TB + Leprosy Free Majuro

PIHOA Meeting

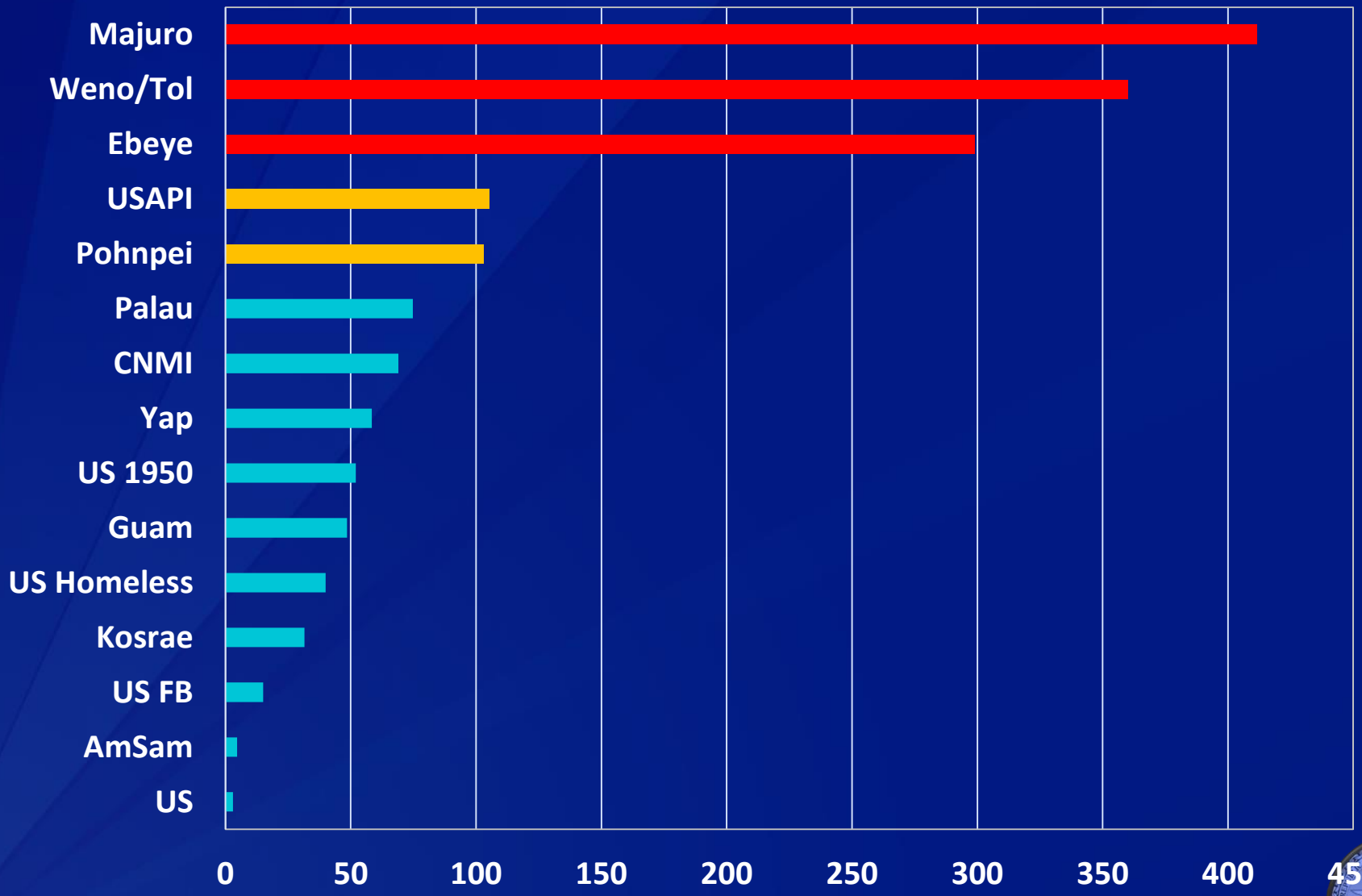
Sept 4, 2018

R. Brostrom, MD-MSPH

Majuro TB HD Goals:

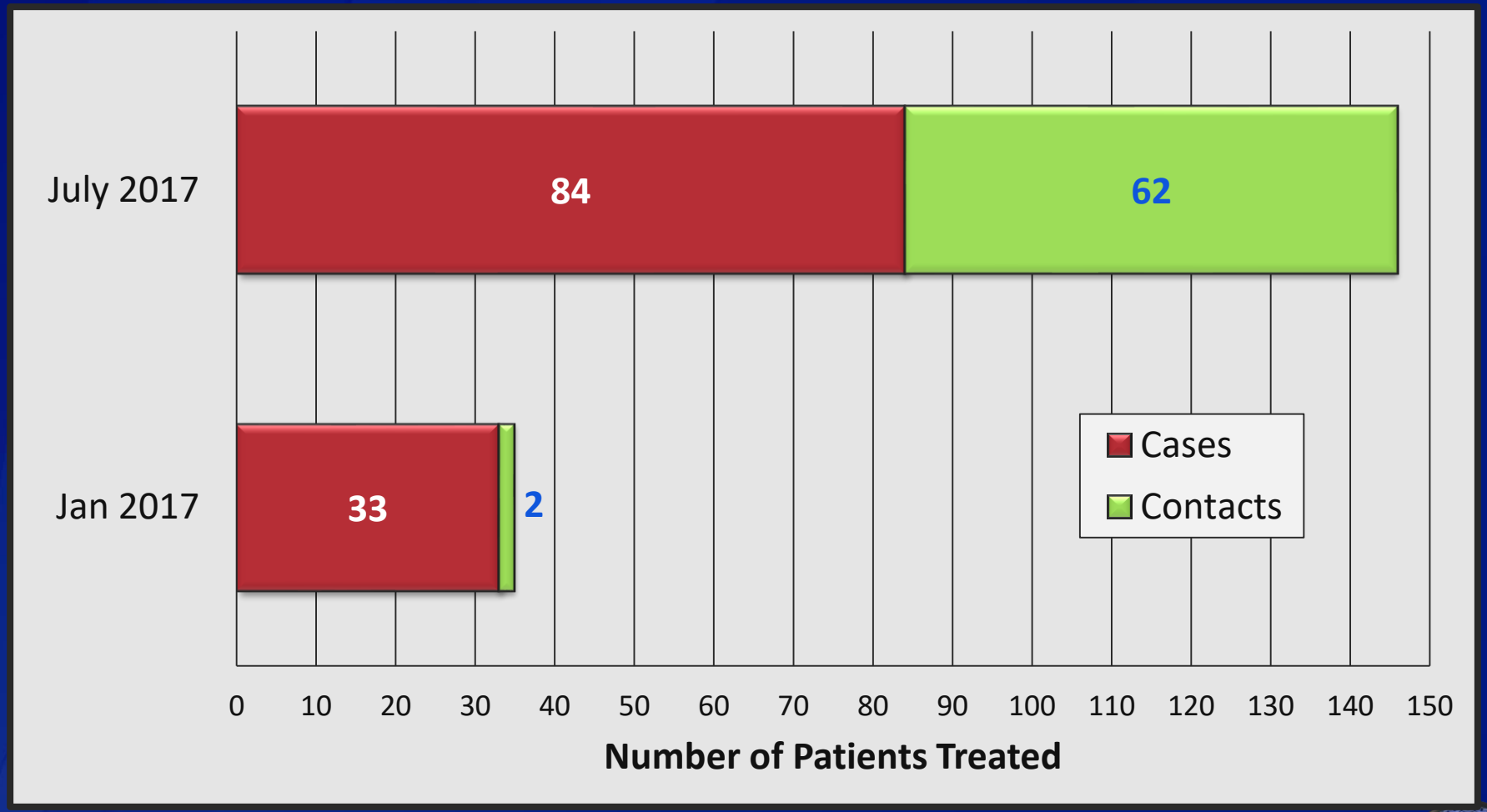
- ~~TB and [illegible] Elimination!!!!~~
- Reducing TB HD Transmission (Case Finding)
  - Household
  - Community
- Preventing TB (? Preventing Leprosy)
- Expanding TB HD Program Capacity
- Improving TB HD Case Management

TB in the Pacific: How do we stack up?



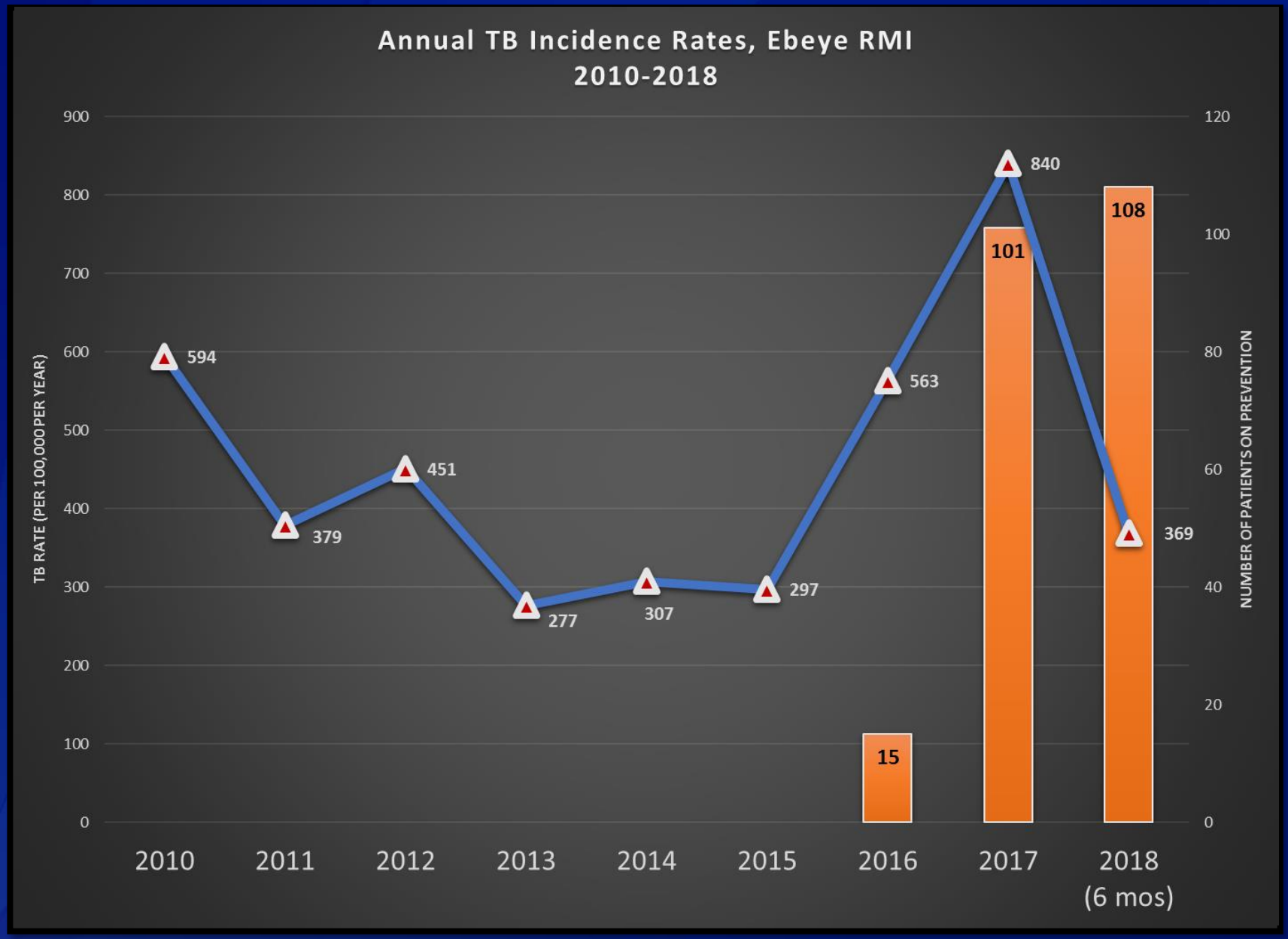
Source: Average TB Rate 2009 – 2015, EpiAnywhere

Ebeye TB Workload



Ebeye TB Screening
Caution: Short-term Changes

Category	2010 to 2015 (average)	6 months after TB Free Ebeye	Percent change
TB Rate per 100,000	318		
TB Deaths (All cause)	15.3%		


Annual TB Incidence Rates, Ebeye RMI
2010-2018
TB RATE (PER 100,000 PER YEAR)
NUMBER OF PATIENTS ON PREVENTION
900
800
700
600
500
400
300
200
100
0
120
100
80
60
40
20
0
594
379
451
277
307
297
563
840
15
101
108
369
2010
2011
2012
2013
2014
2015
2016
2017
2018
(6 mos)

TB + Leprosy Free Majuro

"Our Voyage towards TB and Leprosy Elimination in RMI"

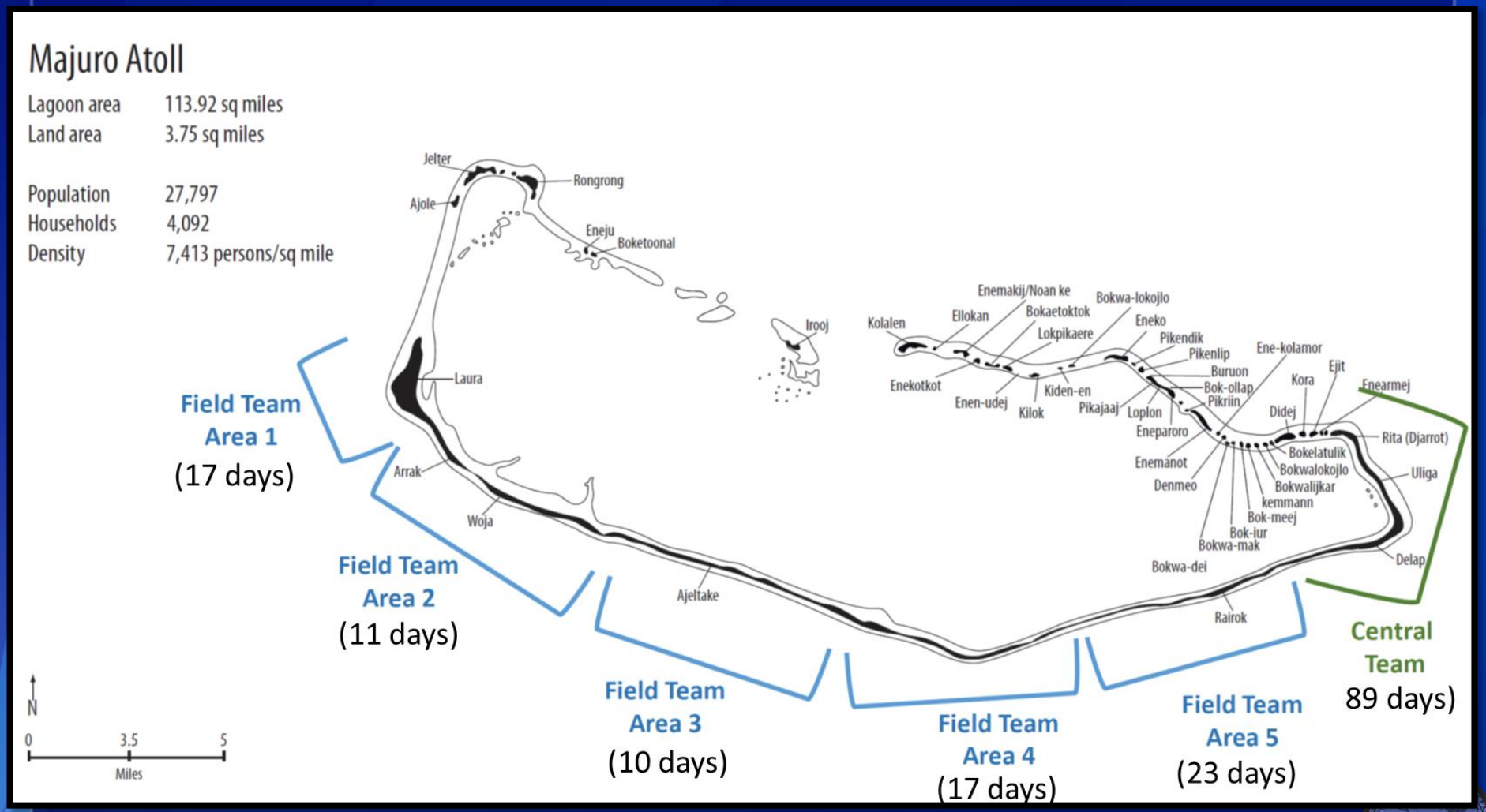
WHO

Hawai'i State Department of Health
TUBERCULOSIS
Control Program

TB + Leprosy Free Majuro: Strategy

- Screen 27,600 people, and treat all active and latent TB
- Screening will be for children and adults
- Screening began June 12 and is expected to last for 14-15 weeks, until mid-September
- TB treatment, follow-up care, and TB prevention activities continue until November 16
- Hansen's screening for adults and children over 2 y.o.
- Diabetes testing will be done for adults undergoing workup for TB, as well as adults referred for HD testing

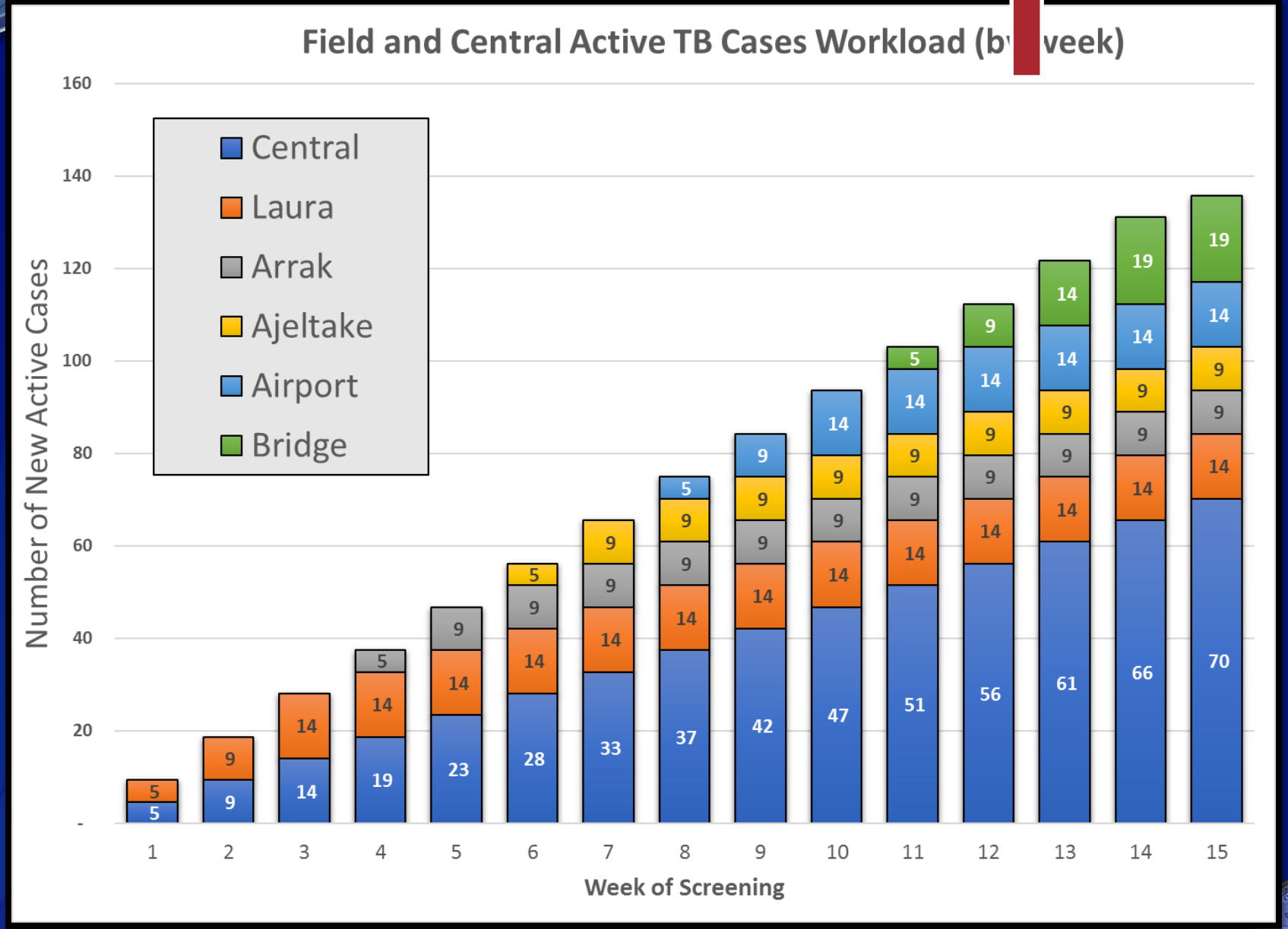
Mobile Clinic Site Schedule for TB-Free Majuro

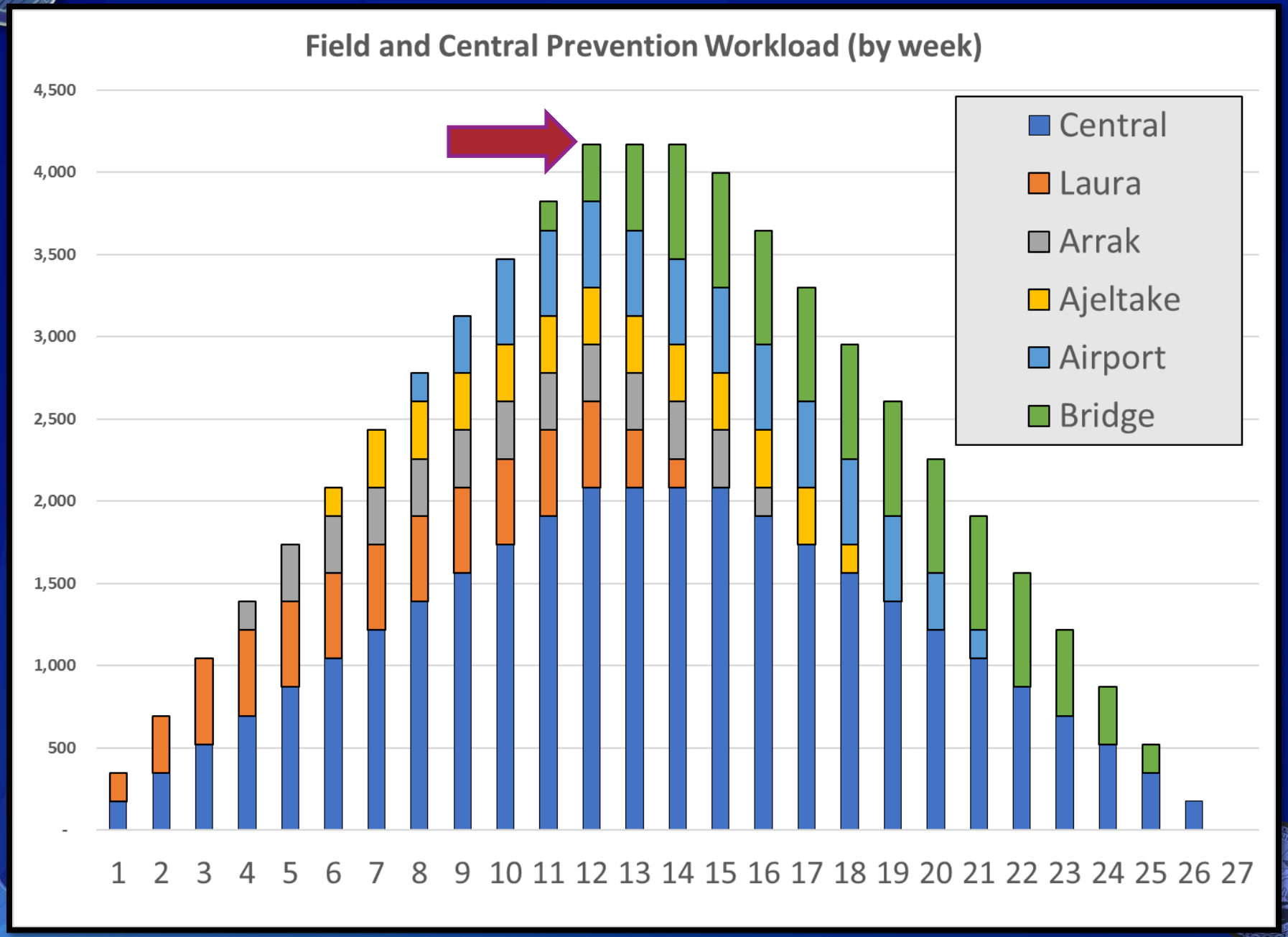


TB + Leprosy Free Majuro: Active TB

- Two teams will be screening a total of 250 to 300 people every day, using TB sx's, x-ray, +/- GXPT

- In 15 weeks, we expect to diagnose and treat 200+ TB cases. That is more TB cases than 40 US states diagnose and treat in a year (2016)


Field and Central Active TB Cases Workload (by week)
Number of New Active Cases
Week of Screening
Central
Laura
Arrak
Ajeltake
Airport
Bridge
160
140
120
100
80
60
40
20
-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5 9 14 19 23 28 33 37 42 47 51 56 61 66 70
5 9 14 14 14 14 14 14 14 14 14 14 14 14 14
5 9 9 9 9 9 9 9 9 9 9 9 9
5 5 5 5 5 5 5 5 5 5 5
9 9 9 9 9 9 9 9 9
14 14 14 14 14 14 14
19 19 19


Field and Central Prevention Workload (by week)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
Central
Laura
Arrak
Ajeltake
Airport
Bridge


CENTER
ACTIONS
DELIVERABLE
RESPONSIBILITY
RES
2 AP
20 Sup
100 Others
15,000


TB + Leprosy Free Majuro
PITCA
NTCA
WHO
UNDP
"DRIJO IM UKOJ TB IM LOBA JEN MAJURO"

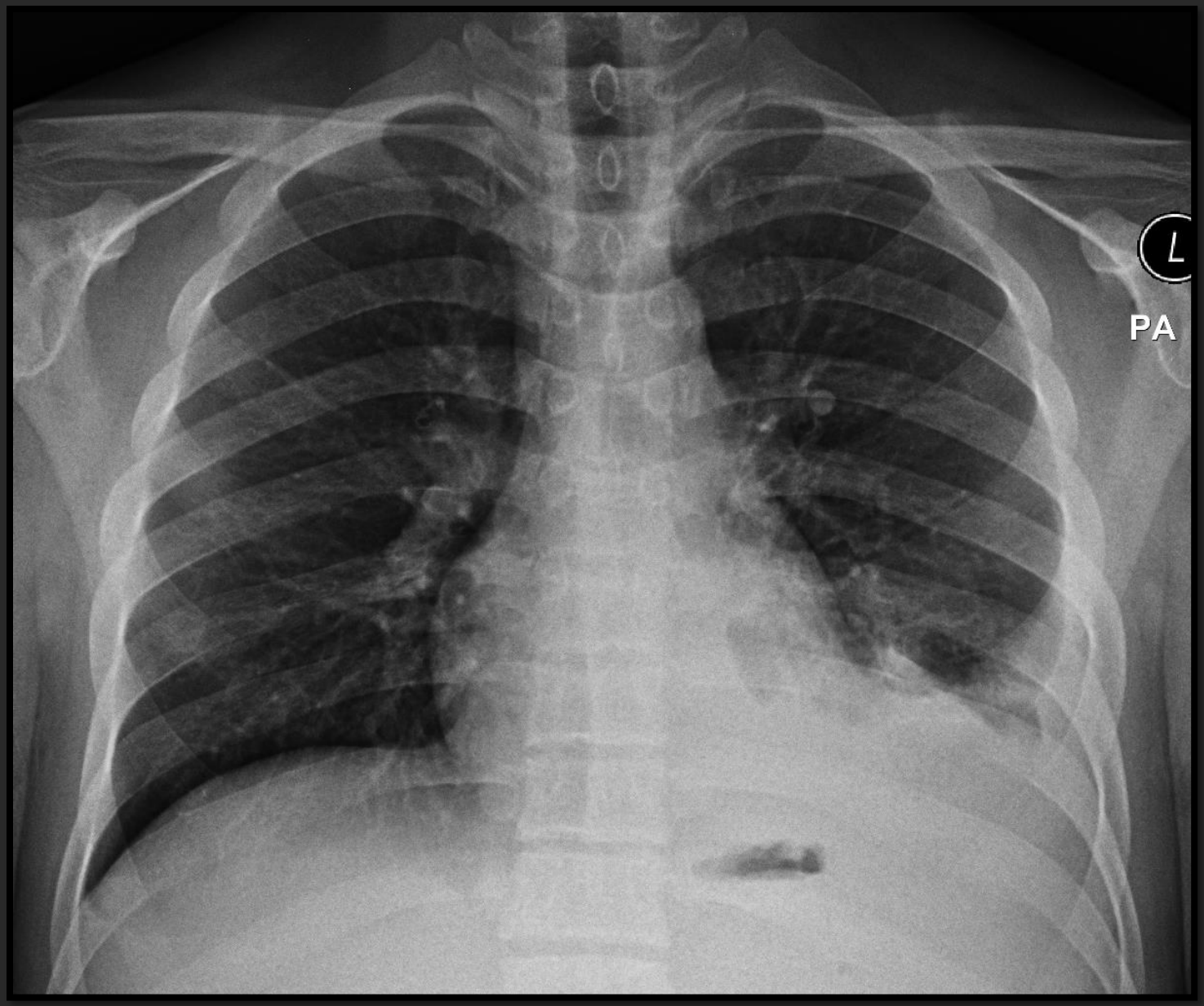

TB + Leprosy Free Majuro
DRIJO IM UKOJ TB IM LOBA JEN MAJUK

TB Free Majuro Case Conference
Screening Site: DES
7/11/18

Lastname, Firstname

Age

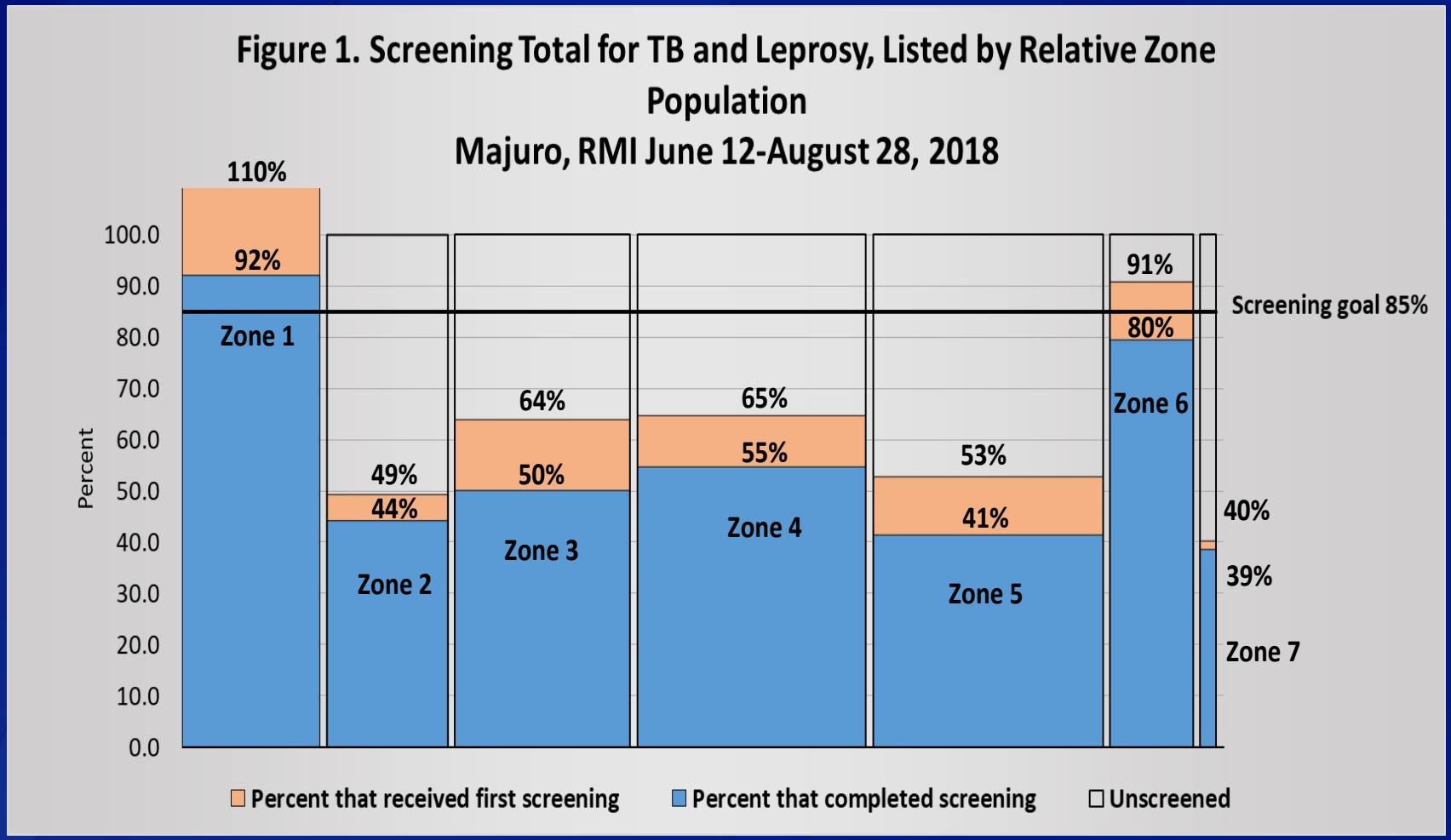
July 11, 2018




CLINICIAN
Isoniazid Tablets
EP 300 mg
Prifilin


UNITE TO
BUJEN
Majuro


Math
MATH



*Quality improvement is ongoing and weekly numbers are subject to change as data are appended

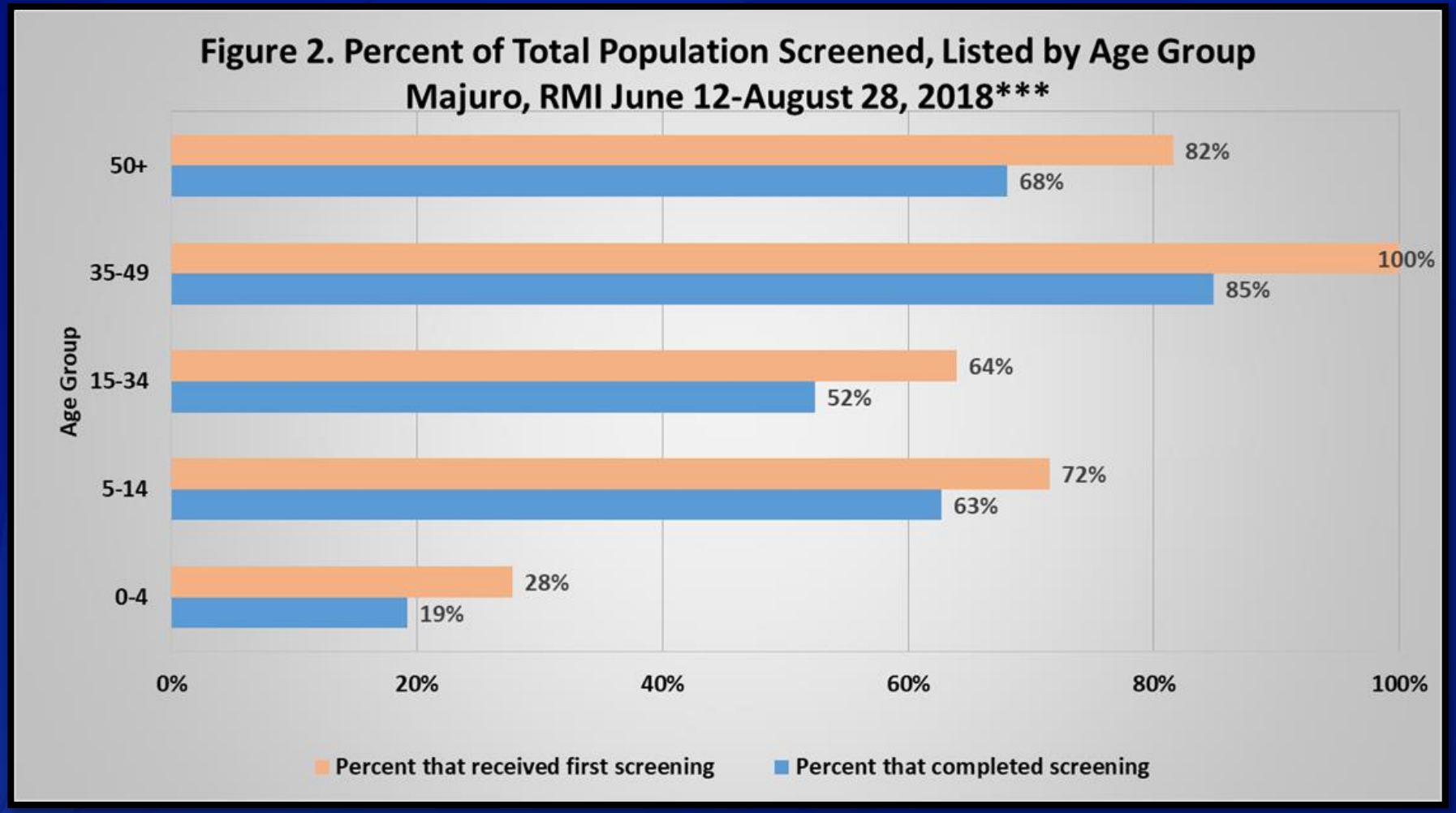
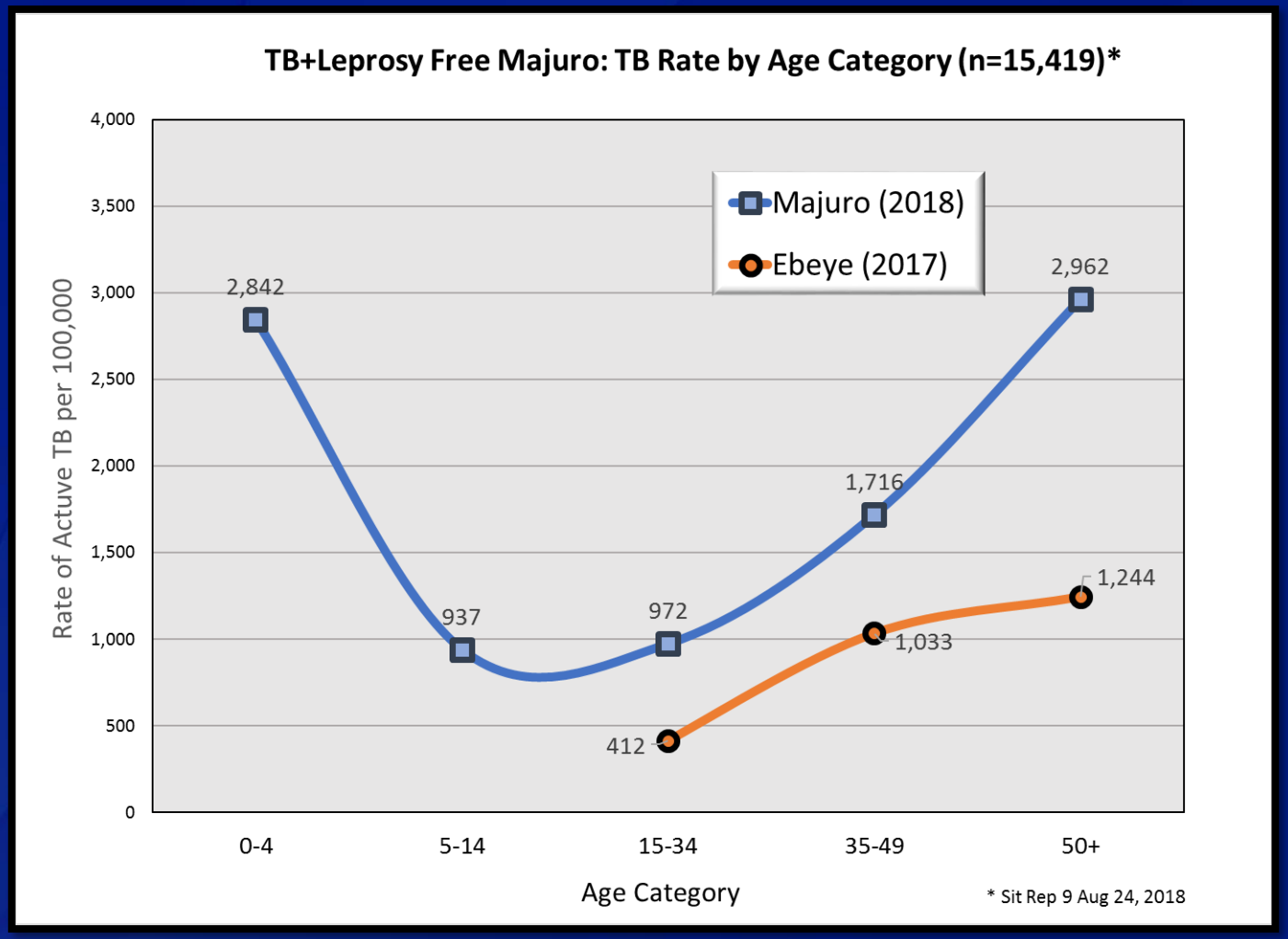
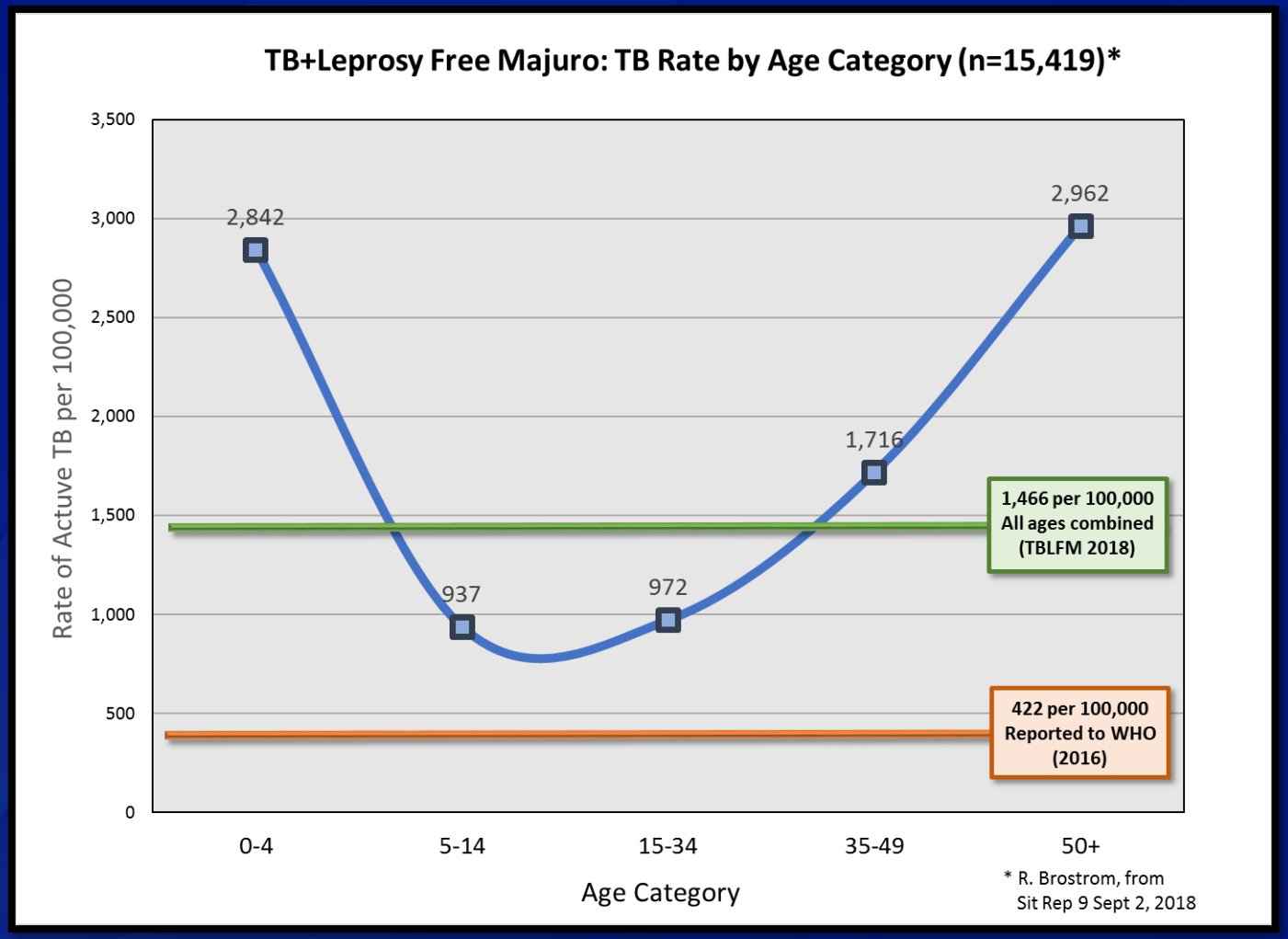


Figure 2. Percent of Total Population Screened, Listed by Age Group
Majuro, RMI June 12-August 28, 2018***
Age Group
50+
35-49
15-34
5-14
0-4
82%
68%
100%
85%
64%
52%
72%
63%
28%
19%
0%
20%
40%
60%
80%
100%
Percent that received first screening
Percent that completed screening

	Male					Female					Total	Percent
	0-4	5-14	15-34	35-49	50+	0-4	5-14	15-34	35-49	50+		
Screening process												
First screening (at home)	576	2598	3053	1385	1133	542	2631	3478	1833	1296	**18,525**	**66% of total population reached**
Completed screening	406	2266	2458	1125	940	368	2321	2894	1555	1086	**15,419**	**Completed TST reading, exposure evaluation**
Percent Complete	*70%*	*87%*	*81%*	*81%*	*83%*	*68%*	*88%*	*83%*	*85%*	*84%*	***83%***	**82% completed second visit**
Active TB												
Started Treatment	13	19	24	21	30	9	24	28	25	30	**223**	**Average 25.0 new TB cases per week**
Rate/100k	*3,202*	*838*	*976*	*1,867*	*3,191*	*2,446*	*1,034*	*968*	*1,608*	*2,762*	***1,446***	**1,446/100,000 screened are diagnosed with active TB**
Latent TB (sleeping TB)												
Latent TB diagnosis	0	155	866	550	468	0	166	741	482	384	**3,812**	**This list includes medically ineligible**
Percent Latent	*0%*	*7%*	*35%*	*49%*	*50%*	*0%*	*7%*	*26%*	*31%*	*35%*	***25%***	**27% screened are diagnosed with latent TB**
Recommended for LTBI	25	199	816	496	397	21	224	674	433	316	**3,601**	**94% with LTBI are recommeded for tx**
Started latent TB treatment	6	194	784	477	345	4	211	667	416	289	**3,393**	**Average 330 new LTBI treated per week**
Percent Started	*24%*	*97%*	*96%*	*96%*	*87%*	*19%*	*94%*	*99%*	*96%*	*91%*	***94%***	**94% recommended for LTBI have started tx**
Leprosy												
Referred for evaluation	14	72	20	14	18	10	49	43	18	24	**282**	**2% screened were referred for leprosy evaluation**
New cases of leprosy	1	5	6	3	3	0	6	13	7	1	**45**	**New leprosy case rate is 29.2 cases per 10,000 persons**
Diabetes												
Identified with diabetes	-	-	27	143	214	-	-	36	137	196	**753**	**26% screened have DM (A1c > 6.5 or prior DM)**
New diagnosis of diabetes	-	-	20	76	70	-	-	28	70	54	**318**	**9% screened were newly diagnosed**
Percent Complete	-	-	*74%*	*53%*	*33%*	-	-	*78%*	*51%*	*28%*	***42%***	**42% with diabetes are newly diagnosed**


TB+Leprosy Free Majuro: TB Rate by Age Category (n=15,419)*
Rate of Actuve TB per 100,000
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Majuro (2018)
Ebeye (2017)
2,842
937
972
1,716
2,962
412
1,033
1,244
0-4
5-14
15-34
35-49
50+
Age Category
* Sit Rep 9 Aug 24, 2018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Rate of Actuve TB per 100,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,842
937
972
1,716
2,962
1,466 per 100,000
All ages combined
(TBLFM 2018)
422 per 100,000
Reported to WHO
(2016)
0-4
5-14
15-34
35-49
50+
Age Category
* R. Brostrom, from
Sit Rep 9 Sept 2, 2018

Progress Report for 8/04/18

- Site Selection: Schools chosen first, now Laura clinic and Y2YIH building
- Pharmacy: All meds available, no stockouts
- X-ray: 3 units operable
- Laboratory: 2000 GXPT on island
- Local Personnel: NGOs engaged 100 CHOWs
- Epi Systems: Amending to allow prevention cascade
- Cascade is unrelenting: 60% LTBI high target
- 70% Willing. The last 30% difficult

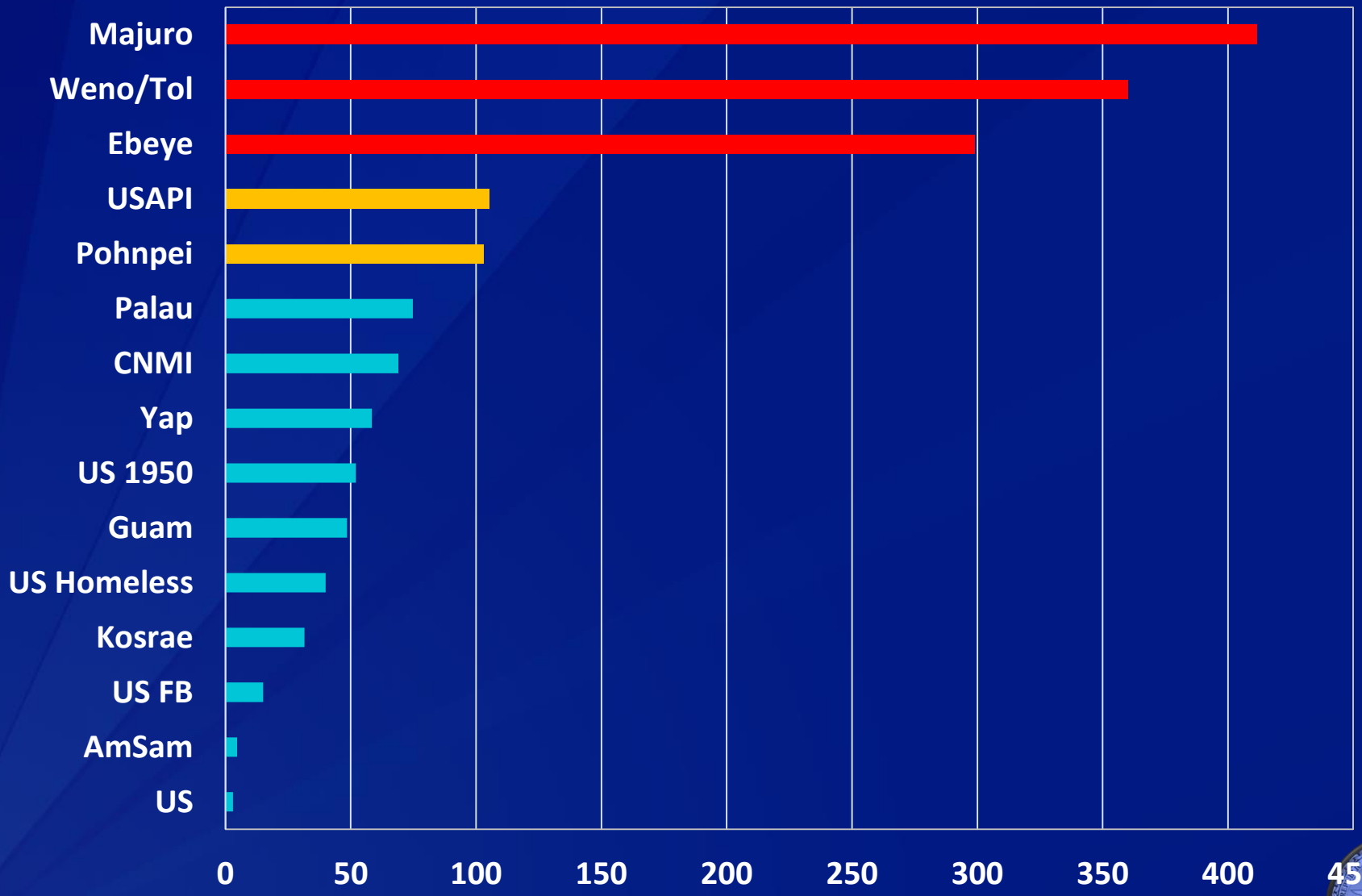
TB Program Upgrades to-date

- 3 New TB Nurses Hired
- 5 New DOTs
- Additional TB physician
- Meds for two years
- 2 DOT Vehicles*
- Clinic remodeling and expansion*
- Ebeye latent TB project*
- High-risk Atoll project*

“Spin-Off” Downstream Benefits

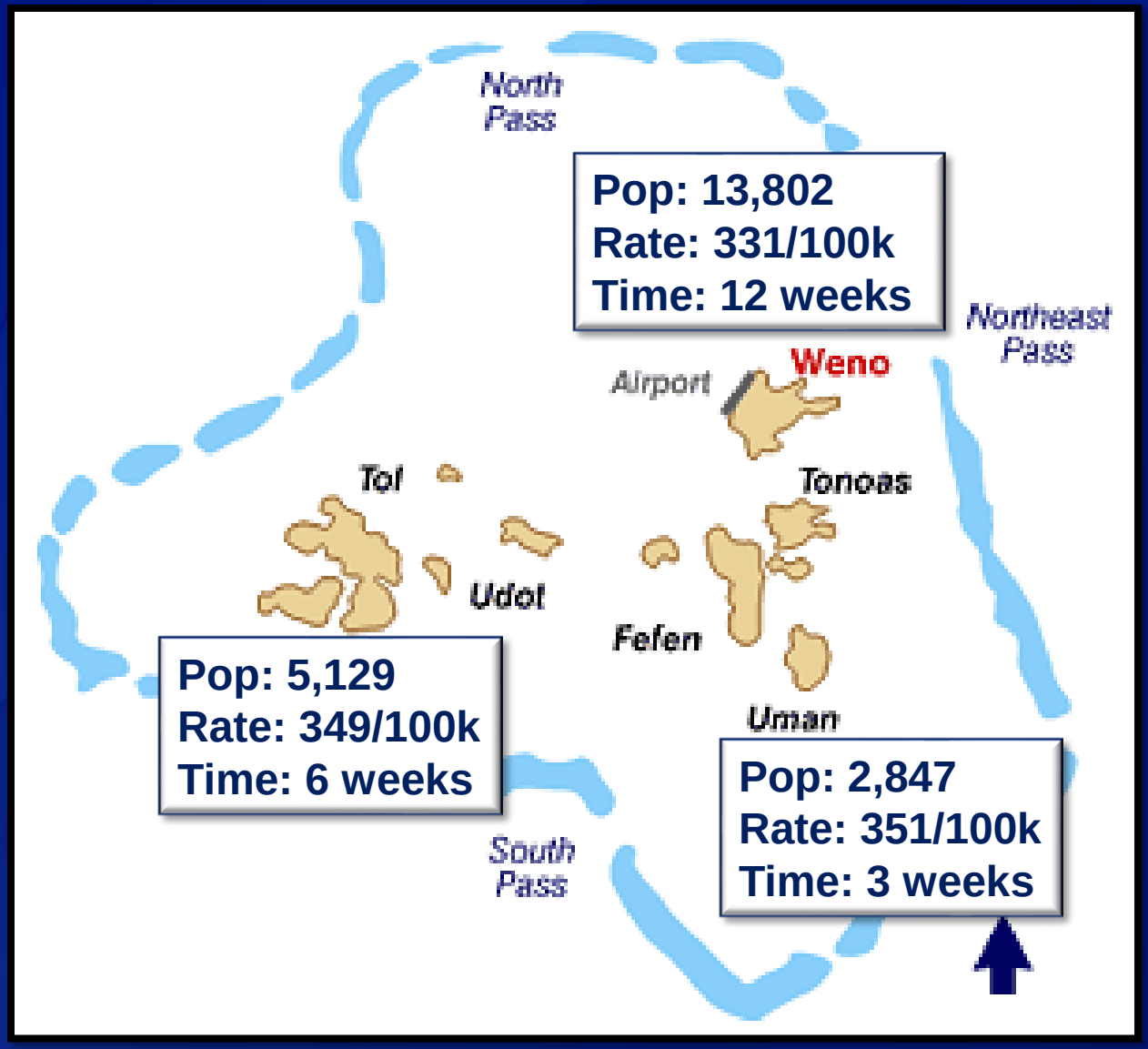
- Hospital:
  - Improved TB Control with Staff/Training/Inpatient Ward
  - New lab equipment Xpert/CRP machines
  - Greatly expanded mobile x-ray capacity. Dosimeters.
  - Diabetes, Hansen’s, HIV, Surveillance program engaged
  - Remodeled Laura Clinic
- Community
  - Schools with newly airconditioned rooms
  - Schools with internet upgrades
  - Money staying on-island

TB in the Pacific: How do we stack up?



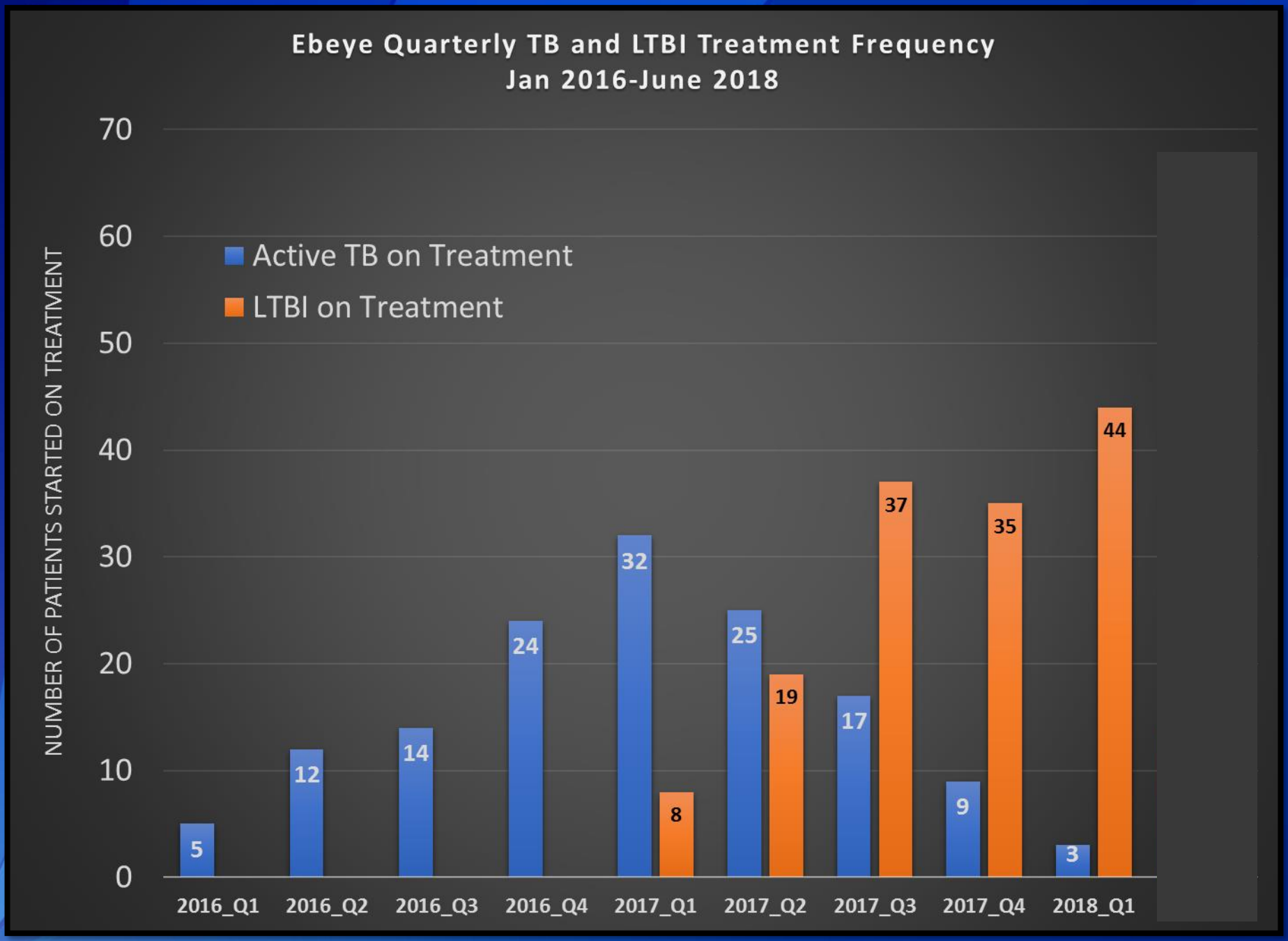
Source: Average TB Rate 2009 – 2015, EpiAnywhere

TB-Leprosy Free Chuuk?



TB-Leprosy Free Chuuk?

Island	Population (2010)	8 yr TB Rate/100k	Est Active TB	Est Latent TB
Weno	13,802	343	118	2,705
Tol	5,129	377	48	1,005
Uman	2,847	390	28	558
Total	21,778	357	194	4,268


Ebeye Quarterly TB and LTBI Treatment Frequency
Jan 2016-June 2018
NUMBER OF PATIENTS STARTED ON TREATMENT
70
60
50
40
30
20
10
0
Active TB on Treatment
LTBI on Treatment
5
12
14
24
32
8
25
19
17
37
9
35
3
44
2016_Q1
2016_Q2
2016_Q3
2016_Q4
2017_Q1
2017_Q2
2017_Q3
2017_Q4
2018_Q1

THE EN STRATEG

Figure 1. POST-2015 GLOBAL TUBERCULOSIS STRATEGY FRAMEWORK

VISION	A world free of tuberculosis – zero deaths, disease and suffering due to tuberculosis
GOAL	End the global tuberculosis epidemic
MILESTONES FOR 2025	75% reduction in tuberculosis deaths (compared with 2015) 50% reduction in tuberculosis incidence rate (less than 55 tuberculosis cases per 100 000 population) – No affected families facing catastrophic costs due to tuberculosis
TARGETS FOR 2035	95% reduction in tuberculosis deaths (compared with 2015) 90% reduction in tuberculosis incidence rate (less than 10 tuberculosis cases per 100 000 population) – No affected families facing catastrophic costs due to tuberculosis

PRINCIPLES

1. Government stewardship and accountability, with monitoring and evaluation
2. Strong coalition with civil society organizations and communities
3. Protection and promotion of human rights, ethics and equity
4. Adaptation of the strategy and targets at country level, with global collaboration

PILLARS AND COMPONENTS

1. INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION

A. Early diagnosis of tuberculosis including universal drug-susceptibility testing, and systematic screening of contacts and high-risk groups
B. Treatment of all people with tuberculosis including drug-resistant tuberculosis, and patient support
C. Collaborative tuberculosis/HIV activities, and management of comorbidities
D. Preventive treatment of persons at high risk, and vaccination against tuberculosis

2. BOLD POLICIES AND SUPPORTIVE SYSTEMS

A. Political commitment with adequate resources for tuberculosis care and prevention
B. Engagement of communities, civil society organizations, and public and private care providers
C. Universal health coverage policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control
D. Social protection, poverty alleviation and actions on other determinants of tuberculosis

3. INTENSIFIED RESEARCH AND INNOVATION

A. Discovery, development and rapid uptake of new tools, interventions and strategies
B. Research to optimize implementation and impact, and promote innovations

Questions

Special thanks to:

RMI MOH
PIHOA
CDC

hld4@cdc.gov