Republic of the Marshall Islands Ministry of Health and Human Services FY 2017 Annual Report

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ACRONYMS

IAEA	International Atomic Energy Agency
PACS	Picture Archiving & Communication System
NP	Nurse Practitioner
DLS	Diagnostic Laboratory Services
PIHOA	Pacific Islands Health Officers Association
PCSI	Program Collaboration Service Integration Conference
APNLC	American Pacific Nursing Leaders Conference
VIA	Visual Inspection with Acetic Acid
NCCCP	National Comprehensive Cancer Control Program
OIHCS	Outer Islands Health Care Services
CHC	Community Health Center
UDS	Uniform Data System
OHPPS	Office of Heath Planning, Policy and Statistics

MESSAGE FROM THE MINISTER AND SECRETARY OF HEALTH AND HUMAN SERVICES

Hon. Kalani Kaneko
Minister of Health & Human Services

Mrs. Julia M. Alfred
Secretary of Health & Human Services

Iakwe!
We are pleased to present the Annual Report for the Ministry of Health and Human Services (MoHHS) for Fiscal Year 2017. This report is presented for a better understanding of the health indicators and type of resources allocated to the Ministry such as human and financial resources, and the utilizations of its resources to provide health care services for the Republic.

Section on data and vital statistics presents the health status of RMI in terms of morbidity and mortality in five-year period. Non-communicable Diseases (NCDs) or lifestyles diseases, tuberculosis and leprosy remain the three prioritized areas, and update on activities and data are included in this report. The last section is the Cost Analysis and Expenditures for the fiscal year in selected areas or services. It is important to note that actual costs of services provided by the Ministry are not charged accordingly. If the Ministry was to charge patients according to the costs of services, high revenues will be generated every year.

Because of the high rates of lifestyles diseases or chronic diseases and identified communicable diseases, the Ministry continues to shift its focus on preventive or primary health care's services in compliance with the Declaration of Primary Health Care by World Health Organization (WHO) on September 12, 1978 in Alma Ata. The Declaration called for urgent action by all governments, all health and development entities and the world community to protect and promote quality health practices for all peoples.

Health is a shared responsibility between the RMI Government, communities, non-governmental organizations, churches, women's groups, business communities, civil society, families and individuals. We are all responsible for our own health because we can make choices to take care of our own health through eating the right kind of food, increase physical activities/exercise, stop smoking, and drink less alcohol for better health. The risk factors related to lifestyles diseases such as tobacco use, alcohol consumption, lack of physical activities and poor diet contribute in high prevalence and incidence rates of NCDs in our nation. It's high time to be the driver of our own health. Own our HEALTH. Own our LIFE.

HIGHLIGHTS

Ebeye TB-NCD Mass Screening

In February 20, 2017, Ministry of Health and Human Services - Ebeye with the support from CDC, WHO, and other local and foreign partners commenced the TB-NCD Mass Screening. Ebeye Atoll is the 1st one in the Pacific Islands that implemented the TB-NCD Mass Screening. There was a 91% coverage rate of Ebeye population. This success is attributed to the support of the community leaders and stakeholders with commitment by Directly Observed Treatment (DOT) staff and Community Health Outreach Workers (CHOW). 99 newly confirmed TB were diagnosed in 2017. 52 of the 99 (52.5%) were confirmed during the mass screening. **867** people per **100,000 population** has TB in Ebeye.

Table 1: Ebeye Island TB Incidence Rate Per 100,000 population

Year	Total
2015	219
2016	368
2017	867
Source: Ebeye TB Program	

Rigorous Empowerment & capacity building of Ebeye TB Staff through theory teaching, hands on training and shadow training with consultants. Projected Pharmaceuticals needs were purchased with Ebeye funds ahead of time so, treatment of patients uninterrupted

Table 2: 2017 Mass Screening Results – New Cases Detected

	Male	Female	Total
TB	29	23	52
Diabetes	159	265	424
Hypertension	266	196	462
High Cholesterol	32	118	150
Ebeye TB/NCD Mass Screening			

Human Resources Development

Nurse Practitioner – 12 nurses in the pipeline

The Nurse Practitioner Training Program (NPTP) is a joint project of the RMI Ministry of Health and Human Services (MOHHS), Fiji National University School of Medicine, Nursing & Health Sciences (FNU) and the Pacific Islands Health Officers' Association (PIHOA). Candidates are prepared for primary care practice and upon successful completion are awarded a post-graduate diploma as nurse practitioners.

Medical Students and Internship

Dr. David Alfred is the 1st Marshallese that earned a degree in medicine in I-Shou University, Taiwan in 2017. Majuro Hospital will host his internship partnering with Shuang Ho Hospital. Specialist Doctors from Shuang Ho Hospital and Specialist Doctors from Majuro Hospital will trained Dr. Alfred to complete 9 months of medical internship. Medical Students Cody Jack and Ethel Briand received their White Coat ceremony. There are 13 medical students (12 in Taiwan and 1 in Fiji).

Signing Ceremony for Medical Internship Program between Shang Ho Hospital & Ministry of Health RMI

I. GEOGRAPHY AND DEMOGRAPHICS

The Marshall Islands consists of 29 atolls and five major islands, which form two parallel groups- the "Ratak (sunrise) chain and the "Ralik" (sunset) chain. The Marshallese is of Micronesian origin. The matrilineal Marshallese culture revolves around a complex system of clans and lineages tied to land ownership. The Marshall Islands has an area of 1,826 square kilometers and is composed of two coral atoll chains in the Central Pacific. The Marshall Islands is a parliamentary democracy, constitutionally in free association with the United States of America. It has a developing agrarian and service-oriented economy.

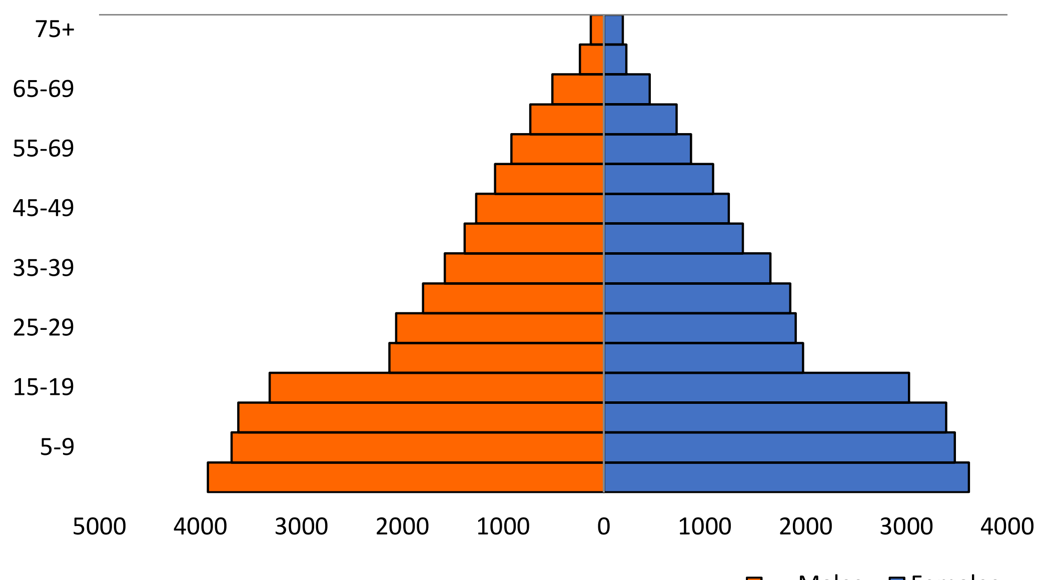
Table 3: RMI Population by Gender, 2011 – 2017

Year	Total	Male	Female
2017	**55,396**	28,370	27,026
2016	**55,160**	28,254	26,906
2015	**54,880**	28,115	26,765
2014	**54,550**	27,949	26,600
2013	**54,166**	27,756	26,410
2012	**53,727**	27,534	26,193
2011	**53,158**	27,243	25,915
Source: EPPSO, RMI Projected Population			

Table 4: RMI Projected Population by Sex and Five-Year Age Group

Age	2011	2012	2013	2014	2015	2016	2017
0 - 4	7,717	7,784	7,743	7,644	7,517	7,409	7,172
5 - 9	7,022	7,142	7,287	7,427	7,517	7,505	7,544
10 - 14	6,496	6,662	6,756	6,793	6,828	6,900	7,017
15 - 19	4,735	4,828	5,111	5,486	5,855	6,151	6,340
20 - 24	5,095	4,864	4,555	4,248	4,033	3,974	4,101
25 - 29	4,403	4,408	4,416	4,410	4,348	4,202	3,961
30 - 34	3,791	3,790	3,761	3,721	3,682	3,650	3,640
35 - 39	3,141	3,155	3,180	3,208	3,230	3,238	3,227
40 - 44	2,783	2,793	2,779	2,759	2,745	2,744	2,758
45 - 46	2,348	2,390	2,429	2,463	2,488	2,503	2,502
50 - 54	1,929	1,976	2,011	2,048	2,087	2,125	2,163
55 - 59	1,583	1,642	1,673	1,697	1,720	1,747	1,779
60 - 64	1,047	1,146	1,223	1,295	1,357	1,410	1,450
65 - 69	526	593	667	743	819	893	965
70 - 74	249	255	276	309	351	402	459
75+	293	299	301	301	303	308	319
Total	**53,158**	**53,727**	**54,166**	**54,550**	**54,880**	**55161**	**55396**
Source: EPPSO, RMI Projected Population							

Figure 1 Population Pyramid of RMI in 2017



Source: EPPSO, RMI Projected Population

The population pyramid of RMI in 2017 still indicates that it is an expansive and young population supported by the high crude birth rate and crude death rate of RMI.

Total Fertility Rate, Marshallese woman will have 3 children in her lifetime. Based on the live births and death occurrence in 2017, the increase rate of RMI population is 1.26%.

II. OVERVIEW

In 1986 the RMI Government adopted the concept of Primary Health Care declared by the WHO in 1978. The Bureau of Primary Health Care was established to target the strengthening of preventive programs/services at the community level. The bureau is renamed the Bureau of Primary Health Care Services.

Ministry of Health and Human Services (MoHHS)works in conjunction with the Community Health Councils (CHC) in the Outer Islands. The system requires community participation in health care and ensures that the community beyond the urban centers are involved and included in the provision of health care services.

The health care system is comprised of two hospitals, one in Majuro and one in Ebeye and fifty-six (56) health care centers in the outer atolls and islands. Both hospitals provide primary and secondary care, but limited tertiary care. Patients who need tertiary care are referred to Honolulu or the Philippines.

Health centers in the outer islands are the focus for preventative, promotive and essential clinical care services. All health care centers are permanently staffed by full time Health Assistants who provide health services and work with the Community Health Councils to promote and foster the concept of shared responsibility for health.

Table 5 indicates the hospital and health centers under the MOHSS. Leroij Atama Zedkeia Medical Center commonly known as Majuro Hospital and Leroij Kitlang Memorial Health Center commonly known as Ebeye Hospital are serving inpatient, outpatient, public health clinics and ancillary services. There are 56 Health Centers in RMI. Aside from the 177 Health Centers, Health Assistants are the health care providers in the health centers. Medical and public health staff conduct outreach to the health centers in the outer islands and within the community as well. Health centers in the Outer Islands provides preventative, promotive and essential clinical care services. All health care centers are permanently staffed by full time Health Assistants who provide health services and work with the Community Health Councils to promote and foster the concept of shared responsibility for health.

Health Care Locations			
MAJURO ATOLL			
• Leroij Atama Zedkeia Medical Center (Majuro Hospital) • Laura Health Center • Rongrong Health Center			
KWAJALEIN ATOLL			
• **Leroij Kitlang Memorial Health Center (Ebeye Hospital)** • **Santo Dispensary** • **Ebadon Dispensary** • **Gugeegue Dispensary**			
OUTER ISLANDS HEALTH CENTERS			
Ratak Chain 1. Aerok 2. Maleolap 3. Ailuk 4. Arno 5. Aur 6. Bikarej 7. Enejelar 8. Enejit 9. Ine 10. Jang 11. Jebal 12. Kaven 13. Kilange 14. Likiep	15. Lukonwor 16. Mejit 17. Milli 18. Nallu 19. Ollet 20. Tarawa 21. Tinak 22. Tobal 23. Tokewa 24. Tutu 25. Ulien 26. Wodmej 27. Wotje	**Ralik Chain** 1. Aerok Ailinglaplap 2. Bwoj 3. Ebon 4. Imiej 5. Imiroj 6. Jabnoden 7. Jabot 8. Jabwor 9. Jaluit 10. Lae 11. Lib	12. Loen 13. Mae 14. Majkin 15. Mejrirok 16. Namdrik 17. namu 18. Narmij 19. Toka 20. Ujae 21. Woja 22. Wotho
177 HCP Program	Department of Energy Clinic	Kumit Wellness Center	Taiwan Health Center
Majuro Clinic			
Ejit Clinic			
Kili Heakth Center			
Enewetak Health Center			
Utrik Health Center			
Mejatto Health Center			

Table 5: No. of Beds in the two Main Hospitals	
Hospital	No. of beds
Leroij Atama Zedkeia Medical Center (Majuro Hospital)	101
Leroij Kitlang Memorial Health Center (Ebeye Hospital)	54

Table 6: Private Clinics and Pharmacy	
Clinic Name	**Location**
Majuro Clinic	Delap, Majuro
Capital Dentistry	Uliga, Majuro
Eyesight, Professional	Delap, Majuro
Medisource Pacific Pharmacy	Majuro and Ebeye

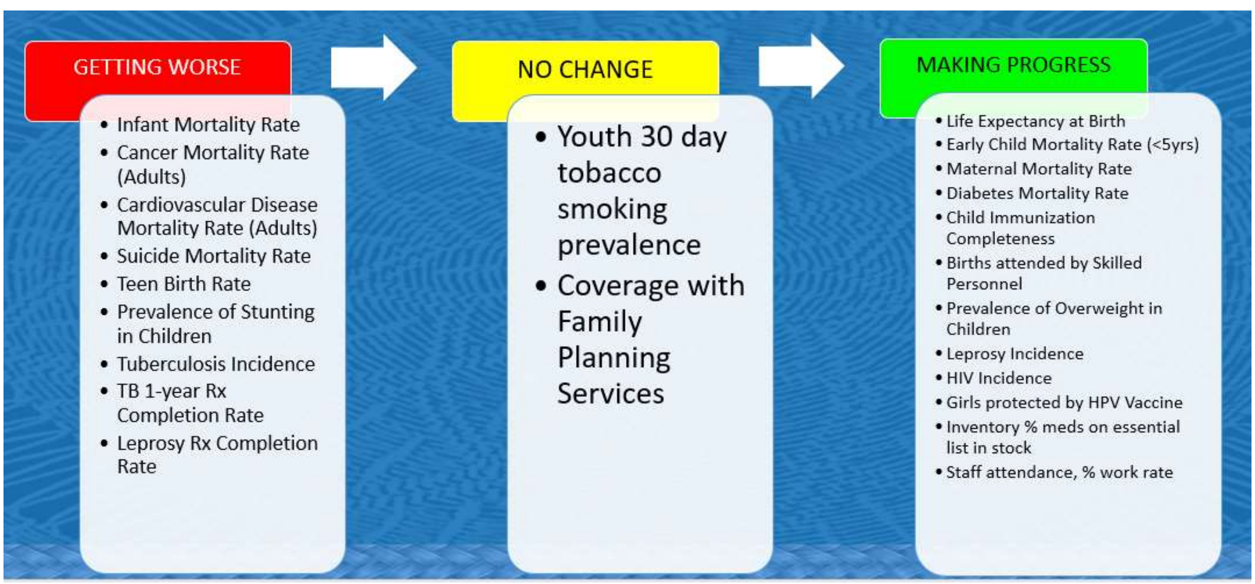
Table 7 indicates there are three licensed private physicians and one private pharmacist that provide clinical services and pharmaceutical for the residents in Majuro. They are licensed under the MOHHS' Medical Examining and Licensing Board to practice in the RMI.

III. KEY PERFORMANCE INDICATORS

The RMI Ministry of Health and Human Services (MOHHS) is responsible for improving the health status of the people of the Republic of the Marshall Islands. It is essential to guide this effort with accurate, consistently measured, valid data, organized in a way that gives a clear picture of both progress and problem areas. This is the second year of the new performance monitoring regime, which replaced the 14 "Compact Indicators" that were in use since 2004. Criteria for inclusion in the revised key performance indicator (KPI) set included:

- *Give a balanced picture of the top health priorities of MOHHS and RMI;*
- *Summarize overall progress rather than programmatic details;*
- *Use internationally recommended health and performance indicators where possible so that comparisons can be made across countries;*
- *Are feasible to measure without great difficulty in the RMI.*

The final set includes 36 indicators which fall into the following categories: demographics, non-communicable diseases, maternal & child health, infectious diseases, resource and administrative indicators. The KPIs were chosen to match priorities contained within the 3-year RMI MOHHS Strategic Plan (2017-2019) and also designed to incorporate, where possible, indicators that are in harmony with RMI health sector commitments to the United Nations Strategic Development Goals and the Pacific Healthy Islands Framework. In addition to the KPIs, Annex A, of case mix lists (top 10 causes of death, top 10 diagnoses for outpatients, inpatients and referrals) is provided to give a picture of the types of cases that occupy much of the work of the MOHHS



Key Performance Indicators Annual Scorecard- 2017

Code for trend: [q] = Improving = Getting Worse = No change = Need more data ★ =Target reached

		Key Performance Indicator	Target	2015 result	2016 Result	2017 results	Trend[q]
Demographic	1	Life expectancy at birth[HI] (years)	NT	71.9 (2011)	(due in 2020)	(due in 2020)	
	2	Infant mortality rate[SDG] (per 1000 births)[a]	12[c]	13	15	18	
	3	Early child (<5 years) mortality rate[HI,SDG] (per 1000 births)[h]	25[d]	31	32	29	
	4	Maternal mortality ratio[HI,SDG] (per 100,000 births)[h]	70[d]	87	120	92	
NCD Core	5	Youth 30 day tobacco smoking prevalence[HI,SDG,b]	NT	32% (2011)[e]	31%	(due in 2018)	
	6	Youth 30 day alcohol use prevalence[b]	NT	40.8% (2011)[e]	Ø	(due in 2018)	
	7	Youth overweight + obesity prevalence[b]	NT	Ø	27%	(due in 2018)	
	8	Adult mortality rate, cancer[SDG] (per 100,000 30-69yo)[h]	122[f]	163 (2014)	128	137	
	9	Mortality rate, cardiovascular disease [SDG] (as above)[h]	155[f]	207 (2014)	162	206	
	10	Mortality rate, diabetes [SDG] (as above)[h]	360[f]	480 (2014)	451	415	
	11	Mortality rate, chronic lung disease [SDG] (as above)[h]	20[f]	26 (2014)	10	18	
	12	Suicide mortality rate[SDG] (per 100,000 all ages)[h]	14[g]	16 (2014)	16	17	
MCH	13	Child immunization completeness[i]	90%[j]	59%	47%	55%	
	14	Coverage with Family Planning Services[HI,SDG] (♀15-44yo)	21%[k]	16%	16%	16%	
	15	Teen birth rate [HI,SDG] (per 1,000 ♀ 15-19yo)	NT	58	49	48	
	16	Births attended by skilled personnel (%) [HI,SDG]	95%	99%	99%	99%	★
	17	Prevalence of stunting in children[HI,SDG] (0-4yo)	<10%[l]	Ø	Ø	35%[m]	
	18	Prevalence of overweight in children[HI] (0-4 yo)	<5%[l]	Ø	Ø	4%[m]	★
Infectious Disease	19	Tuberculosis incidence[HI,SDG] (per 10,000)	≤ 1	22	30	35	
	20	TB one-year on-time Rx completion rate	95%[n]	87%	87%	80%	
	21	Leprosy incidence[SDG] (per 10,000)	< 1	10	12	10	
	22	Leprosy on-time Rx completion rate	95%[n]	60%	74%	70%	
	23	Incidence HIV[SDG] (per 100,000)	0	2	5	4	
	24	Pregnant ♀- Syphilis prevalence (%)	NT	Ø	Ø	Ø	
	25	Pregnant ♀- Gonorrhea prevalence (%)	NT	Ø	Ø	Ø	
	26	Pregnant ♀- Chlamydia prevalence (%)	NT	Ø	Ø	Ø	
	27	Pregnant ♀- Hepatitis B infection (%)	NT	Ø	Ø	Ø	
	28	Girls protected by HPV vaccine (age 13 yo)	90%	29%	32%	35%	
Admin	29	Inventory: % meds on essential list in stock[SDG]	90%	Ø	62%	68%	
	30	Staff attendance: % workrate	90%	36%	40% (Majuro)[o]	47% (Majuro)[o]	
	31	a) Purchase order, b) Contract, c) Personnel action processing times (average # days)	<60 days	a) Ø b) Ø	a) 22 days[p]		

				c) Ø	b) Ø c) 40 days		
Resource	32	# of people per physician and # of people per nurse[HI,SDG]	NT(Dr) 600:1 (nurse)	1663:1 (doctor) 368:1 (nurse)	1452:1(doctor) 477:1 (nurse)	1,288: 1 (Doctor) 254:1 (nurse)	
	33	Per capita health expenditures per year[HI]	NT	$436	$519	$560	
	34	Within-RMI Referrals- Average cost per case	NT	$3787	$2740	$2632	
	35	Out-of-RMI Referrals- Average cost per case	NT	$22,270	$28,451	$20,837	
	36	Budget and end-of-year utilization % ("burn rates"): a) Compact & General Fund, b) Health Care Fund & Health Care Revenue Fund, c) Other Grants[HI,SDG]	90%	a) 84% b) 100% c) 67%	a) 90% b) 100% c) 76%	a) 86% b) 90% c) 72%	

CASE MIX INDICATORS

Table 7: Leading Causes of Mortality, RMI, FY2016-FY2017

FY 2016			FY2017		
Rank	**Underlying Cause of Death**	**#**	**Rank**	**Underlying Cause of Death**	**#**
1	Diabetes	83	**1**	Diabetes	86
2	Cardiovascular Diseases	57	**2**	Cardiovascular Diseases	63
3	Cancer	32	**3**	Cancer	33
4	Hepatitis B	26	**4**	Pneumonia	25
5	Injury/Accident/Drowning - All together	20	**5**	Hepatitis B	14
6	Suicide	11	**6**	Suicide	11
7	Pneumonia	10	**7**	Tuberculosis of the Lungs	8
8	Septicemia	8		Injury/Accident/Drowning - All together	8
	Gastroenteritis	8	**8**	Septicemia	5
9	Gastrointestinal Bleeding	5	**9**	Cerebrovascular Disease	4
	Chronic Lung Diseases	5		Chronic Lung Diseases	4
10	Tuberculosis of the Lungs	4	**10**	Meningitis	3
Source: Vital Records Information System					

Table 8: Top 10 Outpatient Diagnoses					Table 9: Top 10 Admission Diagnoses			
Majuro Hospital 2017			Ebeye Hospital 2017		Majuro Hospital 2017		Ebeye Hospital 2017	
Rank	Cause	#	Cause	#	Cause	#	Cause	#
1	Acute Upper Respiratory Infection	4280	Diabetes Mellitus	4,542	Single live birth	581	Single live birth	131
2	Dental carries	1789	Acute Upper Respiratory Infection	2,598	Full-term uncomplicated delivery	563	Full-term uncomplicated delivery	122
3	Chronic Bronchitis	1419	Hypertensi on	2,584	Diabetes Mellitus	409	Abscess Nos, Cellulitis Nos	83
4	Diabetes	1313	Normal Pregnancy	958	Hypertension	143	Single Live Born by Cesarean	79
5	Gastroenteritis	1250	Physical Therapy	819	Pneumonia	132	Pneumonia	67
6	Urinary Tract Infection	1142	Contracept ive Manageme nt	746	Second-degree perineal laceration during delivery	87	Cesarean Delivery w/o Mention of Indication	55
7	Otitis Media	952	Conjunctivi tis	724	Urinary Tract Infection,	85	Colic, Abdominal Tenderness	48
8	Cellulitis and Abscess	854	Dental Caries and Eruption	657	Chronic Renal Failure	83	Gastroenteritis, Colitis	33
9	Asthma	684	Acute Gastroente ritis	617	Atherosclerotic heart disease of native coronary artery without angina pectoris	77	Fever, Chills with Fever	27
10	Hypertension	655	Abscess/ Cellulitis	607	Cellulitis	63	Urinary Tract Infection, Bacteriuria	23

	Table 10: Top 5 Reasons for within-RMI referrals, 2017		Table 11: Top 5 Reasons for International referrals, RMI, 2017	
Rank	Cause	#	Cause	#
1	Diabetes	20	Cancer	32
2	Respiratory Problem (Asthma, Pneumonia, suspected TB, Upper Respiratory Infection, Lung Disease)	6	Orthopedic	21
3	Hepatitis A/Fracture	4	Cardiovascular Disease	12
4	Meningitis / Hypertension	3	Congenital Disease	9
5	Pregnancy Complications/Kidney Infection/Diarrhea/Hernia	2	Ophthalmology	8

Abbreviations: HI= Healthy Islands indicator (see text below); SDG=Strategic Development Goal indicator; NT= no target set yet; Ø= data not available; ?= uncertain; MCH= maternal & child health; NCD= non-communicable diseases; yo= years of age

Footnotes:

[a] 3 year running average up to and including measurement year
[b] High school youth, grades 9-12.
[c] Target from RMI MCH 5 year Needs Assessment, 2016-2020
[d] SDG Global Target
[e] Baseline from 2011 Youth Risk Behavior Survey in RMI high schools : 32% youth 30 day tobacco; 41% youth 30 day alcohol use
[f] Target for NCD mortality indicators from WHO NCD Monitoring Framework, calling for a decrease in NCD cause-specific mortality rates of 25% by year 2025 from 2010 baseline. Since we have no 2010 baseline for RMI we are using 2014 rates for baseline. Comparisons between 2016 and 2017 NCD mortality rates were made statistically and there is no significant improvement.
[g] Target for suicides is to decrease rate by 10% by 2020 from baseline of 18 per 100,000 in 2013 (WHO Mental Health Action Plan 2013-2020)
[h] 5 year running average up to and including measurement year
[i] Children age 19-35 months of age complete for 4-DTaP, 3-Polio, 3-HepB, 1-HIB, 1-MMR
[j] Target from RMI MOHHS Performance Based Budget, 2017
[k] RMI MOHHS Family Planning Program target is to increase coverage by 5% per year to year 2020 (per 2016 RMI Family Planning Program Plan)
[l] These are WHO cut-offs that define "low prevalence" countries (see http://www.who.int/nutrition/nlis_interpretation_guide.pdf)
[m] Children 0-59 months of age from 2017 UNICEF Childhood nutrition survey
[n] Target for TB and Leprosy On-Time Completion Rates based on CDC TB Program national targets.
[o] Cannot compare 2015 with 2016 or determine trend because data for Ebeye workrate % not available in 2016
[p] Fiscal Year 2016 and 2017
[q] Except as otherwise noted, trend is judged "changed" if there is at least a 10% change from the baseline of KPI Report for Year 2016.

III. FINANCIAL ALLOCATIONS AND EXPENSES

Table 12: MOHHS Budget Allocation from Top 5 Sources, FY2013 – 2017, RMI					
Fund	FY2013	FY2014	FY2015	FY2016	FY2017*
General Fund	3,443,523	4,170,636	3,890,533	4,293,186	5,597,523
Compact Fund – Base Grant	6,693,787	6,251,691	7,327,425	7,230,142	7,252,010
Compact Fund - Ebeye Special Needs (Health)	1,757,635	1,957,635	1,957,635	1,957,635	2,224,035
HCRF	6,785,000*	6,785,000*	7,485,000*	7,485,000*	3,501,500
Health Fund & Supplemental	-	-	-	-	3,983,500
US Federal & Other Grants**	4,307,444	4,938,497	7,643,497	7,319,528	8,044,623
Total	**22,987,389**	**24,103,459**	**28,304,090**	**28,285,491**	**30,603,191**
***Based on adjusted budgeted, post Appropriation & MOF Budget Status Report ; **Only MOF Federal Funds Reported (FH); *FY2013-FY2016 – Health Fund & HCRF combined** **Source: MOHHS-Finance Department**					

Table 13: Budget, Actual and Balance FY2017, RMI				
Funding Source	Original Budget	Adjusted Budget	Actual	Balance Available
General Fund	4,374,078	5,597,523	4,869,752	727,770
Compact Funds – Base	7,170,010	7,252,010	6,599,625	652,384
Compact Funds – ESN	1,957,635	2,224,035	1,900,460	323,574
HCRF	3,501,500	3,501,500	2,346,093	1,155,406
Health Fund & Supplemental	3,983,500	3,983,500	8,388,961	(4,405,461)
US Federal & Other Grants**	8,044,623	8,044,623	4,475,505	3,569,117
Total				
Source: MOHHS-Finance Department				

Table 14: Federal Grants, RMI, FY2013-FY2017 Budget					
GRANTS	FY2013	FY2014	FY2015	FY2016	FY2017
RMI National Comprehensive Cancer Control Program	200,000	198,000	260,481	196,614	204,574
Comprehensive STD Prevention System	127,827	187,504	136,660	140,474	148,641
Tuberculosis Elimination & Laboratory	326,487	447,030	282,588	137,066	320,168
Preventive Health Services*	-	-	40,508	39,813	40,645
HIV/AIDS Surveillance Program	17,141	20,035	17,070	3,236	17,070
Immunization & Vaccines for Children Grant	1,034,754	1,051,282	1,130,648	988,455	1,299,126
Sexual Violence Prevention & Education	8,181	-	0	0	0
HIV Prevention Project for the Pacific Islands	176,595	211,323	175,872	33,192	190,740
Hepatitis Program	8,145	5,834	11,650	11,650	11,649
Systems/base Diabetes Prevention & Control Program (DPCPS) - Diabacco	86,301	196,523	196,523	192,673	260,600
Tobacco Program	100,000	0	0	0	0
National Public Health Improvement Initiative	250,000	250,000	0	0	0
Epidemiology and Laboratory Capacity Grant	27,053	23,650	85,170	0	294,321
Public Health Preparedness & Response for Bioterrorism	379,640	379,640	380,091	267,111	372,239
PPHF Chronic Disease and Health Promotion	0	0	0	0	0
SUBTOTAL CDC GRANTS	**2,706,926**	**2,941,337**	**2,620,411**	**2,010,284**	**3,159,773**
Pacific Basin Initiative (Ebeye CHC)	788,196	1,050,675	931,466	1,122,035	1,122,035
Maternal & Child Health Services (MCH)	161,233	207,043	113,286	0	0
EMSC Partnership Grants	40,000	118,600	13,000	105,000	105,000
HIV Care Grants (Ryan White Grant)	-	50,079	41,049	50,796	0
Bioterrorism - Hospital Preparedness Program	317,821	313,637	380,091	380,652	268,005
State Systems Development Initiative	66,392	37,418	80,816	95,374	0
SUBTOTAL HRSA GRANTS	**1,373,642**	**1,777,452**	**1,559,708**	**1,753,857**	**1,495,040**
Continue Delivery of Family Planning Services to the People of the Marshall Islands	134,000	125,960	0	105,000	129,000
Block Grants for Community Mental Health Services (CMHS)	92,931	93,748	107,574	110,039	123,103
Single State Agency Grants	0	0	2,077,368	1,721,696	1,742,931
177 Health Care Plan Program	0	0	1,253,714	1,298,206	1,394,774
Ebola Grant/Zika Outbreak	0	0	25,000	114,468	0

HPP-Ebola Response	0	0	0	205,978	0
SUBTOTAL OTHER FEDERAL GRANTS	**226,931**	**219,708**	**3,463,656**	**3,555,387**	**3,389,808**
TOTAL US FEDERAL GRANTS	**4,307,499**	**4,938,497**	**7,643,805**	**7,319,528**	**8,044,623**

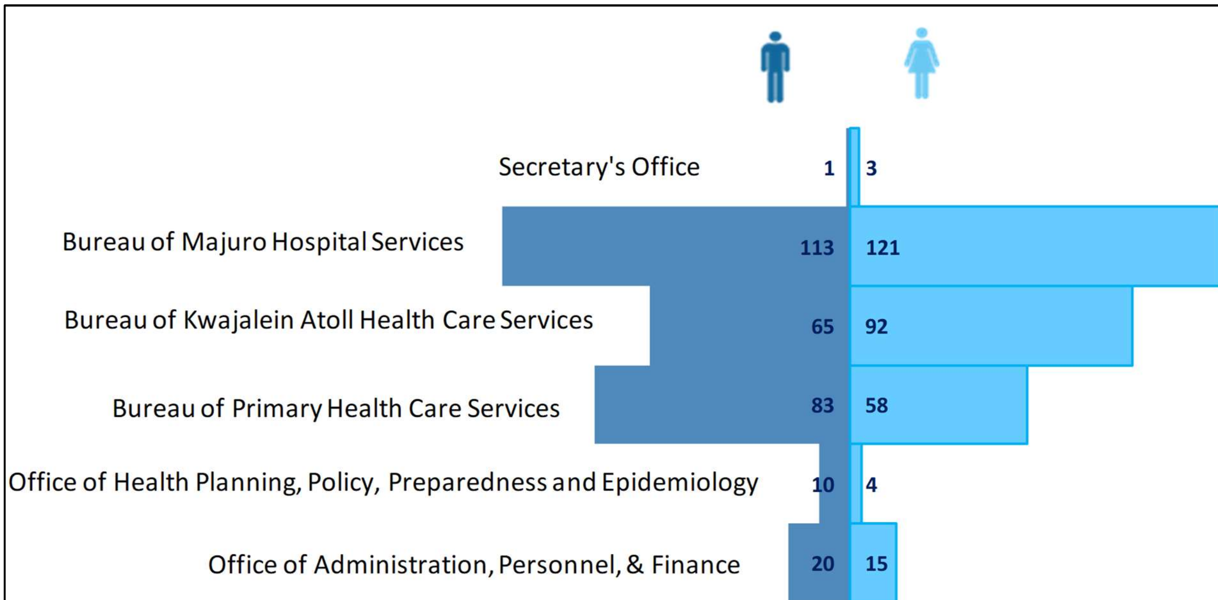
***this reflects FY2017 accounts under the cost center "FH" – some other active grants are listed under "FG" & "FI" accounts, however not reflected in this table**
Source: MOHHS-Finance Department

To address the Health Systems – Financing, the unit conducted monthly and annual financial analysis, demonstrated cost analysis and assessments to the RMI Budget Appropriation Budget Steering Committee. It assisted in the formulation of FY2017 budget submission based on evidence of health information and service utilization. Some of the achievements for this fiscal year included the following:

1. Work with each MOHHS Program to prepare budget for upcoming budget period
2. Improve paper-filing system by expanding storage capacity & training staff
3. Health Budget hearing with Parliament Appropriation Committee on the FY2018 Budget Allocation for Health
4. Successful transfer of Accounting Staff within Department - from Accounts Payable/Admin Officer to Health Fund Accountant/Payroll Specialist
5. UNDP-Global Fund Financial Training completed for MOHHS Accounting Staff & Global Fund Program - more knowledge & skills on financial reporting, procurement, & other financial related matters concerning the UNDP Global Fund Grant.
6. FY2018 Budget Portfolio completion and submission to OCI & DOI.
7. Process Mapping for Grants Management, Procurement, & Recruitment completed in first week of April - Technical Assistance provided by PIHOA, ASTHO, & CDC.
8. Completion of FY2016 Health Fund & Health Care Revenue Audit Reports
9. Implementation of File & Reconciliation Schedule - although implementation date was 02/27/17, the Department will continue to follow new schedule of shutting down offices for two hours to focus on these two major activities as a way of improving and to address concerns about inadequate filing & missing supporting documents.
10. Mid-January 2017 Finance started weekly meetings & daily updates before the end of the day to inform all of tasks for the week and track progress of these tasks

IV. HUMAN RESOURCES

Figure 2: Human Resources for Health, FY2017



Source: HR Department

Bureau of Majuro Hospital Services
The Assistant Secretary for Majuro Hospital Services is responsible for the management and overall operation of Majuro Hospital Leroij Atama Zedkeia Medical Center commonly known as Majuro Hospital serving inpatient, outpatient, public health clinics and ancillary services.
In addition to this core role there are other areas that fall under the Hospital Services jurisdiction,

- Pharmaceutical Services
- Biomedical Services
- Laboratory Services
- Radiology Services
- Dental Services
- Medical Records
- Clinical Services Network
- Nursing Services
- Medical Services
- Medical Referral Services
- Blood and Ambulance Services
- Specialist Visiting Teams

Bureau of Kwajalein Atoll Health Services
The Assistant Secretary for Kwajalein Atoll Health Services is responsible for management and overall operation of Leroij Kitlang Kabua Memorial Hospital commonly known as Ebeye Hospital serving inpatient, outpatient, public health clinics and ancillary services. Medical and public health staff conduct outreach to the health centers in the outer islands and within the community as well.
In addition to this core role there are other areas that fall under the Hospital Services jurisdiction,

- Pharmaceutical Services
- Biomedical Services
- Laboratory Services
- Radiology Services
- Dental Services
- Medical Records
- Clinical Services Network
- Nursing Services
- Medical Services
- Blood and Ambulance Services
- Public Health Programs and Clinics
- Specialist Visiting Teams

Bureau of Primary Health Care Services
The Assistant Secretary of Primary Health Care is responsible for formulation of strategic public, primary health policies and oversees the implementation of public health programs as legislated under the Marshall Islands Public Health Welfare Act 1966. There are 56 Health Centers in RMI. Aside from the 177 Health Centers, Health Assistants are the health care provider in the health

centers. Medical and public health staff conduct outreach to the health centers in the outer islands and within the community as well.

Office of Health Planning, Policy, Preparedness and Epidemiology
Office of Health Planning, Policy, Preparedness and Epidemiology is responsible for collecting, analysis, and monitoring of health indicators, processing of birth and death certificates, preparations of MOHHS' Annual Report, Strategic Plans and other reports, and responsible for the MOHHS' network and Information System, Performance Management, Epidemiology, Health Preparedness Program & Performance Management.

Office of Administration, Personnel, & Finance
Office of Administration, Personnel, & Finance is responsible for the daily management of all MOHHS funding, centralized point of procurement and supply, and overseeing the administrative, personnel, and financial functions of the Ministry.

177 Health Care Program Clinics are providing primary health care services to the four atolls affected by the nuclear testing. A primary health care Physician with the Health Assistant manages the 177 Clinics.

DOE Clinic is providing medical services to the nuclear patients under the Department of Energy.

Kumiti Wellness Center which is managed by Canvasback Mission, in collaboration with MOH, shows right diet and exercise could reduce or replace the need for diabetic medications and provide a higher quality of life for the participants.

Taiwan Health Center provides special medical missions which are requested by the Ministry. THC work closely with NCD Program to provide services and improve health education.

Table 15: Medical Providers by Position, RMI, FY2017

	Majuro Hospital		Majuro Primary Health Care		Kwajalein Memorial Hospital		Outer Island Health Center		177 Health Center		DOE Clinic		Private Clinics		Total		
Sex	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
General Physician	1	1	2	1	0	0	0	0	0	0	0	0	0	0	3	2	5
Family Medicine	4	2	0	0	0	0	0	0	7	0	1	0	1	0	13	2	15
Pediatrician	1	0	0	1	0	2	0	0	0	0	0	0	0	0	1	3	4

OB-Gynecologist	0	3	0	0	1	1	0	0	0	0	0	0	0	0	1	4	5
Ophthalmologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pathologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Radiologist	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Orthopedic Surgeon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyschiatrist	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Internist	1	2	0	1	2	0	0	0	0	0	0	0	0	0	3	3	6
General Surgeon	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0	5
Anesthesiologist	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	2
Optometrist	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Medical Assistant	1	0	2	0	1	0	0	0	0	0	0	0	0	0	4	0	4
Health Assistant	0	0	0	0	1	1	45	9	7	2	0	0	0	0	53	12	65
Nurse Anesthetist	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	3
Dentists	2	2	0	0	1	1	0	0	0	0	0	0	1	0	4	3	7
Graduate Nurse	29	57	14	18	7	23	1	6	0	0	1	0	52	104	104	208	312
Midwives	0	5	0	1	0	2	0	0	0	0	0	0	0	8	0	16	16
Practical Nurse	1	5	16	9	2	7	1	2	0	0	0	0	20	23	40	46	86
Nurse Aides	4	5	0	0	0	0	0	0	0	0	0	0	4	5	8	10	18

Source: Human Resources for Health Department; Legend: M – Male, F – Female, T - Total

Table 16: Number of Staff in Professional Services

Services	Majuro Hospital			Ebeye Hospital			Total		
Sex	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
Pharmacy Services	4	3	7	0	1	1	4	4	8
Laboratory Services	7	7	14	5	1	6	12	8	20
Radiology Services	6	2	8	2	0	2	8	2	10
Biomedical Services	3	0	3	2	0	2	5	0	5
Rehabilitation Services	5	2	7	2	1	3	7	3	10
Dental Services	5	5	10	1	1	2	6	6	12
Total	**30**	**19**	**49**	**12**	**4**	**16**	**42**	**23**	**65**

Source: Human Resources for Health Department; Legend: M – Male, F – Female, T - Total

Table 17: Number of Staff in Support Services, FY2017

Services	Majuro Hospital			Ebeye Hospital			Total		
Sex	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
Security	12	0	12	5	2	7	17	2	19

Housekeeping	5	2	7	4	3	7	9	5	14
Kitchen Services	3	5	8	0	5	5	3	10	13
Maintenance	7	0	7	4	0	4	11	0	11
Morgue	2	0	2	0	0	0	2	0	2
Total	**29**	**7**	**36**	**13**	**10**	**23**	**42**	**17**	**59**
Source: Human Resources for Health Department; Legend: M – Male, F – Female, T - Total									

V. EMERGING DISEASES AND DISEASE OUTBREAK

HEPATITIS A

On September 22, 2017, the Ministry's EpiNet Outbreak Control Team officially declared the conclusion of the recent outbreak of Hepatitis A virus in the RMI.

The first case of Hepatitis A infection in the RMI was confirmed in November 2016. A Health Emergency was declared in January 2017. This emergency response included enhancing Hepatitis A surveillance to better detect new infections in the RMI.

From November 2016 to July 2017, 182 people from the RMI were tested for positive or probable for Hepatitis A infection. The MOHHS will continue efforts to immunize children between the ages of 1 and 18 years with Hepatitis A vaccine.

Figure 3: Confirmed & Probable Hepatitis A Cases, RMI, as of Sep 30 2017 (N=182)

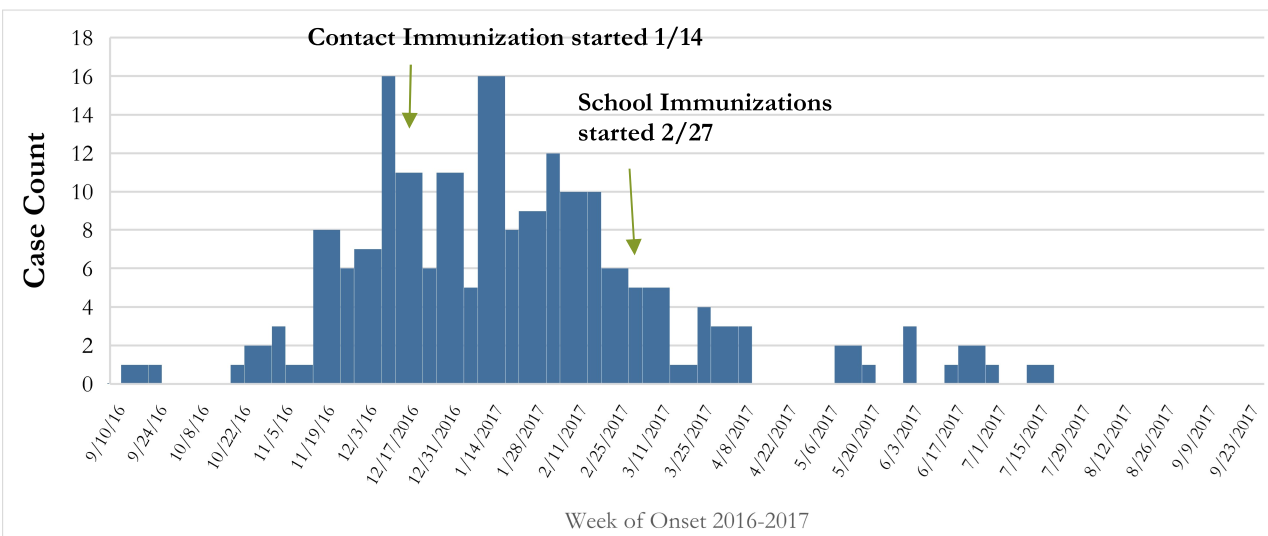
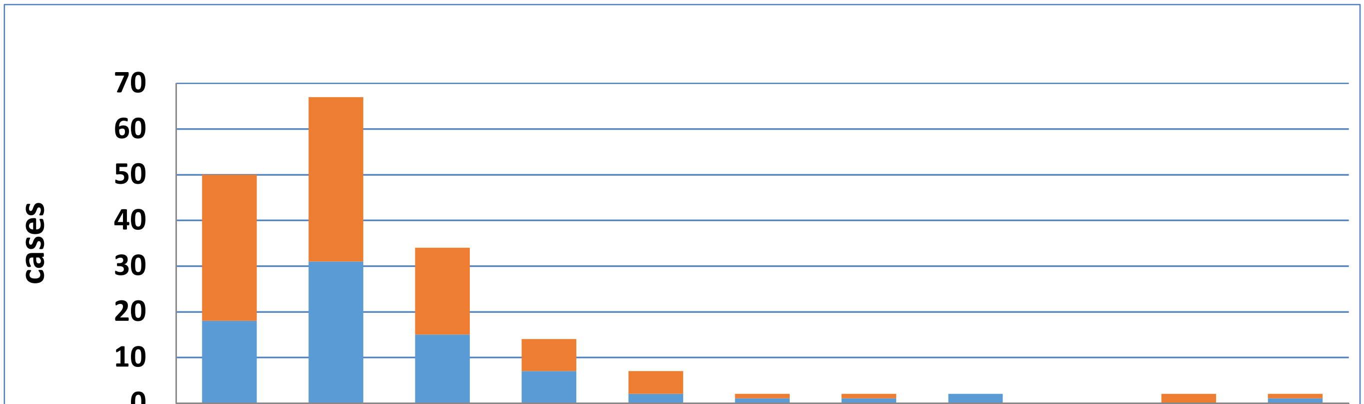


Figure 4: Hepatitis A Cases by Age Group and Sex, RMI , Sept 30, 2017



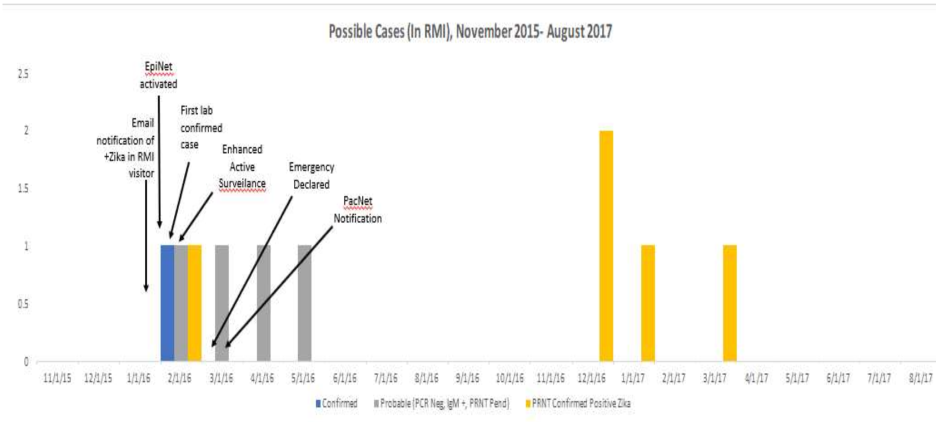
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50+
Male	32	36	19	7	5	1	1	0	0	2	1
Female	18	31	15	7	2	1	1	2	0	0	1

ZIKA VIRUS

The first case of Zika infection in the RMI was confirmed in late 2015. A Health Emergency was declared and the response included enhanced surveillance to detect and test any new suspect cases. No new cases were identified during the next 6 months. Then in November 2016 testing revealed 2 persons with evidence of "non-specific Flavivirus" infection that occurred in the past. These results were difficult to interpret, as the serologic tests cannot distinguish between Zika or dengue virus infection, nor can they identify how long ago the infection occurred. In abundance of caution, and in anticipation of the arrival of rainy season in late 2016, a reinstatement of the Health Emergency was implemented in December 2016. This emergency response included enhancing Zika surveillance to better detect new Zika infections in the RMI.

Each case that presented with symptoms consistent with Zika infection, as well as those women whose ultrasound examination showed evidence of abnormalities that could be the result of Zika infection, led to interventions in the local area, and education; spraying of their residence and the local area, and at least partial cleanup of trash that could provide breeding sites for Aedes species mosquitos, and enhanced pregnancy monitoring by their health care provider for the duration of their pregnancy, or, if they departed the RMI, for the duration of their time in country. Suspect cases had laboratory testing specimens sent to the Hawaii State Public Health Laboratory.

Figure 5: Possible Cases, RMI, November 2015-August 2017



1- Notified of Zika positive visitor to RMI: 1/19 2016

2- EpiNet Activated: 1/12/2016

3- First Lab Confirmed Case: 1/27/2016

4- Enhanced Active Surveillance: 1/29/2016

5- Emergency Declared: 2/29/2016

6- PacNet Notification: 1/29/2016

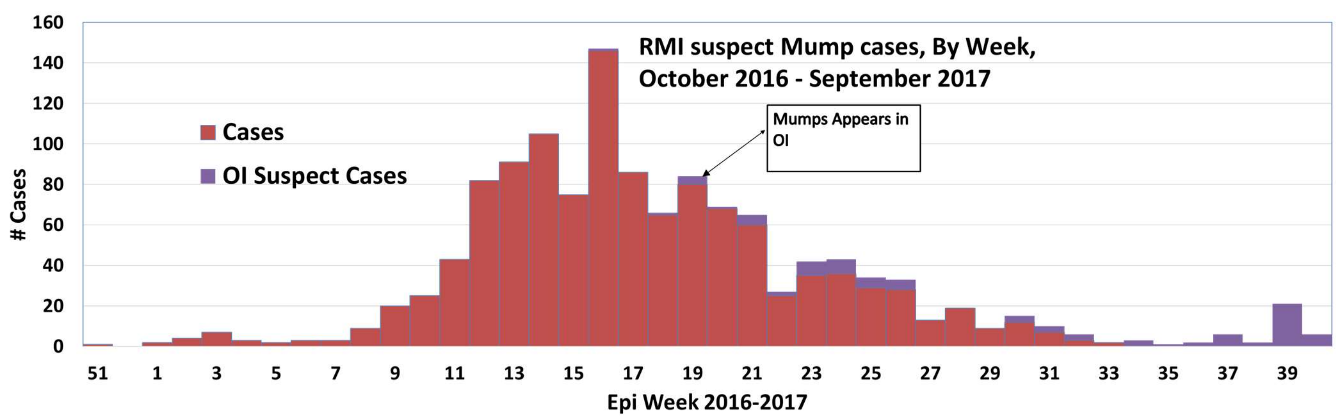
No new Zika confirmed cases were detected during the enhanced Zika surveillance. From November 2016 to May 2017, 30 people from the RMI were tested for Zika, Dengue, and Chikungunya virus. None of their samples showed the presence of Zika virus through nucleic acid testing. Due to over 6 months of enhanced surveillance with no evidence of new Zika infections MOHHS has determined that Zika virus transmission has been interrupted in the RMI.

Vector Control activities involves other partner government agencies and NGOs: Public Works, EPA, MalGov, Majuro Water & Sewer Company, and Majuro Waste Management. Major cleanup activities were implemented throughout Majuro; EPA were spraying in areas of recent or known places with cases, illegal dump sites, other sites found through surveillance all throughout villages including Rong Rong. Majuro Mayors and Landowners implemented a competitive process of clean-up of individual houses and public areas, including removal of illegal dump sites and covering of water catchment systems. Mosquitoes from two 2017 suspected case households were sent to Ft. Collins for testing but results were inconclusive due to poor quality specimens. One EPA staff received training at the Vector Control Conference in Guam, June 28. Sentinel mosquito trapping is still continuous.

Although MoHHS declared a conclusion of the Zika Outbreak in <<date>>, RMI will always be at risk of a new introduction of Zika (or another mosquito-borne disease such as dengue) from other places in the world. Therefore, the Ministry of Health will remain vigilant with activities to prevent, detect, and respond to any new suspect cases.

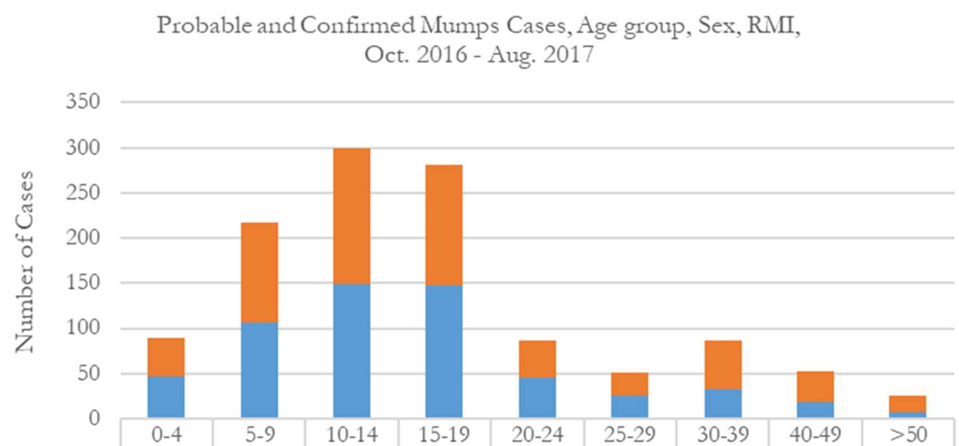
MUMPS

Figure 6: Probable and Confirmed cases of Mumps, RMI, 2017



As of Sep 30, 2017, there are a total of 1,199 mumps cases of which 38 are confirmed and 1,161 are probable cases. Of the total, 926 are on Majuro and 272 on Ebeye, Kwajalein. Age range remains 1 to 69; Median age is 14. Most cases on RMI are among school children ages 10-14 and 15-19. Mumps Outer Islands Health Center Office reported unusual Mumps suspected cases total of 25. Cases in the Outer Islands are given preventive measures. Case reports dropped because of the message to the public to stay home unless complications were noted.

Figure 7: Probable and Confirmed Mumps Cases, Age group, RMI, 2017

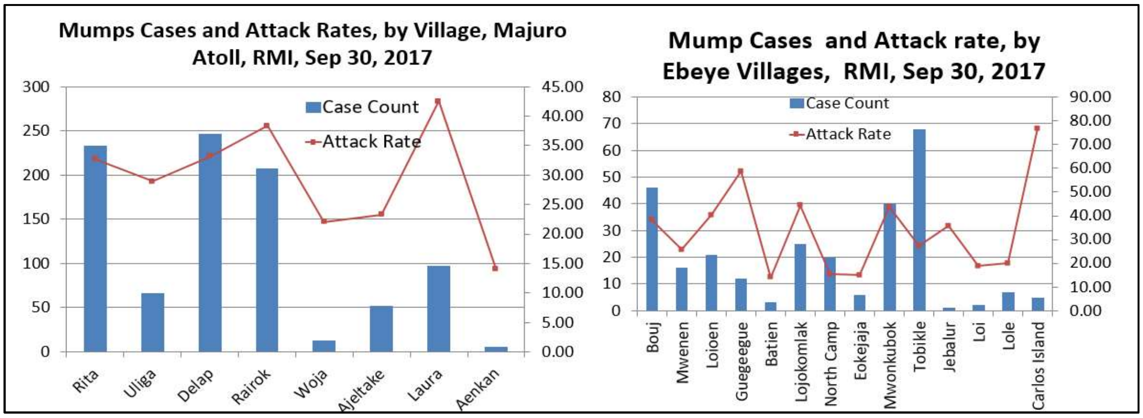


	0-4	5-9	10-14	15-19	20-24	25-29	30-39	40-49	>50
Female	42	110	151	133	42	25	53	33	19
Male	47	107	149	148	45	26	33	19	7

Response Measures:

- EpiNet team activated→ Emergency Response Plan implemented. Declaration of Health Emergency for Mumps was implemented in early May. Expanded active surveillance started in October 2016. EpiNet team continues to collaborate with partners (Ports, Immigration, Red Cross). Travel advisory updated and disseminated to Ports, Immigration, Customs, and Conference Coordinators.
- Health Promotion: Ongoing media (newspapers, mass texts, educational pamphlets, videos) awareness on Majuro and Ebeye at the community and clinics. Coordination with the Church Leaders and presentation to the Marshallese participants from US and Outer Islands of RMI for the Church mass gathering during the month of June and July. Ebeye Showing Mumps awareness and prevention video produced by Ebeye Health Promotion Department at OPD and in-patient department. Outer Islands, 177 Health Clinic and Laura Clinic are told to give educational prevention to patients.
- "Outbreak" Immunization for MMR started in April 17, 2017 at 9 public and private schools. A total of 1,434 immunizations were given which is 52.9% coverage. Immunization continued through outreach to communities throughout Majuro and Ebeye Villages and Outer Islands. Immunization Nurses continues to cover all RMI giving out MMR.
- Documents (health advisory, Sit Rep, Power point presentations, Ports questionnaires) shared with other Pacific Island Jurisdictions, WHO, and SPC for collaboration and use for future reference.

Figure 8: Probable Cases of Mumps and Attack Rates by Villages in Majuro and Ebeye, 2017

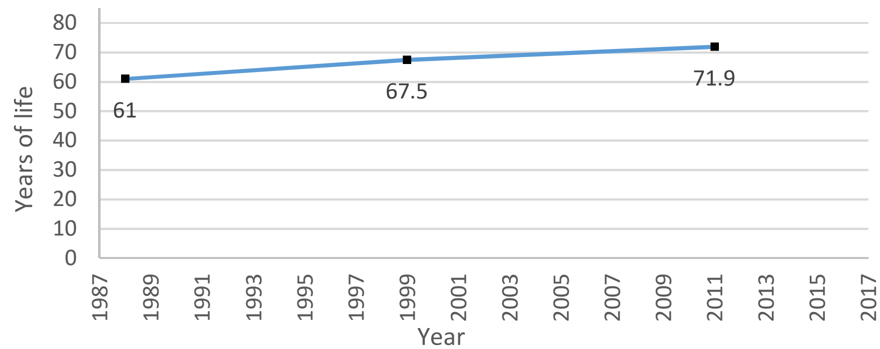


It is not unusual to see cases of mumps among persons who have been immunized with the standard 2 doses of MMR vaccine. That is the case for most of our schools in Majuro and Ebeye where review of the records shows very few students lacking full immunization for mumps. During mumps outbreaks in other countries, a booster immunization appears to mitigate the outbreak such that subsequent cases that might occur are generally milder and fewer complications are noted. The most important reason to introduce booster immunizations is to avoid meningitis, encephalitis, orchitis, and deafness following infection with the mumps virus.

VI. VITAL STATISTICS

Life expectancy at birth

Figure 9: Life Expectancy at Birth, RMI 1988-2011*



*Most recent census-2011; Next due in 2020

2017 Value = 71.9 years (carried forward from 2011 census- next due in 2020). The average number of years that a newborn could expect to live, if he or she were to pass through life subject to the age-specific death rates of a given period.

Registered Births

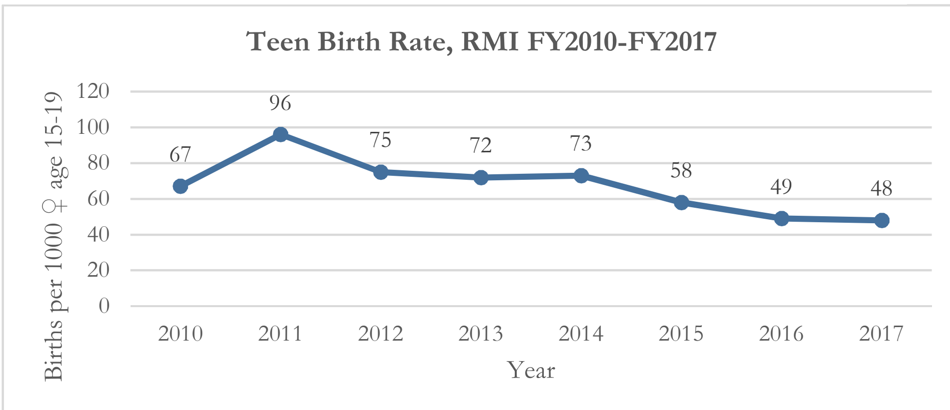
There were 1,024 births from October 2016 to September 2017, continuing the decreasing trend observed since FY2011. The Total Fertility Rate in FY2017 is 2.59 or 3. This means that a Marshallese woman will have 3 children in her lifetime.

Table 18: Summary of Birth Information, RMI, FY2010-FY2017

Description	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Registered Birth	1,396	1,487	1,316	1,308	1,199	1,116	1,089	1,024
Crude Birth Rate Per 1,000 Live births	26	28	24	24	22	20	20	18
Total Fertility Rate	3.18	3.38	3.05	3.03	2.71	2.74	2.69	2.59
Rate of Natural Increase	2.04%	2.12%	2.12%	1.83%	1.72%	1.34%	1.33%	1.26%
LBW	186	181	167	180	156	196	120	130
VLBW	26	10	17	9	6	14	6	14
Premature	74	90	50	36	78	66	91	104

Teen Births (15-19 yrs old)	201	222	176	177	192	162	144	144
VLBW for Teen Births	3	4	3	0	0	0	2	3
LBW for Teen Births	37	40	34	28	25	13	30	26
Premature Teen Births	10	9	3	31	71	82	29	24
% of Teen Births from All Birth	14%	15%	14%	14%	16%	15%	13%	14%
Teen Births Rate Per 1,000 population	67	96	75	72	73	58	49	48
15-19 yrs. old female population	2,986	2,314	2,349	2,469	2,632	2,796	2,963	3,025
Source: Vital Statistics, MOHHS								

Figure 10: Teen Birth Rate, RMI FY2010-FY2017



Teen pregnancies carry higher risks for the mother, the infant and the family compared with those to mothers age 20-35 years of age. Babies born to teens are more likely to be premature, low birthweight, and malnourished. Teen mothers have higher rates of pregnancy related medical complications, are less likely to complete their education and more likely to live in poverty. Global average teen pregnancy rate for 15-19 yo = 49/1000 (range 1 to 299)[1]. RMI has met the global target in 2016 and continue to implement activities that will reduce teen pregnancies.

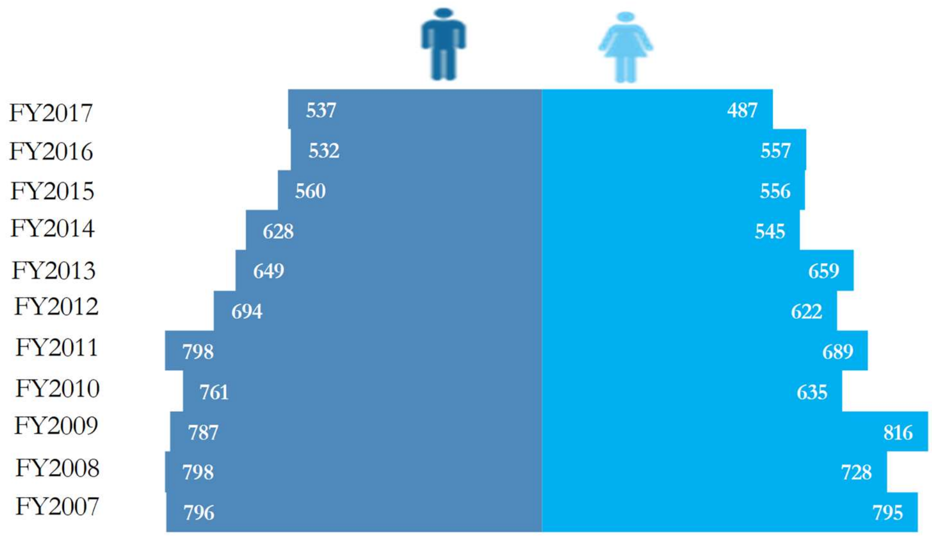
Table 19: Registered Births by Main Atolls, RMI FY2011-FY2017

Fiscal Year	Majuro	Kwajalein	Outer Islands	Total
2011	1,017	344	126	1,487
2012	906	305	105	1,316
2013	877	300	131	1,308
2014	829	232	122	1,173
2015	744	261	111	1116
2016	725	277	87	1089

[1] http://www.who.int/mediacentre/factsheets/fs364/en/

2017	665	243	116	1024
Source: Vital Statistics, MOHHS				

Figure 11: Registered Births, RMI, Sec, FY2007-FY2017



Source: Vital Statistics, MOHHS

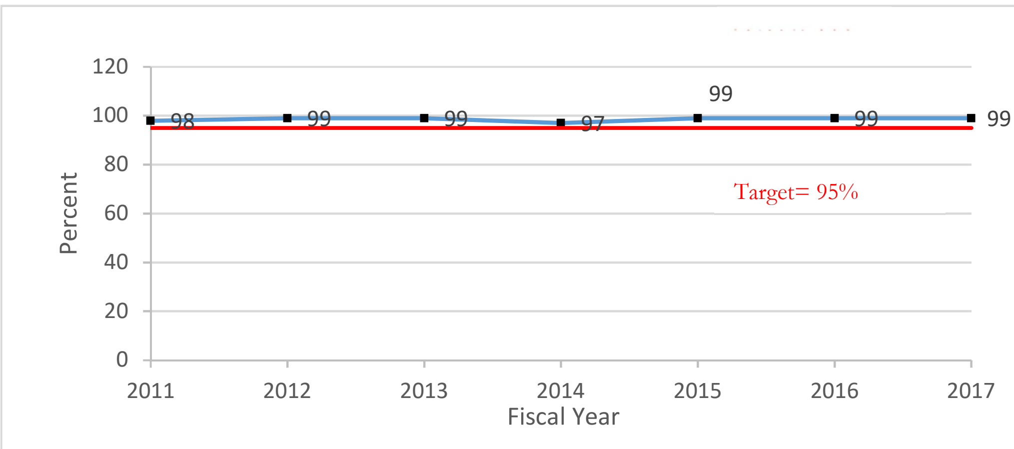
Table 20: Registered Births by Attendant and Location, RMI, FY2016-FY2017

Attendant	FY 2016				FY 2017			
	Majuro	Kwajalein	Outer Islands	Total	Majuro	Kwajalein	Outer Islands	Total
Nurse or Midwife	605	180	10	795	560	130	0	690
Health Assistant	0	11	61	72	1	17	105	123
Medical Assistant	0	0	0	0	1	0	0	1
Doctor	105	83	1	189	92	95	4	191
Others	1	0	0	1	2	1	0	3
Traditional Birth Attendant (TBA)	3	0	0	3	0	0	6	6
Not Stated	15	3	11	29	9	0	1	10
Total	**729**	**277**	**83**	**1,089**	**665**	**243**	**116**	**1,024**
Source: Vital Statistics, MOHHS								

In childbearing, women need a continuum of care to ensure the best possible health outcome for them and their newborns. This includes care at the clinic before and after delivery, as well as high quality midwifery care at delivery. The risk of stillbirth and maternal deaths is reduced by about 20% with the presence of a skilled birth attendant. World Health Organization (WHO) Global target is 95% which RMI had met for the last 7 years. Skilled health professional like midwives, staff nurses, health assistants, and doctors are available and operating our birthing facilities.

Table 21: Registered Births Attended by Skilled Health Personnel, FY2011-FY2017							
Description	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
No. of Birth by Skilled Attendant	1,374	1,263	1,290	1,160	1,109	1,069	1,015
No. of Birth	1,487	1,316	1,308	1,199	1,116	1,089	1,024
Percent	98%	99%	99%	97%	99%	99%	99%
Source: Vital Statistics, MOHHS							

Figure 12: Births Attended by Skilled Personnel, RMI, FY2011-FY2017



Registered Deaths

Table 22: Birth Statistics Summary, FY2011-FY2017							
Description	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Registered Death	361	332	335	280	384	353	325
Infant Death	41	26	23	12	12	25	20
Fetal Death (Still Birth)	21	15	14	18	6	10	14
Early Neonatal Death	16	8	16	5	7	9	6
Neonatal Death	25	13	18	6	7	12	8
Post Neonatal Death	16	13	6	6	5	13	12
Perinatal Death	37	19	30	23	13	19	20
Under 5 years old Death	31	25	39	40	60	34	28
Maternal Death	2	0	1	1	0	3	0
Crude Death Rate*2	7	6	6	5	7	6	6
Infant Mortality Rate*1	28	20	18	10	11	23	20
Fetal Mortality Rate*1	14	11	11	15	5	9	13
Neonatal Mortality Rate*1	17	10	14	5	5	9	8
Perinatal Mortality Rate*1	25	17	23	19	1	2	19
Child Mortality Rate (under 5 years old)*1	34	25	24	29	40	26	21
Maternal Mortality Rate*3	134	0	76	83	0	280	0
3 years running average rate/ratio							
Infant Mortality Rate*1	25	23	22	16	13	15	18
Child Mortality Rate (under 5 years old)*1	31	29	28	26	31	32	29
Maternal Mortality Rate*3	176	93	70	53	53	120	92

Figure 13: Infant Mortality Rate, RMI, FY2011-FY2017 (3 year running ave)

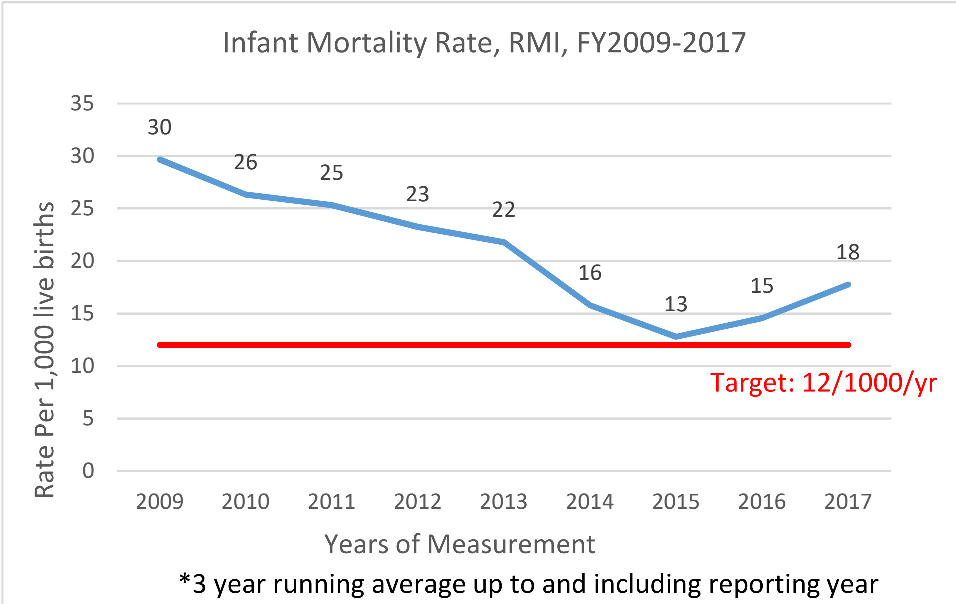


Table 23: Infant Causes of Death, RMI, FY2017	
Underlying Cause of Death	***Count***
Premature	5
Pneumonia	4
Sepsis	2
Asphyxia	2
Asthma	1
Congenital Heart Disease	1
Malnutrition	1
Meconium Aspiration	1
Meningitis	1
Prolonged Labor	1
Septicemia	1

Figure 14: Under 5 yrs old Mortality Rate, RMI, FY2011-FY2017 (3 year running ave)

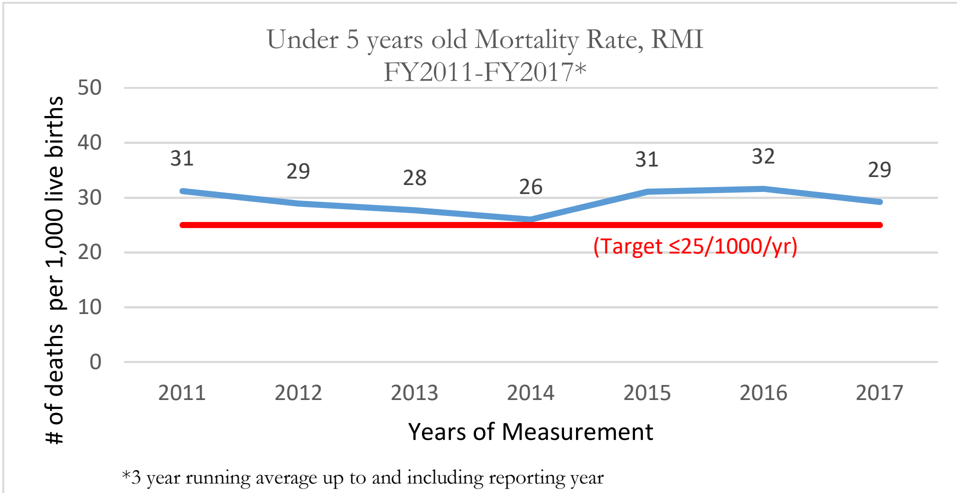
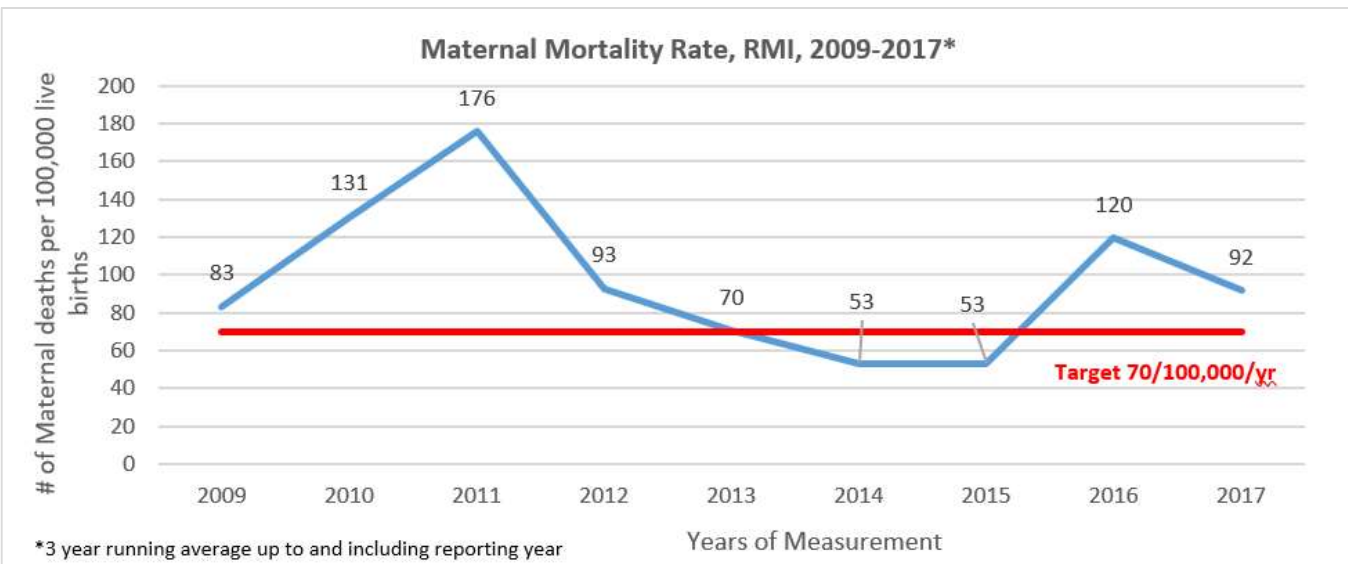


Figure 15: Maternal Mortality Rate, FY2010-FY2017 (3 year running ave.)



VII. PRIMARY HEALTH CARE SERVICES

Maternal and Child Health Program

State Priorities from the MCH Block Grant

Women's /Maternal Health

- Improve women/maternal health through cancer screening, prenatal services and family planning services
- Improve oral health of children and women:

Perinatal/Infant Health:

- Improve perinatal/infant's health through adequate and quality prenatal services and new born screening.

Child Health:

- Improve child health through early childhood developmental screening and vaccinations
- Promote child safety in the community.

Adolescent Health:

- Improve adolescent health through promotion of adolescent well-being and reducing teen pregnancy

Children with special health care needs:

- Improve enrolment and special care of CHSCN through developmental screening and referrals to proper care

Family Planning Program

Table 24: Contraceptive Prevalence Rate, RMI, FY2011-FY2017							
Description	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
No. of Women 15-44 yrs old that used at least one method of contraception	1,234	1,373	1,721	1,917	1,836	1,826	1,825
No. of 15-44 yrs old women	11,867	11,799	11,757	11,746	11,751	11,761	11,773
Contraceptive Rate	10%	12%	15%	16%	16%	16%	16%
Source: Family Planning Program							

Table 25: RMI Unduplicated Female Users Family Planning Services, 2017										
	<15	**15-17**	**18-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**>44**	**Total**
Primary Method										
Female Sterilization	0	0	0	18	190	200	145	50	41	644

Hormonal Implant	4	17	42	88	91	90	51	12	7	402
3-Month hormonal injection	8	25	50	149	112	112	72	61	14	603
Oral Contraceptive	1	15	21	46	46	49	36	16	12	242
Female Condom	0	0	1	0	0	3	0	1	0	5
Fertility Awareness Method (FAM)	0	0	0	0	0	0	0	0	0	0
Intrauterine Device (IUD)	0	0	0	1	0	0	0	0	0	1
Abstinence	0	0	0	0	1	0	0	0	0	1
Unknown Method	0	0	3	5	4	5	3	0	2	22
Total	**13**	**57**	**117**	**307**	**444**	**459**	**307**	**140**	**76**	**1,920**
No Method										
Pregnancy or Seeking Pregnancy	7	45	111	282	246	210	116	26	8	1,051
Other Reason	0	2	17	35	56	49	31	21	21	232
Total	**7**	**47**	**128**	**317**	**302**	**259**	**147**	**47**	**29**	**1,283**
Rely on Male Method										
Vasectomy	0	0	0	0	2	0	0	0	0	2
Male Condom	0	0	1	0	0	2	0	2	2	7
Total	0	0	1	0	2	2	0	2	2	9
Total Female Users of Family Planning clinic	**20**	**104**	**246**	**624**	**748**	**720**	**454**	**189**	**107**	**3,212**
Source: Family Planning Program										

There is no increase in Family Planning users. Female ccontraceptive prevalence rate is still at 16%. Male population is also not coming to the Family Planning clinic. In 2017, there are 9 documented male users that came to the clinic. We need to strengthen our Family Planning awareness and make sure that the services are available at all times.

We have an After Dark Clinic at Youth to Youth in Health every Monday and Friday from 5:30 PM to 7:00 PM. During these clinics hrs., MCH/FP Staff provides Family planning services including giving contraceptives, counselling, and cervical screening. Aside from the youth, anyone who comes into the clinic will be served. With the outreach mobile visits, 8 Outer Islands were visited and provided with Family Planning Services. Aside from the main FP clinics, services are available in Post-Partum visits and Maternity Wards. Family Planning services are free including the contraceptive methods, counselling, and STI/HIV testing. FP counselling are given to 1st prenatal visits, post-partum and before discharge from delivery. Other reason under No Method is counselling but was not decided on the method for Family Planning.

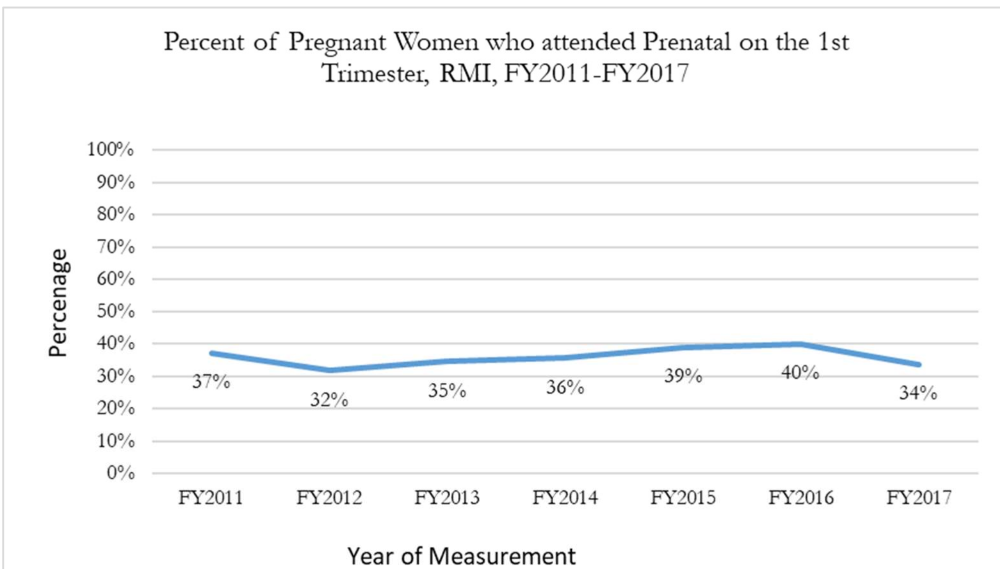
Challenges: Male population are not coming to the clinic. Women are not coming to the clinic because they don't have money for transportation. We have to bring the services to the public. We need to strengthen awareness and accessibility of the services.

Objective: By 2020, increase percentage of women ages 15-44 years old that use family planning services by 5% yearly.
Strategies:

- Conduct family planning awareness campaign in school, community meetings, women organization meetings and events, and use of social media network
- Create and distribute family planning services related videos, posters and other promotional materials in the local language.
- Make the family planning services available in women's clinics and health centers which include availability of contraceptive method of choice in the clinics.
- Improve reporting and collection of family planning services from the Outer Islands

Prenatal Services

Figure 16: Percent of Pregnant Women who attended Prenatal on the 1st Trimester, RMI, FY2011-FY2017



Improve Pregnancy by making quality maternal services more available and accessible.
In 2017, we have 3 OBGYNE in Majuro and 2 OBGYNE in Ebeye for MCH/Reproductive Health Services. OBGYNEs provides training to the MCH Prenatal and Post-Partum Services, Maternity

Ward, and Labor & Delivery Ward. WHO initiative "First Embrace" where in newborn is immediately put into the mom's chest and arms. With the Pediatrician, breastfeeding training was also conducted.

Prenatal Services in Majuro and Ebeye includes Tests: 1) Pap smear, HIV/STI, blood chemistry, diabetes screening, 2) Individual counselling: family planning methods, HIV/STIs, nutrition, personal hygiene, breastfeeding, 3) services: immunization and dental. For Outer Islands, prenatal services is limited to pregnancy management, and counselling. For other services, outreach mobile visits will be the one providing the services.
In 2017, due to the capacity of the Laboratory Department, Gonorrhea and Chlamydia testing were not provided. Zika Kits (repellent, mosquito nets, condoms, IEC materials related to Zika) are given to pregnant women on their first visit in Majuro, Ebeye and Outer Islands. Prenatal services and medicines are free.

Objective: Increase number of pregnant women with prenatal visits in the First Trimester of pregnancy by 5% yearly
Strategy:

- Increase awareness and health education on benefits of prenatal visits through radio, print, social media and partnership with NGOs
- Collaborate with Immunization Zone Nurses to refer pregnant women to Prenatal Clinic
- Improve HIV/STI screening for pregnant women using rapid test kits.
- Implement incentive program for pregnant women that attended Prenatal Clinic at the First Trimester

National Immunization Program

Immunization of children is one of the most cost effective and high impact health care services. High immunization rates demonstrate that the health department is well organized for delivering the preventive services needed by communities. If children receive their vaccinations on time, then they will be less likely to develop vaccine preventable diseases. There is 19% increase of complete immunization coverage in FY2017 comparing to FY2016.

The National Immunization Program continue to provide vaccination services. The RMI Immunization schedule is 4DTAP, 3HepB, 1HIB, 1MMR, 3IPV for 19-35 months. Immunization program had to visit 1 island for 4 times a year to be able to reach 90% immunization rate in the Outer Islands. Transportation, availability of staff, movement of population from island to island, and competing priorities like Children nutrition survey and outbreak activities affects the program's services in providing immunization in Majuro and Outer Islands. Ebeye is consistent with high immunization rate at 97% in FY2017. Parents are compliant in bringing their children within the immunization schedule. Vaccination follows standard schedule for the vaccines to be effective.

Figure 17: Complete Immunization Coverage Children, 19-35 months: RMI, 2011-2017

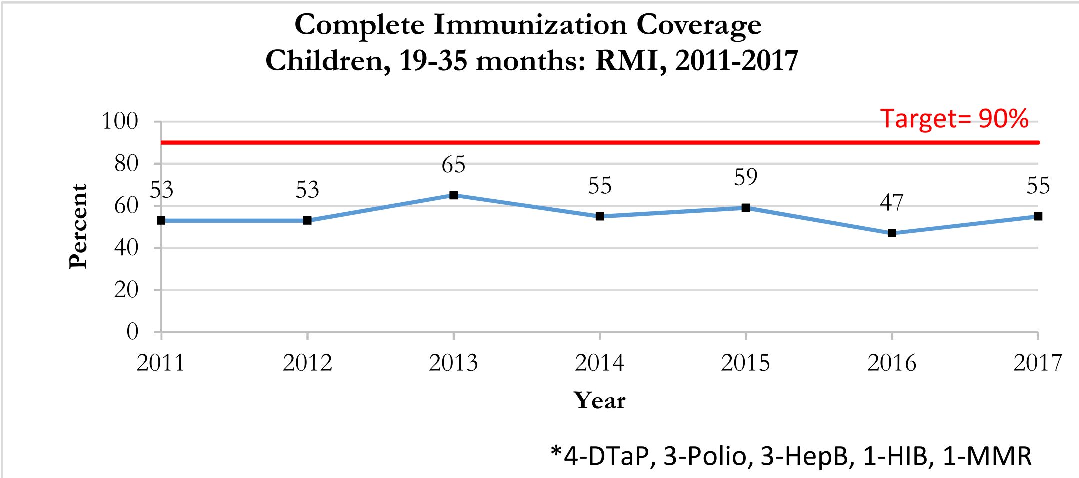


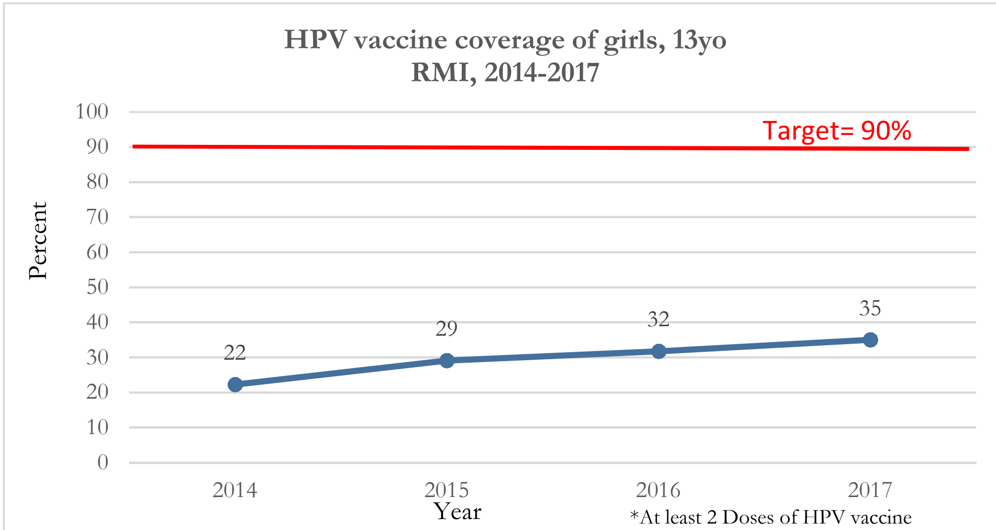
Table 26: Immunization Coverage for Children 19-35 months, Per Vaccine, RMI, FY2017					
Vaccine	**Majuro**	**Ebeye**	**Outer Islands**	**RMI**	**Percent**
DTAP4	507 (51%)	351 (97%)	115 (30%)	976	56%
HepB3	768 (77%)	359 (99%)	269 (71%)	1,396	81%
HIB1	940 (95%)	361 (100%)	366 (97%)	1,667	96%
IPV3	739 (75%)	358 (99%)	242 (64%)	1,339	77%
MMR1	742 (75%)	356 (99%)	353 (93%)	1,451	84%
No of fully immunized	490	351	114	955	
No. of 19-35 months old	992	361	378	1,731	
Percentage	**49%**	**97%**	**30%**	**55%**	
Source: MIWebIZ,					

Table 27: Coverage Rate for Children 19-35 months Per Antigen, RMI, FY2017			
Vaccines	Total # of Vaccinated	Total # of Unvaccinated	Vaccine Coverage (pop=1,731)
HepB1	1721	10	99%
HepB3	1396	335	81%
DTaP1	1675	56	97%
DTaP3	1367	364	79%
DTaP4	976	755	56%
IPV1	1671	60	97%
IPV3	1339	392	77%
Rota1	1319	412	76%
Rota3	779	952	45%
PCV1	1662	69	96%
PCV3	1233	498	71%
PCV4	825	906	48%
Hib1	1667	64	96%
Hib3	1130	601	65%
MMR1	1451	280	84%
MMR2	1090	641	63%

We don't have cold chain equipment in the Outer Islands due to problem in supply of electricity. WHO has recommendations on solar powered cold chain equipment. But CDC didn't agree that the vaccines funded under CDC will be stored in equipment not assessed or approved by CDC. Immunization continue to provide vaccines in Majuro, Ebeye and Outer Islands. Program has zoning and outreach mobile visits. Services are provided by house to house or community visits.

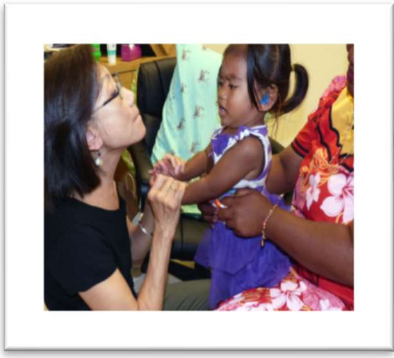
Table 28: Immunization Coverage for 19 to 35 months Per Atoll/Island, RMI, FY2017				
ATOLLS/ISLANDS	**19-35 months population**	**Complete Immunization (4DTAP, 3HEPB, 1HIB, 3IPV, 1MMR)**	**# of incomplete immunization**	**% Complete Coverage**
Ailinglaplap	34	6	28	18
Arno	44	9	35	20
Aur	5	2	3	40
Ailuk	14	3	11	21
Ebon	22	5	17	23
Enewetak	17	7	10	41
Jabat	0	0	0	0
Jaluit	56	27	29	48
Kili	23	9	14	39
Kwajalein (Ebeye)	361	351	10	97
Lib	0	0	0	0
Lae	8	4	4	50
Likiep	16	5	11	31
Namu	20	3	17	15
Maleolap	18	3	15	17
Majuro	992	490	502	49
Mejit	6	3	3	50
Mili	20	3	17	15
Namdrik	19	6	13	32
Ujae	12	2	10	17
Utrik	13	3	10	23
Wotho	1	0	1	0
Wotje	22	14	8	64
Total	1723	955	767	55
Source: MIWebIZ				

Figure 18: HPV vaccine coverage of girls, 13yo, RMI, 2014-2017



There is a 9% increase in HPV vaccination for 13 years old in from 2016 to 2017. It can be attributed to the active activities in the school headed by the School Health Coordinator. HPV Vaccinations are given to 11-12 years old or 6th graders female population. By 13 years old, they should have completed 2 doses of HPV vaccine. The Ministry's target is 90% for complete HPV rates. Religious beliefs, approval of parents, and patients opt-out are major reasons for the low coverage rates. The National Immunization Program has active partnership with National Comprehensive Cancer Control Program and Mother and Child Program to strengthen the community awareness and referral of patients to the program to improve the rates.

Early Hearing, Hearing and Detection Intervention (EHDI)




EHDI's 1-3-6 objectives:

- Screen before 1 month of age
- Diagnose before 3 month of age
- Early Intervention (EI) before 6 month of age

Objective 1: Screening

- – All newborns screened 12-16 hours after birth or prior to discharge
    - OAE if referred; ABR
- – Failed: Rescreen at 2 weeks old (1st well baby check-up)
    - OAE if referred; ABR
- – 2nd screen fail, refer to Audiologist

Objective 2: Diagnostics

- – Itinerant Audiologist visits/Qtr
- – Identifying types of and severity of Loss
    - Conductive Loss – ENT (1 to 2 times a year)
        - Medical intervention
    - Sensorineural Loss
        - Fitted with HA
        - Refer to Early Intervention

Objective 3 Early Intervention

- Family centered/focused
    - – Work with parents/families setting goals based on child's and families' needs

- Deaf – Teach Language and Communication using play and routines using sign language and other visual strategies
- Hard of Hearing – Teaching families strategies to help baby use residual hearing to become active listeners
- Services to other special needs
- Playgroups – 3 groups
  - Infants/Toddlers
  - Older children ages 3-5
  - Group Physical Therapy for CP kids
  - ECD Playgroup with 692 AFC

New born hearing screening is available only on the two main hospitals which are located in Majuro and Ebeye respectively. RMI is not able to provide hearing screening to 24 Outer Islands due to lack of resources
and funding.

Inpatient screening: There are 989 births, 876 screened, 102 (96 born in Outer Islands and 6 discharged against medical advice) were not screened, 11 passed away before screening, 764 passed, 112 referred. Outpatient screening: 112 referred, 93 passed, 21 for Diagnostic Audiological Evaluations (DAE), 4 inconclusive/no show

DAE: Out of the 21, 4 had normal hearing, 9 are out of jurisdiction, 2 are still in the process of evaluation, and
6 confirmed hearing loss.

In 2017, there are new accomplishments for the new born hearing screening program under the Early Hearing Detection and Prevention: Sound treated Audiology Suites with state-of-the-art equipment and consistent audiological visits (4 times a year)

Behavioral Health and Human Services

Suicide mortality rate/100,000/year:

Figure 19: Deaths Rates Due to Suicide, RMI FY2011-2017 (5 yr running ave.)

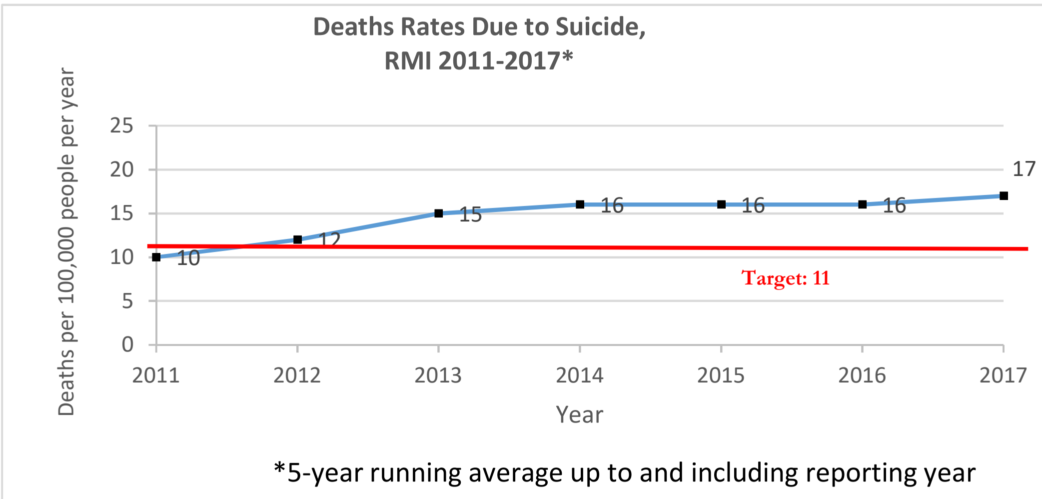
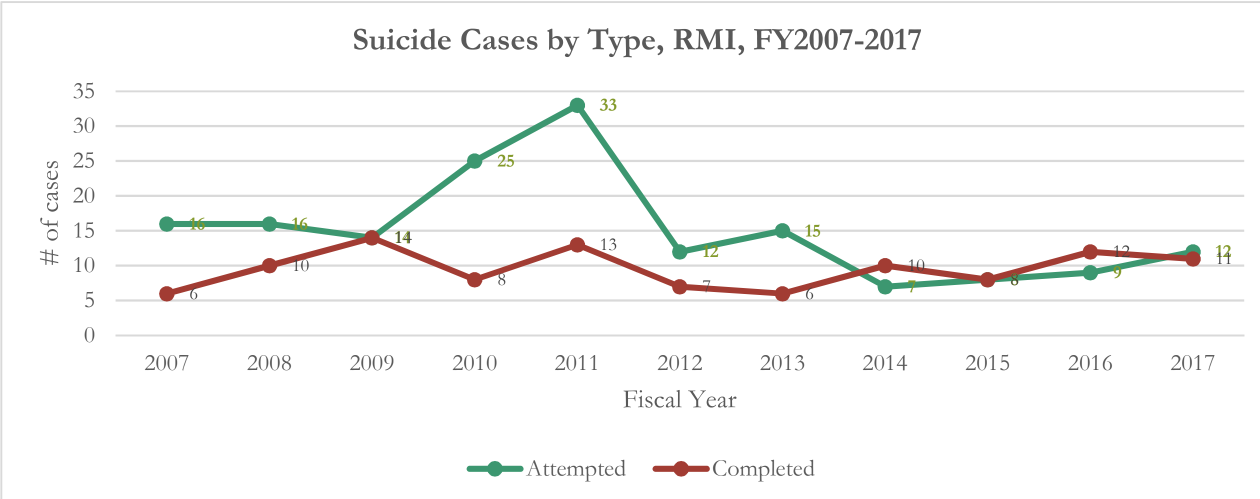


Table 29: Suicide Cases, RMI, FY2013-FY2017																				
	FY2013				FY2014				FY2015				FY2016				FY2017			
Types of Suicide	Majuro	Ebeye	Outer Islands	Total	Majuro	Ebeye	Outer Islands	Total	Majuro	Ebeye	Outer Islands	Total	Majuro	Ebeye	Outer Islands	Total	Majuro	Ebeye	Outer Islands	Total
Completed	2	3	1	6	10	1	0	11	7	1	0	8	10	2	0	12	8	0	3	11
Attempted	8	7	0	15	5	5	0	10	3	4	1	8	8	4	2	14	8	2	1	11
Total	10	10	1	21	15	6	0	21	10	5	1	16	18	6	2	26	16	2	4	22

Figure 20: Suicide Cases by Type, RMI, FY2007-2017



Registered Mental Health Cases, FY 2017

Table 30: RMI Registered Mental Health Cases, FY2017				
Registered Cases	Majuro	Ebeye	Outer Islands	Total
New Cases	**26**	**5**	**2**	**33**
Male	21	3	2	26
Female	5	2	0	7
Old Cases	**102**	**12**	**10**	**124**
Male	82	10	5	97
Female	20	2	5	27
Total Cases	**128**	**17**	**12**	**157**
Total Male	103	13	7	123
Total Female	25	4	5	34

Table 31: Top Diagnosis in Behavioral Health Services, Majuro & Ebeye, FY2017		
	#of encounters	
Diagnosis	**Majuro**	**Ebeye**
Schizophrenia	136	63
Major Depression	77	9
Seizure Disorder	42	9
Anxiety Disorder	5	22
Bipolar Affective	20	1

Acute Psychosis	14	
Suicide	9	
Mental Retardation	8	
Chronic Anxiety	6	
Others	4	
Personality Disorder	3	
Unknown	2	

Kwajalein Highlights:

- Kwajalein Human Services Department continue to provide counselling and screening for diabetic patients, dental patients, STI/HIV clients, and walk-in counseling. Counselling are provided but not limited to tobacco user - smoking & dipping, depression screening, and suicide prevention.
- School visits:
  - 2 Elementary schools with 56 students (37 females & 19 males) where staff provided presentation on Depression and Suicide Prevention
  - Jabro High School where 13F/14M ages 17-18yrs old were presented with the "Effects of Tobacco on Your Health"
  - 7 Elementary Schools (7th and 8th graders) were presented with Alcohol & other Substance Abuse Prevention
  - Department conducted survey on "Self-Assessed - Health" - to examine correlation of substance use and behavioral health among middle school age students. 274 students participated, ages 12 to 16 years old (138 female & 136 male)

    Results of the survey:
    - 24 students (10 female, 14 male) expressed thoughts of suicide
    - 9 students (4 female, 5 male), had first sexual intercourse when they were ages 12 - 14 yrs old
    - 6 students (3 female, 3 male) were forced to have sexual intercourse
    - 29 students (8 female,11 male) chew betel nut & tobacco
    - 5 male students tried alcohol but currently not drinking anymore

Majuro and Outer Islands Highlights

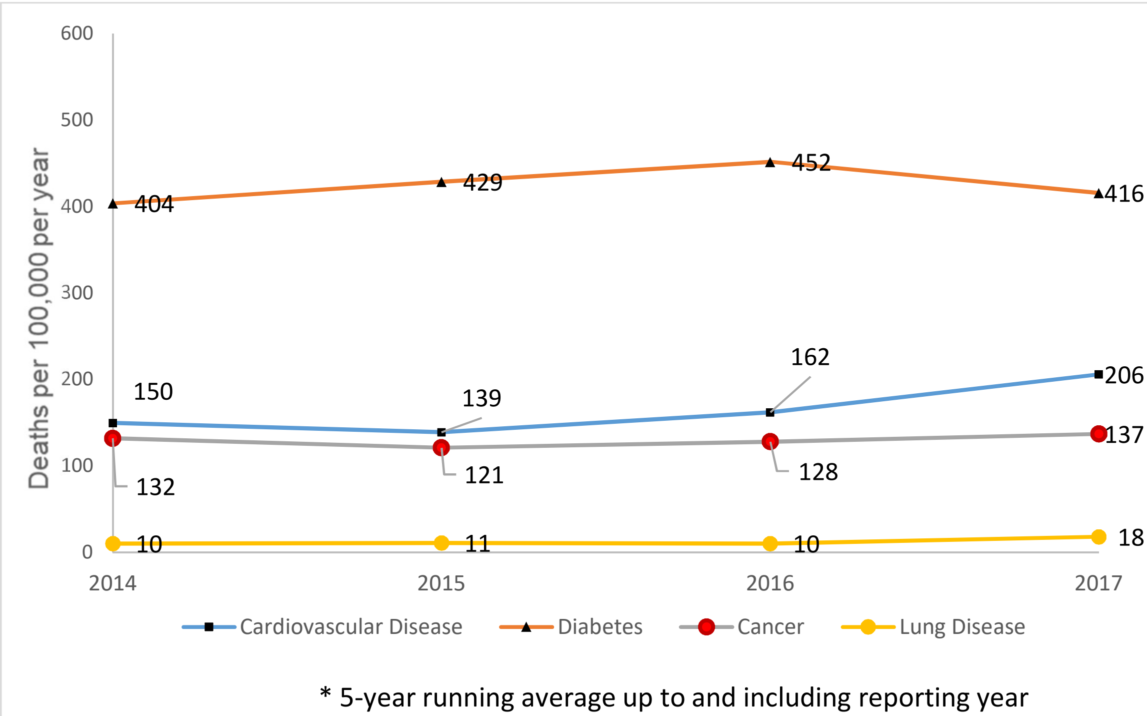
- New Psychiatrist was hired and able to provide clinical services which increase visits in the Behavioral Health clinic.
- Program has 1 new nurse
- Mental Health at the Workplace: 50 health care workers attended presented by the new Psychiatrist

- All staff in Majuro completed the on Psychological Frist Aid Training conducted by IOM (International Office of Migration)
- PSS assigned Human Services to lead the Disability Awareness Week activities.
- Suicide prevention program was able to reach 5 secondary schools.
- Improvement in the referral system of cases from Majuro Hospital ER and other units, public safety, Majuro Local Government and community in Outer Islands and Majuro.
- Mental Health Standard Operating Procedure and Policy were endorsed, distributed and implemented
- Training: Mental Health Leadership Training in Suva, Fiji in July 2017
- 31 schools and 37 communities were reached by the program to provide Substance Abuse Prevention and Treatment, mental health, suicide and rape prevention activities.
- Program continues to support employment of mental health clients through the Community Mental Health Services block grant.
- Counselling services is available at the Majuro prison and CMI for the students.
- On-going collaboration with Non-governmental Organizations (NGOs), faith based community groups to develop a document on the roles of traditional health practices.
- Depression presentation at the WUTMI Annual Conference
- What is Mental Health and substance abuse presentation during Church Youth Conference
- Mental Health Leadership Training in Cook Islands in Feb 2017.
- MHGap Workshop held in MIR where MOHHS, KUMIT, MIEP, PSS, and WUTMI attended.
- Salvation Army provides lunch to MH clients every Tuesdays and Thursdays.

Non-Communicable Diseases

Mortality Rates Due to NCDs

Figure 21: Death Rates Due to NCDs for 30-69 yrs old, RMI 2014-2017 (5 yrs. running ave.)



Diabetes Program

Table 32: Registered Diabetes Patient in Majuro and Ebeye Clinics, FY2017				
	Majuro Clinic		Ebeye Clinic	
	Number	%	Number	%
No. of Registered Diabetic Patients	**2335**		**808**	
Unknown (Gender)	6	0.3%	0	0%
Male	913	39.1%	321	39.7%
Female	1416	60.6%	487	60.3%
Age 0-18	3	0.1%	0	0%
Age 19-44	259	11.1%	108	13.4%
Age 45-64	1449	62.1%	542	67.1%

Age 65+	600	25.7%	158	19.6%
No. of Registered DM pts with at least 1 visit	842		513	
Male	291	34.6%	210	40.9%
Female	477	56.7%	303	59.1%
Age 0-18	0	0.0%	0	0%
Age 19-44	80	9.5%	67	13.10%
Age 45-64	495	58.8%	344	67.10%
Age 65+	190	22.6%	102	19.90%
Number of patient DM defaulters	1,493	63.9%	295	36.5%
Source: CDEMS, Diabetes Clinic				

Table 33: Prevalence Rate of Diabetes, RMI, FY2011-FY2017

Description	FY11	FY12	FY13	FY14	FY15	F16	FY17
No. of Registered Diabetes Patients	1,980	1,794	1,804	2,166	2,384	2,737	3,143
Prevalence of Diabetes Per 10,000 Population	357	312	314	377	417	481	567
Source: CDEMS, Diabetic Clinic							

Table 34: Majuro Key Outcome Measures for Diabetes, FY2011 – FY2017

Outcome Measures	By 9/30/11	By 9/30/12	By 9/30/13	By 9/30/14	By 9/30/15	By 9/30/16	By 09/30/17
No. of Registered Diabetic Patients	589	925	1,236	1,535	1,799	2,108	2,335
No. of Pts. w/ 1+ visits	515	580	664	691	697	815	842
A1c and Self Care Goal Setting							
% of patients with diabetes with 2 HbA1c tests at least 91 days apart (Goal >90%; Typical <25%)	7.60%	6.20%	8.90%	6.10%	5.60%	2.90%	5.2%
Average A1c value for patients with diabetes (among % with A1c) (Goal <7.0%; Typical >9.0%)	9.98	12.55	9.95	11.28	9.75	9.50	9.70
% of patients with diabetes with self-care	0.00%	0.00%	23.9	23.60%	21.50%	12.40%	11.6%

goal recorded (Goal >70%; Typical <20%)							
Cardiac Risk Reduction							
% of patients with diabetes age >=55 with current Rx for ACE or ARB (Goal >75%; Typical <40%)	15.10%	17.80%	22.60%	24.70%	24.10%	25.40%	38.4%
% of patients age >=40 with diabetes with current Rx for statins (Goal >60%; Typical <40%)	13.80%	25.30%	46.20%	40.20%	45.80%	48.30%	88.4%
% of patients with diabetes with last BP <140/90 (among % w/ BP) (Goal >70%; Typical <50%)	72.90%	72.40%	69.40%	68.20%	77.60%	70.70%	59.5%
% of patients with diabetes age >=55 with current Rx for ASA (Goal >80%; Typical <50%)	41.4%	51.3%	70.6%	58.1%	58.6%	61.2%	62.2%
% of patients with diabetes who are current smokers (with smoking assessment) (Goal TBA)	NA	NA	NA	NA	NA	NA	1.0%
Screening for Microvascular Complications							
% of patients with diabetes with dilated eye exam in past year (Goal >70%; Typical < 30%)	13.40%	28.40%	21.5	20.70%	17.90%	31.00%	15.9%
% of patients with diabetes with comprehensive foot screen in past year (Goal >90%; Typical <30%)	43.30%	45.00%	47.6	27.20%	13.30%	21.50%	16.6%
Prevention Screening							
% of patients with diabetes with influenza vaccination in past year (Goal >90%; Typical < 50%)	39.20%	33.40%	55	33.60%	28.00%	40.90%	28.4%

% of patients with diabetes with dental exam in past year (Goal >70%; Typical <30%)	36.10%	5.20%	10.8	17.80%	12.10%	32.30%	12.5%
Health Education							
Nutrition education	34.20%	30.30%	38.4	21.70%	18.70%	19.80%	14.6%
DM education	34.30%	30.00%	38.3	20.80%	18.10%	12.40%	13.7%
Source: CDEMS - Majuro							

Table 35: Ebeye Key Outcome Measures for Diabetes, FY2011 – FY2017

Outcome Measures	By 9/30/11	By 9/30/12	By 9/30/13	By 9/30/14	By 9/30/15	By 9/30/16	By 09/30/17
No. of Registered Diabetic Patients	413	476	596	544	882	629	808
No. of Pts. w/ 1+ visits							513
A1c and Self Care Goal Setting							
% of patients with diabetes with 2 HbA1c tests at least 91 days apart (Goal >90%; Typical <25%)	2.10%	39.60%	3.90%	9.90%	No data	No data	0.20%
Average A1c value for patients with diabetes (among % with A1c) (Goal <7.0%; Typical >9.0%)	10.9	11.3	15.0	10.2	9.8	9.6	10
% of patients with diabetes with self-care goal recorded (Goal >70%; Typical <20%)	12%	15%	4%	24.20%	2%	14%	0.40%
Cardiac Risk Reduction							
% of patients with diabetes age >=55 with current Rx for ACE or ARB (Goal >75%; Typical <40%)	69.6%	66.9%	53.6%	59.0%	65.2%	86.4%	78.0%
% of patients age >=40 with diabetes with current Rx for statins (Goal >60%; Typical <40%)	26.4%	23.7%	23.1%	25.3%	31.0%	29.4%	69.4%
% of patients with diabetes with last BP <140/90 (among % w/	No data	No data	No data	No data	No data	No data	No data

BP) (Goal >70%; Typical <50%)							
% of patients with diabetes age >=55 with current Rx for ASA (Goal >80%; Typical <50%)	No data	No data	No data	No data	No data	No data	No data
% of patients with diabetes who are current smokers (with smoking assessment) (Goal TBA)	No data	No data	No data	No data	No data	No data	No data
Screening for Microvascular Complications							
% of patients with diabetes with dilated eye exam in past year (Goal >70%; Typical < 30%)	No data	No data	No data	44%	No data	96.10%	0.0%
% of patients with diabetes with comprehensive foot screen in past year (Goal >90%; Typical <30%)	No data	No data	**6.5%**	24.2%	No data	7.4%	4.0%
Prevention Screening							
% of patients with diabetes with influenza vaccination in past year (Goal >90%; Typical < 50%)	99%	99%	99%	90%	99%	98.90%	0.0%
% of patients with diabetes with dental exam in past year (Goal >70%; Typical <30%)	51.0%	43.6%	45.0%	38.5%	10.0%	15.6%	3.6%
Health Education							
Nutrition education							
DM education							
Source: CDEMS - Ebeye							

National Comprehensive Cancer Control Program

The National Comprehensive Cancer Control Program (NCCCP) is a program of the Ministry that integrates and coordinates approaches in reducing cancer incidence, morbidity, and mortality through prevention, early detection, treatment, and survivorship care. In spite of many challenges in its early years, the NCCCP has succeeded in integrating its initiatives with other health programs and collaborating with communities and other non-governmental organizations leading to the formation of the National Cancer Coalition. In the past two years, the coalition completed its comprehensive needs assessments and planning activities participated by many of the coalition's partnering organizations and other programs (see table RMI National Comprehensive Cancer Plan below). As a result, the Cancer Survivorship Plan was developed on October 2016. NCCCP officially launch the RMI National Comprehensive Cancer Control Plan 2017-2022 (CCC Plan).

Given the high rates of cervical and breast cancers and the increasing number of people living with cancer, the RMI National Comprehensive Cancer Control Program (NCCCP), the National Breast and Cervical Early Detection Program (NBCCEDP) and the National Cancer Coalition (NCC) prioritized cervical, breast and colorectal cancer education and early detection, and survivorship care

The RMI National Cancer Coalition Members

177 Health Care Program (represents the four nuclear affected atolls or the four-atoll program) Cancer Registrar – MOHHS (oversees national cancer registry) Cancer Survivorship Group (chartered NGO composed of cancer survivors and families in Majuro) College of the Marshall Islands (CMI Media team; translation services) Dental Department – MOHHS (conducts oropharyngeal cancer screening) Department of Energy Clinic (special medical program for nuclear victims of Bikini and Rongelap atolls) Ebeye Community Health Center (US-federally qualified health center program in Kwajalein Atoll) Health Promotions Program – MOHHS (collaborates with all other programs for health promotion/education) Immunization Program – MOHHS (provides HPV and HBV vaccinations) KIJLE (Kora In Jibati Lolorjake Ejmour is one of the largest women's group chapter of WUTMI) Kumit Bobrae Coalition (a national coalition that addresses alcohol, tobacco and other substance abuse) Kwajalein DIAK Coalition (a highly-recognized community coalition in Ebeye that address NCDs) Laboratory Department – MOHHS (critical in cancer screening and diagnosis including histopathology) Majuro Clinic (the sole private practice clinic and serves as liaison to the large Filipino community) Marshall Islands Breast Cancer Society (a newly formed NGO composed of breast cancer survivors) Marshall Islands Mayors Association (supports cancer initiatives in the outer-island communities) Maternal Child Health and Reproductive Health Programs – MOHHS (breast and cervical cancer screening) Marshall Islands Medical Society (organization of medical providers in the Marshall Islands)

National Comprehensive Cancer Control Program – MOHHS (National Cancer Coalition convener) National Medical Referral Office – MOHHS (oversees and handles all off-island patient referrals) National NCD Coalition – (targets NCD risk-factors and diabetes) National NCD Program – MOHHS (program targeting diabetes, tobacco and other NCD risk-factors) Office of Health Planning Policy and Statistics – MOHHS (provides critical health data and IT support) REACH Program – MOHHS (performs policy work on NCD risk factors) STD-HIV Program – MOHHS (collaborates with NCCCP in preventing STDs such as HPV and HBV) Wellness Center (Funded by Canvasback Mission; the center operates a restaurant and a fitness center) Women United Together Marshall Islands (WUTMI) – largest women's group in RMI

Table 36: The RMI National Comprehensive Cancer Plan 2017-2022 Sources

Primary Prevention	Poor diet (NCD/cancer risk factor) Lack of physical activity (NCD/cancer risk factor) Tobacco-use (NCD/cancer risk factor)	Majuro NCD Community Action Plan and Kwajalein DIAK Plan
	Alcohol consumption (cancer risk factor)	Kumit Bobrae Plan
	HPV, HBV and other infectious agents causing cancer	Immunization Program Plan STI Program Plan
Secondary Prevention	Cervical, Breast, and Colorectal Cancer Screening	NCCCP Plan
	Oropharyngeal Cancer Screening	NCCCP Plan
	Early detection of Thyroid Cancers	DOE and 177 Program Plans
Cancer Care	Cancer Treatment (medical care)	NCCCP Survivorship Plan
	Quality of Life (survivorship care)	NCCCP Survivorship Plan
	End-of-life (palliative care)	NCCCP Survivorship Plan
Cancer Registry	Cancer data and reporting	PRCCR Plan

Cancer Survivorship: The NCCCP through the Cancer Coalition developed the RMI Cancer Survivorship Plan in 2016 and currently on implementation. The plan contains six strategies ranked according to priority: 1) promote awareness and education on cancer survivorship; 2) encourage the use of survivorship care plans; 3) enhance human resource and staffing for survivorship care coordination; 4) develop and expand culturally-appropriate support services to cancer survivors; 5) promote use of evidence-based clinical care guidelines to primary care providers; and 6) enhance facility access and resources for survivorship care.[2]

Cancer Support Group continue its campaign to educate churches, communities and refer to our cancer screening clinic for schedule. The group also makes hospital and home visits to cancer survivors.

[2] National Cancer Survivorship Plan 2017-2022, Republic of the Marshall Islands

Collaboration Activities: NCCCP, Reproductive Health Program and Immunization Program continues to promote cervical and breast cancer screening and HPV vaccine awareness and vaccination. Collaboration with NCD programs/Coalition on objectives for prevention and risk factors. Walking clubs initiated throughout Majuro Atoll in collaboration with KIJLE, who is leading the Physical Activity Task Group

Outreach at Jined Club Forum (women's forum): HPV Vaccination and cervical cancer screening. Project with Marshall Islands Mayors' Association (MIMA): 3 Atolls led by RMI only 3 Women Mayors from Likiep, Ailuk, and Ebon. This was a pilot project contracted to MIMA (3 female mayors) to lead cancer screening awareness (breast and cervical) as well as HPV Vaccination. Surveys/questionnaires were given to the Mayors to give to the female population to see where we're at with breast and cervical cancer screening, as well as HPV vaccinations. The next step is to analyze the questionnaires, assess, and implement to ensure full coverage for the 3 atolls and expand to the other outer islands (atolls) in the upcoming years.

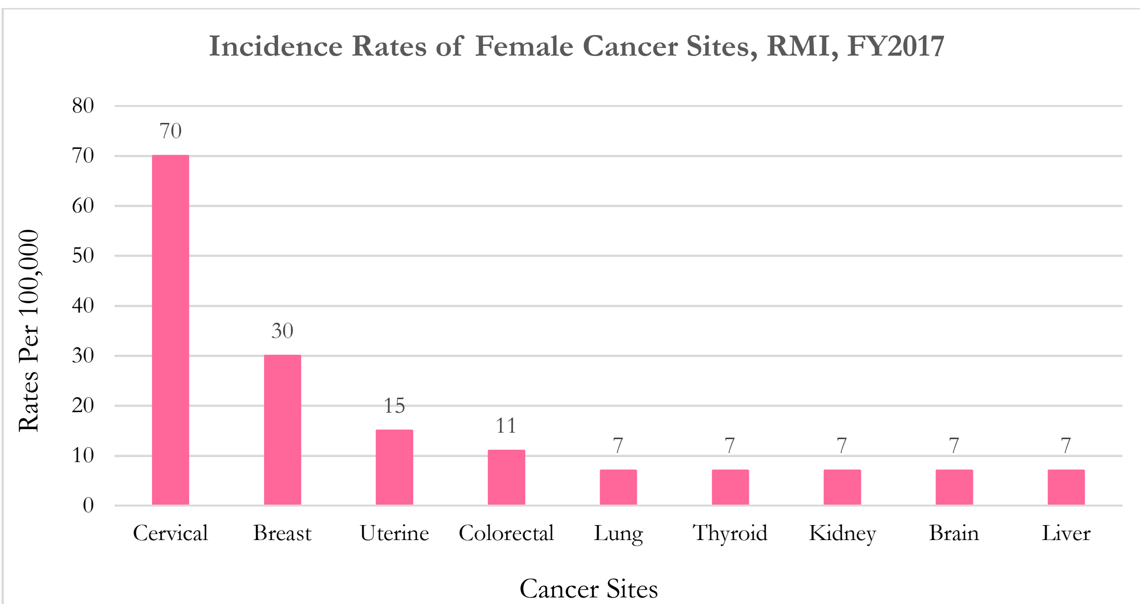
Training/Meetings/Workshop:

1. National Strategic Planning Workshop, Majuro: All relevant programs and stakeholders were invited to come together to work and develop the RMI National Cancer Plan –November 25, 2016 Strategic Planning Workshop; June 21, 2017 was the reading of the draft strategic plan and evaluation.
2. Comprehensive Cancer Control (CCC) Pacific Islands Jurisdictions Workshop in Hawaii: Presentations and group discussions (PIJ's) in coalition building, HPV vaccinations, Cervical Cancer Screening, Colorectal cancer screening, Survivorship and Palliative Care (May 23- 25, 2017)
3. Cancer Registry Training – May 5 – May 10, 2018, Honolulu Hawaii, Objectives: Pacific Regional Central Cancer Registry Annual Cancer Registrar Training.
4. CDC Cancer Conference – August 16-18, 2017; Atlanta. The Participants will include one program director and one CCC coalition leader from each state, tribe/tribal organization and territory or Pacific Island Jurisdiction that is funded by CDC for the NCCCP. In addition, representatives of the CCC National Partnership member organizations will attend. This is an excellent opportunity to network with other CCC coalitions to share ideas and hear about innovative ways of sustaining successful CCC coalitions.
5. Building Successful Coalition- date, location and objectives- not sure what this is??
6. Annual evaluation of CCC Plan

Table 37: Incidence and Prevalence Rate of Cancer, RMI, FY2009-FY2017									
Description	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
No. of New Cancer Patients	52	82	67	40	52	59	48	57	69
Incidence Rate Per 10,000 Population	10	15	13	7	10	11	9	10	12
No. of death related to cancer	36	26	27	33	43	22	20	31	33
No. of Existing and New Cancer Patients	192	238	341	376	476	513	541	567	603
Prevalence Rate Per 10,000	36	50	64	70	88	94	99	103	109
Source: AbstractPlus – Cancer Registry and Vital Statistics Office									

Table 38: New Cases of Cancer, RMI, FY2017									
Cancer Site	Ebeye			Majuro			RMI Total		
	M	F	Total	M	F	Total	M	F	Total
Cervical Cancer	0	2	2	0	17	17	0	19	**19**
Breast Cancer	0	2	2	0	6	6	0	8	**8**
Lung	2	2	4	5	0	5	7	2	**9**
Uterine	0	3	3	0	1	1	0	4	**4**
Colorectal	0	2	2	1	1	2	1	3	**4**
Liver	0	1	1	2	1	3	2	2	**4**
Skin	0	0	0	3	0	3	3	0	**3**
Nasopharyngeal	0	0	0	2	0	2	2	0	**2**
Testis	0	0	0	2	0	2	2	0	**2**
Thyroid	0	0	0	0	2	2	0	2	**2**
Kidney	0	0	0	0	2	2	0	2	**2**
Brain	0	0	0	0	2	2	0	2	**2**
Unknown	0	0	0	2	0	2	2	0	**2**
Oropharyngeal	0	0	0	1	0	1	1	0	**1**
Tonsil	0	0	0	1	0	1	1	0	**1**
Prostate	0	0	0	1	0	1	1	0	**1**
Neck	0	0	0	1	0	1	1	0	**1**
Lymphoma	0	0	0	1	0	1	1	0	**1**
Leukemia	0	0	0	1	0	1	1	0	**1**
Total	2	12	14	23	32	55	25	44	69
Source: Abstract Plus, National Comprehensive Cancer Control Program, M=Male, F = Female									

Figure 22: Incidence Rates of Female Cancer Sites, RMI, FY2017



The RMI has the distressing distinction of having the highest rate of cervical cancer in the world, with an age-standardized rate of 74 per 100,000 or four times higher than the USAPI and a staggering ten times higher than the US. Moreover, 42% of cervical cancer patients die within five years of diagnosis or an overall 5-year survival rate of 58%.[3] The Ministry of Health and Human Services recognizes the significance of this problem and has made numerous efforts to address the burden of cervical cancer in the RMI. However, the cervical cancer-screening rate (for women between the ages of 21 to 65years) is at 36%. To that end, cervical cancer is the highest priority in the new *2017-2022 RMI Comprehensive Cancer Control Plan.*

Table 39: Cervical Cancer Rates (per 100,000)

Country/Region	2007-2011	2007-2014	Comparison to US
RMI	77.6	74.0	10x higher
FSM (Pohnpei)	41.6	39.4	5.5x higher
USAPI*	20.6	18.3	2.5x higher
USA		7.6^	
World^	14.0		
Eastern Africa	42.7		
Melanesia	33.3		

*USAPI 2007-2014 data excludes Chuuk and 2014 American Samoa Cases
^U.S. Cancer Statistics Working Group, *US Cancer Statistics: 1999-2013* Available at: www.cdc.gov/uscs

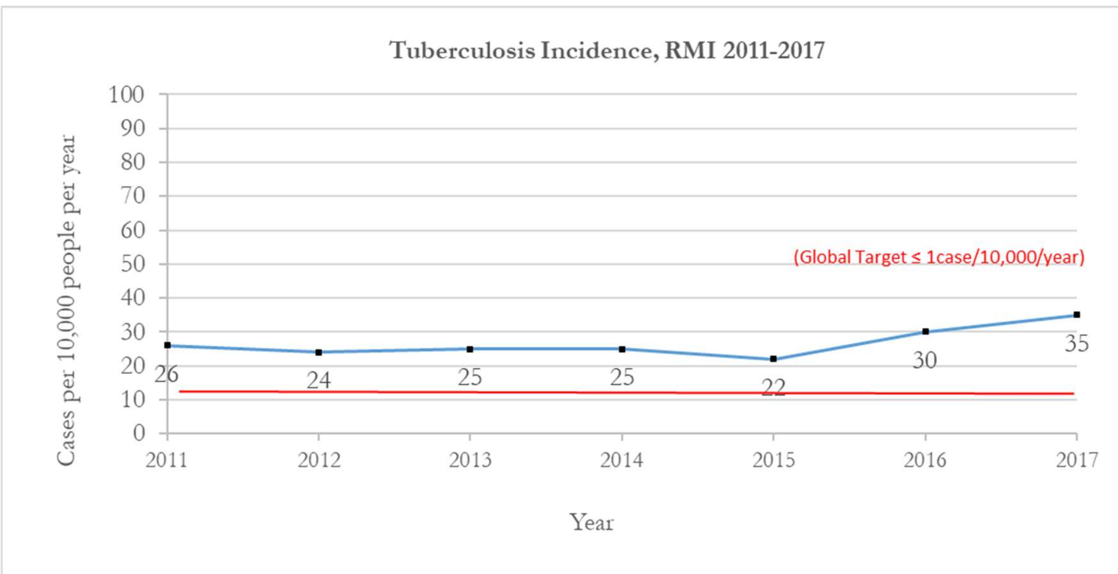
[3] Cervical Cancer in the USAPI: Incidence, 5-year survival and continued challenges, Pacific Regional Central Cancer Registry, 2017.

Communicable Diseases

Tuberculosis Program

Table 40: Incidence and Prevalence of Tuberculosis in RMI, FY2010-FY2017								
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
New TB Cases	155	136	96	119	137	125	160	206
Incidence Rate Per 10,000 Population	28	26	18	22	26	23	29.0	37
Old and New Cases	166	156	101	123	154	137	180	243
Prevalence Rate Per 10,000 Population	30	29	19	23	29	25	32.6	43.9
New Cases of MDR TB	2	0	2	2	0	1	0	0

Figure 23:Tuberculosis Incidence Rate, RMI, 2011-2017



Many people live in the community for several years before seeking care for symptoms of TB. Rigorous efforts to find new cases will increase the number of cases identified in a particular year. This appears to be the case for 2017 due to the large number of new cases identified during the TB Free Ebeye Case Finding Campaign. In the short run, this will make it look like the TB situation is getting worse. Within a few years though, bringing cases into treatment earlier prevents spread of the disease and result in reduced incidence.

Figure 24: Patients with Active Tuberculosis Completing Treatment within 1 year: RMI, 2013-2017

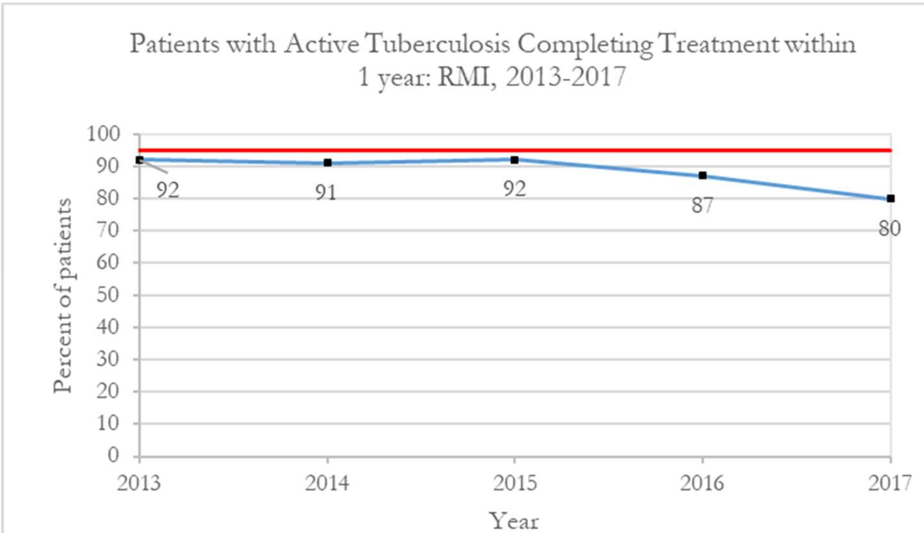
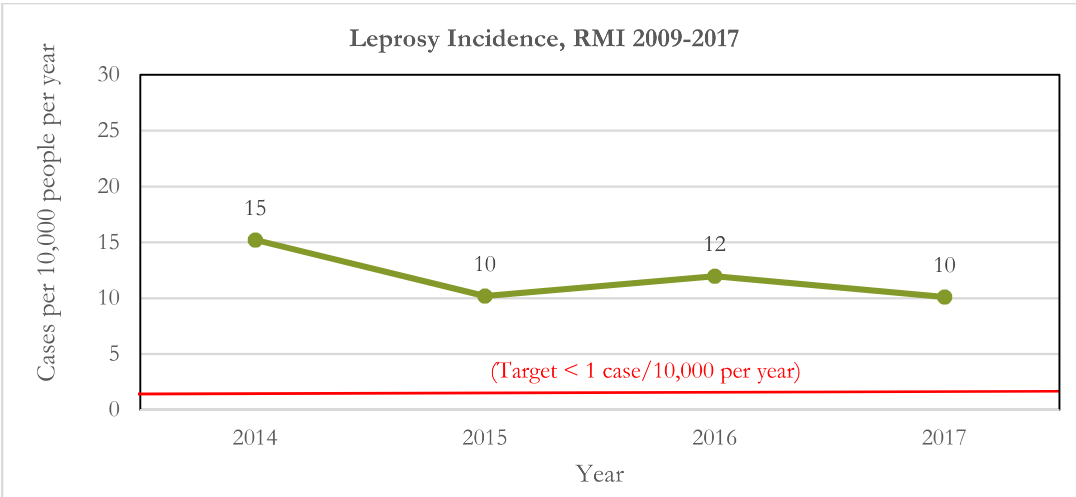


Table 41: Tuberculosis Cases with STD/HIV and Diabetes Screening, RMI, FY2017			
	Majuro/OI	Ebeye	RMI
TB Cases with STD/HIV Infection	7	0	7
No. of TB cases with STD Infection	7	0	7
No. of TB cases with STD Testing	66	0	66
No. of TB cases with HIV Infection	0	0	0
No. of TB cases with HIV Testing	86	117	203
% of TB Cases with STD/HIV Infection	**8%**	**0%**	**3%**
TB Cases diagnosed with Diabetes	46	41	87
No. of TB cases with Diabetes Assessment	48	83	131
% of TB Cases with Diabetes	**96%**	**49%**	**66%**

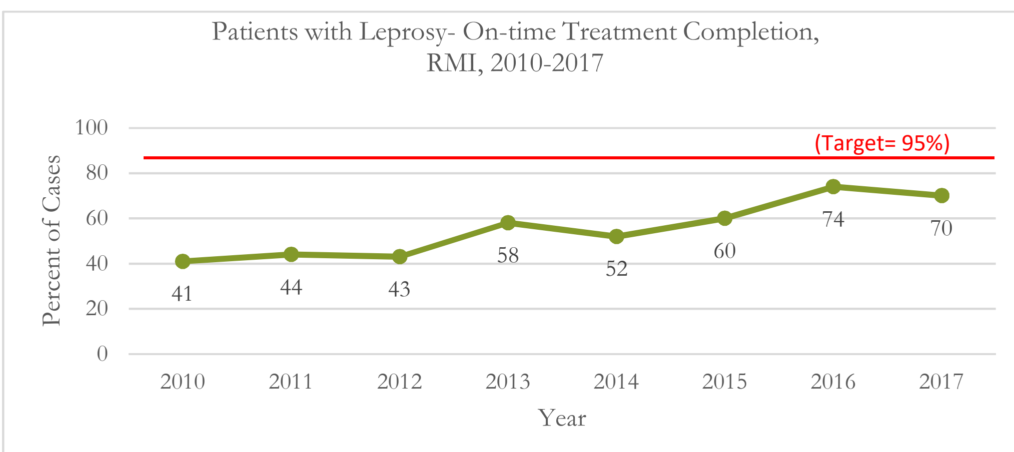
Leprosy Program

Figure 25: Leprosy Incidence Rate, RMI 2009-2017



Many people live in the community for many years before seeking care for symptoms of Leprosy. Therefore, rigorous efforts to find new cases will increase the number of cases identified in a particular year. In the short run, this will make it look like the Leprosy situation is getting worse. Within a few years though, bringing cases into treatment earlier will prevent spread of the disease and result in decreasing incidence. The Ministry is planning to conduct mass screening of TB and Leprosy in 2018 in the effort to find all cases and provide treatment to eradicate Leprosy in our community.

Figure 26: Patients with Leprosy- On-time Treatment Completion, RMI, 2010-2017



Treatment of leprosy requires regular administration of medicines for 6 months for early stage disease (PB or "paucibacillary") and 1 year for advanced stage disease (MB or "multibacillary). Treatment completion, or cure, rates tell us the proportion of patients who have completed their treatment on time and give an indication of the quality of services provided and regularity of treatment. A high treatment completion rate is needed to cure existing patients and prevent the disease from spreading further in the community.

HIV/STI Program

Table 42: Key Performance Indicators for HIV/STI, RMI, FY2017

Indicators	Majuro Clinic		Ebeye Clinic		RMI	
	No.	%	No.	%	No.	%
Incidence of new HIV infections/year/100,000 population age 15-49 years					**8**	
# new HIV cases in people age 15-49 years	2		0		2	
RMI Population 15-49 years					26,529	
Incidence of new HIV infections/year/100,000					**4**	
# new HIV cases	2		0		2	
RMI Population					55,396	
Prevalence HIV infections/year/100,000					**13**	
# old and new HIV Cases	7		0		7	
RMI Population					55,396	
Sexually transmitted infection prevalence among pregnant women						
# of pregnant women who screen + for each of the following tests:	18	3%	35	16%	53	6%
RPR (for syphilis) +	14	2%	23	10%	37	4%
Chlamydia Antigen +	0	0%	0	0%	0	0%
Gonorrhea Antigen +	3	0.5%	0	0%	3	0%
Hepatitis B Surface Antigen +	1	0.2%	12	5%	13	2%
# of pregnant women tested for each disease	627		225		852	

Table 43: HIV/STI Testing, Detection and Treatment, RMI, FY2017

Indicators	Majuro Clinic	Ebeye Clinic	RMI
No. of HIV Test Done	3,840	498	**4,338**

No. of HIV New Positive	2	0	**2**
No. of People Living with HIV/AIDS	7	0	**7**
No. of People Living with HIV/AIDS that died	0	0	**0**
Gonorrhea Test Done	111	0	**111**
Gonorrhea Detected and Asymptomatic	31	0	**31**
Gonorrhea Treated	31	0	**31**
Percentage of Gonorrhea cases treated	100%	0%	**100%**
Incidence of Gonorrhea Per 100,000 population			**49**
Chlamydia Test Done	19	0	**19**
Chlamydia Detected and Asymptomatic	4	0	**4**
Chlamydia Treated	4	0	**4**
Percentage of Chlamydia cases treated	100%	0%	**100%**
Incidence of Chlamydia Per 100,000 population			**5**
Hepatitis B Test Done	3840	1383	**5223**
Hepatitis B New Detected	56	25	**81**
Hepatitis B Old Detected	4	61	**65**
No. of New Hep B Cases Counselled	56	27	**83**
Percentage of New Hep B Cases Counselled	100%	100	**100%**
Incidence of Hepatitis B Per 100,000 population			**146**
Syphilis Test Done	3,840	1,477	**5,317**
Syphilis Detected	55	50	**105**
Syphilis Close case/Cured	25	31	**56**
Syphilis New Case	18	10	**28**
Syphilis Re-infection	11	2	**13**
Percentage of Syphilis cases treated	33%	20%	**27%**
Incidence of Syphilis Per 100,000 population			**51**
Number of Contacts treated for all diseases excluding HBV	53	21	**74**
# of Outer Islands Trips	7	0	**7**
No. of community awareness to explain the need for confidentiality.	7	5	**12**
Source: Majuro and Ebeye HIV/STI Clinics			

Table 44: Program Collaboration Services Integration (PCSI) Indicators, RMI, FY2017			
	Majuro Clinic	Ebeye Clinic	RMI
TB INDICATORS			
No. of TB Cases screened for HIV	112	99	211
No. of TB Cases (Denominator)	125	99	224
Percentage of TB cases screened for HIV	90%	100%	94%
Number of Persons Diagnosed with Chlamydia tested for HIV	2	0	2

Number of Persons Diagnosed with Chlamydia	2	0	2
Percentage of persons diagnosed with chlamydia tested for HIV	100%	0%	100%
Number of pregnant women screened for HIV and syphilis.	627	82	709
Number of pregnant women	627	237	864
Percentage of pregnant women screened for HIV and syphilis.	100%	35%	82%
HIV INDICATORS			
Number of at risk individuals tested for HIV	627	498	1125
Number of newly diagnosed HIV infections	2	0	2
Percentage of persons diagnosed with HIV who receive their test result	100%	0%	100%
Percentage of people newly-diagnosed with HIV linked to medical care within three months of their diagnosis.	100%	0	100%
Percentage of people diagnosed with HIV referred to partner services.	100%	0	100%
STI INDICATORS			
Number of sexually active females 25 years of age and under who are screened for chlamydia.	0	0	0
Number of symptomatic males cultured for Neisseria gonorrhea (GC) and conduct drug susceptibility testing (DST).	52	0	52
Number of pregnant women tested for syphilis.	627	214	841
Number of pregnant women diagnosed with syphilis treated with penicillin.	13	10	23
Source: Majuro and Ebeye, HIV/STD Program			

VIII. HOSPITAL SERVICES

Outpatient and Inpatient Services

Table 45: Majuro Hospital Outpatient and Inpatient Encounters, FY2014-FY2017

Encounters	FY2014	FY2015	FY2016	FY2017
Outpatient	25,613	23685	22,361	23,653
ER	8,049	10303	9,583	9,887
Surgical	563	573	580	576
Pediatric	455	485	488	379
Medical Unit	590	731	721	779
Medical ICU	86	108	121	116
Medical TB Isolation	62	58	74	59
Maternity	839	750	733	1,036

Operating Room	1,194	1075	1095	1,074
Total Encounters	**37,451**	**37,768**	**35,756**	**37,559**
Source: Majuro Hospital Patient Care Report				

Table 46: Ebeye Hospital Outpatient, FY2015-FY2017			
Description	FY2015	FY2016	FY2017
Number of Patients	17,340	17,342	16,580
Number of Encounters	25911	25,911	24,410

Table 47: Ebeye Hospital Outpatient Encounters, FY2016-FY2017		
Morbidity patterns and Major services	FY2016	FY2017
System patterns:		
Skin and Subcutaneous Diseases	1,956	1,464
Head, Eye, Ear, Nose and Throat Problems	1,590	1,633
Respiratory illnesses	4,373	4,410
Cardiovascular diseases	3,678	3,091
Gastrointestinal problems	1,314	1,487
Genitourinary diseases	541	455
Musculoskeletal problems	1,256	1,590
Miscellaneous (metabolic, endocrine, immunologic, Neurological, etc.)	4,986	4,968
Reportable disease	578	810
Selected services:		
Obstetrics/maternal-child health/prenatal	6,259	6,389
Family planning	3,206	1,959
Std/hiv	382	138
Cancer prevention	132	64
Human services	264	221
Dental services	5,095	2,898
Health education	217	21
Medical and Special Examination		271
Physical therapy	709	819
Nutritional Services	59	61
Laboratory Services	2,000	1,535

Ebeye Hospital provided services to 7,448 males and 9,132 females in this FY. 45-64 years age group is the highest age group among the users.

Table 48: Ebeye Hospital Outpatient Patients, Age, Sex, FY2017			
	Male	Female	Total
< 1 year	991	844	1,835
1 – 4 years	1,118	1,001	2,119
5 – 12 years	814	703	1,517
13 – 19 years	505	714	1,219
20 – 24 years	275	680	955
25 – 44 years	1,387	2,528	3,915
45 – 64 years	1,835	2,216	4,051
65 + years	523	446	969
Unknown	0	0	0
Total	**7,448**	**9,132**	**16,580**

Rehabilitation Department

Table 49: Majuro Hospital Rehabilitation Department Services, FY2013 - FY2017					
Description	FY2013	FY2014	FY2015	FY2016	FY2017
New Referrals	579	500	303	420	357
Total treatments	8,032	7,291	5,849	4,809	6,436
Diabetic Foot Care					
New Patient	174	129	45	96	203
Follow Up Patient	170	108	67	59	276
Poor Sensation in the feet	31	32	15	74	333
Referred Ulcer	72	25	13	68	108
Foot Care Treatment*[1]	41	56	33	99	451
Healed Ulcer		14	13	24	36
Amputated Patient		5	3	2	8
Foot Care Education		138	112	155	479
Type of Amputation					
AKA	3	5	7	2	3
BKA	23	19	18	8	14
Toe Amputation	30	37	34	12	21
TMA	11	6	4	3	25
UL amputation	1	1	1	0	0
Total	68	68	64	25	63
Prosthetics					
Completed Prostheses	9	5	10	7	8

Prosthesis under construction/ 2nd measurement	0	7	11	7	21
Patient who had 1st measurement	0	4	12	8	21
Prosthetic modification/adjustments made	0	11	3	7	12
Prosthetic re-paint	0	0	2	0	2
Shoe Modification (per pair)	0	4	14	5	3

Table 50: Ebeye Hospital Rehabilitation Department Services, FY2017	
	FY2017
Procedures	970
Patient seen	408
Male	239
Female	169
Total	408
Top 10 cases in Rehabilitation	
Diabetes	265
HTN	197
Foot Screening	131
Footwear Modification/off-loading/Callus removal & Nail Trimming	58
Stroke/CVA	49
Hip/knee/ankle/foot Injury **Shoulder/elbow/wrist/hand injury**	32 32
Back Pain/Injury	29
Arthritis/Gout/Osteoarthritis	28
Frozen Shoulder	18
Post-Amputation (LLs)	17

Ebeye Rehabilitation staff was trained on below knew amputation prosthetics at the Majuro Hospital Rehabilitation Department for a week. Training was focused on the fundamentals and tools required to start up a prosthetic shop at Ebeye Hospital.

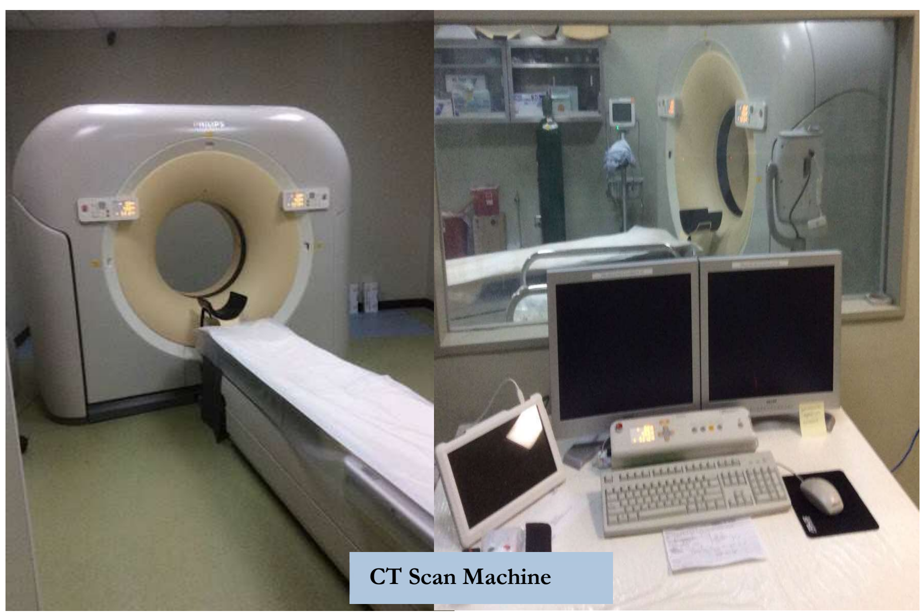
Radiology Department

Table 51: Number of Encounters in Majuro Hospital, Radiology Services, FY2015-FY2017				
	FY2015	FY2016	FY2017	Total
XRAY	5,205	6,493	4,672	16,370
CT	174	0	479	653
Ultrasound	0	334	674	1,008
Endoscopy	0	0	38	38
Total	5,379	6,827	5,863	18,069
Source: UNIWEB PACS				

CT Scan was not functional for the most part of 2015 and 2016. New CT Scan was available for service in November 2016. Endoscopy (Gastroscopy) machine was available in FY2017. Majuro Hospital Administration continues to purchase radiology equipment to be able to provide the needed services of the population. Ebeye Hospital refer their patients to Majuro Hospital for CT Scan.

Table 52: Number of Encounters in Ebeye Hospital, Radiology Services, FY2015-FY2017													
	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	FY2017
General x-ray	212	278	227	244	153	172	149	171	182	242	219	175	2,324

Gastroscopy Machine



CT Scan Machine

Pharmacy Services

With 5 full time staff, the Pharmacy Department is providing services to Majuro Hospital's Inpatient and Outpatient patients, Public Health Clinics, and occasionally special orders from Outer Islands Health Centers, 177 Health Care Program, Laura Health Center and Ebeye Hospital. mSuppy, Pharmacy Information System was upgraded in this reporting period from the support of UNDP.

Table 53: Majuro Hospital Pharmacy Department Services, FY2015-FY2016

Outpatient	FY2015	FY2016	Inpatient	FY2015	FY2016
Total no. of Script	57,891	52,578	**Total no. of orders**	3,153	3,142
Total no. days	363	366	**Total no. of days**	363	366
Total no. of Script/ day	159	144	**Average no. of Order/ Day**	9	9
Total no. of items dispensed	143,157	159,499	**Total number items dispensed**	22,133	19,175
Average no. of items per Prescription	2	3	**Average no. of items order**	7	6

Source: mSupply – Pharmacy System

New performance indicators were set in FY2017 to be able to capture the full services of the department.

Table 54: Majuro Hospital Pharmacy Services, FY2017

Performance indicators	FY2017
Outpatient	
No. Of prescription	44,307
Ave. Prescription/day	1,478
No. Of items dispensed	102,323
Inpatient	
No. Of prescription	2,486
Ave. Prescription	94
No. Of items dispensed	9,014
Wards orders	
No. Of orders	2,400
Ave. Order/day	65
No. Of items dispensed	224,019
Laura orders	
No. Of orders	34
Ave. Order/day/month	8
No. Of items dispensed	198
Outer islands orders	
No. Of orders	24

Ave. Order/day/month	6
No. Of items dispensed	140
Ebeye orders	
No. Of orders	6
No. Of items dispensed	18
177 health clinic	
No. Of orders	13
Ave. Order/day	0
No. Of items dispensed	66

Dental Services

Table 55: Dental Services, Majuro Hospital, FY2017	
Fluoride varnish (in pts)	169
Prenatal (in pts)	252
Diabetic (in pts)	151
Preventive Services (in pts)	2,562
Restorations	2,306
Extractions	5,310
Root canals	130
Scaling	431
Dentures	247
Total pats	**11,558**

Table 56: Dental Services, Ebeye Hospital, FY2017	
No. Of encounters	3274
Male	1407
Female	1867
* emergency	1637
* treatment	388
* prevention	1250
Pre natal	235
Outreach	1
Fluoride application	324
Toothbrush and toothpaste	0
Dental health education 0-12 y.o.	844
Mother /infant well-baby clinic	224
Patients under 14 y.o.	1006
*male	482

*female	524
14 to 25	552
Above 25	1696
Extraction number of teeth	2149
-number of patients	1542
-male	708
-female	834
Restoration number of teeth	642
-number of patients	396
-male	166
-female	230
Betel nut chewer -pregnant	24
Smokers and alcoholic/betel nut	144
Denture	202
X-ray	58
Dm screening / patients seen	247
Oral cancer screening	119
Pit /fissure sealants patients	186
Pfs no. of teeth	498
6-9 yo sealed first molar (no. of teeth)	207
Number of patients (6-9) who has sealants	70
Root canal therapy (no. Of teeth.)	127
Scaling and cleaning	243
School program children 5-12	495
Counselling	72
First visit patients	2551
Return visit patients	723

Biomedical Services

New medical equipment purchased and installed in FY2017:

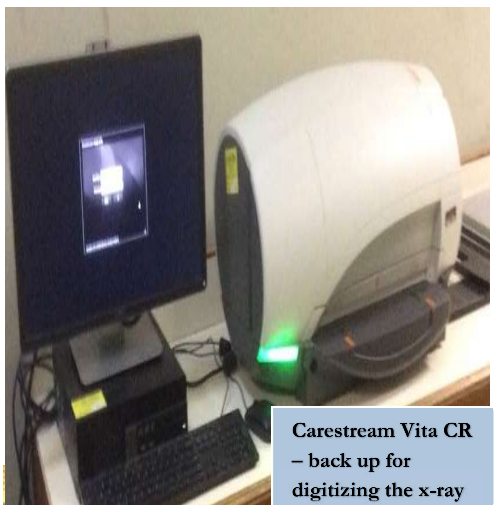
1. Philipps CT scan
2. Eye Cautery Machine
3. Purittan Holter EKG Machine
4. 2 units of Fetal Monitor Mortara – Maternity Ward
5. 6 Dental Chairs – Dental Clinic
6. Olympus Gastroscopy – Operating Room
7. Thermo Fischer Blood bag Centrifuge – Laboratory Department
8. Tuttnauer Autoclave - Central Supplies Department
9. Carestream CR Vita – Radiology Department

10. Norav Stress test treadmill – Rehabilitation Department
11. 10 Units of Mindray Vital signs (ER, Surgical Ward, Medical Ward, Labor, and Pediatric)
12. 8 hospital Gurneys (ER, OR)
13. 2 New ICU Beds
14. Microbiology machine
15. 1 unit of dragger Savina 300 Ventilator
16. 1 unit of Dragger Babylog Infant Ventilator for PICU

Upgrade of Medical Equipment

1. XN 1000 an upgrade hematology machine that can run 10 patient at the same time
2. XN 300 a back up unit hematology machine that can run 1 patient at a time.

2 Biomedical Engineers continue to set up and maintain all medical equipment in Majuro and Ebeye Hospital.



Carestream Vita CR – back up for digitizing the x-ray

Norav Stresstest Treadmill

Tuttnauer

XRay and Mammogram Digitizer (CR Carestream)

Portable XRay

Laboratory Services

Table 57: Majuro Hospital Laboratory Department Services FY2015-FY2017			
	FY2015	**FY2016**	**FY2017**
Customers	26,692	28,291	28,143
Specimens	43,393	49,576	43,378
Tests	127,610	112,019	139,116
Shipments	56	89	110

Table 58: Majuro Hospital Laboratory Department , FY2017	
PERFORMANCE INDICATORS	
Summary	
Patients/ Clients	28,143
Specimens	43,442
Phlebotomies	14,874
Tests Performed	138,891
DG Shipments	110
Specimens Processed	
Microbiology	13,917
Immunology	8,390
Hematology & Coagulation	8,580
Blood Bank	1,598
Biochemistry	7,765
Immunochemistry	206
Anatomic Pathology	252
TB Lab	1,100
Referrals	1,570
Total Specimens Processed	43,378
Test Performed	
Microbiology	25,991
Immunology	19,092
Hematology & Coagulation	11,003
Blood Bank	3,476
Biochemistry	77,194
Immunochemistry	668
Anatomic Pathology	0
TB Lab	1,692
Totals	139,116

Continued to maintain a 24/7 laboratory service to the residents of Majuro Atoll and occasional outer islanders. These services are delivered in the best quality that our laboratory is able to provide with the use of 10 technical staffs.

Installation of PCR (Polymerase Chain Reaction) technology in the Majuro Hospital Laboratory, in December, by courtesy of the IAEA and DASA of Sao Paolo, Brazil. The purpose of having this technology is to enable Majuro Hospital Laboratory to detect unique genetic materials from infectious micro-organisms such as Zika, Dengue and Chikungunya viruses. With this technology and the right working resources, influenza and other re-emerging virulent viruses could also be detected.

Continuous Laboratory Training in FY2017:

1. Trained 5 laboratory staffs for 3 days (10/26 - 28) on the IATA (International Air Transport Agency) function specific regulations on transporting biological specimens related hazardous materials by air: 3 were re-certified and 1 was certified for the first time. Majuro Hospital has 5 certified IATA Dangerous Good Shippers. This is repeated every 2 years to ensure that our specimen referral activities are not interrupted.
2. Five senior laboratory staffs were engaged in a workshop on Anti-microbial Drugs Resistance from 11/02 - 08. This is in line with the global concern over recent patterns of bacterial resistance to most of the anti-bacterial drugs that are in use today. Our 5 trained staffs are confident enough to identify these emerging strains of bacteria, are also able to select appropriate alternative drugs for susceptibility testing as would be requested.
3. Seven laboratory staffs underwent a 5-day Laboratory Quality Management System training. Expectation: each one will know, understand and practice the 12 Quality System Essentials, especially Safety, Process Control, Process Improvement, Customer Service, Document & Records and Information Management.
4. 3 Laboratory staffs trained on Biosafety (Development of a Biosafety Manual and Implement (Bio)Safety Plan.

Laboratory Surveillance:
Zika (ongoing since January, 2016); Dengue (ongoing, but a low profile, since our last big outbreak in late 2010 and early 2011); Chikungunya (also ongoing); Mumps (also ongoing); Hepatitis A (ongoing since September, 2016, intensified time, energy and other resources have been put on this particular outbreak.


A room next to Laboratory was converted to Blood Donation Room. Hospital continuous to seek blood donation to support the needs of the patients.

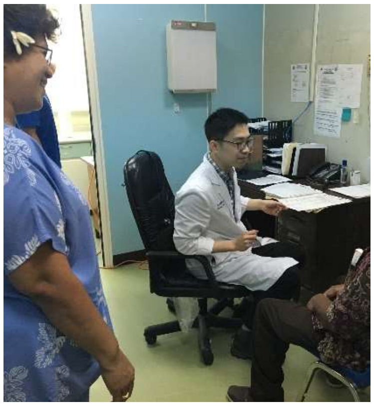
Table 59: Ebeye Hospital Laboratory Department, FY2017	
PERFORMANCE INDICATORS	
Summary	
Patients/ Clients	6,761
Specimens	11,002
Tests Performed	35,130
DG Shipments	35
Specimens Processed	
Microbiology	3,104
Immunology	2,157
Hematology & Coagulation	2,548
Blood Bank	495
Biochemistry	1,230
Immunochemistry	27
Anatomic Pathology	0
TB Lab	699
Referrals	742
Total Specimens Processed	11,002
Test Performed	
Microbiology	3,720
Immunology	4,465
Hematology & Coagulation	5,232
Blood Bank	2,731
Biochemistry	17,979
Immunochemistry	20
Anatomic Pathology	0
TB Lab	1,166
Totals	35,313

Medical Referral Services

Table 60: Number of Basic Referral, FY2011-FY2017							
Referral Centers	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**	**FY2016**	**FY2017**
Honolulu, Guam, US Mainland	9	2	1	2	4	6	2
Philippines	84	69	83	100	123	145	129
Taiwan	1	1	1	1	1	4	5
Japan	0	0	2	0	1	0	0
Korea	0	0	0	0	1	0	0
Ebeye Hospital	0	2	0	0	0	0	0
Total Basic Referrals	94	74	87	103	130	155	136
Tripler Hospital (PIHCP)	44	29	42	36	27	13	36
Shriners' Hospital	8	17	8	6	4	6	1
Total	52	46	50	42	31	19	37
Total Referrals	146	120	137	145	161	174	173

Table 61: Number of Supplemental Referral, FY2011-FY2017							
Referral Site	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Philippines	102	70	103	85	35	57	29
Honolulu, US Mainland, Guam	132	96	103	88	75	79	82
Taiwan	1	4	7	5	6	12	1
Total	235	170	213	178	116	148	112

<u>**Taiwan Health Center**</u>



- Provide RMI Majuro Hospital Medical Skill and Physicians support

Table 62: Taiwan Medical Mission to Majuro Hospital, FY2017			
Date	Specialty	#. of patients	Surgery
October/2016	Pulmonary	157	
April/2017	Otolaryngology	206	4
May/2017	Dermatology	254	
June/2017	Otolaryngology	254	2
June/2017	Neurology	93	
August/2017	Pulmonary	179	
September/2017	Cardiology	255	

Table 63: Medical Training provided by Taiwan Health Center, FY2017		
Date	Topic	Hours/Student Number
October/2016	Intestinal Parasite Identification Training	10hr/8
June/2017	Medical Instructor Training	80hr/21(13)
August/2017	Pulmonary Tuberculosis	10hr/20
September/2017	Hypertensive Seed Teacher Training	5hr/20

- Two Medical Substitute Military Service Doctors from Ministry of Health and Welfare of Taiwan for 4 months.

a. Work duty:
   - i. Assist Taiwan Health Center project
   - ii. Every Monday and Thursday work at NCD clinic, total see 280 patients.
   - iii. Once a week outreach for disabled patients, total visit 14 patients.

iv. Work with Community Lifestyle Program every Friday.

- Intestinal Parasitic Screening project
  a. Duration: September 1-25, 2016
  b. Coordinate with MCH program and Taiwan Professor
  c. Target: Majuro private school grade1-6

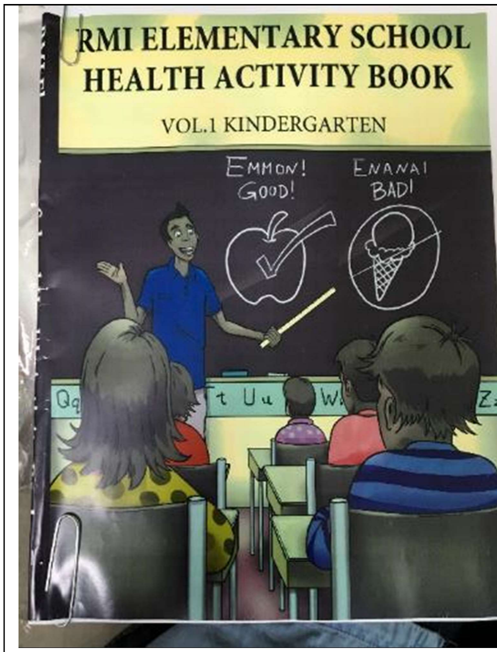
Table 64: Result of the Intestinal Parasitic Screening, Majuro, September 2016			
School	Screen number/student number	Screening rate	Infection rate
COOP	34/144	23.6%	11.8%
MBCA	42/165	25.5%	4.8%
RCS	7/23	30.4%	0%
AS	58/144	40.3%	13.8%
SDA	67/167	40.1%	10.4%
ACA	24/52	46.2%	20.8%

- Community Lifestyle Program

Work with Wellness Center Majuro Public Health Nurses, JICA, to provide health check up and screening for diabetes and hypertension in the community.

Table 65 : CLAP Screening, Majuro, FY2017			
Date	Location	Number/person/time	DM rate
November 4 & 25 2016	Jenrok Turweto Church(Rita)	54	24%
Feb 2017	MIR	50	26%
	Rita Salvation Army	44	52%
	EZ Mart	53	18.8%
Mar/2017	Ajetlake Community Center	61	47.5%
	Laura Community Center	37	32.4%
	Delap Park Taxi Washing	46	32.6%
Apr/2017	Woja Community Center	26	30.7%
	Ajetake Assembly of god Church	23	52.1%
May/2017	SDA	32	34%
	Delap New Beginning	32	37.5%
	COOP	17	11%
July/2017	Jenrok Tiete Community	35	22%
	Utibang	45	28.8%
Aug/2017	Barreck Community	55	40%
	Icedonia	44	18.1%

- Elementary School Nutrition Education project
    a. Work with Ministry of Education and Wellness Center, to edit a new Health activity book for kindergarten.
    b. Health Checkup for every elementary school
    c. School gardening program



- International Patient Referral Service Between Taipei Medical University -Shuang Ho Hospital Ministry of Health and Welfare (Taiwan) and Ministry of Health and Human services Republic of the Marshall Islands. Check Medical Referral Services for the number of referrals to Taiwan.

- Internship Training Program
  a. Assist Majuro Hospital build up an internship program, coordinate Medical Education Committee with doctors in Majuro hospital. Set up a Medical Instructor program.
  b. Program started from August/2017 and on going.