

Pacific Against Cervical Cancer (PACe)

74th PIHOA

Executive Board Meeting, Honolulu

March 28, 2024



Maria Marfel -Director of Health Yap State , FSM

Arthur San Augustine for Peter John Camacho - Director of Health Guam

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Objectives:

- What is PACe
- Cervical Cancer Elimination Program in Guam
- Cervical Cancer Elimination Program in Yap State, FSM
- Data and Program Implications
  - Projections of effect (modeling and micro-costing)
  - Lessons Learned / Application
  - Next Steps

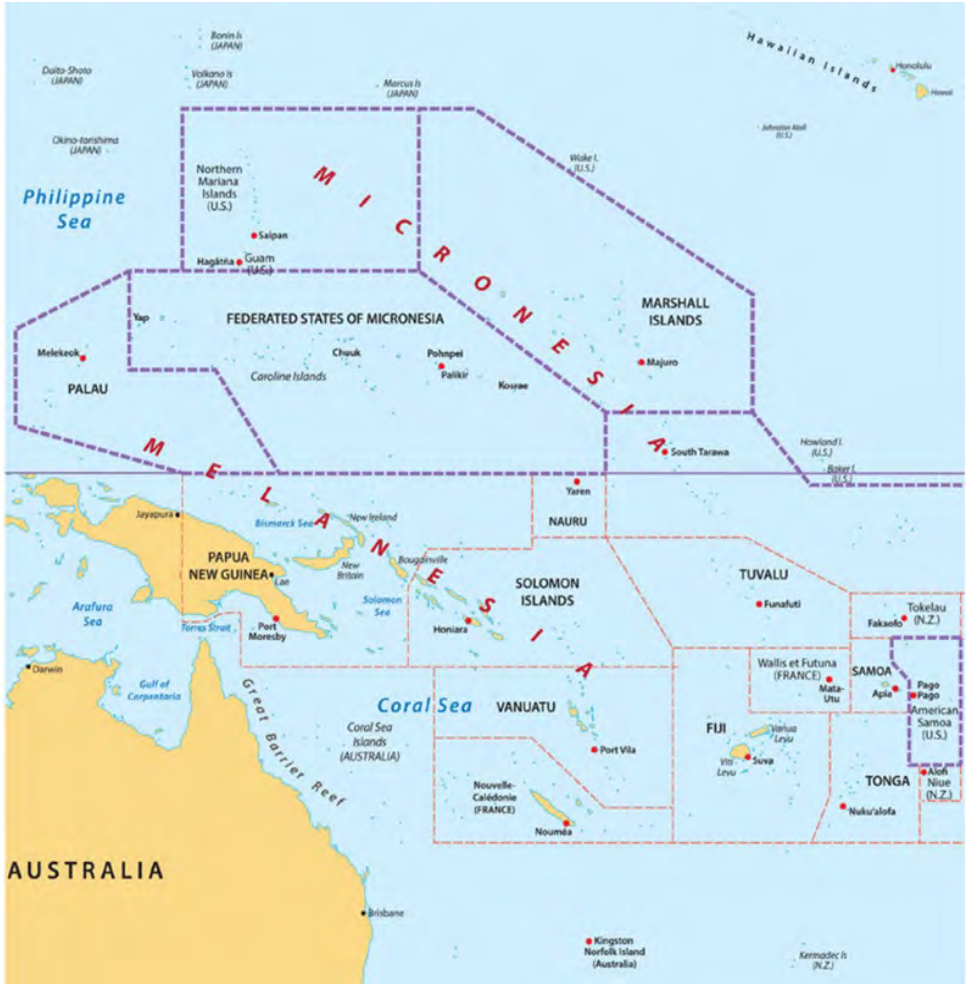
Pacific Against Cervical Cancer (PACe)

OBJECTIVES

- Decrease cervical cancer morbidity and mortality in the US-Affiliated Pacific Islands (USAPI
- Enhance / sustain country infrastructure to prevent / control cervical cancer screening and follow-up in the USAPI

APPROACH

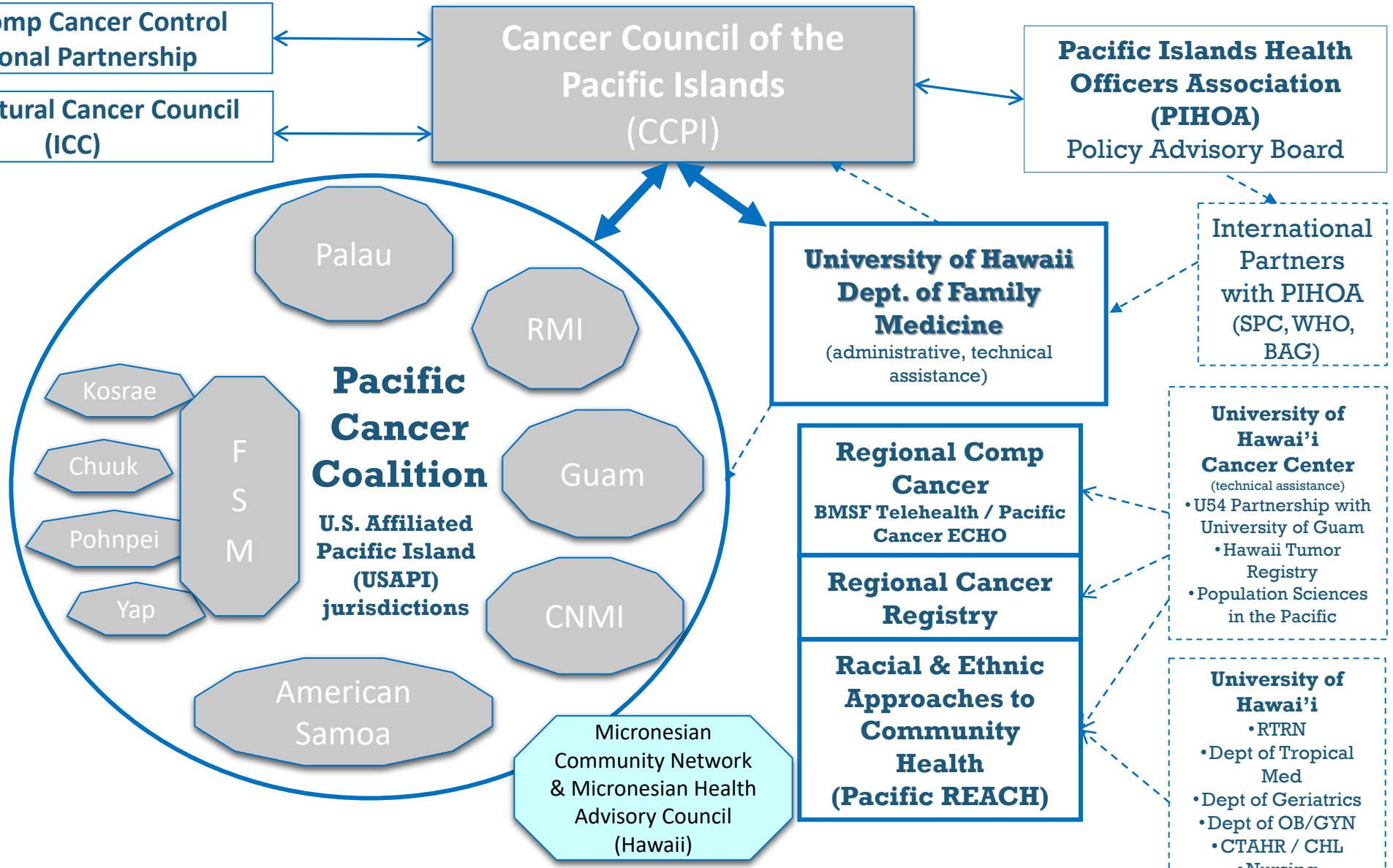
- Implement and evaluate opportunities to increase local capacity of cervical cancer screening among all women using primary HPV testing and other emerging new technologies
- Build data systems and influence health interventions using modeling and micro-costing analysis
- Collaborate with stakeholders and align efforts in cervical cancer screening



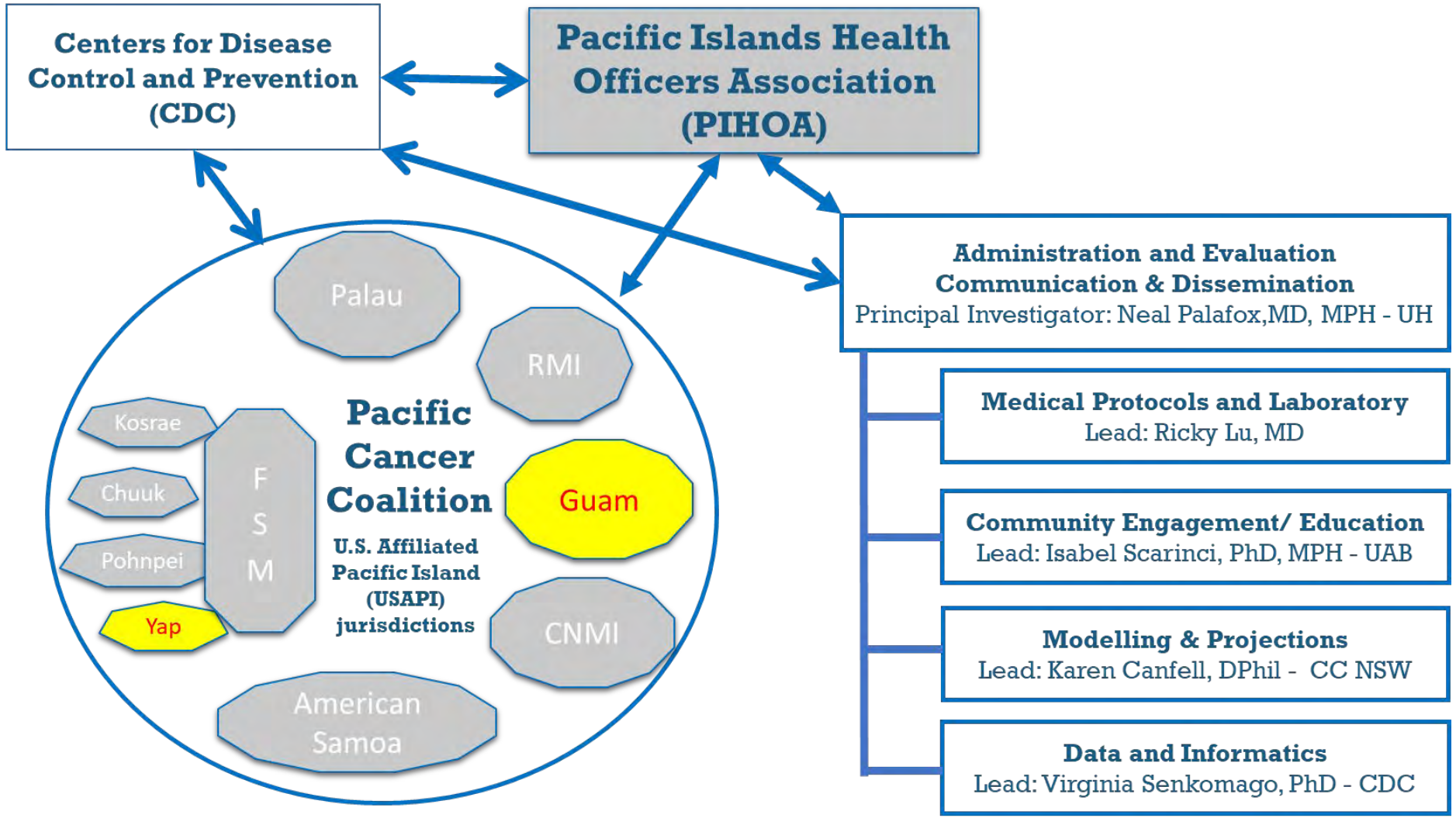


- Project supported under CDC CSTLTS partnership cooperative agreement with the Pacific Island Health Officers' Association (PIHOA)
  - CDC-CFR-OT16-1601 - *Strengthening USAPI Health Systems Through Effective Leadership and Improved Capacities and Capabilities*
- Intent of the cooperative agreement is to:
  - Strengthen Departments/Ministries of Health through workforce enhancement, capacity strengthening and evidence-based systems improvement and policy development
  - Implement projects and initiatives that align with USAPI regional and local health priorities
  - Support and enhance USAPI health leadership engagement for sustained systems improvement and policy change
- The prHPV screening evaluation project meets a critical need in the USAPIs; will ensure strong leadership engagement to ensure context appropriateness and cultural relevancy

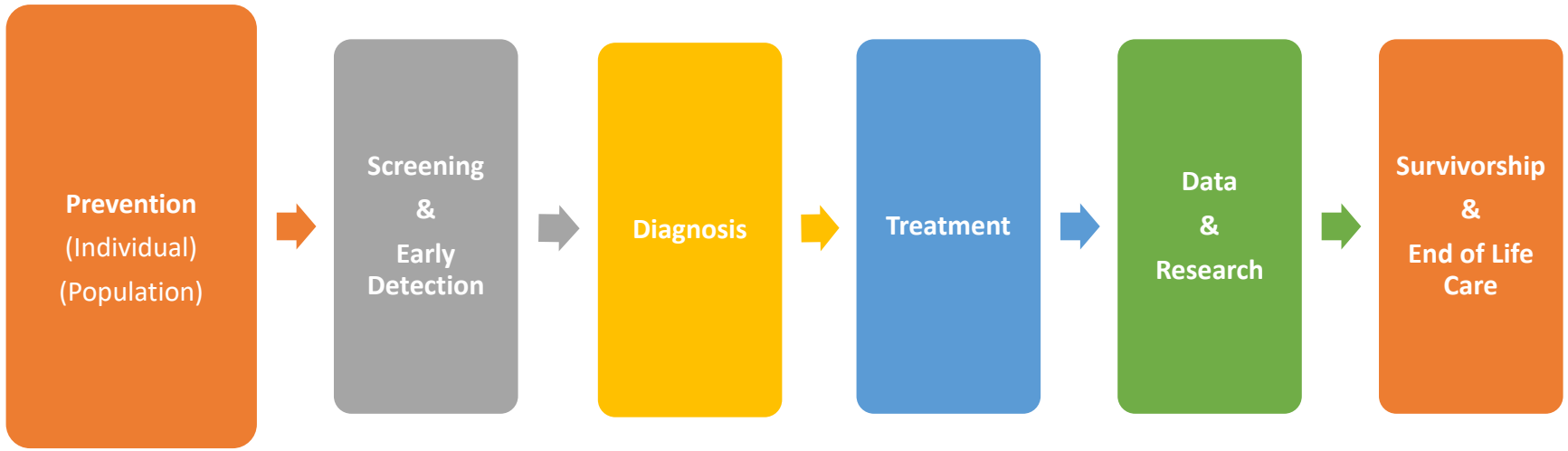
Pacific Regional Cancer Control Programs & Partners



Organizational Chart



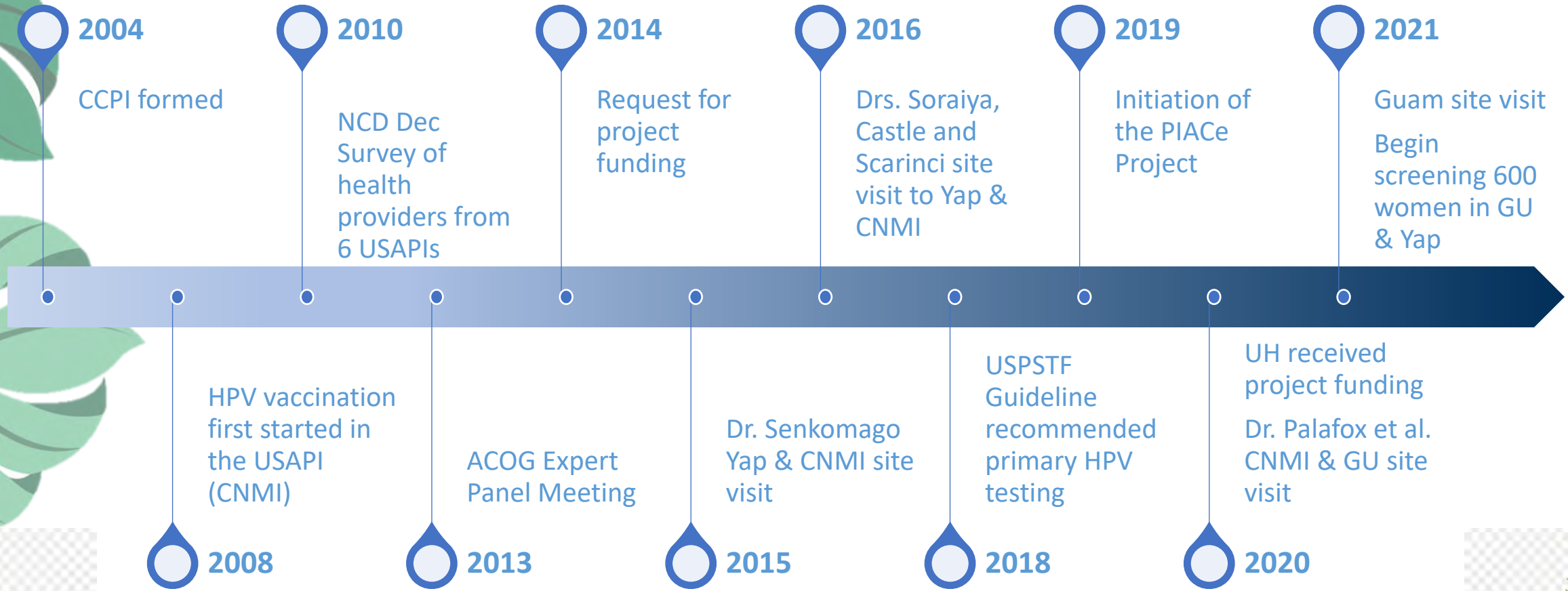
Domains of Cancer Prevention and Control Plans



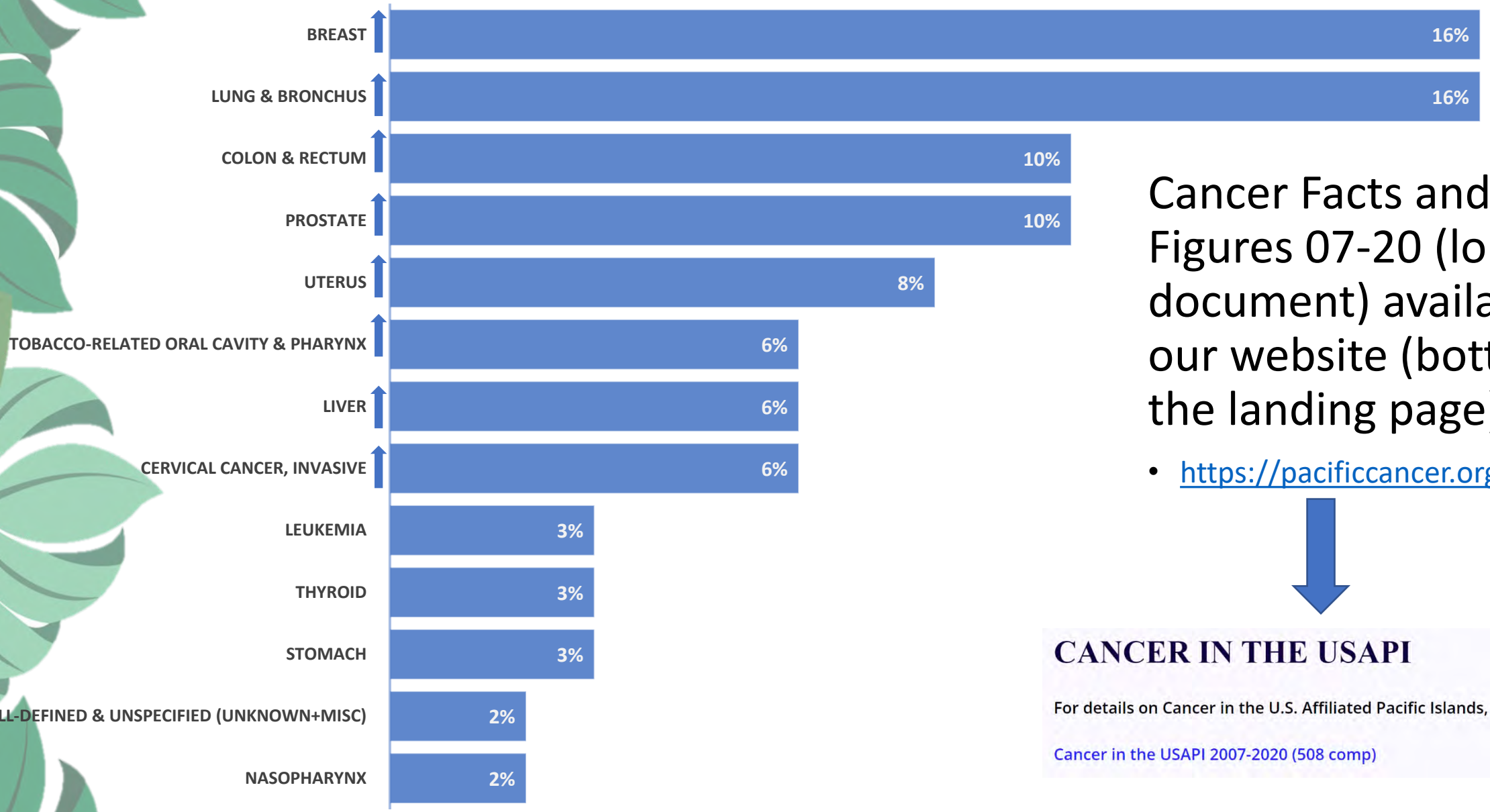
Cancer Council of the Pacific Islands 2019



Project history



Top 13 Adult Cancers for all USAPI 2007-2021



Cancer Facts and Figures 07-20 (long document) available at our website (bottom of the landing page)

- https://pacificcancer.org/

CANCER IN THE USAPI

For details on Cancer in the U.S. Affiliated Pacific Islands, download:

Cancer in the USAPI 2007-2020 (508 comp)

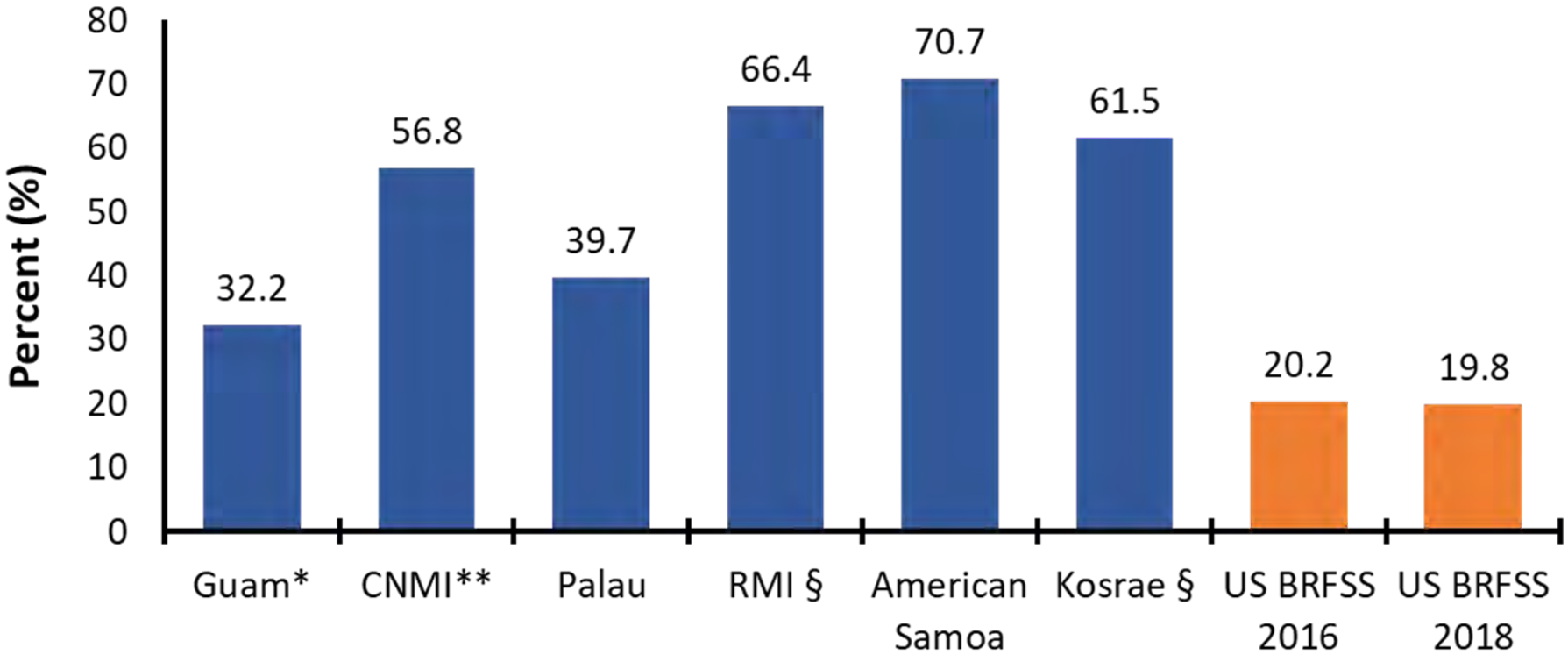
Crude and age-standardized rates of Invasive Cervical Cancer PSite (C530-C539), behavior code 3 per 100,000 over age 20 for all USAPI and Percent dead within 5 years of diagnosis

USAPI jurisdiction compared to US	Cases	Crude	US Std	World Std	# dead within 5 yrs of diagnosis	% dead within 5 yrs of diagnosis	% alive after 5 yrs of diagnosis	% alive after 5 yrs of diagnosed with Stage 3 and higher
USAPI - All USAPI 2007-2021	447	23.1	17.0	14.8	178	40%	60%	41%
USAPI – Chuuk excluded	428	24.5	17.7	15.4	166	39%	61%	43%
Republic of the Marshall Islands	150	74.7	66.1	56.8	68	45%	55%	40%
FSM Total	116	28.6	23.2	20.0	60	52%	48%	26%
Guam	103	13.8	9.9	8.6	30	29%	71%	45%
Pohnpei State, FSM	70	48.7	38.8	33.9	31	44%	56%	38%
CNMI	40	15.6	12.3	10.5	6	15%	85%	80%
American Samoa	23	10.3	8.7	7.2	6	26%	74%	25%
Chuuk State, FSM	19	10.3	9.7	18.4	12	63%	37%	14%
Yap State, FSM	16	31.4	20.9	9.1	11	69%	31%	0%
Republic of the Palau	15	15.3	9.9	7.9	8	53%	47%	38%
Kosrae State, FSM	11	42.5	-	-	6	55%	45%	33%
Hawaii**	-	-	7.3	-	-	-	-	-
United States**	-	-	7.8	-	-	-	-	-

Source: Pacific Regional Central Cancer Registry (PRCCR), 2007-2021
Incidence rates calculated using U.S. 2000 standard population and world standard population 2000-2025; incidence rates suppressed for N<16
**Source for US data: U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2021 submission data (1999-2019): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; https://www.cdc.gov/cancer/dataviz, released in November 2022.

Health Disparities in the USAPI: Cervical Cancer

Women aged 21-65 years NOT screened for cervical cancer in the last 3 years



Source: Pacific Regional Central Cancer Registry (PRCCR), 2007 - 2018

Summary of burden of disease and current screening status

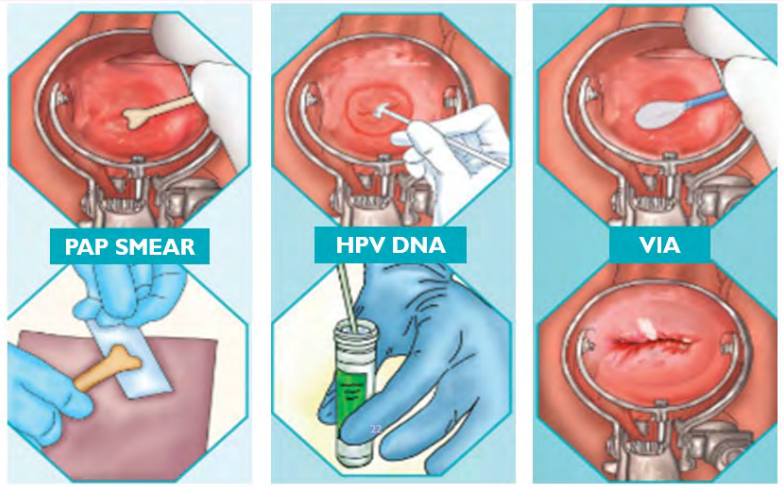
	Guam	FSM	US
Cervical cancer incidence			
Registry data	8.9/100,000 [1] ~9 cases per year	19.7/100,000 (with Chuuk) [1] 9 cases per year 31.1/100,000 (without Chuuk) [1] 8 cases per year	6.6/100,000 (2017) [2]
Globocan 2020	18.5/100,000 [3] 19 (19.1-30.2) cases (2020)	18.7/100,000 [3] 53 cases (2020) (Micronesia)	6.2/100,000 [3]
Cervical cancer mortality			
Registry data	NA	NA	2.2/100,000 (2017) [2]
Globocan 2020	8.1/100,000 [3] 10 deaths (2020)	8.2/100,000 [3] 24 deaths (2020) (Micronesia)	2.1/100,000 [3]
High-risk HPV prevalence	3.6% (3.1%-4.1%)[4]	15.1% (12.9%-17.3%)[5]	
Cervical screening*	% of women aged 23-64 years who were screened in 2019		
	47.1% [6]	28.9% (likely opportunistic with low follow-up for treatment) [6]	56% [6]
Distribution of cancer stage 1/2/3+	22%/8%/70% [1]	11%/17%/72% [1]	44%/36%/16% [1]

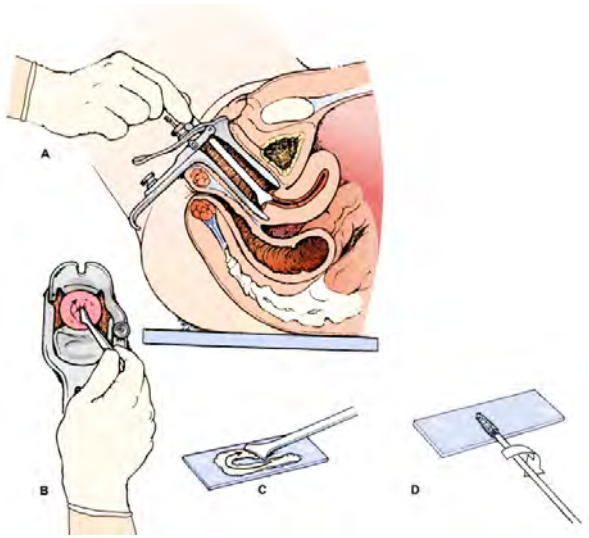
ASR: age-standardised rate/100,000

[1]Cancer registry data [2] SEER [3] Globocan 2020 [4] Hernandez, 2015 [5] Hernandez, 2018 [6] hrsa.org

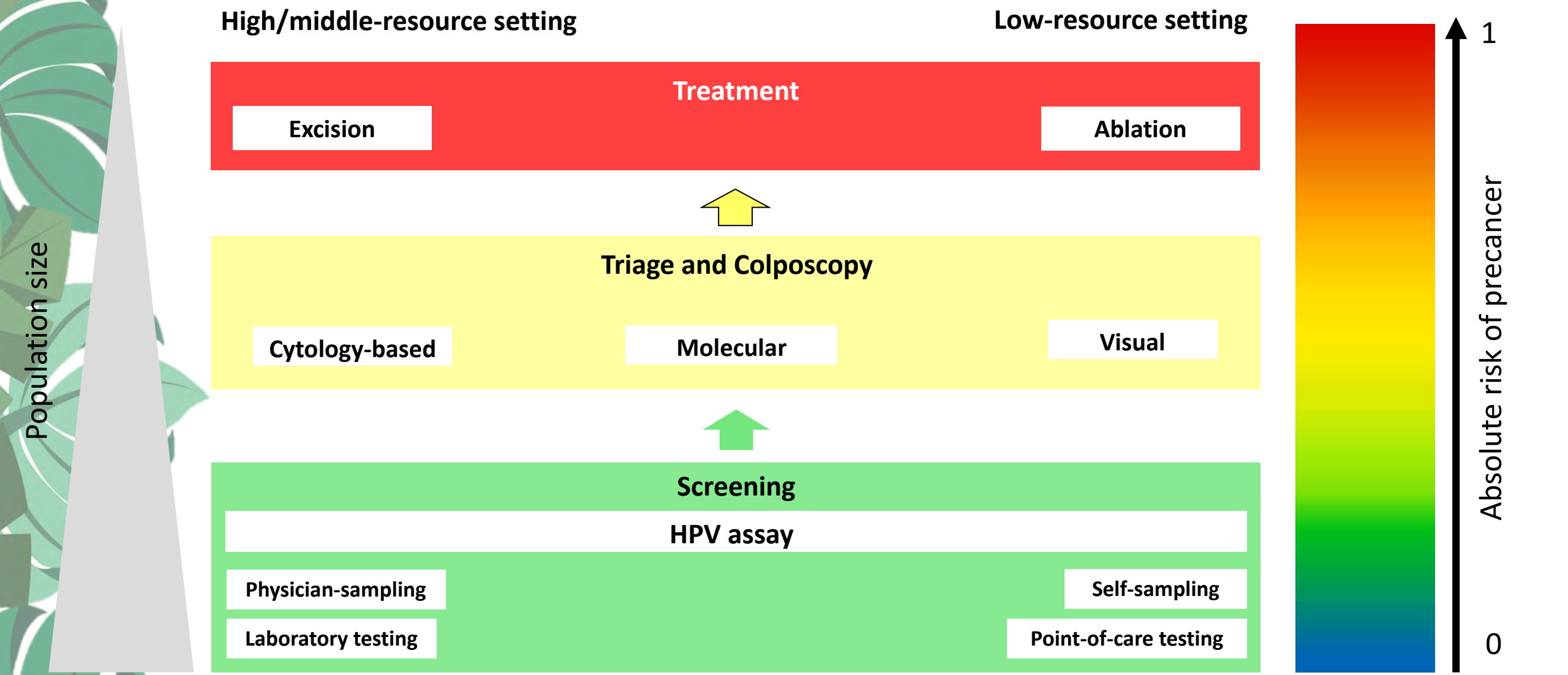
Screening and Early Detection Technology

- Cerv CA screening tests
  - Cervical cells- (cytology)
    - Pap smear
  - HPV DNA (molecular testing)
    - Co-testing-testing (w/ PAP)
    - Primary Provider Collected (w/o PAP)
    - Self Collected (no clinical provider)
  - Visual inspection with acetic acid (VIA) – (Cervical Staining Patterns)





Cervical cancer screening



Screening and triage technologies

Low-resource settings **High-resource settings**

Screen and treat
Point of care testing

Multi-visit programs
Centralized laboratories

HPV testing

Cytology

Visual Inspection with Acetic Acid (VIA)

Methylation (including self-sampling)

Dual stain (with automation)

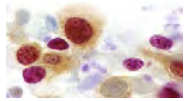
Automated Visual Evaluation (AVE)













Technologies developed and/or evaluated as part of the Moonshot effort

Cervical Cancer in the USAPI: Prevention, Screening, and Management

- Introducing the USAPI – a safety net setting
  - Best Practices
- Current practices, challenges, opportunities, and innovations in the USAPI; safety net settings
- Pacific Against Cervical Cancer (PACe) Program

Diagnosis – Early Treatment - Management

- Colposcopy
- Pap Smear
- VIA (not standard of care in the US)

- Cryotherapy
- Thermal Ablation (not US FDA approved)
- Chemical Ablation (up and coming, not US FDA approved)
- LEEP
- Conization

PACe Operational Structure

PIHOA

Emi Chutaro, Janet Camacho, Cerina Mariano

- Provide policy, administrative, management, logistic, plannig and technical support

CDC (DCPC and CSTLTS)

Dr. Mona Soraiya, Dr. Jin Qin, Dr. Virginia Senkomago

- Oversee the project
- Provide technical advice
- Liaison of federal programs

Local Jurisdiction

- Project coordinator
- Breast & Cervical cancer program and DPHSS
- Advisory committee
- Laboratories
- Private clinics
- Other partners

Implementation Team

University of Hawai`i

Dr. Neal Palafox (PI- Implementation Lead), Dr. Komal Soin, Dr. Lee Buenconsejo-Lum, Youngju Jeong, Mavis Nitta, Dioreme Navasca, Janos Baksa

- Lead project design and implementation
- Coordinate project activities
- In charge of project deliverables

University of Alabama

Dr. Isabel Scarinci

Role: Community awareness and education lead

Dr. Ricky Lu

Role: Medical lead

Cancer Council NSW

Dr. Karen Canfell, Dr. Diep Nguyen, Dr. Kate Simms, Chloe Jennett

Role: Cost-effective analyses lead

Administrative, Management and Technical Support

Pacific Island Health Officers Association (PIHOA)



Emi Chutaro, MSc

Executive Director



Janet Camacho, APRN, MSN, MPH

Deputy Director



Cerina Mariano, MPA

Programs and Operations Administrator

Implementation and Coordination

University of Hawai'i



Neal Palafox, MD, MPH
Implementation Lead



Komal Soin, MD



Lee Buenconsejo-Lum, MD, FAAFP
Data Working Group Member



Mavis Nitta, MPH, CHES
Program Manager



Dioreme Navasca, MPH
Program Associate



Youngju Jeong, MS
Fiscal & Evaluation Specialist



Janos Baksa, MIM
Database Informatics Specialist

Community Engagement Lead



Isabel Scarinci, PhD, MPH

University of Alabama-Birmingham

Medical Lead



Philip Castle, PhD, MPH

NIH

Medical Lead (past)



Jose Jeronimo, MD

NIH

Medical Lead (transition)



Ricky Lu, MD

JHPIEGO

Medical Lead (current)

Community Engagement

- Training – CHW
- Community Awareness and Educational Materials
  - Culturally and educationally appropriate
  - Language appropriate
- Working with Community Leads

Medical Protocols and Lab

- Identifying clinic / provider / laboratory / system readiness
- Medical Protocols and Treatment
- Provider Training
- Equipment Procurement

Modelling, Data and micro-costing informatics

Cancer Council New South Wales



Karen Canfell, D.Phil
Health Economic, Micro-costing Lead



Diep Nguyen, PhD



Kate Simms, PhD



Chloe Jennett, MPH, MIH

Modelling and Micro-Costing

- Impact of each Strategy (Vaccine, Screening Type, Throughput)
  - Reduction in morbidity
  - Reduction in mortality
- Cost and Cost Effectiveness of each strategy

Data and Informatics



Virginia Senkomago, PhD

Epidemiology



Jin Qin, PhD

Epidemiology



Megan Wysong, MPH

Data Evaluator

Data and Informatics

- Cervical Data Use and analytics
- Cervical Data Integration across systems
- Integrate Data Platforms
- Common Fields
- canSCREEN

Australian Centre for the Prevention of Cervical Cancer

Guam and Yap

	Guam	Yap
Political Status with US	Unincorporated Territory	Freely Associated
Population	153,836 (2020 Census)	11,377 (2010 Census)
Life Expectancy	73.9 years old (males) / 78.9 years old (females)	71 years old
Per Capital Total Health Expenditure (PPP)	$1,990	$546
Uninsured / Underinsured	23%	71.3% (uninsured)
Health Systems	3 hospitals and multiple private & non-government clinics	1 system under Yap Dept. of Health Services
GDP (USD)	$6,123,000 (2021)	$401,932 (2018)
Average Household Income	$58,289	$17,768
Overweight / Obesity Rates	61%	31.4% / 33.5%

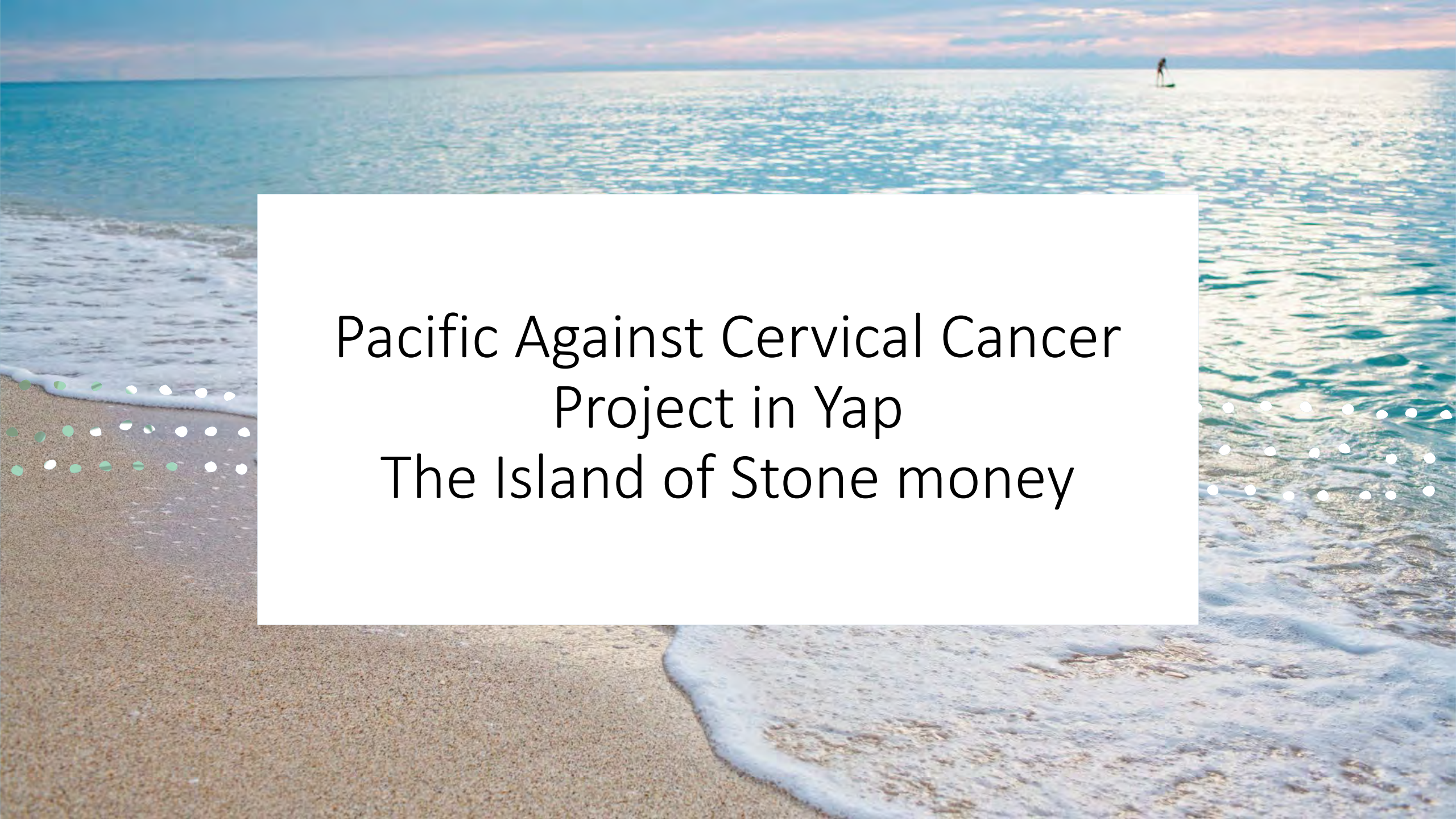


US Federal Services Available in Guam and Yap

	Guam	Yap
CDC Comprehensive Cancer Control $	Yes	Yes
CDC Breast & Cervical Cancer Early Detection $	Yes	No
Medicaid (including dental and prescription drugs)	Yes	No
Medicare	Yes	No

Program or Services Available in Guam and Yap

	Guam	Yap
Mammography	Yes	No
Pap Smears	Yes	Yes - 2-3 weeks+ for results
CT on-island	Yes	No
Pathologist	Yes	No
Biopsies to return from off-island	7-10 days	2 weeks minimum
General radiologist	Yes	No
General surgeon	Yes	No
Oncologist	Yes	No
On-island chemotherapy	Yes	Maintenance, rare
On-island radiation therapy	Yes	No



Pacific Against Cervical Cancer Project in Yap
The Island of Stone money

Yap Site



Dr. James Edilyong

Medical Director



Jenny Palemar

Project Assistant



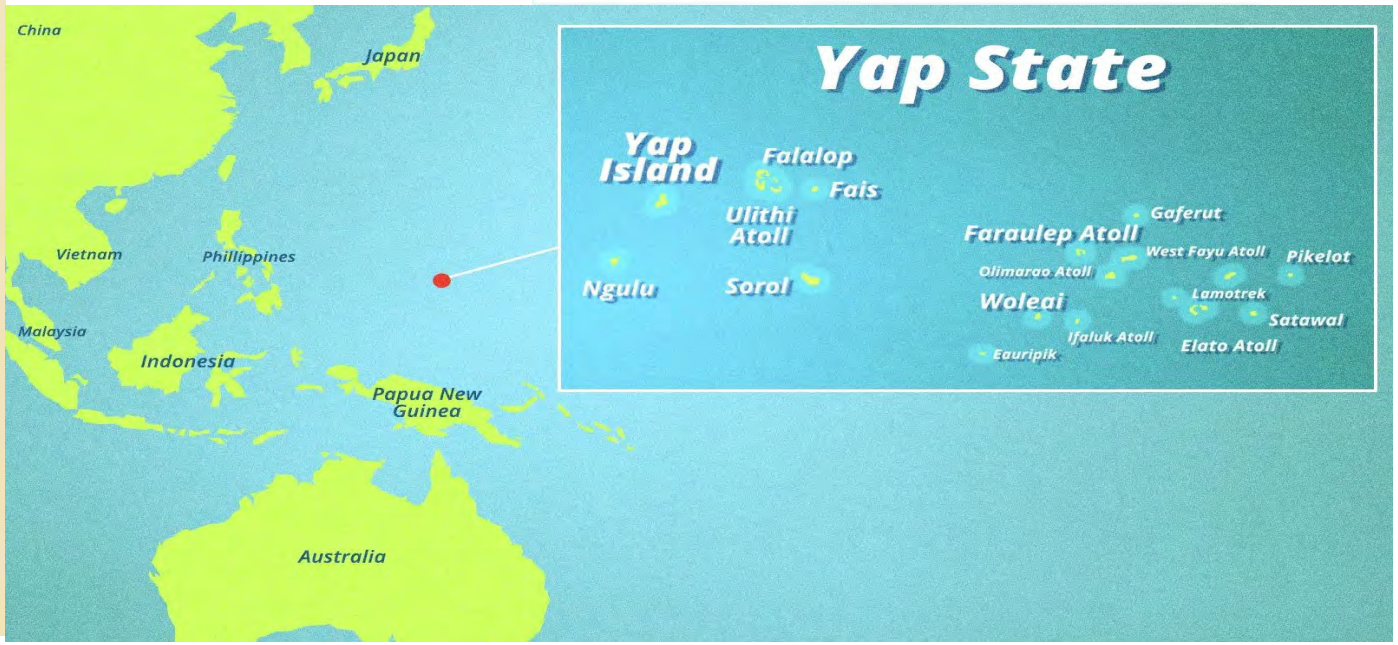
Yap

Community Advisory Board

COVERAGE AREA - Yap State is made up of 4 large islands, 7 small islands and 134 atolls, with a total land area of 45.6 square miles. The State stretches some 750 plus miles from Yap main island to the furthest inhabited outer island Satawal.









Our Goal: YAP will be the 1st Island in the World to achieve the WHO Global Elimination of Cervical Cancer 90-70-90 targets by 2030.

Key Elements

- Establishment of local Community Advisory Board
- Regular meetings with stakeholders on island and off island
- Capacity Building Training for Health workers in Outreach, Data, Medical and Lab areas to implement “Screen, Test & Treat” program in state
- 2 Phases – Provider Collected Sampling (207 Women 2022) and Self Collection Sampling (641 Women 2022-2024)
- Target: To screen 1600 Women 30-65 yrs old by end of 2024 as the catch-up campaign then annually only the 30-50 years
- Status: 848 women screened from Outer island and Main island. Results showing 1/10 women has a high-risk HPV type (either 16, 18, 45 or others)
- WHO Target: 90-70-90 (90% of girl fully HPV vaccinated by age 15, 70% of women screened with HPV test by 35 years of age, 90% of women with pre cancer treated and 90% of women with cervical cancer managed). This translates into cervical cancer incidence of 4 cases or less diagnosed a year.
- Successes: Yap using high performance HPV testing for pre cervical cancer with trained human resources in areas of data, outreach, screening, lab and treatment processes. Publications being put together for the project to share our experience and findings. Yap Lab can test samples on island now.
- Challenges: Procuring the HPV test kits and cartridges and preservcyst which has to be through the UN and Cepheid channels with PIHOA help.

Key Yap Partners

- Yap Community Advisory Board
- Yap Department of Health Services (Yap Lab, Primary Health, Public Health)
- Wa’ab Community Health Centers
- Yap Cancer Program

prHPV screening in Yap

Women Aged 30-50	Count Screened	Target Population	Coverage
Main Island	411	1,283	32%
Outer Islands	456	832	55%
TOTAL	**867**	**2115**	**41%**

Prior Screening	Count	%
No	526	61%
Unknown	12	1%
Yes	329	38%
TOTAL	**867**	

Collected	Count
Provider-Collected	207
Self-Collected	660
TOTAL	**867**

prHPV Screening Results and Follow-up in Yap

	As of March 28, 2024
# of Tests Completed (2022-24)	867
# Results Available to Date	488
# Results Pending	379
Positive HPV	86
VAT Done	57
VAT Pending	29
Number of Thermal Ablations	18
HPV 16	6
HPV 18	15
HPV 45	13
Other hrHPV	75
Required biopsy and further pathology processing	2
#s of CIN 2 and CIN 3	0
Invalid Results (Lab identified others, but not yet recorded and will rerun.)	3 (2 invalid and 1 error)

Guam Site



Cerina Mariano, MPA

Programs and Operations Administrator



Lesley Abonales

Project Coordinator



Guam

Community Advisory Board

Guam

- Discussions and Prioritization by Guam DOH
- Guam Cancer Coalition
- Community Stakeholder Engagement
  - DOH
  - University of Guam
  - Private Clinics
  - Laboratory (DLS)
  - Medicare and Medicaid Offices
  - Private Insurances
  - Medical Licensing Board

Guam PACe Project – Health System partners

- Guam's Department of Public Health and Social Services
  - Breast and Cervical Early Detection Program
  - Northern Region Community Health Center
- Todu Guam Foundation
- Marianas Physicians Group
- Seventh Day Adventist Clinic
- Shieh Clinic

Comprehensive Approach

- Policy
- Community Engagement and CHW Training
- Data Unification
- Medical Protocols and Lab
  - Understanding and Application of New Technology hrHPV
  - Laboratory Alignment
  - Screening Methods Comparisons
  - Provider Agreements and Readiness
  - Diagnostic Systems
    - Colposcopy Training
    - Mentorship Program
  - Treatment
    - System adoption

Guam Trainings

1. August 15, 2021: Guam Medical Society & Guam Medical Association CME Meeting – presentation “Cervical Cancer Prevention and Control in the Pacific: New Evidenced Based Screening Technologies”
2. August 16-19, 2021: Site Visit to meet PACe partners
3. January 25, 2022: ASCCP Training Webinar
4. July 22, 29 and August 12, 2022: 3-part Virtual Community Health Worker Training
5. August 8-12, 2022: Facility Service Readiness Assessment
6. April 24-28, 2023: In-person Community Health Worker Training
7. September 15, 2023: Refresher ASCCP Cervical Cancer Screening & Risk-Based Management Guidelines Webinar
8. January 16-19, 2024: Guam Colposcopy Training
9. February 26, 2024: Meetings with Guam PACe partners
10. March 8, 2024: Virtual Guam Post Colposcopy Training Case Discussion

Effectiveness, cost-effectiveness of HPV screening in Federated States of Micronesia and Guam

Diep TN Nguyen, Adam Keane, Chloe Jennett, Kate Simms*, Karen Canfell*

Data for model inputs - Guam

- Current status (Status quo):
  - cytology or co-testing screening at ~47-70% coverage[1]
  - completed HPV vaccination coverage at 50-60% coverage[2],
  - assumed loss-to-follow up after screening at 25%
  - estimated 75% of patients diagnosed with cancer can get access to treatment.

Note: 1. Health Center Program Uniform Data System (UDS) Data Overview (hrsa.gov); 2. NIS Teen survey data for Guam; 3. Price according to CDC Vaccine for Child Program

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Data for model inputs - FSM

- Current status:
  - VIA screening at 30%[1] coverage
  - completed HPV vaccination coverage at 50-60% coverage[2]
  - assumed low precancer and cancer treatment access status (‘status-quo’).

Note: 1. Federated States of Micronesia Health Center Program Uniform Data System (UDS) Data (hrsa.gov); 2. Yap immunization program data.

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Guam - Scenarios 1: Screening scale up at current HPV vaccination and treatment

Screening strategy ('X' refers to the estimated lifetime number of recommended routine tests	Age range	Screening coverage	Follow-up rate (at screening, diagnosis, precancer treatment…)	Cancer treatment access to radiotherapy	HPV vaccination coverage Girls & Boys
Current screening: **Case 1:** Cytology (3-yearly, 21-29 year, 3X), Co-testing (5-yearly,30-65 years, 8X); **Case 2**: Cytology (3-yearly, 21-65 years, 15X)	21-65	47%*	75%#	75%~	17.9 -61.2% (Girls),^ 15.1-41.7%% (Boys)
Scenarios to assess					
1. Cytology (3-yearly, 21-29 year, 3X), Co-testing (5-yearly,30-65 years, 8X) 2. Cytology (3-yearly, 21-65 years, 15X)	21-65	2025: 47% as current 2030: 70% 2045: 90%	Base case analysis: 90%** (FU could be improved with PoC HPV). Sensitivity analysis: 75% (if PoC HPV not available).	75%	17.9 -61.2% (Girls), 15.1-41.7%% (Boys)
3. HPV test - HPV16/18 triage (5 yearly, 25-65 years, 9X) 4. Cytology (3yearly, 21-29 year, 3X), HPV screen - HPV16/18 triage (5-yearly, 30-65 years, 8X)	25-65 21-65				17.9 -61.2% (Girls), 15.1-41.7%% (Boys)

*Community Health Centre Quality Recognition (CHQR) data, #, ~ assumption based on discussions with local experts; ^ NIS Teen survey data for Guam'

Scenarios 1: Screening scale up at current HPV vaccination and treatment

Screening strategy ('X' refers to the estimated lifetime number of recommended routine tests	Age range	Screening coverage*	Follow-up rate	Cancer treatment access to radiotherapy	HPV vaccination (girls only)
Current screening: VIA screening, 25-45 years, twice-lifetime	25-65	28.9%*	75%#	27.8%~	37%-60%^
Scenarios to assess					
1. VIA screening, 25-45 years, (3 yearly, 7X)	25-45	2023: 45% 2030: 70% 2045: 90%	90%**	27.8%~	37%-60%^
2. HPV screen and treat 30-50 years (5 yearly, 5X)	30-50	2023: 45% 2030: 70% 2045: 90%	Base case analysis: 90% (FU rate can be improved with PoC HPV). Sensitivity analysis: 75% if PoC HPV is not available	27.8%~	37%-60%^
3. HPV screen and treat 30-50 years (10-yearly, 3X)	30-50				
4. PV screen and treat 35 and 45 years (10-yearly, 2X)	35, 45				
5. HPV genotyping and VIA triage and treat 30-50 years (5 yearly, 5X)	30-50	2023: 45% 2030: 70% 2045: 90%	Base case analysis: 90%**	27.8%~	37%-60%^
6. HPV genotyping and VIA triage and treat 30-50 years (10-yearly, 3X)	30-50				
7. HPV genotyping and VIA triage and treat 35 and 45 years (10-yearly, 2X)	35, 45				

*Community Health Centre Quality Recognition (CHQR) data, #, ~ assumption based on discussions with local experts; ^ Yap immunization registry data ; ** WHO elimination targets

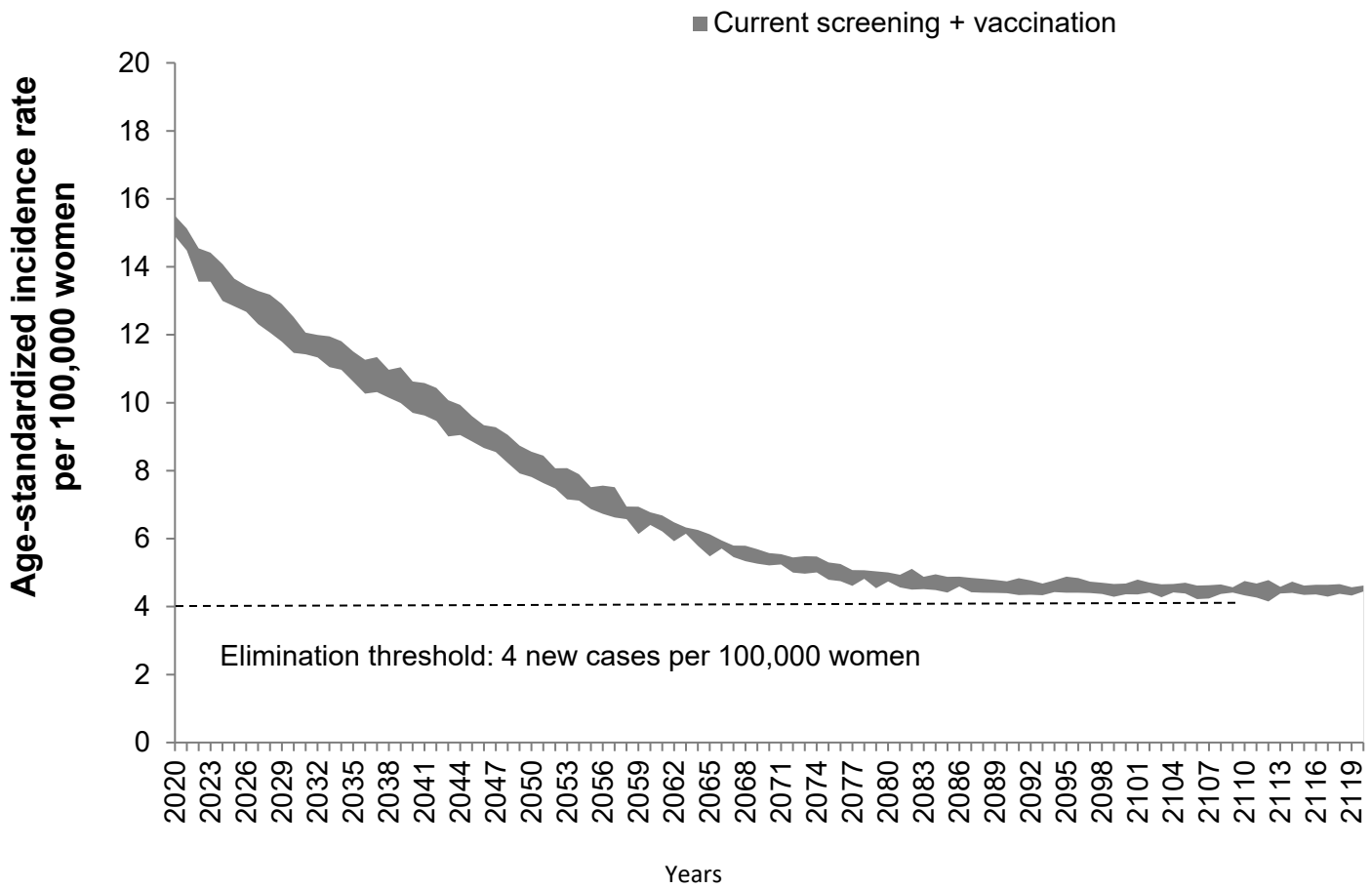
Scenarios 2: HPV vaccination, screening and treatment scale up

Screening strategy ('X' refers to the estimated lifetime number of recommended routine tests	Age range	Screening coverage*	Follow-up rate	Cancer treatment access to radiotherapy	HPV vaccination
Current screening: VIA screening, 25-45 years, twice-lifetime	25-65	28.9%*	75%#	27.8% ~	55%-69% ^
Scenarios to assess					
1. VIA screening, 25-45 years, (3 yearly, 7X)	25-45	2023: 45% 2030: 70% 2045: 90%	90%	2023: 50% 2030: 90%**	90%** (Girls)
2. HPV screen and treat 30-50 years (5 yearly, 5X)	30-50	2023: 45% 2030: 50% 2045: 90%	Base case analysis: 90%** (FU rate can be improved with PoC HPV). Sensitivity analysis: 75% if PoC HPV is not available	2023: 50% 2030: 90%**	90%** (Girls)
3. HPV screen and treat 30-50 years (10-yearly, 3X)	30-50				
4. PV screen and treat 35 and 45 years (10-yearly, 2X)	35, 45				
5. HPV genotyping and VIA triage and treat 30-50 years (5 yearly, 5X)	30-50	2023: 45% 2030: 70% 2045: 90%	Base case analysis: 90%**	2023: 50% 2030: 90%**	90%**(Girls)
6. HPV genotyping and VIA triage and treat 30-50 years (10-yearly, 3X)	30-50				
7. HPV genotyping and VIA triage and treat 35 and 45 years (10-yearly, 2X)	35, 45				

*Community Health Centre Quality Recognition (CHQR) data, #, ~ assumption based on discussions with local experts; ^ Yap immunization registry data, ** WHO elimination targets

Key findings – Guam

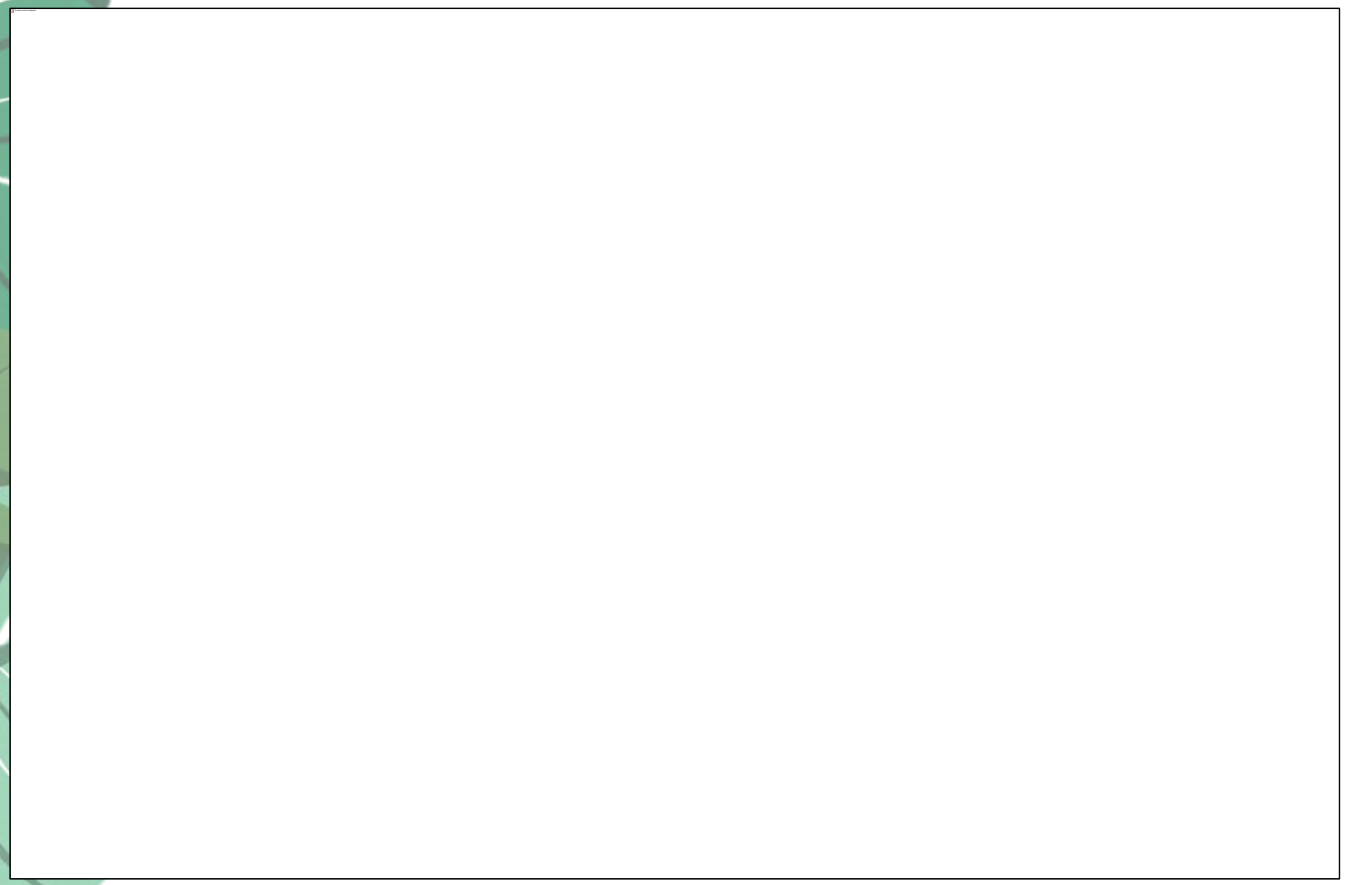
Cervical cancer incidence rate overtime – Current HPV vaccination, screening, and treatment - Guam



- At current screening:

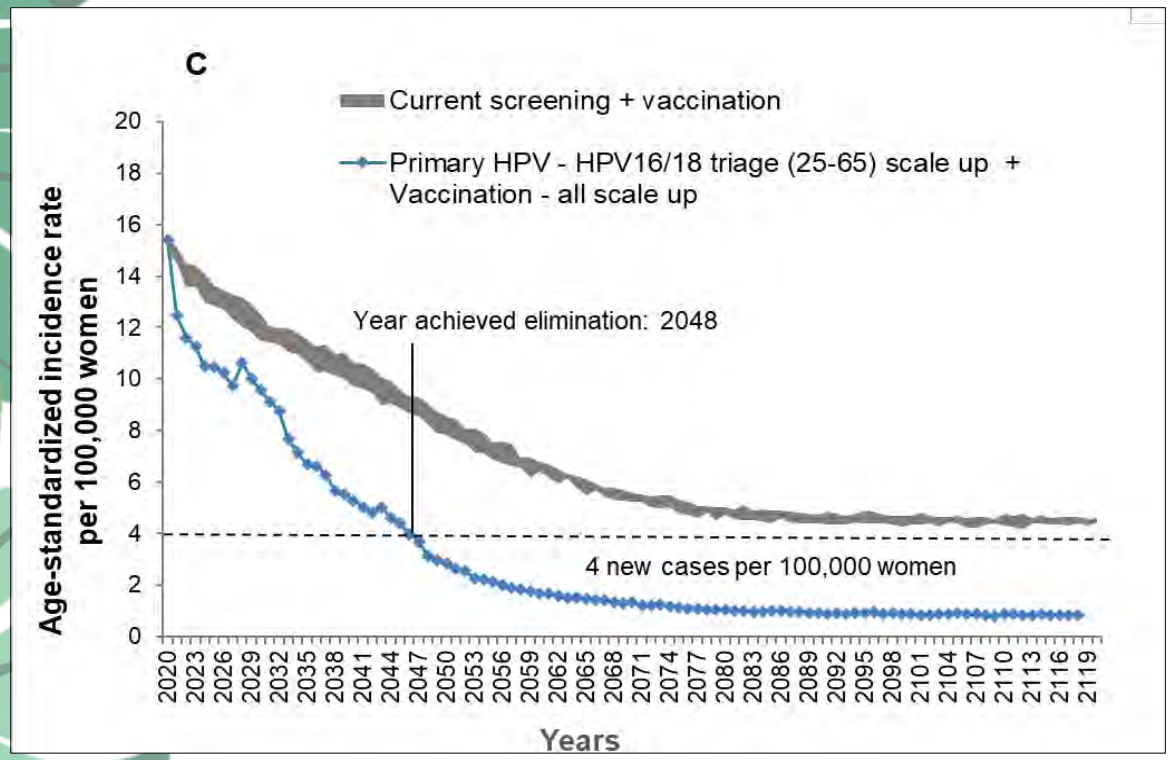
- Cannot reach to elimination threshold: 4 new cases per 100,000

Cervical cancer incidence rate overtime – Screening scale up at current HPV vaccination, and treatment (Scenario 1)



- If we can provide 5-yearly primary HPV screening to 70% of women aged 25-65 years (HPV vaccination and access to precancer and cancer treatment at current level), Guam can achieve the elimination target by **2069**.

Cervical cancer incidence rate overtime – Screening, HPV vaccination, and treatment scale up (Scenario 2)



- If we can provide 5-yearly primary HPV screening for 70% women aged 25-65 years together with increase the HPV vaccination coverage to 90%, and increase treatment access rate for women diagnosed with precancer and cancer to 90% by 2030, Guam can achieve the cervical cancer elimination by **2048** (21 years earlier compared to scaling up screening only).

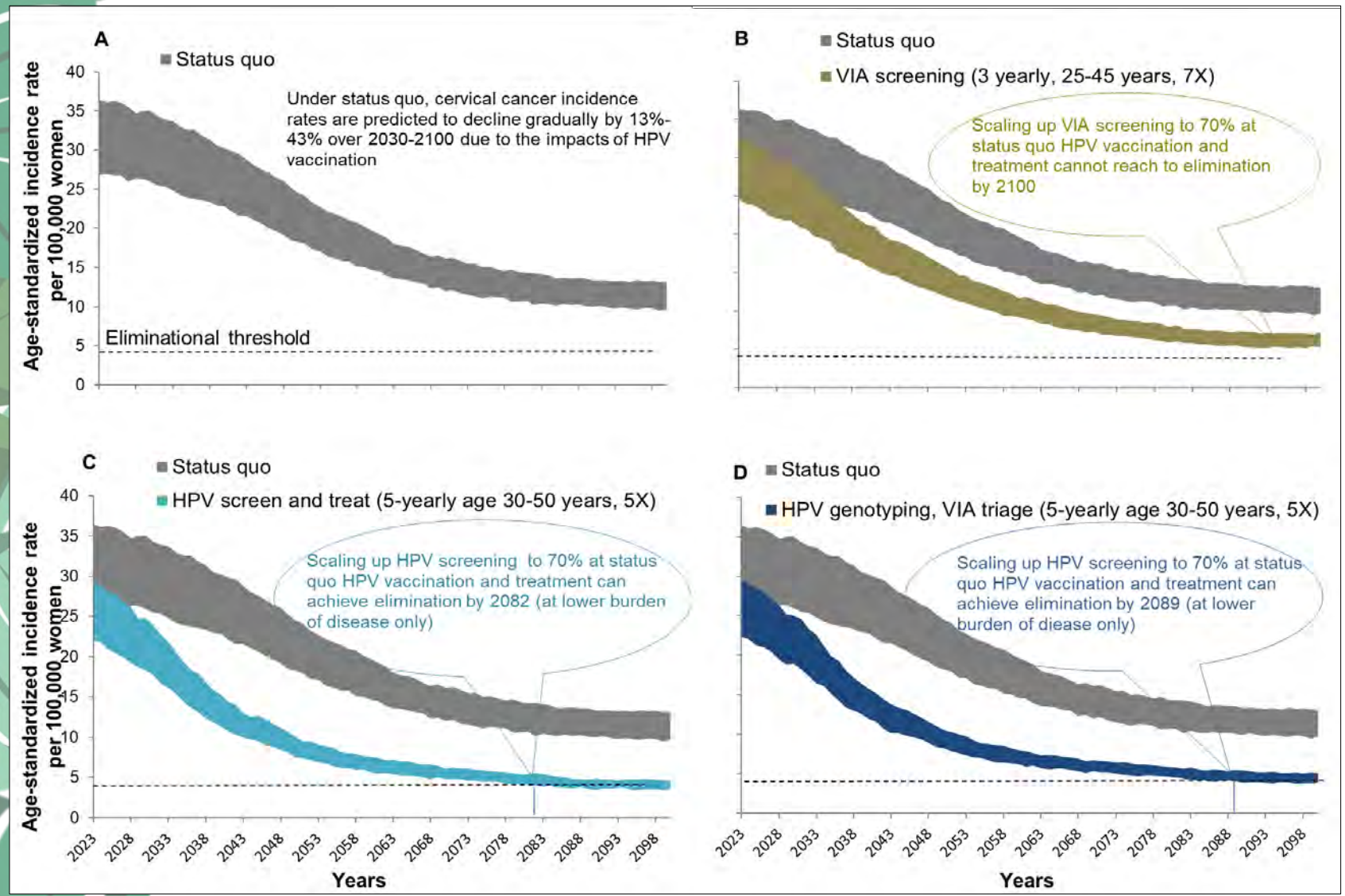
- Providing 5-yearly primary HPV screening for women aged 25-65 years has similar impact on cervical cancer incidence and mortality as 3-yearly Cytology (21-29 years) and 5-yearly contesting (30-65 years)

However, 5-yearly HPV screening aged 25-65 years would be

- easier to increase the coverage with HPV self-collection and require fewer visits
- cheaper to than cytology (3 yearly, 21-29 years) and contesting (5 yearly, 30-65 years);

Main findings – FSM

Figure 5: Cervical cancer incidence rate over time – Current HPV vaccination and treatment compliance, screening scale up only (scenario 1)



- Current VIA screening scale up at current HPV vaccination cannot reach to elimination
- HPV screen and treat strategy only can reach elimination at a lower burden of disease in 2082
- HPV - genotyping triage strategy only can reach elimination at a lower burden of disease in 2089

Note: Age-standardised incidence rates were calculated using 2015 World-Standard Population

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Policies / Best Practices
Characteristics / Performance indicators that define a National Cancer Control Program

- **Societal Impact**
  - Improving Access
  - Geographic (rural / urban), demographic (age) , socio-economic strata (delegate to province?), regional
  - Equity (vulnerable populations- behavior / mental health, immigrants, culture / language), political status (refugee)
  - Empowering end user / increasing health literacy
- **Effective**
  - Evidence Based Interventions
  - Comprehensive Approach (eg. Cerv ca screening)
  - Clear Targets (ideal, limited, general)
- **Accountability**
  - Monitoring and Evaluation
- **Governance**
  - governance , leadership and organizational structure meets purpose of CCP
  - Partner / stakeholder representation
- **Sustainable**
  - Resource Appropriate
  - Dynamic -- Over time, through changes in government, politically
  - Innovation – improving with new science, technology, research , demographic shift
- **Implementable**
  - Political / societal will
  - Resource appropriate
    - Affordable
    - infrastructure
  - Timely Appropriate



Sustainability - Tools and Approaches

- Costs tools to identify costs and potential financing mechanisms
  - the WHO is working on a costing tool for implementation
  - Government and private sector financing mechanisms
  - Donor agencies (donor limitations)
  - Regional Partnerships

- Policies that can be put into place that safeguard the program and funding for the program even when there is a change in leadership, government parties, health care crisis

Innovations: Prevention / Screening / Early Detection / Management

- Adapt successful practices from other similar settings
  - Asia-Pacific countries, Global Experience
- North Pacific as a best practice
  - APEC, IPVCC, South Pacific Collaborative
- New technologies / applications and combinations of approach
  - Telehealth
  - HPV and VIA
  - Thermal ablation
  - AI and VIA

Opportunities for Growth

- Principle: The status quo can be changed with great input of creative energy

- Culture of Change – Culture of Trust
  - must be able to adapt and see and translate different approaches
  - must be able to understand our own institutional culture re change and adaptation – how is if helpful – how is it a barrier
  - Relevance is context specific
    - Adapting Science and Technology to Country / Community Context

Lessons Learned – Addressing the gaps (NCD Declaration- what more can be done?)

- Coalition Building
  - Operationalizing and running a multi-sector , multi-level coalition

- Partnership Development
  - Integration across NCD Programs
  - Integration across Public-Private Sector / Government
  - Civil Society Participation (key - traditional)
  - Governance and Leadership in a Multi-Sector, Multi-Level Partnership
  - Regionalization

Rebranding - Context Alignment

- Needs Assessment
  - Resource Availability
  - Economic
  - Human Resource and Program Leadership
  - Priority Focus from Population perspective(eg. NCD Declaration)
- Political Structure
  - Government authority (e.g., NCD Declaration)
- Societal Structure
  - Culture, language
- Geographic
- Population-specific NCD Risk Reduction

USAPI Best Practices and Tool Kit

- Understand and Adjust to the Political / Economic / Cultural Context
  - Adjust to technology
- Multi-lateral, Multi-agency, Intra-agency, Transdisciplinary approach
- Community is the strongest asset
  - Community at the Center
    - Those closest to the problem best to problem-solve
    - All stakeholders present and included in the dialogue



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