FINAL REPORT

Technical assistance in data collection and analysis for the health resources availability and mapping system assessment for the Republic of Marshall Islands (RMI)

by WHO Consultant, Fiona Kee

EXECUTIVE SUMMARY

The Health Resources Availability and Mapping System (HeRAMS), developed and used by the World Health Organization (WHO) since 2009, was primarily used for monitoring health facilities, services, and resources availability in response to emergencies.

This consultancy was held from 4th December 2018 to 18th January 2019 in the Republic of Marshall Islands (RMI). It aims to support the Ministry of Health and Human Services (MOH) in assessing primary health facilities with the HeRAMS tool kit and collect/analyze health service utilization data at primary care level. During first three weeks on-site, the consultant reviewed the existing data of MOH, conducted individual trainings for MOH officers on data collection and dataset management using HeRAMS toolkit, as well as conducted site visits and radio interviews for health facilities (HF).

The final report concluded that periodic data update is necessary to ensure timeliness of data. The Marshall Islands may consider to work continuously and closely with WHO for regular data update.

AIM AND OBJECTIVES

HeRAMS, developed and used by WHO since 2009, was primarily used for monitoring health facilities, services, and resources availability in response to emergencies. In the Pacific, HeRAMS has been used in many countries such as Kiribati, the Federated States of Micronesia (FSM), Solomon Islands, and Vanuatu. In FSM, health facilities in Pohnpei was assessed by HeRAMS in 2017 whereas both Chuuk and Yap State were assessed in 2018.

This consultancy was requested by the WHO FSM Country Liaison Office (CLO). The period is from 4th December 2018 to 18th January 2019 in RMI. The consultancy is to support MOH in assessing primary health facilities with the HeRAMS tool kit and collect/analyze health service utilization data at primary care level.

In RMI, the consultant was introduced to Julia Afred (Secretary of Health) and Francyne Wase-Jacklick (Assistant Secretary of Health). Under the coordination of Edlen Anzures

(Information Technology Director), and in close collaboration with Ransen Hansen Jr (Surveillance Officer) and Melvin Mellan (Outer Islands Officer), the consultant was to:

1) Review the existing data of MOH and apply the latest version of HeRAMS assessment to assess health dispensaries in the country;
2) Conduct two individual trainings for one Outer Islands Officer and one Surveillance Officer on data collection and dataset management using HeRAMS toolkit;
3) Plan and conduct site visits for health facilities (HF) in Majuro Atoll and radio interviews for HF in the outer islands; and
4) Provide general support on data collection and other related works.

The final report provides an overview of the survey (methodology, schedule and on-site progress), health status of RMI at a glance, key findings on health services and utilities' availability, next steps, recommendations, and conclusion.

In the Final Report, information on the following aspects is analyzed:

- Availability of health services;
- Health workforce in health facilities;
- Utilities in health facilities; and
- Service utilisation and reported numbers from catchment areas.

SURVEY OVERVIEW

Since the MOH is located at the Majuro Hospital, all main activities including coordination and interview set-ups took place in the hospital. The consultant set up a small interview team of three, with the Surveillance Officer and Outer Islands Officer. A one-on-one on-the-job training on the HeRAMS toolkit was provided to each officer, for data quality assurance. On the first day of the training, the consultant sat with the team and went through each question in HeRAMS, with relevant reference points. Upon the discussion with the team, interview schedule was planned on the first day of meeting. The team began collecting data on the 2nd week of December 2018 up to January 2019. There is a total of 62 health facilities in RMI, with 59 functioning HF are to be included in the assessment.

METHODOLOGY

1) Face-to-face interview

The consultant conducted face-to-face interviews with health facilities located at the main atoll, Majuro. With the interview team, the consultant visited Laura Clinic, Majuro Hospital, '177' health centres (funded by the US government) in Majuro, and a private clinic in Majuro. Funded by the US government to atolls affected by nuclear testing, '177' health centres are providing primary health care services to the five atolls (Majuro, Utrik, Kili, Kwajalein, and Enewetak).

Each trip usually took less than an hour each way. In cases where health assistants (HA) from outer islands travel to Majuro, the consultant coordinated with the Outer Islands Officer on their schedules and interviewed them in person at the Outer Islands Department. HA usually travelled to Majuro for various reasons such as vacation, pending relocation to other islands, sick leave, etc. A face-to-face interview usually took around 15-20minutes. Consultant was able to conduct the interview directly in English, as most of the HA who travelled and health dispensaries situated in Majuro were able to comprehend the language. In circumstances where context was challenging to comprehend, Outer Islands officer would support the interpretation in Marshallese (a local language).

2) Radio/phone/teleconference call

For health centres (HC) located at the outer islands, the consultant was not able to travel to sites, as it usually takes 4-6hours each way. Since Monday and Tuesday are the reporting days for weekly sentinel surveillance, HC calls to Outer Islands office, Majuro via radio. In order to receive more calls for the remaining days of the week, consultant requested the Outer Islands office to make a radio announcement every day to reach other HC. Five HC who were reached via phone call.

Given that health workers staffing the outer island facilities use Marshallese as mother tongue, the Outer Islands officer led interviews with technical assistance from the consultant. In cases where the team could communicate with HA in English, the consultant conducted the interview by herself. Due to unstable connection and one-way transmission between the hospital and HC (main office could not initiate the radio calls to reach HC), each interview via radio took approximately 45-60 minutes.

Teleconference call was also conducted with the health coordinators at the Ebeye Hospital. The call lasted for two hours, covering 4 HF at the Ebeye Island.

3) GPS mapping

There was no existing official GPS information for HF. Consultant obtained the GPS code of each HC in the outer islands from Outer Islands Officer who supervises all HAs and a technician who does regular maintenance at the outer islands, via locating Google Maps. The officer also helped to locate those in the urban areas.

SURVEY SCHEDULE

Although there is a total of 62 HF in RMI, three HC in the outer islands are currently vacant/no HA.

A total of 59 health facilities are to be included in the assessment; with 50 HF in the outer islands and 9 HF in the urban area of Majuro and Ebeye. In the outer islands, there are 46 health centres and four ‘177’ health centres. Within the urban area, there are two hospitals,

four health centres, two '177' health centres, and one private clinic. Table 1 lists out the summary of health facilities type.

Table 1. Type of health facilities, by urban areas and rural/outer islands

Type of health facilities	Urban area	Rural/outer islands
Hospitals	2	0
Health centres	4	46
Private clinics	1	0
'177' Health centres	2	4
Total	**9**	**50**

SURVEY PROGRESS

Table 2 shows the daily number of completed interviews, categorized by urban and rural/outer islands.

Table 2. Daily number of completed interviews, by urban and rural/outer islands

	Urban	Rural/Outer Islands
10th Dec 2018	0	13
11th Dec 2018	0	4
12th Dec 2018	0	7
13th Dec 2018	1	5
14th Dec 2018	0	2
17th Dec 2018	0	3
18th Dec 2018	0	3
19th Dec 2018	5	7
20th Dec 2018	2	4
21th Dec 2018	0	1
9th Jan 2019	0	1
Total	**8**	**50**

As of 9th January 2019, 58 out of 59 functioning health facilities were interviewed. One HF (i.e. a private clinic) was not interviewed. Both consultant and trained officers could not reach the private clinic because the person-in-charge was out of country and had limited response in means of communication, including email and phone. The HeRAMS findings only

include data which is fully interviewed. Apart from GPS code, any partial data collected for vacant or uncovered HF are excluded in the findings. Data update can be conducted in the next round if there is any.

HEALTH SYSTEM AND STATUS IN THE MARSHALL ISLANDS

In the urban area, there are one main hospital each in Majuro and Ebeye. Both hospitals provide primary and secondary care. As for patients who require tertiary care, they are referred to hospitals in Honolulu or the Philippines. In the outer islands, all HC are staffed with at least one HA who plays the role of providing preventative, promotive and essential clinical care services at respective catchment area.

In the outer islands, MOH works in a close collaboration with the Community Health Councils (CHC). The health system was established for the objective of community involvement in healthcare and it ensures that healthcare services are still being provided in the rural area. However, the CHC system is almost inexistence due to various reasons such as CHC leaders who have migrated overseas and weak understanding of CHC leadership role[1]. At present, the Outer Island Health Care System (OIHCS) coordinates all the outer islands-related activities including but not limited to; training of HA, weekly surveillance, sending medical supplies, providing clinical advice, maintenance work, and general supervision to the HC.

The health of people of RMI has been affected by communicable diseases and non-communicable diseases. The MOH Annual Report FY2017 highlights TB which is ranked as Top 7 (eight cases) leading cause of death in FY 2017, shifting up from Top 10 (four cases) leading cause of death in FY 2016[2]. In the RMI, the prevalence of tuberculosis is high, with 206 new cases in 2017. The trend of incidence and prevalence is increasing steadily particularly since FY2016 due to a TB-NCD mass screening in Ebeye in early 2017.

Table 3: Tuberculosis Incidence Rate, RMI, 2011-2017

Incidence and Prevalence of Tuberculosis in RMI, FY2010-2017								
	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	37
Old and new cases	166	156	101	123	154	137	180	243

[1] Health and Population Project (Loan 1316-RMI[SF]) in the Marshall Islands (December 2005). Asian Development Bank. https://www.oecd.org/countries/marshallislands/36064826.pdf
[2] Ministry of Health & Human Services Annual Report FY 2017

Prevalence per 10,000 population	30	29	19	23	29	25	32.6	43.91

Diabetes and Cardiovascular disease (CVD) are consistently ranked as Top 1 and 2 on the leading cause of death respectively, over the past two years. Diabetes also tops the number of referral cases within the RMI (20 cases) in 2017. The trend of diabetes prevalence per 10,000 is seen consistently increasing by at least 10% for the past seven years.

Table 4: Prevalence Rate of Diabetes, RMI, FY2011-2017

Prevalence Rate of Diabetes, RMI, FY2011-2017							
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Old and new cases	1,980	1,794	1,804	2,166	2,384	2,737	3,143
Prevalence per 10,000 population	357	312	314	377	417	481	567

In terms of family planning, the trend has seen no increase in family planning users. The contraceptive rate among women remain at 16% over the past four years. Women are reportedly not visiting the clinic due to financial restriction for transportation.

Table 5: Contraceptive Prevalence Rate, RMI, FY2011-2017

Contraceptive Prevalence Rate, RMI, FY2011-2017							
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
No. of women 15-44yrs old whom used at least one method of contraception	1,234	1,373	1,721	1,917	1,836	1,826	1,825
No. of 15-44yrs 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%

HEALTH FACILITIES OF THE MARSHALL ISLANDS AT A GLANCE

As mentioned earlier, there is a total of 62 HF in RMI, three HC in the outer islands are currently vacant/no HA. A total of 59 health facilities are to be included in the assessment; with 50 HF in the outer islands and 9 HF in the urban area of Majuro and Ebeye.

Table 6-1 and 6-2 display the health workforce and population distribution of each catchment area in urban area and outer islands respectively. In the context of RMI,

population per health workers (HW) was calculated using population in the catchment area divided by total HW (i.e. doctor, medical assistant, nurse, and HA) in the catchment area.

In the context of RMI, medical assistant (MA) refers to assistant medical officer/Medex whom works in NCD programmes as a general practitioner. It should not be interchangeably used with HA, whom usually has a non-medical background and provides primary care in the outer islands. There are large variations in the population per HW within the country. In the urban area, there is an average of 1,486 people per HW at each catchment area. In contrast, there is an average of 246 people per HW living in the outer islands. Nevertheless, the distribution of HW to serve the outer island's community is not aligned with the population per HW. For example, in Tutu, there are 50 people per HW, whereas in Wotje, where population per HW is larger by 18-fold, there are 917 people per HW.

In the urban region, except hospitals, there are only one clinic (i.e. '177' Majuro) that have four HA, while the remaining four HF has one HA only. In the outer islands, most of HC have one HA, except for four HC (i.e. Kilange, Jabwor, Jaluit, and Nallu) which has two HA.

The number of HF per island/atoll also varied. In the urban area, there are 4 HF per island/atoll, including two main hospitals. In the outer islands, the number of HC range from 1-7 per island/atoll. In atolls that has bigger population such as Arno, Alinglaplap, and Jaluit, there are at least four or more HC. However, the number of HF are not evenly distributed across the atolls. Within the same atoll, there are some HC that is serving a large population. For instance, in Jaluit atoll, there are five HC. But Jabwor HC alone is serving 1,200 population whereas the remaining four HC in Jaluit atoll are less than 300 population each. Uneven distribution of HC and understaffing may be associated with lower quality of healthcare services. During the interview, it was reported that the HA whom works in Jaluit takes frequent trips between Jabwor and Jaluit to manage healthcare demands.

Table 6-1. Health workforce and population distribution of each catchment area in urban area.

Location	Island	Health Facilities	Population	Pop per HW	Doctor	MA	Nurse	HA
Urban area	Majuro	Majuro hospital	29,858	224	26	2	96	9*
	Majuro	Laura	29,858	9,953	1	0	1	1
	Majuro	'177' Majuro	16,656	1,851	3	0	2	4
	Majuro	'177' Ejit	263	263	0	0	0	1
	Ebeye	Santo	11,661	11,661	0	0	0	1
	Ebeye	Ebadon	11,661	11,661	0	0	0	1
	Ebeye	Ebeye hospital	11,661	265	10	0	34	0
	Ebeye	Gugeegue	11,661	11,661	0	0	1	0
	Subtotal		**41,519**	**1,486 (average)**	**40**	**2**	**134**	**17**

Source: Interview, Health Information System from MOH (October 2017 to September 2018

** = Nurse' aid*

Table 6-2. Health workforce and population distribution of each catchment area in outer islands/rural area.

Location	Island	Health Facilities	Population	Pop per HW	Doctor	MA	Nurse	HA
Outer Island/ Rural area	Ailinglaplap	Aerok, A	500	500	0	0	0	1
	Ailinglaplap	Buoj	303	303	0	0	0	1
	Ailinglaplap	Jeh	245	245	0	0	0	1
	Ailinglaplap	Woja	500	500	0	0	0	1
	Ailuk	Ailuk	322	322	0	0	0	1
	Arno	Tinak	352	352	0	0	0	1
	Arno	Kilange	160	80	0	0	0	2
	Arno	Ine	505	505	0	0	0	1
	Arno	Arno	500	500	0	0	0	1
	Arno	Ulien	204	204	0	0	0	1
	Arno	Bikarej	250	250	0	0	0	1
	Arno	Tutu	50	50	0	0	0	1
	Aur	Aur	211	211	0	0	0	1
	Aur	Tobal	200	200	0	0	0	1
	Ebon	Ebon	295	295	0	0	0	1
	Ebon	Toka	250	250	0	0	0	1
	Enewetak	'177' Enewetak	630	630	0	0	0	1
	Jabat	Jabot	66	66	0	0	0	1
	Jaluit	Jabwor	1,200	400	0	0	1	2
	Jaluit	Jaluit	290	97	0	0	1	2
	Jaluit	Mejrirok	190	190	0	0	0	1
	Jaluit	Narmij	164	164	0	0	1	0
	Jaluit	Imiej	102	102	0	0	0	1
	Kili	'177' Kili	502	251	1	0	0	1
	Lae	Lae	336	336	0	0	0	1
	Lib	Lib	123	123	0	0	0	1
	Likiep	Likiep	248	248	0	0	0	1
	Likiep	Jebal	101	101	0	0	0	1
	Majuro	Rongrong	350	350	0	0	0	1
	Maloelap	Aerok, M	150	150	0	0	0	1
	Maloelap	Tarawa	183	183	0	0	0	1

	Maloelap	Jang	89	89	0	0	0	1
	Maloelap	Kaven	175	175	0	0	0	1
	Mejatto	'177' Mejatto	234	78	1	0	1	1
	Mejit Ils.	Mejit Ils.	248	248	0	0	0	1
	Mili	Mili	326	326	0	0	0	1
	Mili	Nallu	190	95	0	0	0	2
	Mili	Enejet	200	200	0	0	0	1
	Mili	Lukonwor	85	85	0	0	0	1
	Mili	Tokewa	83	83	0	0	0	1
	Namdrik	Namdrik	431	431	0	0	0	1
	Namu	Loen	150	150	0	0	0	1
	Namu	Mae	124	124	0	0	0	1
	Namu	Majkin	300	300	0	0	0	1
	Namu	Namu	116	116	0	0	0	1
	Ujae	Ujae	372	372	0	0	0	1
	Utrik	'177' Utrik	332	166	1	0	0	1
	Wotho	Wotho	90	90	0	0	0	1
	Wotje	Wotje	917	917	0	0	0	1
	Wotje	Odmej	105	105	0	0	0	1
	Subtotal		**14,049**	**246 (average)**	**3**	**0**	**4**	**53**
	Total		**55,568**	**1,732 (average)**	**43**	**2**	**138**	**70**

HEALTH DISPENSARIES MAPPING

Google Fusion Table is used as a platform to map out HeRAMS assessment in the Marshall Islands. The same platform has been used in the Pacific islands; Pohnpei, Yap, and Chuuk State to visualize health services' availability of health facilities. Consultant use the GPS codes provided by Outer Islands officer to fill in the existing template. Data entry for platform will be coordinated with WHO Fiji and FSM offices.

As of 9th January 2019, data collection was completed and mapped via Google Fusion Table link below. Figure 1 and 2 shows the snapshots of the HF across the RMI and display of summarized health service information. The red dots represent each HF in the RMI. Upon clicking each dot, there is a set of summarized data for each HF.

https://fusiontables.googleusercontent.com/embedviz?q=select+col27+from+1q9ggaLF1w0GJGxWcg5FGxINFnA3eVv5EnhCL3E84&viz=MAP&h=false&lat=8.830795184328931&lng=169.9859619140625&t=3&z=7&l=col27&y=2&tmplt=2&hml=ONE_COL_LAT_LNG

Figure 1: Health facilities mapping of RMI via Google Fusion Table

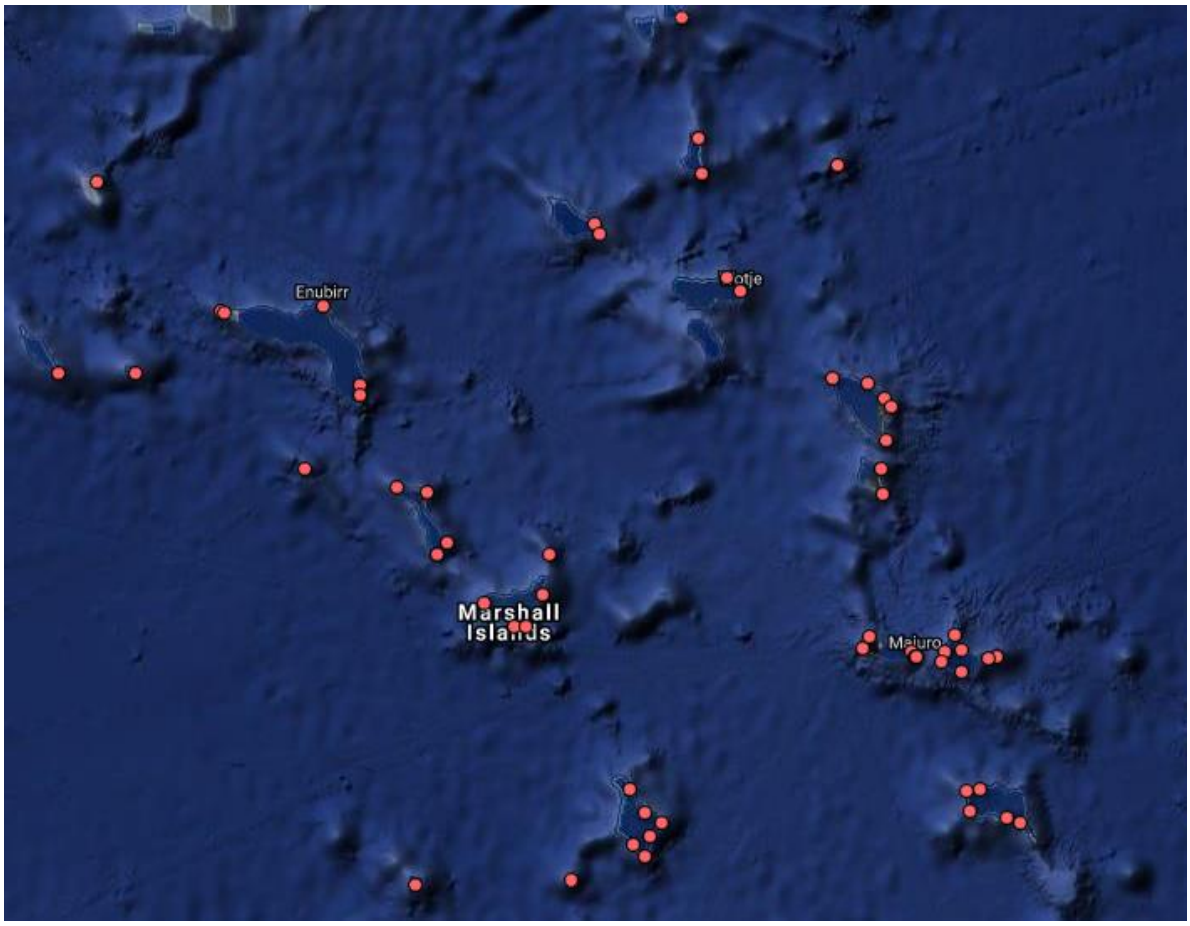
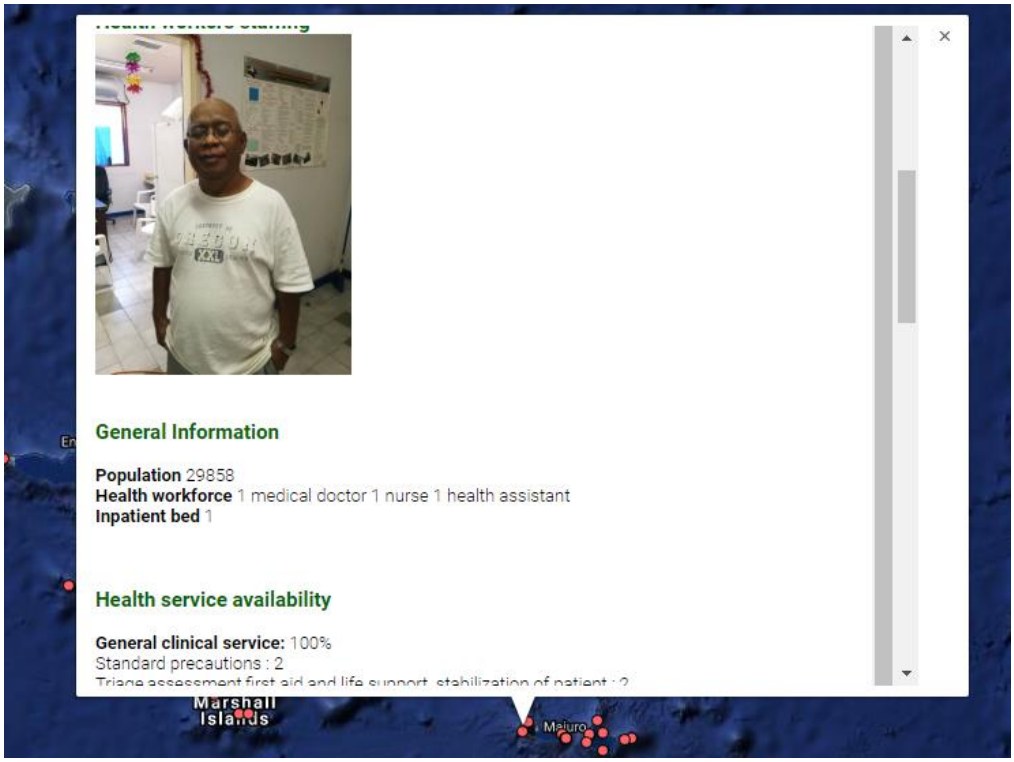


Figure 2: Sample snapshot of health facilities information via Google Fusion Table



IMPORTANCE OF MAPPING

The RMI has established and used health information systems to monitor key health areas such as immunization, maternal and child health etc. Nevertheless, there was no existing map of health facilities with detailed information on service availability.

The government has greater emphasis on improving risk communication during emergency, resources mobilization, and medical inventories supervision (to prevent stockouts). During an emergency, it is crucial for the government to obtain an updated snapshot of HF's capacities and transmit information to HF in the outer islands, ensuring that they can take informed decisions to protect themselves. There have been situations where information sharing was delayed. For example, there were reported dengue cases circulating in Palau, and outer islands were not informed about it.

HeRAMS assessment's result would serve as a baseline for resources mobilization and aids the government to achieve the jurisdiction of risk assessment for applying grants. Specifically, the RMI is preparing for preparedness grant and epidemiology laboratory and capacity (ELC) grant. In the future, RMI would be interested to explore a few more disease surveillance-related questions (e.g. top 10 disease incidence rate, top 10 causes of death etc.) and integrate into HeRAMS, upon approval of WHO.

Hence, the results of the HeRAMS assessment and mapping will work as a fundamental landscape for future health policy and implementation including; resources mobilization, funding proposal, and emergency preparedness.

FINDINGS

Based on RMI Census in 2011[3], the population of Marshall Islands is 53,158. Majuro has the largest population of all atolls/islands, 27,797 (52.3% of the total population). This is followed by Kwajalein, 11,408 (21.5%), Arno, Jaluit, Alinglaplap (about 3.3% each) and other atolls/islands (16.3%). The RMI comprises of a total of 29 atolls and five islands, with Majuro as the capital. The atolls form two parallel groups; the "Ratak" chain and the "Ralik" chain. There are currently 24 inhabited atolls/islands. The Marshall Islands has an area of 1,826 square kilometers. The RMI can be further divided into urban and rural area/outer islands. The urban area consists of Majuro and Ebeye Island (the most populous island of Kwajalein) whereas the other atolls/islands are considered as rural area/outer islands.

[3] Republic of the Marshall Islands 2011 Census report. Economic Policy, Planning and Statistics Office, Republic of the Marshall Islands, and the SPC Statistics for Development Programme, Noumea, New Caledonia, 2012. http://prism.spc.int/images/census_reports/Marshall_Islands_Census_2011-Full.pdf

Figure 3. Map of Marshall Islands

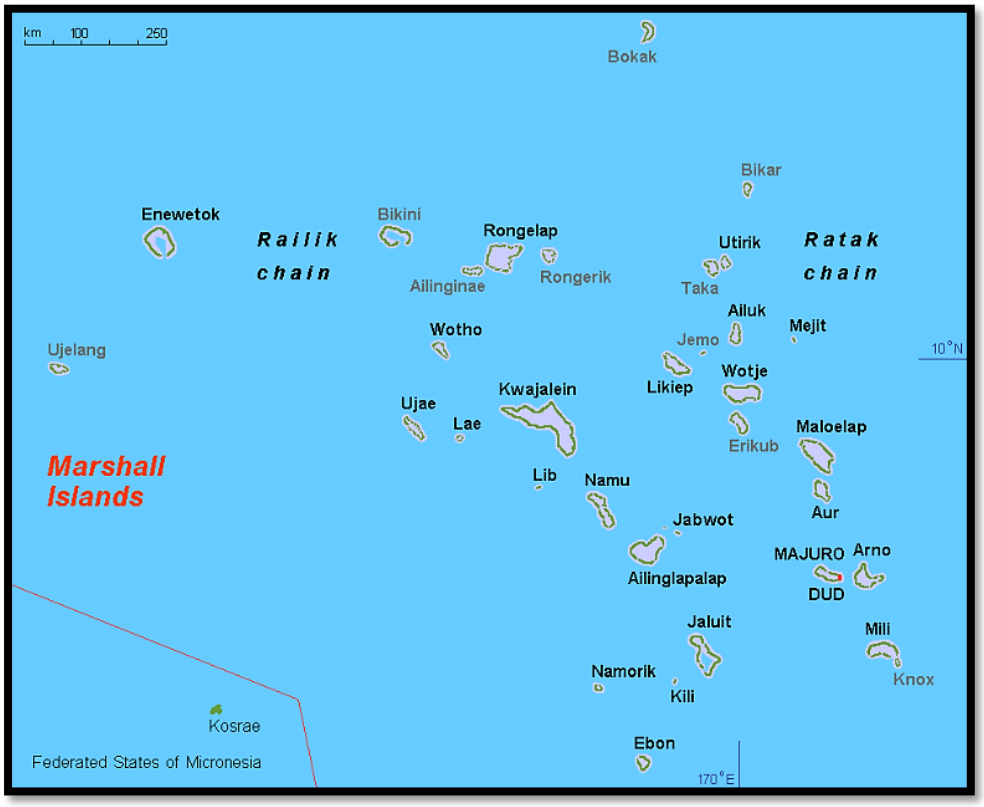


Table 6-1 and 6-2 list out the composition of the health workforce and population distribution of each catchment area. It provides basic background information on the demographic of health facilities in their areas. Based on the population data collected via HeRAMS interview and health information system of MOH from October 2017 to September 2018, the total projected population of 2018 in the Marshall Islands is 55,568. There is no specific population segregation of catchment within the urban area. In the outer islands, most of the HC consist of 1-2 health assistants. Median age of HA in the outer islands is 49.5. By gender, 89% of the HA are male and only 11% of them are female. Average training period received by HA for being health professional is 1.8 years and their average working period at the HF is 22.6 years.

Figure 4. Age group of health assistant in the outer islands (%)

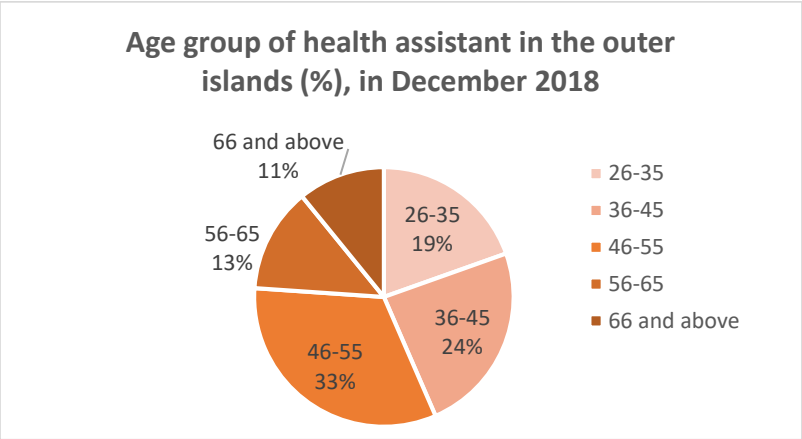


Figure 4 shows the proportion of age group of health assistant in the outer islands. Majority of them are within the age group of 46-55, 15 (33%), followed by 36-45, 11 (24%), 26-35, 9 (19%), 56-65, 6 (13%) and, 65 and above, 5 (11%). Age is a topic of concern, as the average life expectancy at birth in RMI is 71.8 years in FY2017. For the purpose of replacing older generation and capacity building, the country should prepare and train younger HA. Younger workforce could contribute to physical hard work traveling across the islands for multiple purposes, while experienced HA may provide supervision. One of the HA has reported that his midwife is already 70 this year and he needs extra manpower support in his catchment area. One HA also has reportedly working between two islands, since there is insufficient HA.

UTILITIES IN HEALTH FACILITIES

Table 7 shows the availability of utilities in health facilities, by displaying the proportion of overall, urban area, and outer islands.

Table 7. Utilities in health facilities

Category	Utilities	Overall (%)	Urban area (%)	Outer Islands (%)
Water	Having main water supply	10/58 (17.2)	3/8 (37.5)	7/50 (14.0)
	Having rainwater catchment	56/58 (96.6)	7/8 (87.5)	49/50 (98.0)
	Having onsite borehole	6/58 (10.3)	4/8 (50.0)	2/50 (4.0)
Power	Having main power supply	8/58 (13.8)	5/8 (62.5)	3/50 (6.0)
	Having generator	9/58 (15.5)	4/8 (50.0)	5/50 (10.0)
	Having solar panel for cold chain	23/58 (39.7)	0/8 (0.0)	23/50 (46.0)
	Having solar panel for dispensary	47/58 (81.0)	1/8 (12.5)	46/50 (92.0)
Communication	Having mobile phone network	24/58 (41.4)	6/8 (75.0)	18/50 (36.0)
	Having HF radio	41/58 (70.7)	6/8 (75.0)	35/50 (70.0)
	Having VHF radio	9/58 (15.5)	4/8 (50.0)	5/50 (10.0)

Sanitation	Having pit latrine	2/58 (3.4)	0/8 (0.0)	2/50 (4.0)
	Having ventilation improved pit latrine	10/58 (17.2)	6/8 (75.0)	4/50 (8.0)
	Having flush latrine	51/58 (87.9)	8/8 (100)	43/50 (86.0)
	Having onsite septic system	51/58 (87.9)	6/8 (75.0)	45/50 (90.0)
	Having community sewerage system	2/58 (3.4)	2/8 (25.0)	0/50 (0.0)
Drainage	Having surface drainage	3/58 (5.2)	2/8 (25.0)	1/50 (2.0)
	Having subsurface drainage	0/58 (0.0)	0/8 (0.0)	0/50 (0.0)
	Having storm water drainage	1/58 (1.7)	1/8 (12.5)	0/50 (0.0)
Waste Management	Having secure and dedicated infectious waste storage area	5/58 (8.6)	3/8 (37.5)	2/50 (4.0)
	Having local method/s of treating infectious waste (e.g. burning, chemicals)	55/58 (94.8)	5/8 (62.5)	50/50 (100)
	Having infectious waste pits	47/58 (81.0)	0/8 (0.0)	47/50 (94.0)

WATER

- Main water supply is not commonly found across the islands. Within the urban area, only 3 out of 8 HF reported to have it, whereas, in the outer islands, 7 out of 50 HF have a main water supply.

- Except two HF (Ebeye hospital and '177' Ultrik), 96.6% of the HF across the islands usually have 1-3 rainwater catchments as their main source of water supply. Consultants received a mix reviews on their perspective on safe drinking. In the outer islands' HC, HA are confident that the water from catchment is safe to drink. In the '177' clinics however, it is reported that they have sanitation concern on water from the rainwater catchment. They often have limited supply of safe drinking water since water gallons are to be provided by main '177' clinic in Majuro.

- Most HF function without an onsite borehole, as an additional source of water supply (10.3%).

POWER

- Only 13.8% (8/58) of the HF reported to have a main power supply, and 5 of them are located at the urban area. Both main hospitals also own a back-up generator. This is essential since the electricity supply across the islands are not consistent. In Ebeye, there have been situation where the entire atoll was down without power supply for a week.

- 92% of the HC in the outer islands rely solely on solar panel for dispensary instead. Within the outer islands, almost half of them (46%) reportedly have a solar panel for cold chain. But they were left unused since the fridge has broken down.

COMMUNICATION

- Nearly half of the HF across the islands (41.4%) reportedly own a mobile phone network. Urban HF are well-covered with mobile phone signals, except Sando and Ebadon HC in Ebeye. In the outer islands, 36% of them own a mobile network. However, due to poor mobile coverage in the outer islands, their mobile phone may only work well when they travel to Majuro.

- High frequency radio is the main communication medium used to connect the outer islands to Majuro and Ebeye. It is used for patient referral, sentinel surveillance, medical supplies order etc. Over 70.7% of the HF owns a high frequency radio. Two HF in the urban area and 15 HF in the outer islands do not have a high frequency radio. The common reason being, radio broke down and was sent back to OIHCS for repair. Nevertheless, the radio was left unfixed for a long period (up to a year) and HA have been struggling to find a decent communication device as of today. OIHCS claimed that unrepaired radio is likely due to lack of financial resources whereas, main office suggested that there was lack of reporting. There is a strong need to strengthen communication between OIHCS and main office in Majuro, ensuring the effectiveness of utilities' maintenance.

- VHF radio has not been a popular choice across the islands. Only 16% of HF owns a VHF radio.

SANITATION

- Based on RMI Census 2011, 6.2% of the households are equipped with a pit latrine, 31.8% are equipped with flush toilet to their own septic tank, 42.2% with a flush toilet connected to a central sewerage system, and 2.1% does not have access to toilet facilities. HeRAMS results revealed that as of 2018, only 3.4% of HF are equipped with pit latrine, 17.2% are equipped with ventilation improved latrine, 87.9% consist of flush toilet and onsite septic system.

DRAINAGE

- Drainage system across the Marshall Islands are not fully equipped. 5.2% (3/58) of the HF have a surface drainage, and 1.7% (1/58) HF has a storm drainage. Subsurface drainage does not exist. In the outer islands, almost none of the HC have a drainage system.

WASTE DISPOSAL MANAGEMENT

- Most HF share common method of managing infectious waste. It is a common ritual for HC in the outer islands to dispose waste products by digging an underground as waste pits (81%) to store waste and burn them (94.8%). However, since ground digging is a spontaneous method, only 8.6% of HF have a secure storage area for infectious waste.

HEALTH SERVICE UTILISATION AND REPORTED NUMBERS FROM CATCHMENT AREAS

Table 8 shows the annual reported number and service utilisation from catchment area. The sources of information were extracted from MOH's routine Health Information System, OIHCS sentinel surveillance, and Vital Statistics within the fiscal period 2018.

Table 8. Health service utilisation and reported numbers from catchment areas

Service utilisation and reported numbers	Overall	Urban area	Outer Islands
Annual total outpatient visits (per 1,000 population)	1,563	624	1,714
Number of total births attended by skilled health personnel (per 1,000 population)	3.8	6.5	3.4
Annual outpatient visits of NCDs patients (per 1,000 population)	252	115	275
Annual number of children who get measles vaccination (per 1,000 population)	543	642	528
Number of under 5 years old death in catchment areas	14	12	2

Overall average annual total outpatients visits (per 1,000 population) shows 1,563. By area segregation, outer islands (1,714) have a higher average than urban area (624).

The average number of total births attended by skilled health personnel (per 1,000 population) is 3.8. Skilled health personnel includes trained HA. Urban area (6.5) has a higher average rate than in the outer islands (3.4). Annual outpatient visits of NCDs patients (per 1,000 population) is 252. Outer islands have a higher average of NCD-related outpatient visits (275) than urban area (115).

Overall annual number of children who get at least one dose of measles vaccination (per 1,000 population) is 543. The indicator is aligned with Healthy Islands Monitoring Framework, which its current progress report consists of 48 mandatory indicators for 22 Pacific island countries and areas (PICs)[4]. In RMI, the denominator of children aged between

[4] Monitoring progress towards the vision of Healthy Islands in the Pacific 2017 http://www.wpro.who.int/southpacific/pic_meeting/2017/documents/12thphmm_session01himf_annex2_24aug_comp.pdf

12-23 months in catchment area was used. The measles immunization coverage rate in RMI is 61%, comparably lower than the Western Pacific Region average of 97% in 2017[5].

Across 58 HF, based on Vital Statistics, number of under 5 years old death in catchment areas is 14 cases only, with urban area reported 12 cases and two cases in outer islands.

AVAILABILITY OF HEALTH SERVICES IN HEALTH FACILITIES

Table 9 below shows the health services availability at health facilities. The type of HF could significantly affect the services' availability.

During the interview, consultant created reference point for each item availability in this section of the HeRAMS assessment. "Fully available" is scored when items are more than mid-point or 50% available. "Partially available" refers to items are available 50%. "Not available" refers to items are less than 50% available. The percentage in the table below represents the proportion of responses that were scored "Fully available".

Table 9. Health services availability at health facilities

		Overall	Urban	Outer Islands
General clinical services & essential trauma care	Standard precautions	36%	100%	26%
	Emergency service	83%	100%	80%
	Outpatient services	84%	100%	82%
	Definitive management of minor trauma	81%	100%	78%
	Short hospitalization capacity	91%	63%	96%
	Basic laboratory with general microscopy	5%	38%	0%
	Referral capacity	90%	88%	90%
	Home visits	83%	75%	84%
Child health and nutrition	EPI	7%	38%	2%
	IMCI clinic	95%	88%	96%
	Growth monitoring and screening for acute malnutrition	88%	100%	86%
	Integrated Management of Acute Malnutrition	2%	13%	0%
Communicable diseases	Syndromic surveillance	100%	100%	100%
	Event-based surveillance	100%	100%	100%
	Malaria treatment	5%	13%	4%
	TB treatment	98%	100%	98%

[5] Global Health Observatory Data Repository (Western Pacific Region)

	Management of locally relevant diseases	88%	88%	88%
Sexual and reproductive health	Syndromic management of STI	93%	88%	94%
	Availability of free condoms	91%	100%	90%
	Family planning	50%	25%	54%
	Antenatal care	86%	50%	92%
	Skilled care during childbirth	84%	63%	88%
	Basic emergency obstetric care	84%	63%	88%
	Post-partum care	88%	50%	94%
	Clinical management of rape survivors	10%	25%	8%
	Emergency contraception	48%	25%	52%
	PEP for STI & HIV infections	3%	25%	0%
NCD and mental health	NCD clinic	88%	100%	86%
	Asthma and COPD	100%	100%	100%
	Hypertension	98%	100%	98%
	Diabetes	100%	100%	100%
	Disability services	97%	100%	96%
	Psychological first aid	3%	13%	2%
	Management of mental disorders	12%	38%	8%
Environmental Health	Water	57%	75%	54%
	Sanitation	36%	75%	30%
	Waste: Segregation of sharps	86%	100%	84%
	Waste: Final disposal	3%	0%	4%
Essential drug availability	Availability of essential medicines	12%	38%	8%

GENERAL CLINICAL SERVICES & ESSENTIAL TRAUMA CARE

- HF in the urban area have a full score of 100% in standard precaution, outpatient services, emergency, and minor trauma management. HF in the outer islands score low for standard precautions (soap/hand disinfectant disposable/auto-disable needles & syringes, sharps safe disposal box, sterilizer, latex gloves, masks, and guidelines for SP). Only 26% of the outer islands HC are fully equipped (more than four items). Many HC in the outer islands do not have a mask, gloves, or a guideline. Some reported to have them previously but, they are currently out of stock.

- Outer island score 80% and 82% for emergency service and outpatient service respectively. Despite knowing the importance of basic emergency service, some HC in the outer islands reported lacking a first aid kit and essential drugs for pain management. In managing minor trauma, HC in the outer islands do not have tetanus toxoid and human antitoxin (78%).

- 86% of the HF across the islands provide short hospitalization capacity. Except two HC (i.e. Tinak and Wotje), all outer islands HC usually have up to a week of hospitalization capacity (96%). HA in Tinak reported that it is not possible to have an inpatient bed since he is currently using his home as HC. The land owner of the previous building chased him off.

- Only 5% of the HF provide basic laboratory with microscopy. None of the HC in the outer islands have the amenity. Referral capacity is doing well across the islands (90%) since outer islands HA has a set of referral procedures, and contact OIHCS office via mobile phone or radio. Home visits service is generally provided overall (83%). HC in the outer islands do not palliative care and will refer patients to main Majuro hospital.

CHILD HEALTH AND NUTRITION

- Expanded immunization (EPI) is fully available at 5% overall, with functioning cold chain. The service is generally provided by main hospital in Majuro and Ebeye through outreach service. None of the HC in the outer islands provide EPI except, Jabwor HC.

- Overall, tools for Under-5 clinic (paracetamol, first line antibiotic, ORS and zinc dispersible tablets, national guidelines and flow-charts) are fully available at 95%. Urban HF scored did well at growth monitoring and screening for acute malnutrition (100%) whereas, in the outer islands, most HC have a “yellow card” to monitor growth (86%).

- Integrated Management of Acute Malnutrition (IMAM) did not score well, 2% overall. None of the HC in the outer islands provide ready-to-use therapeutic foods.

COMMUNICABLE DISEASES

- Both syndromic and event-based surveillance scored exceptionally well across the islands (100%). As mentioned before, HC in the outer islands report to Outer Islands office on a weekly basis (every Monday and Tuesday) for syndromic surveillance. If reporting was not done, their working hour will be cut as a penalty.

- Malaria diagnosis and treatment are provided at only 5% overall. Since there is no malaria case across the islands, HF generally do not have relevant tools for the disease. In contrast, TB treatment and follow up are fully provided at 98%. Hospitals organize mass TB screenings while HC in the outer islands will provide referral for suspected cases and follow-up treatment. Management of locally relevant diseases such as dengue fever is also fully available at 88%.

SEXUAL AND REPRODUCTIVE HEALTH

- Syndromic management of STI, with first line antibiotics available fully at 93%. Free condoms are well available at majority of the HF (91%). Family planning is only fully available at half of the HF (50%). HF have limited contraceptive methods and, in some HC,, pregnancy test is not available.

- Antenatal care is provided overall at 86%. By segregation, only half of the urban HF have all the necessary item. In the outer islands, 92% of the HF provide full antenatal care. Both skilled care during childbirth and basic emergency obstetric care are fully available at 84%. Midwife and HA are the common skilled personnel to deliver childbirth. About three-fourth of the HC in the outer islands (88%) provide full availability for these services. 88% of the HF are providing full postpartum care.

- Clinical management of rape survivors is provided at 10% across the islands. In the outer islands, only those HF such as '177' clinics that have a medical doctor, would provide the service (8%). Almost half of the HF provide emergency contraception (48%). PEP is only available at 3% for sexually transmitted disease (STI), but not HIV.

NON-COMMUNICABLE DISEASES & MENTAL HEALTH

- All urban HF have done exceptionally well with full availability (100%) in NCD clinic services, asthma and chronic obstructive pulmonary disease (COPD), hypertension, diabetes and, services for the disabled. 86% of the HC in the outer islands provide full NCD clinic service. The reason for the lack of availability was some HA were unable to attend the NCD training held in October 2017. Only 11 HA underwent the training. HC in the outer islands also score full (100%) for asthma and COPD, as well as diabetes service.

- In general, psychological first aid is lacking (3%) overall. In the outer islands, only HF where there is a medical doctor, such as '177' clinics provide counselling. If there is a suspected case, patient referral will be made to main hospital. Based on the MOH Annual Report FY2017, only one psychiatrist was hired in the Majuro hospital. Management of mental disorders is available fully at 12%. 8% of the HC in the outer islands provide follow-up drug treatment for mental disorder, prescribed by main hospital.

ENVIRONMENTAL HEALTH

- Water quality (sufficient, running, and safe water available with 24 hours stock safely stored, soap/hand disinfectant in all key areas) were asked in detail. Slightly over half of the HF provides full water service (57%). Nearly half of the HC in the outer islands reported that water is usually not sufficient or not safe to drink (46%). It is also common to run out of stock for soap.

- Sanitation scored at 36% overall. In the outer islands, there is usually only one toilet. Disposal of sharps are provided at 86% whereas the final disposal only scored low at 3%. Use of PPE is not available across the islands.

ESSENTIAL DRUG AVAILABILITY

- Essential medicines are only fully available at 12% overall, since most of the HF only hold partial essential medicines. HA in the outer islands reported that most medicines are out of

stock and have not been refiled despite placing orders. By theory, medical supplies are ordered once a month to the OIHCS office. However, HA are allowed to place side orders anytime. It generally takes one week to deliver medical supplies to outer islands.

COMMENTS FROM INTERVIEWEES

Apart from answering to the standard HeRAMS questionnaire, some interviewees have expressed extra thoughts and feedbacks beyond the quantitative means of the assessment. They are mainly related to what needs to be done to further improve their health facilities. The following are some of the feedback consolidated from HA and health coordinators during interviews:

- Few HA from outer islands have expressed that they need local transportation support to travel for miles within the atoll/island for site visits, transferring patients etc.

- Many HA hope to receive continuous trainings on all key areas of primary care such as immunization, maternal and child health. They reckon that trainings are imperative for refreshment and to keep themselves up-to-date on technical aspects. The last training for "Package of Essential Needs for Non-Communicable Diseases (NCD)" was held on October 2017 and only 11 HA were able to attend the session. Due to shortage on manpower, some HA could not find substitution to attend the training.

- Regular maintenance on utilities are needed as, many have been damaged and unfixed for a long period of time, up to a year. These include windows, pipe leakage, sink repair etc. Due to unfixed radio, some HA took time traveling to other places such as a school, a private residence, or National Telecommunication Authority (NTA) main radio station, to share the radio for reporting. This affects their effectiveness to carry out site support and communicate timely with main office.

- There is a need for upgrades on infrastructure and equipment on infection control, such as a sterilized room and protective gown during emergency.

- Some required to increase workforce capacity as the HA is the only person whom is in-charge of two communities within an atoll such as Kilange and Tinak. There is also HA whom travels across islands in Ebon, to take care of two villages.

NEXT STEPS

The survey was officially completed in early January 2019, and both Outer Islands Officer and Surveillance Officer conducted follow-up on the remaining uncovered HF. The consultant worked continuously with trained officers to update information accordingly.

On 28th December 2018, a debriefing session was held with the Ministry of Health, RMI. The consultant will also show an example of health service mapping that will be created at the end of the consultancy. The mapping will aid the local government as a baseline landscape for health policy and implementation including; resources mobilization, funding proposal, and emergency preparedness. In a long term, local governments hope to find ways on how to improve communication capacity and medical inventories for emergency readiness, matching with the monitoring standard of the International Health Regulation (IHR).

Data visualization and raw dataset will be submitted along with the Final Report.

DATA UPDATE AND CAPACITY BUILDING

Periodic data update (i.e. semi or annual) is necessary to ensure timeliness of data. The Marshall Islands needs to work continuously and closely with WHO for regular data update. Consultant has trained both Surveillance Officer and Outer Islands Officer on how to conduct HeRAMS assessment and perform database management.

RECOMMENDATIONS

1) Share health service mapping information to the public audience via a web-based system. In several Pacific countries such as Fiji (Health service map), Kiribati, and Australia (Queensland health service map), interactive mapping sites (Tupaia) have been created by national government, as a public portal to browse and compare data.

2) Distribute the number of HF more evenly based on population of catchment area and number of HW available. For atolls which have a larger population, there should be more HF built or more manpower provided.

3) Recruit younger generations in becoming HA, to strengthen manpower capacity. Moreover, the female-male ratio should be made balance, to increase female workforce participation rate. Consistent training for existing HA is also necessary to refresh and enhance skillsets.

4) Arrange timely schedule on periodic utilities' maintenance in the outer islands. Submit proper electronic reporting by OIHCS to main office for review for each repair, ensuring that there is follow-up action. Hold frequent discussion between OIHCS and main office to follow-up on schedule arrangement.

5) Invest more efforts by the main office to ensure basic items (safe drinking water, sanitation, and standard precautions) are met in HF.

CONCLUSION

From 6th to 28th December 2018, with the support of the Ministry of Health, the consultant has collected data on health services and utilities' availability in RMI for three weeks. HeRAMS is the main tool used to assess primary health facilities as well as health service

utilization data at primary care level. RMI has established and used health information systems to monitor key health areas such as immunization, maternal and child health etc. Nevertheless, there was no existing map of health facilities with detailed information on service availability. Hence, the results of the HeRAMS assessment and mapping will work as a fundamental landscape for future health policy and implementation including; resources mobilization, funding proposal, and emergency preparedness.

With HA being the backbone of manpower across the outer islands, HeRAMS assessment highlighted that there is a need to re-distribute number of manpower support based on population at catchment area. Consistent training and recruitment of younger HA are essential to keep up with healthcare demands.

Improving communication capacity has been one of the central reason of conducting HeRAMS assessment in the RMI. By sharing health service mapping information to the public audience, risk communication can be improved through maintaining transparency and nurturing trust in government. Finally, HeRAMS assessment also emphasized the need to increase future investment in basic sanitation and standard precautions across HF.

The final report of this consultancy includes data visualization and raw dataset. It is concluded that periodic data update (i.e. semi or annual) is necessary to ensure timeliness of data. The Marshall Islands needs to work continuously and closely with WHO for regular data update.

ACKNOWLEDGEMENT

The consultant wishes to acknowledge the generous support of people from the Marshall Islands:

Julia Afred, Secretary of Health
Francyne Wase-Jacklick, Assistant Secretary of Health
Edlen Anzures, Information Technology Director
Hermon Schmidt, Director of Vital Statistics
Ransen Hansen Jr, Surveillance Officer
Melvin Mellan, Outer Islands Officer

ANNEXES

ANNEX 1: QUESTIONNAIRE

Health Services Availability and Utilisation Survey for Primary Care Level

	ASSESSOR or RESPONDENT INFORMATION		
	NAME(S)	PHONE NUMBER	EMAIL
A01			
A02			
A03	Date of completion of the survey:		

SECTION 1. General information

HEALTH FACILITY		
B01	Name of health facility	
B02	Number of population of catchment areas	
B03	Composition of health staff in the health facility ***Please insert numbers into blank boxes.***	Medical doctor □□ Medical assistant □□ Nurse □□ Nurse's aid □□ Health Assistant
B04	Number of inpatient beds	

CONTACT INFORMATION					
B05	Name		B07	Tel/Mobile #	
B06	Position		B08	Email	

	GEOGRAPHIC LOCATION – GPS (OPTIONAL)	
B09	LATITUDE (S)	□□.□□□□□
B10	LONGITUDE (E)	□□□.□□□□□

SECTION 2. Health services availability

Health Response Domains			Health Services in Health Facilities RH Minimum Initial Services Package (MISP) in bold	Available	Partially Available	Not Available
P1. General Clinical Services & Essential Trauma Care		C01	**Standard precautions: soap/hand disinfectant disposable/auto-disable needles & syringes, sharps safe disposal box, sterilizer, latex gloves, masks, guidelines for SP**			
		C02	Triage, assessment, first aid and life support (CPR), stabilization of patient with severe trauma and non-trauma emergencies before referral (IV line and saline solution for fluid resuscitation)			
		C03	Outpatient services (availability of all essential drugs for primary care as per national guidelines, including NCD and pain management)			
		C04	Definitive management of minor trauma: tetanus toxoid & human antitoxin, 2 minor surgery kits, suture absorbable and silk with needles, disinfectant solutions, bandages, gauzes and cotton wool			
		C05	Short hospitalization capacity (max 48 hours)			
		C06	Basic laboratory with general microscopy			
		C07	Referral capacity: referral procedures, means of communication, access to transportation			
		C08	Home visits, including promotion of self-care practices, monitoring of NCD medication compliance, and palliative care			
P2. Child Health and Nutrition		C09	EPI : regular outreach site for routine immunization against all national target diseases, or permanent site with functioning cold chain in place			
		C10	Under 5 clinic conducted by IMCI-trained health staff with available paracetamol, first line antibiotic, ORS and zinc dispersible tablets, national guidelines and flow-charts available			
		C11	Growth monitoring and/or screening of acute malnutrition (MUAC or W/H)			
		C12	Integrated Management of Acute Malnutrition (IMAM) with Outpatient Program for Severe Acute Malnutrition without medical complications with ready to use therapeutic foods available			
P3. Communicable Diseases		C13	Regular reporting sentinel site for syndromic surveillance of local relevant diseases/conditions			
		C14	Immediate reporting of unexpected or unusual health events through an event-based surveillance system			
		C15	Diagnosis (RDT) and treatment of malaria, or detection of suspected cases, referral, and follow up			
		C16	Diagnosis and treatment of TB, or detection of suspected cases, referral, and follow up			
		C17	Clinical diagnosis and management of other locally relevant diseases (e.g.: Dengue, with protocols available for identification, classification, stabilization and referral of severe cases)			
P4. Sexual and Reproductive Health	P4.1. STI & HIV/AICS	C18	Syndromic management of sexually transmitted infections, national first line antibiotics available			
		C19	**Availability of free condoms**			
	P4.2. Maternal & Newborn Health	C20	Family planning: availability of pregnancy test & contraceptive methods as per national guidelines			
		C21	Antenatal care: assess pregnancy, birth and emergency plan, respond to problems observed (urine protein test strips, Syphilis RDT) and/or reported (STI), advise/counsel on nutrition & breastfeeding, self-care and family planning, intermittent iron & folate supplementation in non-anaemic pregnancy			

Health Response Domains			Health Services in Health Facilities RH Minimum Initial Services Package (MISP) in bold	Available	Partially Available	Not Available
		C22	**Skilled care during childbirth including early essential newborn care:** preparing for birth, assess presence of labour, stage, fill WHO partograph & monitor, manage conditions accordingly, dry baby, clean cord care, basic newborn resuscitation, skin to skin contact, oxytocin, early and exclusive breast feeding eye prophylaxis (available magnesium sulfate and antenatal steroid)			
		C23	**Basic emergency obstetric care (BEOC):** parenteral antibiotics, oxytocic/anticonvulsant drugs, manual removal of placenta, removal of retained products with manual vacuum aspiration (MVA), assisted vaginal delivery, **24/24 & 7/7**			
		C24	Post-partum care: examination of mother and newborn (up to 6 weeks), respond to observed signs, support breast feeding, counsel on complementary feeding, promote family planning			
	P4.3. Sexual Violence	**C25**	**Clinical management of rape survivors** (including psychological support)			
		C26	**Emergency contraception**			
		C27	**Post-exposure prophylaxis (PEP) for STI & HIV infections**			
P5. Non Communicable Diseases & Mental Health		**C28**	NCD clinic: brief advice on tobacco, alcohol and substance abuse, and healthy diets, screening and management of risks of CVD, individual counselling on adherence to chronic therapies, availability of BP apparatus, blood glucose and urine ketones test strips, and essential NCD drugs as per national list			
		C29	Asthma and Chronic Obstructive Pulmonary Disease (COPD): classification, treatment and follow up			
		C30	Hypertension: early detection, management and counselling (including dietary advice), follow up			
		C31	Diabetes: early detection, management (oral anti-diabetic & insulin available), counselling (including dietary advice), foot care, follow up			
		C32	Identification of people with disabilities, basic advice and referral to specialist services (when needed)			
		C33	Psychological first aid for distressed people, survivors of assault, abuse, neglect, domestic violence, and linking vulnerable individuals/families with resources e.g.: health services, livelihood assistance, …)			
		C34	Management of mental disorders by specialized and/or trained & supervised nonspecialized health care providers (availability of fluoxetine, carbamazepine, haloperidol, biperiden, diazepam)			
P6. Environmental Health		**C35**	Water: sufficient, running, and safe water available with 24 hours stock safely stored, soap/hand disinfectant in all key areas			
		C36	Sanitation: at least 3 (1Xstaff, 1Xfemale, 1Xmen) clean and functioning toilets with running water & soap and functioning washbasin, or hand disinfectant			
		C37	Waste: segregation of sharps, of hazardous and non-hazardous waste in well-marked dedicated receptacles (pedal bin) with lid and plastic bin liner located in all key areas			
		C38	Waste: timely and safe (with use of PPE) final disposal of sharps and hazard waste, dedicated fenced-off and covered pit for non-hazard waste			
P7. Essential drug availability		**C39**	Availability of essential medicines in your facility in 2017 * Essential medicines should be in the national essential medicine list. * If the medicines are not fully available, the response should be ***partially available***.			

SECTION 3. Service utilisation in the catchment area (in 2018)*

	Category	Total number
D1	Annual total outpatient visits (including the outreach service)	
D2	Annual number of births attended by skilled health personnel	
D3	Annual doses of measles vaccination provided to children	
D4	Annual outpatient visits of non-communicable diseases patients (including the outreach service)	
D5	Number of under 5 years old death in the catchment areas	

* Extraction of information below from routine health information system is preferred to prevent any additional survey to collect data.

SECTION 4. Utilities of the health facility

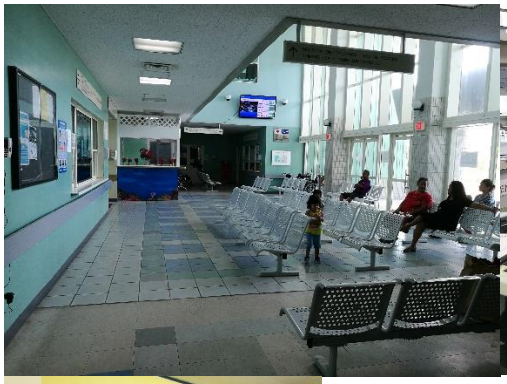
UTILITIES					
			YES	NO	If NO, explain WHY (Damaged, destroyed, no funding, N/A)
E01	Water	Main Supply			
E02		Rainwater Catchment			
E03		Onsite Borehole			
E04	Power	Main Supply			
E05		Generator			
E06		Solar Panel for Cold Chain			
E07		Solar Panel for HF			
E09	Communication	Mobile Phone Network			
E10		HF Radio			
E11		VHF Radio			
E12	Type of sanitation	Pit Latrine			
E13		Ventilation Improved Pit Latrine			
E14		Pour Flush latrine			
E15		Onsite septic system			
E16		Community Sewerage System			
E17	Drainage	Surface drainage			
E18		Subsurface drainage			
E19		Storm water drainage			
E20	Waste Management	Secure and dedicated infectious waste storage area			
E21		Local method/s of treating infectious waste (e.g. burning, chemicals)			
E22		Infectious waste pits			

SECTION 5. Human resources of the health facility

Human resources							
		Head	Staff1	Staff2	Staff3	Staff4	Staff5
	Name						
F01	Age (year)						
F02	Gender						
F03	What is your professional? (doctor, nurse, midwife, others)						
F04	How many years did you get trained in the school for being the health professional?						
F05	How long have you been working at the HF?						
F06	Are you confident in assisting birth and identifying referral case timely?						
F07	Are you confident in detecting and managing diabetes and hypertension cases by yourself?						
F08	Are you confident in detecting and managing tuberculosis by yourself?						
F09	Monthly average salary						

ANNEX 2: PICTURES OF HEALTH WORKERS

ANNEX 3: PICTURES OF HEALTH FACILITIES



ANNEX 4: OUTER ISLANDS OFFICER ON RADIO INTERVIEW