TB+Leprosy Free Chuuk

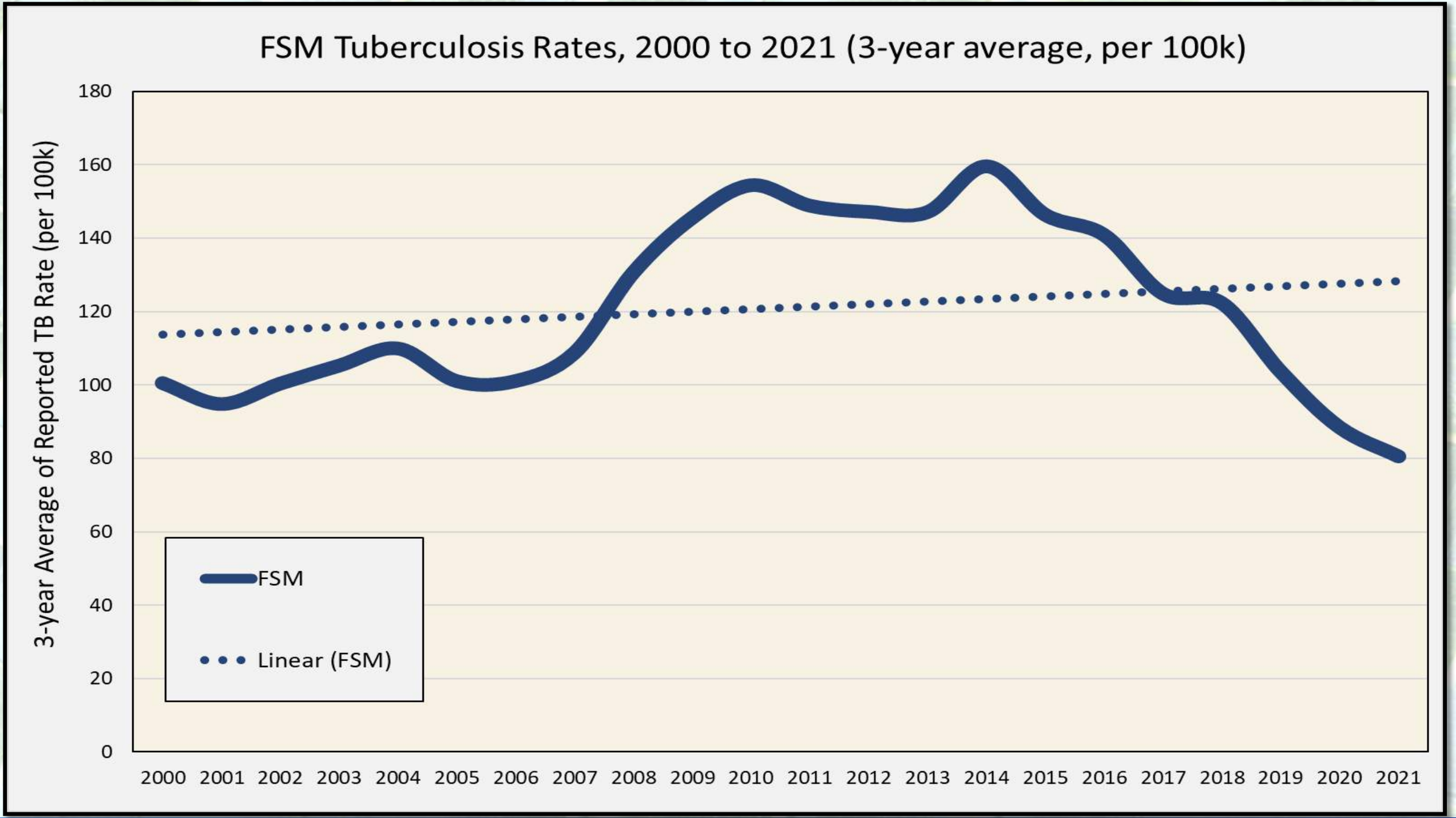
PIHOA Executive Meeting

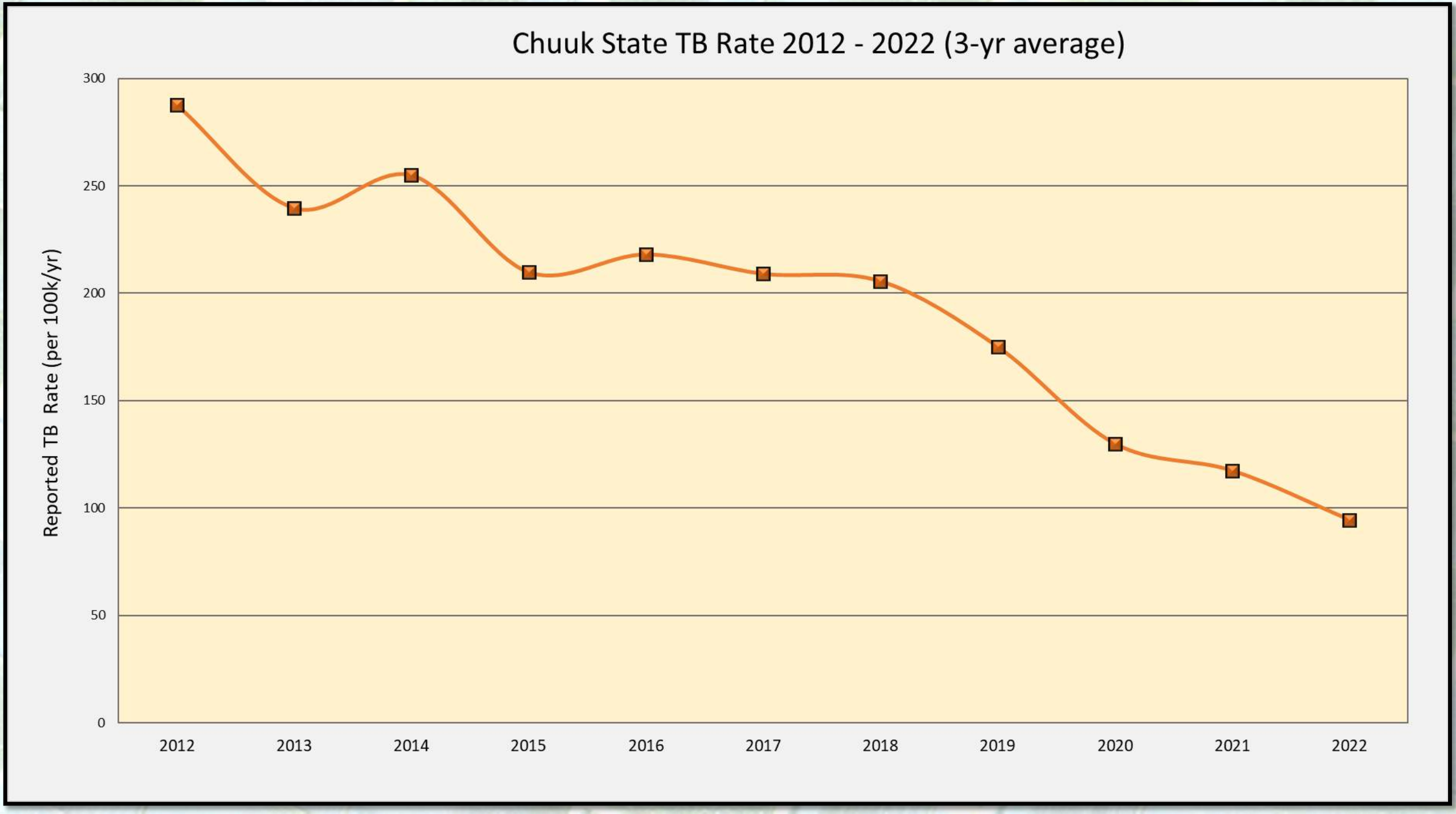
March 28, 2024

Dr Dorina Fred
Chief of Public Health
Chuuk State, Federated States of Micronesia

TB+Leprosy Free Chuuk

- Chuuk TB Program Trends
- Screening Strategy
- A Day in the Life of Leprosy Free Chuuk
- Next Steps


FSM Tuberculosis Rates, 2000 to 2021 (3-year average, per 100k)
3-year Average of Reported TB Rate (per 100k)
180
160
140
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
FSM
Linear (FSM)


Chuuk State TB Rate 2012 - 2022 (3-yr average)
Reported TB Rate (per 100k/yr)
300
250
200
150
100
50
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

TB + Leprosy Free Chuuk: Strategy

- Chuuk has improved TB control over the past 10 years
  - Early identification and treatment of cases
  - Treatment of TB contacts in the house
- Our Chuuk data pointed to several villages in Chuuk Lagoon with higher rates of TB
- Most of these villages were on Weno and within the Chuuk Lagoon

TB Free Chuuk: Focus on the Hot Spots

Method	Screened Population (2010)	4-yr TB Case Count	4-yr TB Case Rate	Estimated Days to Screen
All of Chuuk	48,657	237	122	779
Only Islands with at least 2 TB cases in last 9 years	35,407	229	162	567
Only Islands with at least 2 TB Cases in last 4 years	23,106	208	225	370
Villages with at least 2 TB cases in past 4 years	**15,927**	**193**	**303**	**255**

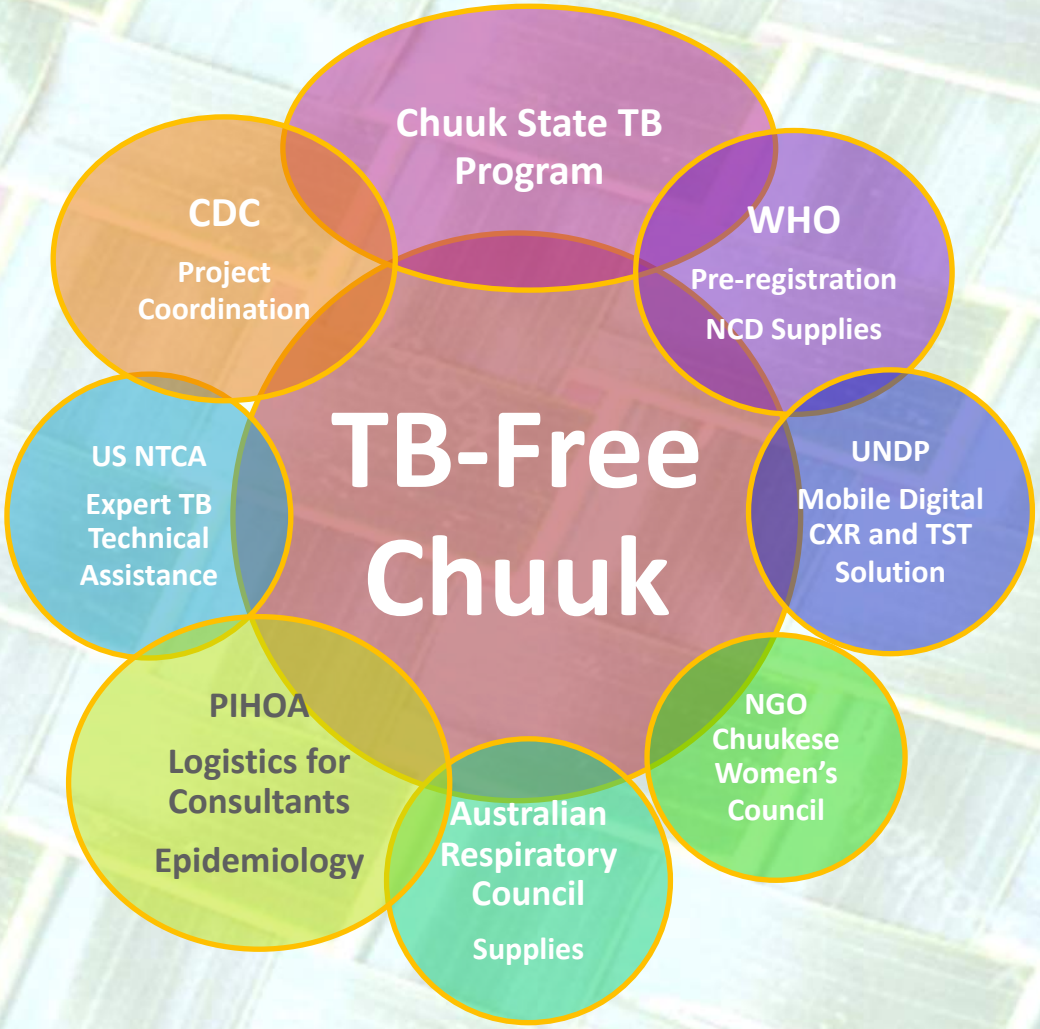
TB+Leprosy Free Chuuk

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TB + Leprosy Free Chuuk: Strategy

- Plan to screen at least 15,000 people
- Plan to treat all active and latent TB
- TB and Hansen's Screening for children and adults
- New plan to deliver Leprosy prevention for adults and children over 2 years old.
- Diabetes testing with A1c for all adults
- Partner with Multi-agency Hybrid Survey for efficiency

TB-Free Chuuk Partnerships



TB+Leprosy Free Chuuk: Procurements

- Close work with WPRO, UNDP, FSM National (THANKS!)
- Rifapentine (210,000 tablets ordered by FSM)
- First-Line TB Medications: 250 courses from UNDP
- TST Solution: 20,000 doses from UNDP
- A1C test kits: 8,000 from Hybrid Survey
- GeneXpert Ultra cartridges: 2,000 from UNDP
- Digital x-ray (2 Min-Ray, 1 Fuji), UNDP, Govt of Japan

TB+Leprosy Free Chuuk: Contracts

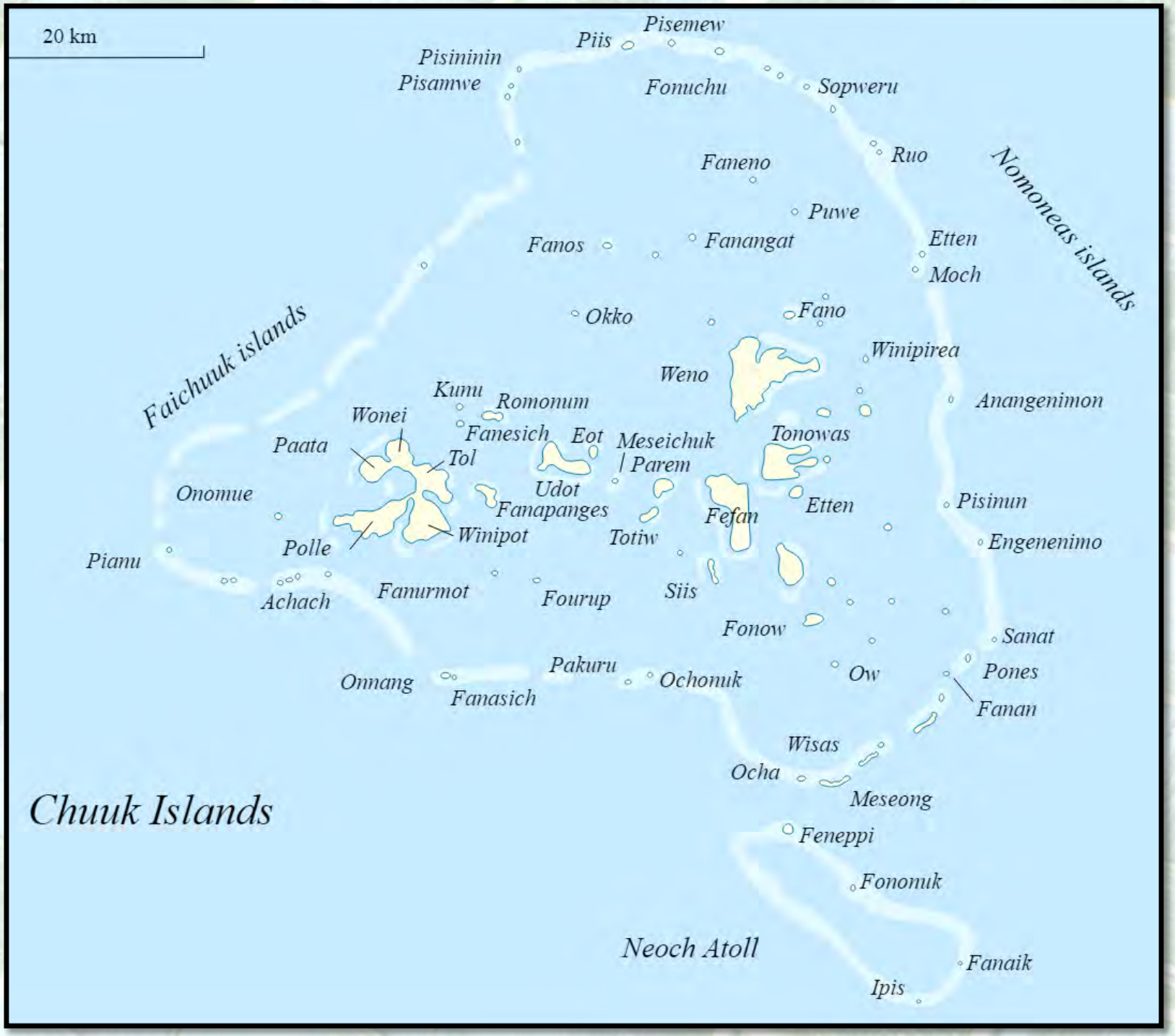
- PIHOA:

  Expert logistics including hotels and flights

- Transportation:

  Boats to outer islands, captains, fuel, schedules

- Food contracts
- Personnel contracts with CHOWs
- Incentives: $10 cash power or $10 phone cards



Chuuk TB Cases

1. Weno
2. Lagoon Islands
3. NW Islands
4. Mortlock Islands

Weno Schedule for TB-Free Chuuk

Village	Clinic	Pop	Days	LTBI	Active	CHOWS	Start Screen	End Screen	End 3HP LTBI
Sapuk	North	1197	8	229	10	4	5/10/2023	5/19/2023	8/11/2023
Penia	North	489	3	92	4	2	5/20/2023	5/24/2023	8/16/2023
Peniesene	North	551	4	111	5	2	5/25/2023	5/30/2023	8/22/2023
Tunnuk	PH	780	5	142	6	3	5/31/2023	6/6/2023	8/29/2023
Mechitiw	PH	1646	10	330	14	6	6/7/2023	6/18/2023	9/10/2023
Iras	PH	2511	15	487	20	9	6/19/2023	7/5/2023	9/27/2023
Nepukos	Central	2314	14	438	18	8	7/6/2023	7/21/2023	10/13/2023
Mwan(Sefin)	Central	1417	9	269	11	5	7/22/2023	8/1/2023	10/24/2023
Neauwo	South	1385	9	252	11	5	8/2/2023	8/12/2023	11/4/2023
Wichap	Wichap Church	1233	8	225	9	4	8/13/2023	8/22/2023	11/14/2023
Epinup	Wichap Church	333	2	63	3	2	8/23/2023	8/26/2023	11/18/2023

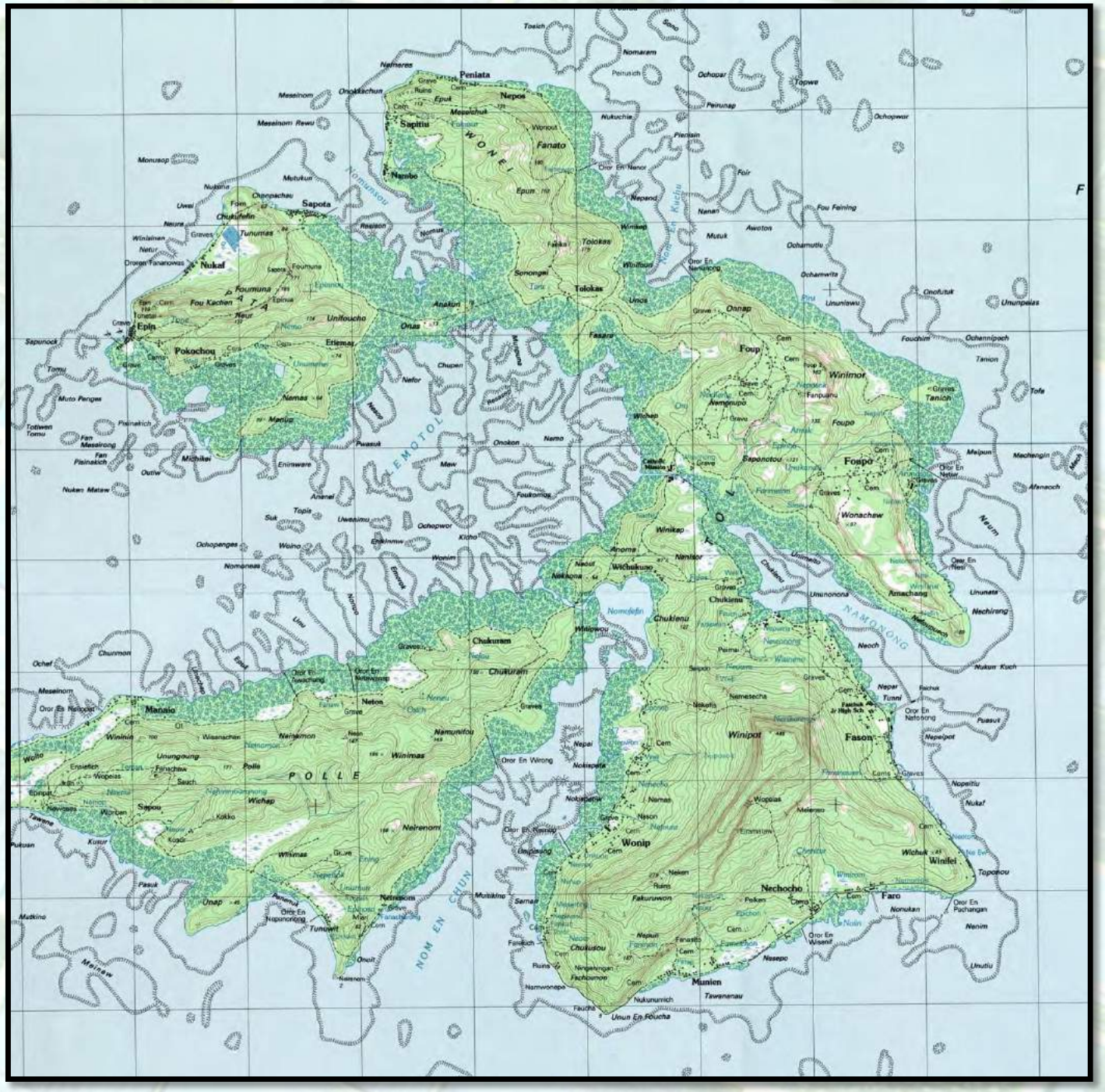
May 12, 2023, Sapuk CHC Clinic



Typical day in the first week……

Numbers for 18 May at Sapuk North CCHC are as follows:

Completed screening in clinic	108
LTBI started	19
Referred for case conference review	2
Sputum collected	2
Walk-in TSTs placed	9
House to house TSTs placed	49
Hansen's referrals	0



Faichuk Map

June-July

TB-Leprosy Free Chuuk: Lagoon Islands





Lagoon Clinic Site Schedule for TB-Free Chuuk

Organization Defeats TB!

Village	Clinic	Pop	Days	LTBI	Active	CHOWS	Start Screen	End Screen	End 3HP LTBI
Polle	Neirenom	616	6	123	7	3	6/12/2023	6/18/2023	9/10/2023
Paata	Epin	249	3	50	3	1	6/19/2023	6/23/2023	9/15/2023
Paata	Pokochow	171	2	34	2	1	6/24/2023	6/26/2023	9/18/2023
Paata	Sopota	406	4	81	4	2	6/27/2023	7/2/2023	9/24/2023
Onei	Sapetiw	166	2	33	2	1	7/3/2023	7/5/2023	9/27/2023
Tol	Wichukuno	322	3	64	4	2	7/6/2023	7/10/2023	10/2/2023
Tol	Foson	685	6	137	8	3	7/11/2023	7/17/2023	10/9/2023
Tol	Foup	783	7	157	9	3	7/18/2023	7/26/2023	10/18/2023
Udot	Mwanitiw	297	3	59	3	1	7/27/2023	7/30/2023	10/22/2023
Udot	Tunnuk	329	3	66	4	2	7/31/2023	8/4/2023	10/27/2023
Fefan	Fanip	467	4	93	5	2	8/5/2023	8/9/2023	11/1/2023
Fefan	Fongen	172	2	34	2	1	8/10/2023	8/13/2023	11/5/2023
Fefan	Pwene	175	2	35	2	1	8/14/2023	8/16/2023	11/8/2023
Fefan	Inaka	178	2	36	2	1	8/17/2023	8/20/2023	11/12/2023
Fefan	Sapeta	675	6	135	7	3	8/21/2023	8/27/2023	11/19/2023
Fefan	Onongoch	416	4	83	5	2	8/28/2023	9/2/2023	11/25/2023
Fefan	Sapore	456	4	91	5	2	9/3/2023	9/7/2023	11/30/2023
Uman	Sopotiw	158	2	32	2	1	9/8/2023	9/11/2023	12/4/2023
Uman	Nepon	108	1	22	1	1	9/12/2023	9/13/2023	12/6/2023
Uman	Sannuk	265	3	53	3	1	9/14/2023	9/18/2023	12/11/2023
Uman	Nukanap	651	6	130	7	3	9/19/2023	9/25/2023	12/18/2023
Uman	Sapou	422	4	84	5	2	9/26/2023	10/1/2023	12/24/2023
Tonoas	Nukuno	219	2	44	2	1	10/2/2023	10/4/2023	12/27/2023
Tonoas	Kuchua	716	6	143	8	3	10/5/2023	10/12/2023	1/4/2024
Total Lagoon	24	9102	87	1820	100	43			

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Morning X-Ray Rounds




31 July 2023 (Lagoon)
R, G
23 yo, male
12 mm TST; 5.2% A1c
GeneXpert - MTB detected rmd
RIF resistance not detected
Cough>2 weeks, weight loss.
No reported exposure
Current tobacco (smoke) &
alcohol use.
CXR 1 of 1

TB TST Field Teams









Villages Were Ready!

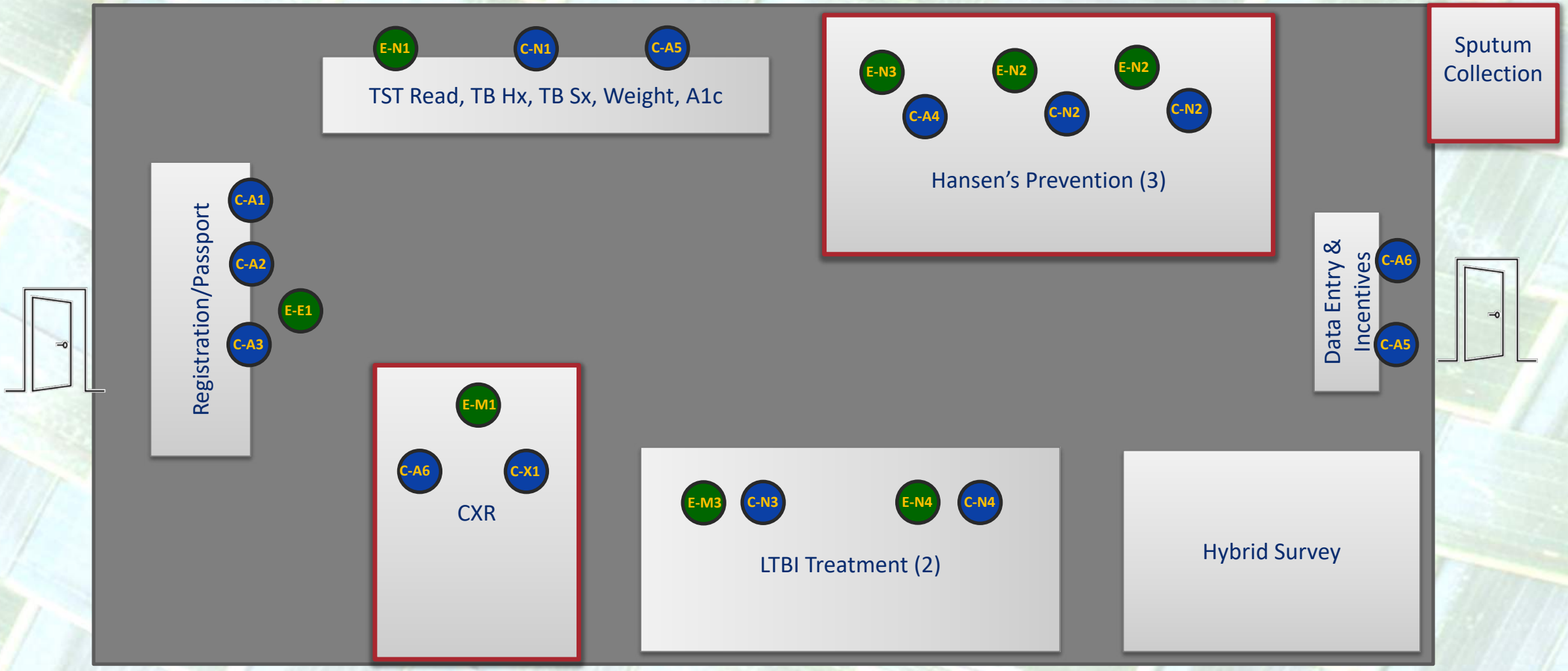




Registration



Chuuk Patient Flow and Staffing Diagram




Child




CHUUK

Fuji X-Ray







- Safe
- High Quality
- Very Low Dose
- Can do up to 50 X-Rays on battery only!

TB Prevention

- We used 3HP for 90% of those infected with TB
- Total of 12 doses
- First dose in clinic
- One dose every week for 11 more weeks, delivered by newly trained CHOWs (DOT)



Fuji and qure.ai

Implemented ***Artificial Intelligence*** for X-ray interpretation



Keinapan (Leprosy) Prevention





CHOWS

- Newly trained at workshop held in May
- Also trained “on-the-spot” for outer islands
- Delivered 11 more doses of 3HP medicine for
- TB prevention
- One dose each week





Special Projects: Screening at the Chuuk Jail

- More than 30 placed on TB prevention in August, 2023
- Treatment halted after rumors about 3HP
- Treatment restarted in Oct



Incentives:

- Every two weeks we had a drawing for someone who has finished their TB prevention.
- The winner received a prize from the visiting team.
- Our valuable Community Health Outreach Workers also received a prize.



Capacity-Building:

- Always our primary goal!
- When we started, the external visiting TB team were the “experts”
- After two months, most of the counseling and communicating was done by the local health staff



TB Free Chuuk: Summary

- We met our targets for screening, case finding, TB prevention, Leprosy prevention!
- Phase 1 completed on time and under budget
- Need for TB Prevention will continue to grow as TB is reduced further
- Active screening of high-risk “pockets” important across Chuuk State

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TB Free Chuuk: Next Steps

- Impact of TB-Free will be measured in 5 years
- Over 180 persons are still taking TB Prevention
- 58 persons are still taking TB Treatment
- Hot Spots remain in the Mortlocks and NW Islands
- Completed Phase II in Feb 2024 (screened 650 persons at Chuuk High School)

TB Free Chuuk: Next Steps

TB-Free Chuuk - Phase III Demographics								Exp TST 15%
Island	Village	2010 Pop	Ave TB 4 yrs	Ave HD 15 yrs	Location	Days	TB cases	3HP
Satowan	Satowan	692	80	39	Lower Mortlocks	3	1	83
Oneop	Oneop	400	139	150	Lower Mortlocks	2	1	48
Lekinioch	Reu+Lukalap	396	379	16	Lower Mortlocks	2	2	48
Murilo	Murilo+Ruo	329	314	61	Hall Islands	2	1	39
	Total	1,817	200	62		9	4	218

TB Free Chuuk: Next Steps

For Chuuk State Outer Islands…

- TB Treatment and TB Prevention medication stocks are adequate (expire 11/2024)
- Leprosy Prevention medications adequate
- TST solution supply adequate
- Teams, Forms, Training, X-Ray are “ready”
- 3-week campaign scheduled for May 12!

TB + Leprosy Free Chuuk: FIRSTS

- First use of field x-rays ever in Federated States of Micronesia
- First use of video-DOT (cell phone) in Chuuk State
- First use of rifapentine for TB prevention in FSM
- First program to use rifapentine for community-wide Leprosy Prevention… in the world?
- First use of Artificial Intelligence for X-Ray in the Pacific Region

TB Free Chuuk: Superheroes

- Village TST Teams: especially Lorenza
- Clinical Support: Dr Bala, Machimoto
- Epidemiology: Mayleen and her team
- Screening Clinics: Lyma Nero, Machimoto
- Logistics: Joshua and team
- Hospital Support: X-Ray, Pharmacy, Lab



Special thanks to:

- Chuuk State Department of Health Services
- FSM National Government
- US Department of the Interior, Insular Affairs Office
- PIHOA
- National Tuberculosis Controllers Association, staff and members
- US Centers for Disease Control and Prevention
- WHO, WPRO Office
- UNDP