	X	X	X	X
Hospitals	1	1	2 (1 private GRMC)	5 (1 private in PNI)	1	1
Health expenditures per capita	$500	$723	$1,032	$447	$1,310	$851
Age Structure	0-14 years: 35% (male 10,438/female 9,644) 15-24 years: 18.3% (male 5,334/female 5,198) 25-54 years: 36.2% (male 10,379/female 10,405) 55-64 years: 6.4% (male 1,827/female 1,831) 65 years and over: 4.1% (male 1,134/female 1,210)	0-14 years: 26.7% (male 7,192/female 6,746) 15-24 years: 12.8% (male 3,419/female 3,297) 25-54 years: 49.9% (male 13,279/female 12,810) 55-64 years: 7.7% (male 2,251/female 1,783) 65 years and over: 2.9% (male 811/female 709)	0 - 14 years: 24% (male 20,577/female 19,441)15 - 24 years: 16% (male 14,356/female 13,332)25 - 54 years: 39% (male 33,021/female 32,069)55 - 64 years: 11% (male 9,007/female 8,695)65 years and over: 11% (male 8,115/female 9,709)	0-14 years: 35.7% (male 18,696/female 17,772) 15-24 years: 20.6% (male 10,983/female 10,082) 25-54 years: 34.6% (male 17,695/female 17,636) 55-64 years: 5.7% (male 3,017/female 2,834) 65 years and over: 3.3% (male 1,409/female 1,990)	0-14 years: 21% (male 1,903/female 1,725) 15-24 years: 14% (male 1,311/female 1,085) 25-54 years: 47% (male 4,655/female 3,722) 55-64 years: 11% (male 1,037/female 940) 65 yrs and over: 7% (male 527/female 756)	0-14 years: 39.9% (male 11,186/female 10,367) 15-24 years: 18.5% (male 5,112/female 4,864) 25-54 years: 34.6% (male 9,382/female 9,287) 55-64 years: 4.9% (male 1,419/female 1,250) 65 years and over: 2% (male 540/female 545)
Birth Rate	19.6 births/1,000 population (2017 Est)	15 births/1,000 population (2017 Est)	19.3 births/1,000 population (2018 Est)	2.5 births/1,000 population	5.7 births/1,000 population	1.4 births/1,000 population
Death Rate	5.9 deaths/1,000 population (2017 Est.)	4.8 deaths/1,000 population (2017 Est)	6.4 deaths/1,000 population (2018 Est)	0.6 deaths/1,000 population	deaths/1,000 population	0.3 deaths/1,000 population
Life Expectancy	total population: 76 years	total population: 77 years	total population: 79.7 years	total population: 70 years	total population: 73 years	total population: 70 years

Continued below…

	American Samoa	CNMI	Guam	FSM	Palau	RMI
SCREENING AND EARLY DETECTION						
CDC Breast and Cervical Cancer Early Detection Program	X	X	X		X	X
Mammography	X	X	X		X	X (Majuro)
What specialty performs the breast biopsies in your Jurisdiction? (surgery, OB)	-	-	-	-	Surgery	Surgery
Pap Smears	X	X	X	X	X	X
How long does it take for the pap smears to return to the clinician and/or program staff?	-	-	- -	-	1 month	Up to 4 weeks since the COVID-19 pandemic
Cervical cancer screening using VIA		-	-	X		X
Prostate cancer screening (PSA)	X	X	X	X (PNI,YAP)	X	Available on physician's orders
Do you have transrectal ultrasound?	-	-	-	(Yap has equipment, but no personnel to perform the screening)	-	Not sure
Do you have CT on-island?	X	X	X		X	Non-operational
Colorectal cancer screening (FOBT)	X	X	X	X (KSA,PNI,YAP)	X	X (FOBT/FIT)
Colonoscopy	X	X	X	X	X	X (Ebeye/Majuro)
CANCER DIAGNOSIS AND TREATMENT						
Pathologist	X	X	X		-	-
Is fine needle aspiration is available on island? *Yes / NO if Yes – please include who/what specialty does it.*	-	-	- -	-	Yes available – performed by surgeon	Yes
On-island histopathology	X some	X	X		-	-
On-island cytopathology (Paps or fine needle aspiration analysis)	-	-	-	PNI lab telepath		no
How long does it take for biopsies to return from off-island?	-	-	- -	-	1 month	Up to 4 weeks now with COVID -19
General Radiologist ON-island	X	X	X		-	X (Majuro)
Tele-radiology *(specify where & what hospital or facility)*	-	-	-	(Yap – has capability but no personnel to do it)	Yes – Asian Hospitals, Philippines	Yes (Majuro reads both Majuro and Ebeye) electronically
How long does it take to get the radiology readings back to the clinicians *(specify for both on-island and teleradiology)*	-	-	-	-	2 weeks	Highly dependent on patient loads
Do you have MRI on island?		-	X		-	-
Do you have PET scan on island?		-	X		-	-
Bronchoscopy (Lung Mass/Cancer) (i.e., pulmonologist or general surgeon who does bronchoscopy)?	-	-	-	-	-	-

General surgeon	X	X	X	X	X	X
Do you have a urologist?		-	X		-	-
OB-Gyn	X	X	X	X	X	X
Surgical subspecialists	X	X	X		-	X - ENT
Oncologist		X	X		-	-
	American Samoa	**CNMI**	**Guam**	**FSM**	**Palau**	**RMI**
On-island chemotherapy	X	X (maintenance)	X	X (maintenance, rare)		-
On-island radiation therapy		-	X		-	-
Off-island referral to Philippines for diagnosis / treatment	-	X	X	X	X	X
Off-island referral to Hawaii for diagnosis / treatment	X	X	X	X (not for Yap)	X	X
Off-island referral to New Zealand or Taiwan for diagnosis / treatment	X		-	-	Taiwan	Taiwan

Table 1 - Selected indicators, programs and services impacting Comprehensive Cancer Control

Individual jurisdictions cannot address their cancer burden alone. Because of the size of the population, limited health workforce, relatively small numbers of cancer cases and the economics of the region, this regional CCC plan has been developed and refined.

HISTORY OF CANCER CONTROL INITIATIVES IN THE U.S. AFFILIATED PACIFIC ISLANDS

Since the mid-1990s, physicians from the Pacific Basin Medical Association (PBMA) began raising concern for the increasing numbers of patients dying from cancer. At the same time, the Pacific Islands Health Officers Association (PIHOA) was developing a strategic plan which included a focus on chronic diseases. PIHOA is the regional health policy body for the USAPI, an organization comprised of the chief executive health official in each of the six USAPI, the Directors of Health of the FSM States, the CEOs of Guam Memorial Hospital and LBJ Tropical Medical Center in American Samoa. In 1999, the President's Cancer Council was presented with testimony on the cancer health disparities in the USAPI. Dr. Freeman, the Chair of the Council, encouraged the development of databases to strengthen the case for true cancer disparities. In February 2001, both PBMA and PIHOA made cancer a priority and these issues were discussed in many venues at the U.S. Federal level. In 2002, the NCI Center to Reduce Cancer Health Disparities, under the direction of Dr. Harold Freeman, and the NIH National Center on Minority Health Disparities, provided financial resources in response to Pacific advocates' requests. Funding was channeled through Papa Ola Lōkahi, a Native Hawaiian Health Organization with a long track record of providing advocacy and technical assistance to the Pacific. Dr. Neal Palafox, of the University of Hawaii Department of Family Medicine and Community Health, served as the Principal Investigator for this project (2002-2008). These combined NCI and NIH resources were used to form the Pacific Cancer Initiative[9]. The goal of the Pacific Cancer Initiative was to address the cancer health needs in the USAPI by:

(a) Creating a regional cancer leadership team of Pacific Islanders;

(b) Assessing and articulating the cancer health needs of the USAPI; and

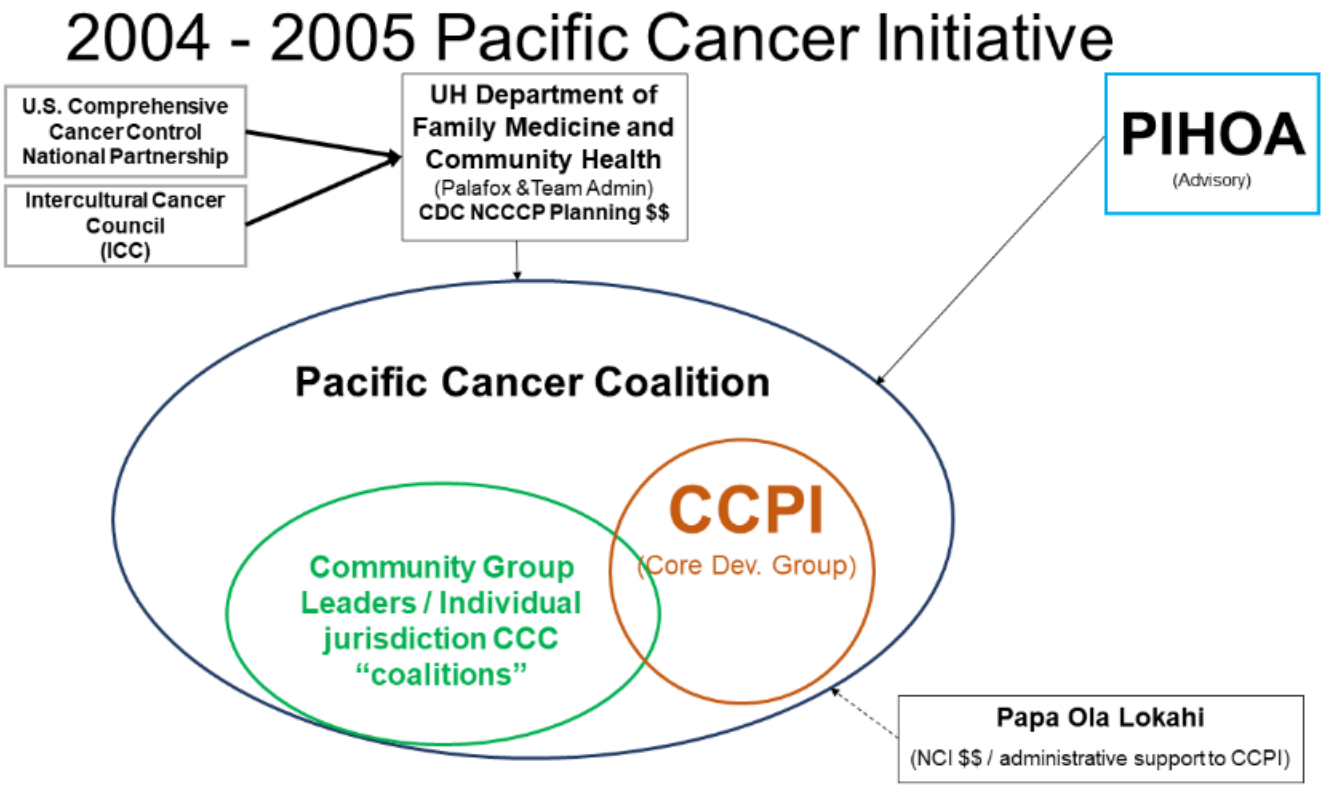
(c) Developing sustainable strategies to address the cancer burden in the USAPI.

Family Medicine residents and faculty physicians from the University of Hawaii Department of Family Medicine and Community Health and Dr. Henry Ichiho performed the Cancer Needs Assessments in 2002-03. 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. The assessments were coordinated, reviewed and analyzed by the CCPI, presented for approval and verification of accuracy to the respective USAPI health departments and published in a special issue of the *Pacific Health Dialog* on Cancer in the Pacific[10]. From there, preliminary regional and jurisdiction-specific priorities were formed. Health promotion projects were developed as first steps, utilizing the NCI and NIH funding. In 2004, the University of Hawaii, designated as the bonafide agent for 5 of 6 USAPI, received a National Comprehensive Cancer Control Planning grant; Palau received its own NCCCP grant.

[9] Palafox NA, Tsark JU. Cancer in the U.S. Associated Pacific Islands: History and Participatory Development. Pacific Hlth Dialog September 22004; 11(2): 1-10.
[10] Tsark JU, Braun KL, Palafox NA, Finau SA, eds. Cancer in the Pacific. Pacific Hlth Dialog September 2004; 11(2): 17-77.

EVOLUTION OF THE REGIONAL COMPREHENSIVE CANCER CONTROL PLAN

Figure 3 - Pacific Cancer Initiative 2004 - 2005



The regional planning has been led by the Cancer Council of the Pacific Islands (CCPI), the first group of its kind dedicated to developing regional collaboration, appropriate strategies and recommending minimum regional standards for cancer control. The CCPI development was funded under the Pacific Cancer Initiative in 2002. The CCPI Directors were designated by their respective Minister, Secretary or Director of Health. The CCPI is comprised of two representatives from health services for each jurisdiction (including the individual FSM States and representatives from Ebeye in the RMI). Most of the CCPI members are physicians or nurse leaders with a few health administrators. Jurisdiction and regional priorities were initially set as a result of the 2002-03 Cancer Assessments, but the priorities were largely focused on the medical model. With the advent of NCCCP funding to the University of Hawaii in June 2004, formal community-based coalition development started.

Each individual jurisdiction (American Samoa, Guam, CNMI, RMI, Palau, FSM National, Kosrae State, Pohnpei State, Chuuk State and Yap State) has developed a comprehensive cancer control plan to address their unique situation. CDC NCCCP funding has provided full- or partial salary support for a Comprehensive Cancer Control coordinator, as well as meeting logistics and travel for jurisdiction community meetings, as well as travel for the Coordinators to attend CDC Cancer-related meetings and other training. With the help of the CDC and the U.S. National Cancer Partnership, a Pacific-tailored and focused Comprehensive Cancer Control Leadership Institute was held in Honolulu in March 2005, which initiated much of the CCC activities. Additional technical assistance in CCC planning, writing of the plans and implementation grants have been provided by the University of Hawaii Pacific Regional Comprehensive Cancer Control Program staff and others. Coalition-building has been challenging in many locations not only because it is a very Western model with some conflicts with cultural expectations, but also because of the usual "vertical" and non-integrated nature of Federal programs, which have been the sustaining force for many of the public health programs in the USAPI. Despite the diverse needs and infrastructure for each of the USAPI, there remain issues and goals common to the region that makes the most sense to address in a coordinated fashion and in close conjunction with policymakers and partners with the region. For this reason, the Pacific Cancer Coalition developed the USAPI Regional Comprehensive Cancer Control Plan. The Pacific Cancer Coalition is comprised of all ten jurisdiction coalitions.

The original Regional plan was developed over three years, with the CCPI taking the leadership and proposing goals and objectives based on the regional priorities set in August 2003. November 2005 marked the first Regional CCC meeting in Pohnpei, with 2-4 participants from each jurisdiction, including the CCC Coordinator, a Coalition member and at least 1

CCPI representative. At that time, priorities were discussed. Also discussed were the results of an assessment to determine the capacity for a regional central cancer registry in the USAPI[11]. Regional goals agreed upon at the November 2005 meeting focused on sustaining a regional infrastructure for cancer control efforts, developing regional laboratory services, regional referral centers for basic cancer care and a regional cancer registry. At the July 2006 CCPI meeting, possible short- and long-term objectives and strategies were discussed and further refined. The proposed objectives were discussed with the PIHOA Board in August 2006 and some specific strategies were proposed by PIHOA to be done in close collaboration with PIHOA priorities. In November 2006, the Pacific Cancer Coalition reviewed and refined a detailed 5-year work plan, agreed on the management, implementation and evaluation plans and agreed on a set of the minimum recommended Regional indicators for cancer prevention, screening, and data quality. As part of the annual Plan review process and to better align with PIHOA's timeframe and plans for certain initiatives in health workforce development, the CCPI continued to refine the plan in 2008-2010.

The 2012-2017 Regional CCC plan was more explicitly collaborative with other regional NCD programs in all goal areas and augmented the jurisdictions' long-term capacity for surveillance, treatment, survivorship, and evaluation. The CCPI and CCC coordinators began the process of plan update in 2010 by utilizing workgroups and going through a facilitated, iterative process to determine priority barriers and needs and proposed solutions. In 2011, the CCPI invited leaders and representatives from other Pacific regional coalitions and programs to assist in the revision of the CCC Plan. These leaders included the Pacific Partnership for Tobacco-Free Islands (PPTFI), Pacific Chronic Disease Council (PCDC), Pacific Basin Medical Association, Pacific Islands Primary Care Association (PIPCA), as well as members of the PIHOA Health Information System SWAT team working to address health information systems and data challenges in the USAPI.

As regional and local groups changed structures to address the NCD Epidemic, including cancer, the Cancer Council of the Pacific Islands felt the next version of the plan should return to the primary focus on cancer. The expectation for collaboration was made explicit by the Centers for Disease Control in their 2017-2022 Cooperative Agreement for all Cancer Programs. Also, as the USAPI jurisdictions were entering their 10th year of comprehensive cancer control implementation, most jurisdictions developed structures that promote collaboration across all relevant NCD programs. Additionally, gains in telecommunications and internet infrastructure allow for more telehealth strategies to be utilized for education, case management and, eventually, for actual service delivery. The updated Strategies for most of the Project Period Objectives (PPO) reflect telehealth as the main method of implementation. The CCPI continues to work closely with PIHOA, PIPCA, PCDC and PPTFI to ensure some level of coordination. New partners in implementation include the Pacific Basin Telehealth Resource Center and the US INDO-Pacific Command (INDO-PACOM) and others within the University of Hawaii system who are committed to help improve the healthcare capacity in the USAPI jurisdictions and region.

CANCER BURDEN IN THE U.S. ASSOCIATED PACIFIC ISLAND NATIONS

Historically, the USAPI has been challenged with developing relevant and accurate health information systems since before the Trust Territories management in the 1960s. The technology, resources, and complexity have been difficult to maintain[12], especially when superimposed on inadequately trained health workers. There were no cancer registries in the USAPI until 1997, whereas several South Pacific non-U.S. associated Pacific nations had functional cancer registries since the 1970s. The 1998 Institute of Medicine Report, a 1998-99 RMI Nuclear Claims Tribunal-funded study attempting to determine the epidemiology of cancer in Micronesia[13], and the 2002-03 Pacific Cancer Initiative needs assessments all confirmed major challenges with policy, reporting structures and no cancer surveillance system in place in the USAPI. Additionally, limitations in tissue-diagnosis of cancer (in the FSM especially) hamper accurate recording in the medical record and on the death certificates. The numbers of cases and deaths noted in the 2002-03 assessments are generally felt to be under-reported because of challenges with diagnosis and financing to send specimens off-island for interpretation.

[11] Ou A, Buenconsejo-Lum L, Wong V, Palafox N. Regional Cancer Registries: An Option for Resource Limited Settings. Reprinted from UICC World Cancer Congress, Washington, D.C.(USA), July 8-12, 2006. Medimond International Proceedings.
[12] O'Leary MJ. Health data systems in Micronesia: Past and Future. Pacific Hlth Dialog 1995;2(1):126-32.
[13] Katz AR, Palafox NA, Johnson DB, Yamada S, Ou AC, Minami JS. Cancer epidemiology in the freely associated U.S. Pacific Island Jurisdictions: challenges and methodologic issues. Pacific Hlth Dialog 11(2): 84-87. 2004

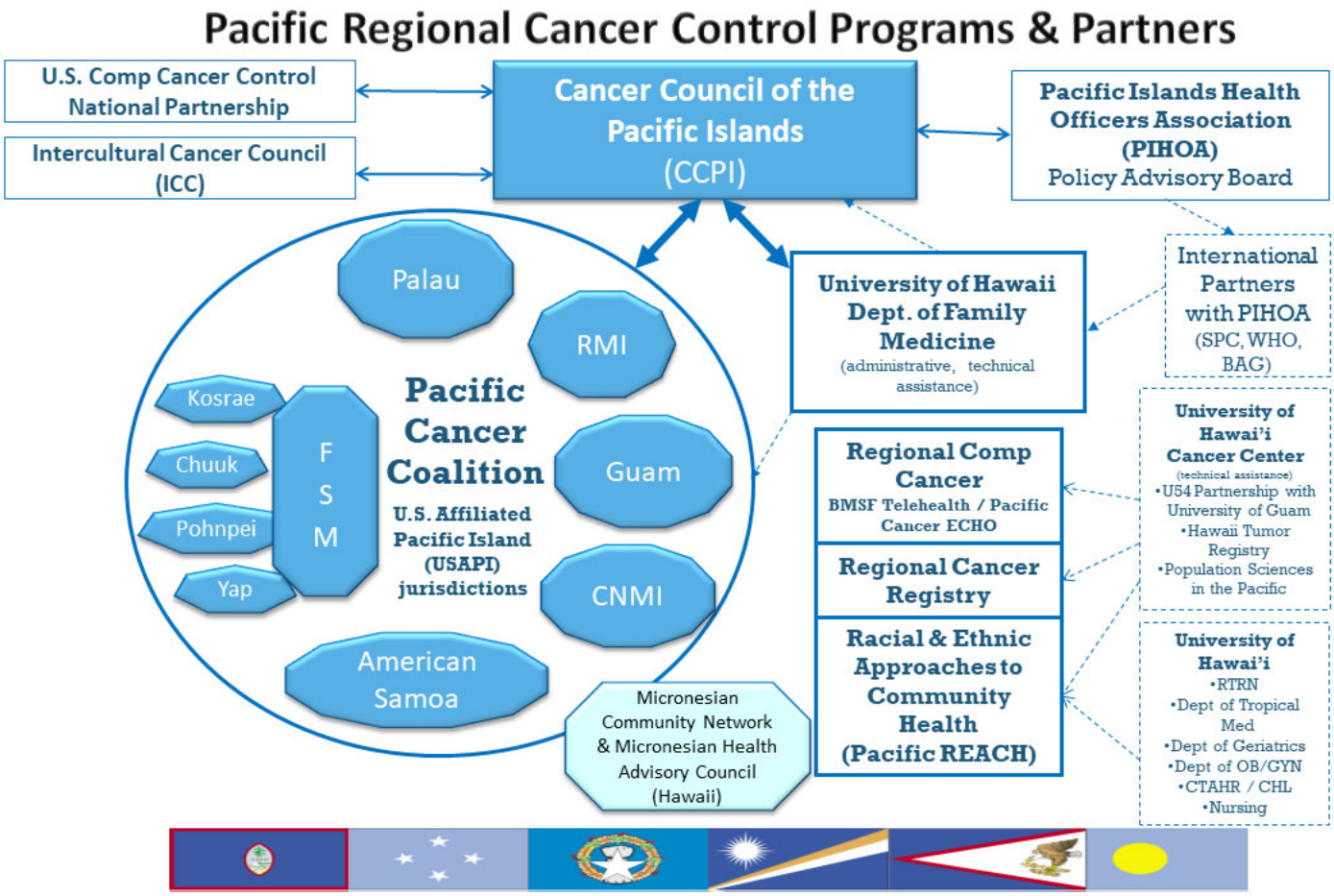


Figure 4- Pacific Cancer Control Programs & Partners, 2021

In the United States, many other surveys and standardized sources of information exist to determine the prevalence of certain cancer risk-factors like obesity, tobacco use, poor nutrition, sedentary lifestyle, and others. The flag territories participate in the U.S. Behavioral Risk Factor Surveillance Survey (BRFSS) and the Youth Risk Behavior Survey, but all jurisdictions recently received supplemental funding to conduct a modified BRFSS (a hybrid of the BRFSS and the WHO STEPS). The World Health Organization STEPS survey methodology is used in the FAS. However, the hybrid STEPS survey will be done in all jurisdictions over a 3-year period to ensure, for the first time, uniformity in data collection and reporting. All jurisdictions receive SAMHSA and CDC Tobacco monies and collect data related to tobacco and other substance use and the FAS participates in the Global Youth Tobacco Survey.

In 2007, the University of Hawaii was awarded a CDC National Program of Cancer Registries cooperative agreement, as the bonafide agent on behalf of the six USAPI, to plan and develop the Pacific Regional Cancer Registry (PRCCR). The PRCCR funds jurisdiction cancer registry staff, training and technical assistance in each jurisdiction, including the individual FSM States and FSM National. The PRCCR Registry is housed at the University of Guam, Cancer Research Center of Guam. Most of the first three years were spent on hiring and educating new registrars in RMI, Kosrae, Pohnpei, Yap, Chuuk, FSM National, the Region; additionally, training existing registrars in Palau and Guam; hiring and retraining new registrars in Guam, Chuuk, and FSM National and finally hiring a registrar for CNMI in 2010. New legislation authorizing National/Commonwealth cancer registries was enacted in RMI, FSM, and CNMI by 2009. In American Samoa, additional legislation was enacted in late 2009 to allow data sharing and case reporting outside of the Territory. An inter-jurisdiction (international) data-sharing agreement was signed, with signatories from the six USAPI, the University of Guam and the Hawaii Tumor Registry. Infrastructure was put in place, registrar offices were moved to more physically secure locations and CDC NPCR software was adapted for the USAPI. Most jurisdictions began reporting 2007 cancer cases to PRCCR in 2009. For 2007-2017 data, we estimate that >95% of new cancer cases in Yap, Kosrae, Pohnpei, Palau, and CNMI are reported to PRCCR. 2018 cancer data submission (reporting on cases where the cancer was diagnosed in the calendar year of 2018) was greatly influenced by the COVID-19 pandemic. Having said that, Pacific cancer registrars generally reported over 90% of expected cases, but our numbers were lower than in previous reporting years. There has

been a steady improvement in the quality of data and case-capture rates in Guam and American Samoa. Barriers to hiring in RMI prevented us from gathering recent cancer data, and the lack of a local registrar (and travel is limited because of the Covid-19 pandemic) is fast becoming a major issue. Case reporting remains somewhat incomplete for American Samoa; Chuuk, and completely absent for RMI for 2018 cancer data. The PRCCR staff will continually update incident case numbers and proportional incidence by SEER Site Grouping from each jurisdiction. It is unfortunately not possible to calculate cancer mortality rates from the registry data because of major quality issues and inconsistency with death certification and registration throughout the USAPI. Jurisdiction cancer mortality reports submitted to WHO and others continue to be generated primarily from the hospital databases. Similarly, the lack of diagnostic capacity, expense of off-island referrals and heterogeneity in pathology lab and specialist reports make recording of accurate cancer stage data difficult. Given the small case numbers, age-adjusted incidence rates for some leading causes of cancer at the jurisdiction level are unstable. Age-adjusted incidence rates and proportional incidence rates for the top 13 cancers in the region, as well as the top 5 cancers by jurisdiction, are in the figures and tables below.

Table 2 - Top 13 Adult Incident Cancer Counts, Proportional Distribution and Rank, 2007-2018[14]

Top 13 Cancers for all USAPI	#cases	%	rank
Lung & Bronchus	922	15%	1
Breast	921	15%	2
Prostate	587	9%	3
Colon & Rectum	585	9%	4
Uterus	416	7%	6
Liver	357	6%	5
Cervical Cancer, invasive	339	5%	7
Tobacco-related Oral Cavity & Pharynx	299	5%	8
Leukemia	197	3%	9
Thyroid	189	3%	10
Stomach	173	3%	11
Nasopharynx	135	2%	12
Ill-defined & unspecified (unknown+misc)	130	2%	13

[14] Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2018, unpublished *American Samoa, Chuuk data incomplete, RMI data unavailable)

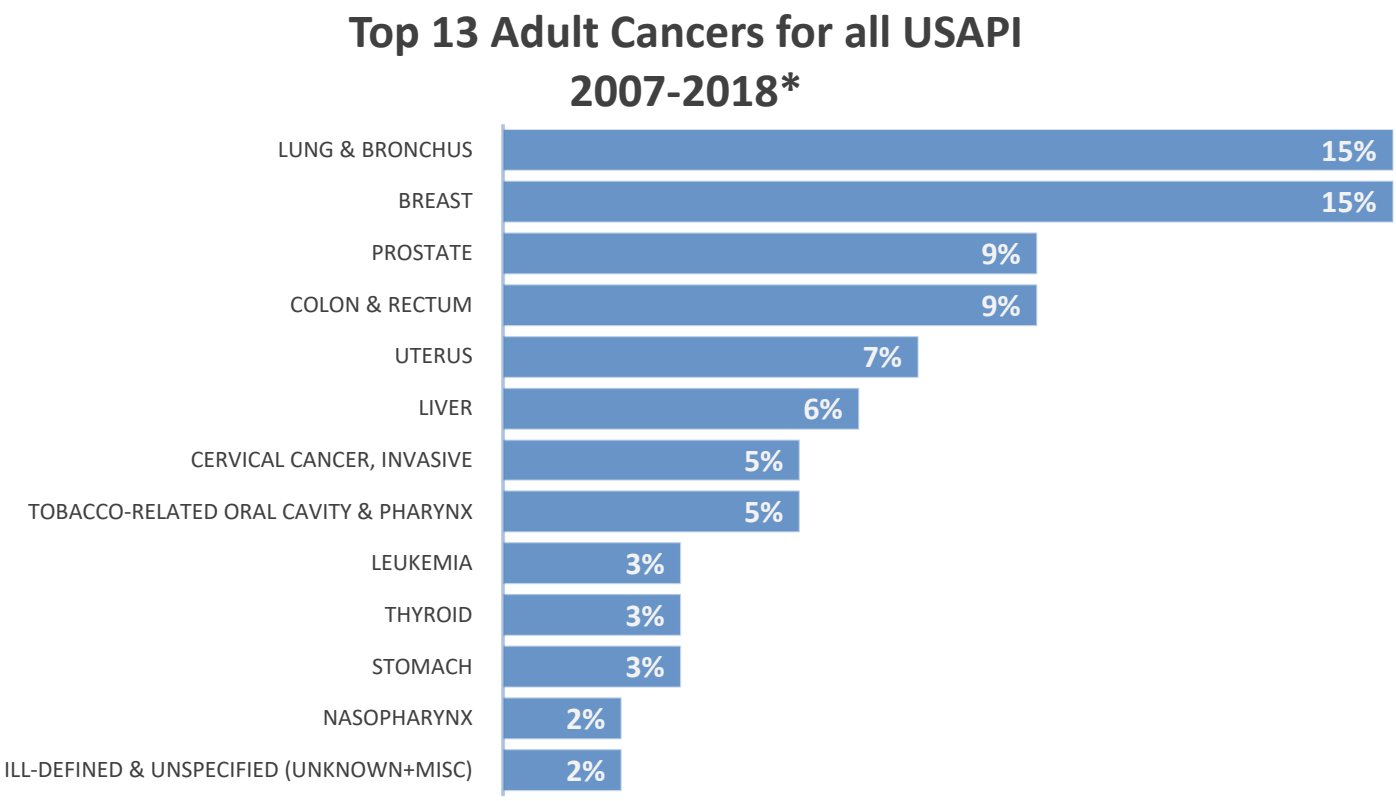


Figure 5 Top 13 Adult Cancers for all USAPI 2007 – 2018[15]

Table 3 - Top Ten Leading Cancer 2007-2018 Sites by Sex & Percentages, USAPI[16]

Male	Cases	%	-	Female	Cases	%
All Sites	3116	100%		**All Sites**	3222	100%
Lung & Bronchus	625	20%		**Breast**	913	28%
Prostate	587	19%		**Uterus**	416	13%
Colon & Rectum	347	11%		**Cervical Cancer, invasive**	339	11%
Liver	278	9%		**Lung & Bronchus**	297	9%
Tobacco-related Oral Cavity & Pharynx	226	7%		**Colon & Rectum**	238	7%
Leukemia	103	3%		**Thyroid**	156	5%
Stomach	97	3%		**Ovary**	119	4%
Nasopharynx	95	3%		**Leukemia**	94	3%
Ill-defined & unspecified (unknown+misc)	68	2%		**Liver**	79	2%
Pancreas	62	2%		**Stomach**	76	2%

[15] Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2018, unpublished *American Samoa, Chuuk data incomplete, RMI data unavailable
[16] Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2018, unpublished *American Samoa, Chuuk data incomplete, RMI data unavailable

Table 4 - USAPI adult cancers 2007-2018 (20 years and older)[17]

USAPI adult cancers 2007-2018 (20 years and older)	Counts	Tobacco related (lung, OP)	Obesity related	Screening test available	Early Physical diagnosis	Five-year survival rates	Tobacco related OC&P	Tobacco OC&P as a % of total tobacco
American Samoa	369	79%	62%	41%	31%	28%	1%	21%
Commonwealth of the Northern Mariana Islands	445	68%	36%	36%	14%	34%	13%	53%
Federated States of Micronesia (combined)	841	65%	21%	29%	11%	67%	14%	46%
Chuuk State, FSM	163	53%	14%	24%	3%	80%	2%	9%
Kosrae State, FSM	74	58%	22%	30%	9%	82%	7%	33%
Pohnpei State, FSM	388	71%	23%	35%	11%	62%	15%	51%
Yap State, FSM	216	63%	17%	24%	15%	60%	24%	61%
Guam	3884	58%	31%	41%	16%	36%	2%	10%
Republic of the Marshall Islands	471	58%	18%	38%	8%	57%	2%	12%
Republic of Palau	329	55%	22%	30%	17%	59%	7%	28%

Table 5 - Ranking of number of cancers, by primary sites and jurisdiction – Pacific Regional Central Cancer Registry (PRCCR), USAPI, 2007-2018[18]

Ranking of most commonly reported sites (2007 - 2018)						
Jurisdiction	#1	#2	#3	#4	#5	Cervical cancer rank
American Samoa*	Uterus	Breast	Colon & Rectum	Stomach	Cervical Cancer, invasive	5
CNMI	Breast	Tobacco-related Oral Cavity & Pharynx	Lung & Bronchus	Colon & Rectum	Uterus	7
FSM*	Tobacco-related Oral Cavity & Pharynx	Lung & Bronchus	Cervical Cancer, invasive	Breast	Liver	3
GUAM	Lung & Bronchus	Breast	Prostate	Colon & Rectum	Liver	10
PALAU	Lung & Bronchus	Liver	Prostate	Breast	Tobacco-related Oral Cavity & Pharynx	8
RMI*	Cervical Cancer, invasive	Lung & Bronchus	Breast	Liver	Uterus	1
All USAPI Total	Lung & Bronchus	Breast	Prostate	Colon & Rectum	Uterus	7
USAPI case numbers	922	913	587	585	416	339

[17] Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2018, unpublished *American Samoa, Chuuk data incomplete, RMI data unavailable
[18] Excludes basal and squamous cell carcinomas of the skin, except when these occur on the skin of genital organs, and in situ cancers, except urinary bladder;

A major emphasis of the Regional CCC and Regional registry programs is to continue to work synergistically with PIHOA, vital statisticians, medical records staff, physicians, policymakers and other stakeholders to improve the quality of vital statistics (denominator data for all conditions), to improve the consistency of medical records (content, completion, coding), to improve the timely return of off-island referral information to health services and other issues that greatly impact cancer and NCD reporting. Now that all registrars are in place (except RMI) an annual report of incidence will be incorporated into CCC efforts in the region and jurisdiction. The PRCCR database was slightly customized for the USAPI to allow recording of NCD risk factors, comorbidities, presence of cancer screening, immunization against Hepatitis B and HPV and betel nut use. Until that information is reliably recorded in the patient record by health care professionals, however, it will be exceedingly difficult for the registrars to enter the comorbidity information accurately into the database.

Although it is not possible to calculate mortality rates based on information in the death certificates, an in-depth analysis of the PRCCR and selected individual jurisdiction cervical cancer data shows that many of the cases are diagnosed late and therefore, a large proportion die within 1-2 years. **For all cancers, only 24% are diagnosed at stage 1 and 42% have died within 5 years of diagnosis[19].**

Despite the challenges with obtaining accurate information, the past and current data do reveal that many of the cancer deaths are from preventable (lung, nasopharyngeal, liver, cervix) or easily detectable and potentially curable (breast, cervix, colorectal, prostate, oral) cancers. Thus, the CCC efforts at the jurisdiction and regional levels are aimed at increasing the capacity to provide effective prevention and health promotion programs, screen for cancers using proven and cost-effective methods, develop the capacity to treat as many cancers on-island or within the region as possible, provide improved services for cancer patients and their families and improve policies, procedures and systems so that more accurate cancer-related information can be obtained for program planning and evaluation.

[19] Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2018, unpublished

GOALS, OBJECTIVES AND STRATEGIES for the 2017 - 2022 Regional CCC Plan

Vision: A Cancer-Free Pacific

Long term Regional goals include developing a sustainable regional collaboration to oversee cancer control efforts and set minimum recommended indicators for cancer control, developing a regional cancer registry, and developing local capacity for effective CCC program planning, implementation and evaluation, developing systems of care that are culturally- and resource appropriate and promoting rational policies addressing the social determinants of health and health disparity and common risk factors for cancer.

The strategies outlined in this plan are comparatively short-term (2-10 years) and focus on

- Continuing and expanding collaboration with regional, U.S. National and International partners and policymakers to garner and leverage additional resources to achieve the objectives set forth in this plan and to create more sustainable systems.

- Conducting regional assessments or compendia of existing policies, done in collaboration with other relevant regional or local partners, with the ultimate goal of consistent, resource-appropriate and relevant policies that impact control of cancer.

    - Policies, guidelines or standards concerning social determinants of health, primary prevention, screening, surveillance and quality of life

- Conducting a comprehensive assessment of the current and future capacity for treating cancer patients within the region and making a formal recommendation to PIHOA and other policymakers

- Through the Regional Cancer Registry, continuing work on developing or enhancing existing systems that promote collection and reporting of quality cancer and related comorbidity data to be used to guide policy and systems change, program planning and implementation

These regional, overarching objectives and strategies complement the jurisdiction CCC plans, which contain specific prevention, health promotion, screening / early detection, treatment and quality of life strategies that are community-based, collaborative, especially in health promotion and prevention, and designed to work for their particular unique situation.

Implementation of the Regional CCC plan involves collaboration with other regional affiliate organizations of PIHOA as the region moves to improve basic public health infrastructure, which includes capacity in different areas that impact control of NCDs, including cancer. Effective collaboration, shared vision, an agreed-upon structure for decision-making, representative / equal voting, informed decision making, shared decision making, open communication, and clearly defined roles and responsibilities are significant operating principles established and utilized by the CCPI to address cancer properly.

Please note, that progress on ALL Goals/Objectives/Activities detailed here and later in the document have been greatly impacted by the COVID-19 pandemic.

Five-year goals for the 2017-2022 Regional CCC Plan

In 2017, the CCPI established the following five-year goals for the 2017-2022 Regional CCC Plan:

- Reduce the burden of preventable cancers
- Detect cancer risk factors and cancer in individuals as early as technically possible within USAPI
- Improve the capacity to effectively screen and treat cervical cancer within the USAPI region
- Provide adequate supportive care services for people and families with cancer, including those at the end of life
- Continue to develop and sustain the current regional collaboration to oversee cancer control efforts
- Further develop and sustain the Pacific Regional Cancer Registry
- Enhance data collection on Cancer Disparities and Data Gaps
- Assist in developing local capacity for effective CCC program planning, implementation, management, and evaluation
- Assist in the development of systems of care that are culturally- and resource appropriate
- Promote rational policies addressing the social determinants of health and health disparity and common risk factors for cancer

TECHNICAL ASSISTANCE – CORE INFRASTRUCTURE:

Project Period Objectives or PPOs are CDC nomenclature utilized in their cooperative agreements for all cancer programs. Because the regional efforts are designed to align and support each jurisdiction's cancer plans, we utilize the same nomenclature (PPO, Activities). PPO 1 details the planned activities to be performed by the Pacific Regional Comprehensive Cancer Control Program's Core infrastructure at University of Hawai'i, Department of Family Medicine and Community Health. However, if funding limitations are severe (based on the contracts from the individual jurisdictions to the University of Hawaii for Regional CCC plan implementation), then some strategies will not be possible and/or will be delayed due to staffing shortages.

Objectives	Activities
PPO 1 **Core infrastructure; Evaluation Capacity Building; Data / Surveillance**	1.1. Increased capacity for intra-jurisdiction communication, sharing and network around cancer initiatives and training 1.1.1. Increase the usage of PIHOA's online calendar. 1.1.2. Include the ability for jurisdictions to upload info (training, workshops, job postings) 1.1.3. Assist with jurisdiction communication plans to ensure Executive Level decisions (i.e., Treaties, Commitments) are shared with Program level 1.1.4. Encourage submission of local NCD success stories (based on CDC NCCDPHP Success stories criteria) to PIHOA website (varying formats allowed to avoid duplication of work) 1.1.5. Utilize telehealth and telecommunications infrastructure wherever possible for meetings, education, training and case management. Seek additional resources and partners to improve the capacity for telehealth, which should eventually include telemedicine and tele-consultations from doctor-to-doctor.
	1.2. Expand partnerships (including funding) to support Regional Comprehensive Cancer Control initiatives; quantify linkages and partnership
	1.3. Facilitate communication and partnerships, regularly invite representatives of certain regional organizations (PIHOA, CCPI, PIPCA, PCDC, PBMA, etc.) to jurisdiction NCD meetings, as well as Regional CCPI meetings if funding allows
	1.4. Assist with planning and local CCC leadership training, as funding and resources allow
	1.5. TA (upon request) to partner jurisdictions to assist in the development of a Sustainability plan
	1.6. Build local evaluation capacity to evaluate PSE changes, programs and projects, including • How to build evaluation into the planning of projects and programs so that the success stories have data • How to report more effectively • Opportunity to share how different Programs / Projects are being evaluated
	1.7. Technical Assistance (TA) support on Data harmonization / flow / communication between programs • Cervical cancer screening registry/database • Continue to improve cancer registry completeness, quality and efficiency • Link cancer registry to HPV & HBV immunization registries and other NCD databases as appropriate • Provide training (upon request) on Data-related basic IT skills, data visualization, analytics and reporting
	1.9 Support basic and advanced Cancer Surveillance efforts in the Pacific through continued funding and implementation fo the Pacific Regional Central Cancer Registry (PRCCR) program, funded by the CDC National Program of Cancer Registies

PREVENTION GOAL: REDUCE THE BURDEN OF PREVENTABLE NCDs, INCLUDING PREVENTABLE CANCERS.

Within the USAPI, culturally appropriate primary prevention remains a cost-effective and sustainable method to control cancer and other NCDs. Further upstream are primordial factors associated with the social production of cancer and NCDs. These factors include the social determinants of health (education, poverty, food security and suboptimal diet, which in itself is responsible for 5.2% of new cancer cases in the U.S.[21]) and inequity. The current Regional Plan will focus on preventing cancer through more coordinated primary prevention interventions and encouraging efforts to address social determinants of health and disparity. The 2017 - 2022 plan states a prevention goal, to reduce the burden of preventable cancers and NCDs. Five main activity areas will move the USAPI towards that goal. For details, please see the PPO 2 table below:

Objectives	Activities
PPO 2 **Prevention** **(Provide TA/training on…)**	2.1. Health messaging & communication to impact behavior change • Tailoring to certain audiences • Encourage jurisdictions to adopt/implement the "Clear Communication" program created by NIH Office of Communications and Public Liaison (OCPL) "Clear & Simple[20]" curriculum: Developing effective print materials for low-literate readers • In-depth assessments (via pre-work) for a descriptive region-wide prevention map.
	2.2. Colorectal cancer • Increase access to screening • Education (prevention)
	2.3. Betel nut / oral cancer • Policy / PSE strategies • Education (prevention)
	2.4. System strengthening around HPV vaccination • Provider education, messaging (including anti-vaccination), sample policies and measures (for both the public health and clinicians). • More effective strategies/interventions (PSE) for different settings focusing on ambulatory practice implementation • TA on decision making regarding "when a compulsory policy is appropriate for your PIJ specific setting." • Advocacy to make the HPV Vaccines more affordable
	2.5. Support the work of PIHOA, CDC NCD programs, HRSA Community Health Centers and SAMHSA Substance Abuse programs to help ensure coordinated messaging for the following general NCD program priorities: • Guidance on supporting/strengthening shared implementation of worksite wellness programs such as recommended cancer screening • Physical activity and nutrition-related policies and programs based in the schools, community or worksites that aim to prevent obesity • Strengthening enforcement of clean indoor air acts and other tobacco-related policies as relevant to CCC implementation

[20] This guide is based on the "Clear & Simple" curriculum: Developing effective print materials for low-literate readers, that was developed by U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. Link: https://www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison/clear-communication

[21] Fang Fang Zhang, Frederick Cudhea, Zhilei Shan, Dominique S Michaud, Fumiaki Imamura, Heesun Eom, Mengyuan Ruan, Colin D Rehm, Junxiu Liu, Mengxi Du, David Kim, Lauren Lizewski, Parke Wilde, Dariush Mozaffarian, Preventable Cancer Burden Associated with Poor Diet in the United States, JNCI Cancer Spectrum, , pkz034, https://doi.org/10.1093/jncics/pkz034

SCREENING/EARLY DETECTION GOAL: DETECT CANCER IN INDIVIDUALS AS EARLY AS TECHNICALLY POSSIBLE WITHIN USAPI.

Secondary prevention of cancer through screening and early detection increases longevity and enhances the quality of life. The current regional plan focuses on the regional capacity for cervical and colorectal cancer screening.

Early in 2007-2008, it was determined that the utilization of pap smear technology was not feasible in several of the USAPI jurisdictions. Other cervical cancer screening technologies were subsequently evaluated. Visual inspection with acetic acid (VIA) was implemented in the FSM and RMI, where pap smear technology was not sustainable or even possible in the remote areas. In the current cancer plan, we will focus on keeping the health workforce's knowledge and skills up to date as technologies, screening methods and guidelines evolve.

Cervical cancer screening and colorectal cancer awareness programs will also be promoted in all jurisdictions to increase community penetration of screenings. If the jurisdiction has sufficient resources to prioritize colorectal cancer screening, we will do our best to support their educational efforts.

For a short summary of the proposed actions, please see the PPO 3 summary table below:

Objectives	Activities
PPO 3 **Screening / Early Detection**	3.1. Increase cervical cancer screening coverage By June 2022, each jurisdiction will increase its cervical cancer screening coverage • In-depth assessment (expand on the regional assessments/pre-work done) and determine key strategies that will result in significant increases in cervical cancer screening. *by the end of year 1* • Implement at least 1 pilot project/strategy (with rigorous evaluation, quality assurance, and quality control) *started in Py-03, will be completed in 2023, outside of the current 5-year-plan,* • In selected jurisdictions, guide program scale-up *after completion of the previous step. Expected to be part of the next 5-year-plan*
	3.2. Colorectal cancer screening • Increase access to resource-appropriate screening • Education in prevention and risk-reduction
	3.3. Technical assistance in creating resource-appropriate screening guidelines for certain common cancers

TREATMENT GOAL: IMPROVE THE CAPACITY TO TREAT CANCER EFFECTIVELY WITHIN THE USAPI REGION.

Enhancing the capacity for (and efficiency of) treating cancers is a priority for the USAPI. The current Regional Cancer Control Plan focuses on implementing standardized, evidence-based clinical approaches throughout the Pacific, improving health system capacities and reduce the reliance on off-island treatment referrals.

The palliative care initiatives are rudimentary and efforts are ongoing. Basic feasibility assessments in the jurisdictions have determined that most USAPI systems are unable to develop a chemotherapy infrastructure due to limited human and financial resources. Chemotherapy, when possible, is sought out of the country in all jurisdictions except Guam and CNMI. A regional referral center in the USAPI was also deemed to be cost and human resource prohibitive.

For detail on activities related to the Treatment PPO, please see the summary table below:

Objectives	Activities
PPO 4 Treatment	4.1. Provide guidance to each jurisdiction to develop "algorithmic approach to cancer diagnosis" procedures (on-island) for the most common cancers (breast, cervix, colorectal, endometrial, lung) *by July 2022* • In-depth regional assessment (via pre-work) on available diagnosis/treatment options in the Pacific. By July 2022, each (participating) jurisdiction will have developed "algorithmic approaches" for initial (on-island) diagnosis for some of the most common cancers (breast, cervix, colorectal, endometrial, lung)
	4.1.1. Implement a comprehensive inventory (needs & gaps assessment) and priority setting tool kit to determine priority activities, policies, processes, evaluation, quality assurance, quality control, communication, and data flow processes *(Six (6)mo to develop, six mo to pilot, six mo for jurisdiction(s) to complete and provide feedback)*
	4.1.2. Pilot test a "tool kit" adapted from existing US and/or WHO algorithms and guidelines for use in the resource-limited USAPI settings (for either breast or cervical) • Develop and test the toolkit *Program Year 4* • Implement and evaluate pilot project *Program year 4-5*
	4.1.3. Develop at least one additional "tool kit" for another common cancer (breast, cervical, endometrial, CRC, lung) by end of year 5 • Develop • Implement • Evaluate
	4.1.4. Utilizing information from 4.1.1., strengthen the existing system for internal and external medical referrals to achieve timely and appropriate referrals to specialty cares.
	4.2. Improving health system capacities to engage patients and families in developing more realistic treatment plans *By June 2022*
	4.2.1. Provide resources to local clinicians to better determine prognosis based on the available clinical/diagnostic tests at the time of presentation • Make the National Comprehensive Cancer Network (NCCN), American Cancer Society (ACS) or other relevant evidence-based recommendations more easily available to local clinicians *(yr 1, yr 2)* • Adapt the NCCN resources/guidance into formats that are more appropriate to clinicians in lower-resource settings *(will be done in tandem with 4.1- yr 4 - 5)*

- Disseminate virtual-consultation resources to further assist with patient/family discussions on prognosis *(yr 1- 3, part of 4.3)*

4.2.2. Increase clinician awareness of local resources, processes and lay patient navigation services *(yr 1-5)*

4.2.3. Develop and implement physician (and nurse, as applicable) competency-based curricula* to increase the number of effective Goals of Care discussions with cancer patients for whom cure is not realistic or with patients with late-stage diagnosis *(yr 3-5, also Pacific Cancer Project Echo and Telehealth trainings)*

- Physician awareness of patient's readiness to hear diagnosis & stages of grief (DABDA) in order to tailor counseling and education (1st) appropriately
- Patient-centered communication (2nd)
- Communicating bad news with compassion (3rd)

*multi-modal curriculum: distance education, computer-based as well as in-person/role play (simulation) if resources allow.

4.3. Reduce reliance on off-island referrals for late-stage cancer patients by June 2022

4.3.1. Create organized regional and local infrastructures to address telehealth* in the USAPI (in close coordination with the Pacific Basin Telehealth Resource Center (PBTRC)) *(yr 1-4)*

- Organizing local jurisdiction committees to build partnerships, identify champion and take the lead in implementing priority policy changes (see 4.3.2 below)

*education, consultation, pre- and post-referral, cancer subcommittee, etc.

4.3.2. Expand recent telehealth capacity assessment to further delineate jurisdiction-specific barriers in order to implement appropriate PSE changes in order to make distance education and telehealth feasible *(yr 1 and periodically)*

4.3.3. Work with other regional organizations to determine a prioritized list of educational topics that would be conducive to distance education *(yr 1 and periodically)*

4.3.4. Work with the PBTRC to ensure appropriate planning and implementation.

- Assist in the planning of guidelines and electronic interfaces,
- Assist in designing and clearing function & roles for local staff (including the role of local CME coordinator)

4.3.5. Work with PBTRC, UH TASI, DoD,TAMC, VA, HHS, JABSOM to develop a cadre of consultants that are familiar with the USAPI resource limitations and willing to help grow local capacity to diagnose and refer appropriately. *(yr 4-5)*

4.3.6. Upon request, assist local referral committees to improve their capacity to reduce the number of inappropriate referrals (for poor prognosis cancers) and ensure appropriate & timely care**

**timely follow up, amending contracts to ensure consultants return their reports on time

4.4. Upon request, provide additional advice to jurisdiction leadership to help them decide if a jurisdiction has the capacity to provide on-island maintenance or palliative chemotherapy.

QUALITY OF LIFE GOAL: PROVIDE ADEQUATE SUPPORTIVE CARE SERVICES FOR PEOPLE AND FAMILIES WITH CANCER AND END-STAGE NCD

The Comprehensive cancer control plan addresses population-based management and care for those individuals who are living with a diagnosis of cancer or other NCDs (survivorship). Whereas the burden of cancer and NCDs in the USAPI is heavy, the populations are increasing, and the proportion of elderly is increasing, the absolute number of people who have a diagnosis of cancer or other end-stage NCDs is expanding exponentially. The USAPI Regional Cancer Control Plan builds on previous work to improve the capacity for resource-appropriate cancer survivorship and palliative care programs.

Western hospital-based health care models have been introduced and rapidly assimilated into the USAPI cultures over the last 60 years. Westernization, urbanization and hospital-based health care have eroded the traditional survivorship environment and have created an opportunity to blend traditional and Western methods to manage complications of chronic illness and end of life care. The Regional Plan will address regional survivorship through developing and delivering models of western survivorship that are adapted to the unique USAPI settings.

Assisting patients to navigate through the local/regional health care and social support systems will be facilitated through patient navigators.

Maintaining the quality of life is crucial for people with cancer and other serious illnesses throughout their lives. Although treatment options are few, strong family and community ties lend themselves to the development of community-based programs for survivorship, caregiver support, and patient navigation. Additionally, healthcare professionals need ongoing training and policies and procedures implemented to support seriously ill people and those caring for them.

For details on the Action steps planned for this PPO, please see the summary table below.

Objectives	Activities
PPO 5 **Quality of Life / Survivorship**	5.1. The development of resource-appropriate systems for palliative care services to cancer patients. by June 2022
	5.1.1. Update palliative care and/or patient navigation assessments to identify training needs for doctors, nurses, community health workers, lay patient navigators and family members (year 1)
	5.1.2. Work with each jurisdiction to develop a resource-appropriate implementation plan. These plans may include, but is not limited to, recruitment, training, mentoring of interested health career opportunities (HCOP) program graduates or other interested caregivers and potential patient navigators. **Note that each jurisdiction would be responsible for finding the funding and additional resources to implement a survivorship/palliative care/patient navigation program.*
	5.1.3. Build on / refine existing curricula ("Caring the Pacific Way" palliative care curriculum and Dr. Fernandez's homebound care program) into a more sustainable train-the-trainer, competency-based model (year 3-5 – PDSA cycles)
	5.2. Strengthening local capacity and knowledge base of resource-appropriate community (lay) patient navigators / homebound care providers via telehealth training by June 2022.