

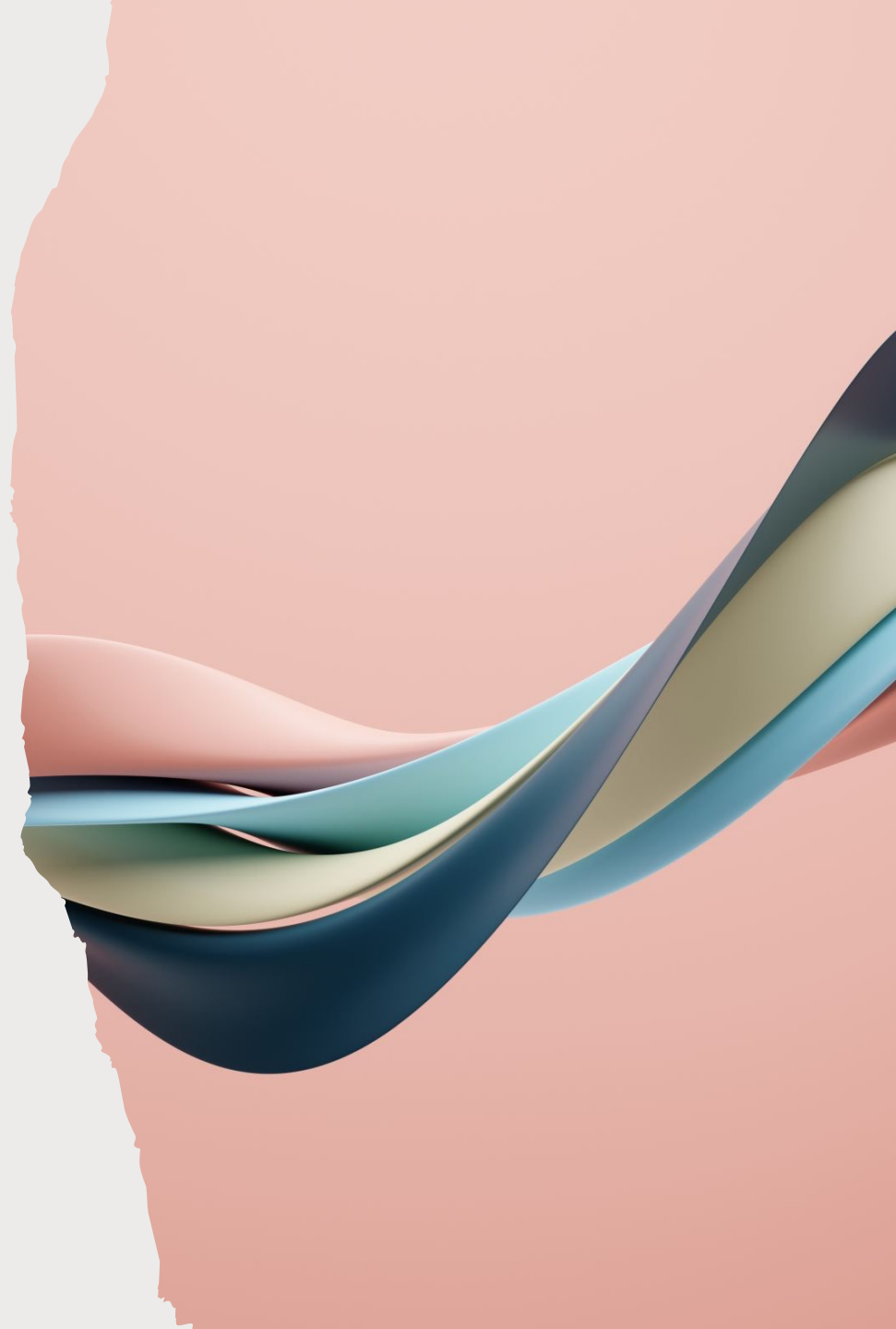
HANSEN'S DISEASE (HD) ON GUAM AND A PATIENT CASE STUDY COMPLICATED BY BARRIERS TO CARE

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Tuberculosis/Hansen Disease Control Program

Guam Department of Public Health and Social Services

01/24/2024



OBJECTIVES

1

Describe the epidemiology of Hansen's Disease (HD) and the complexity of HD cases seen in Guam.

2

Understand a HD patient case study: Symptoms, diagnosis, & treatment.

3

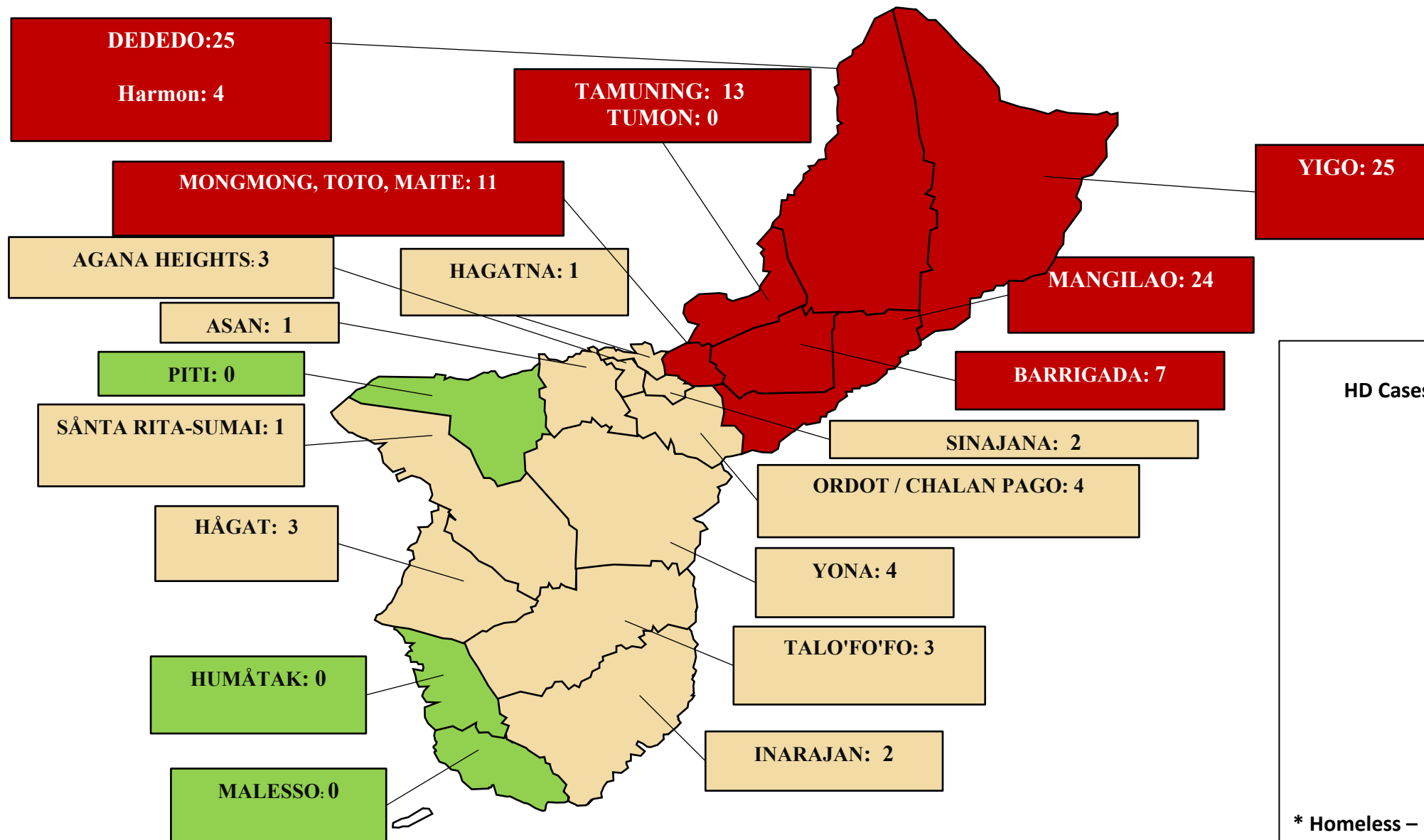
Discuss the HD Patient's complications, pertinent studies, and alternative HD treatments

4

Review nursing management: Issues and challenges and barriers to care.

5

Discuss the Guam Path to Zero Leprosy 2030



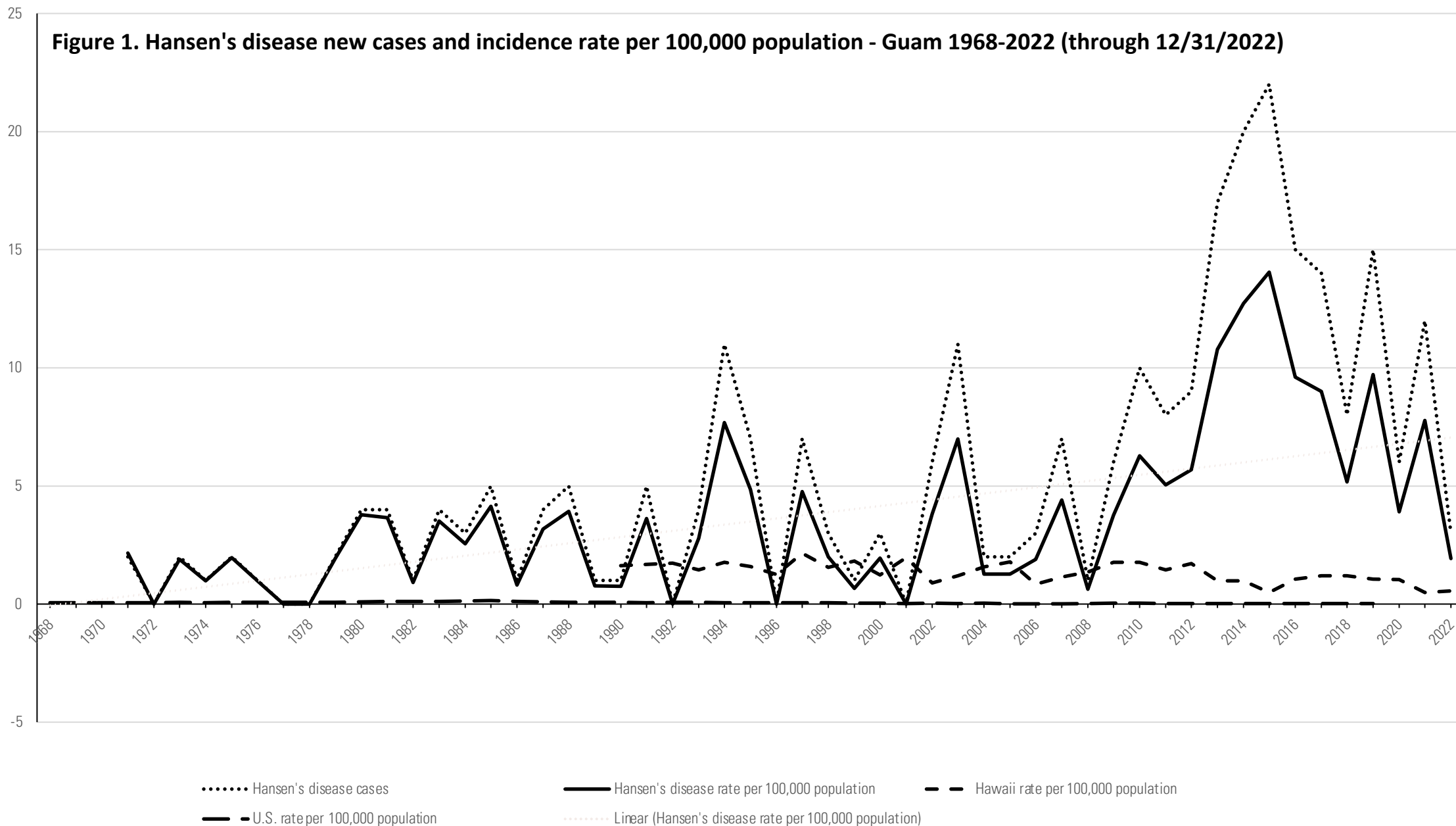
HD Cases by Villages 2013- 2023

TOTAL: 136

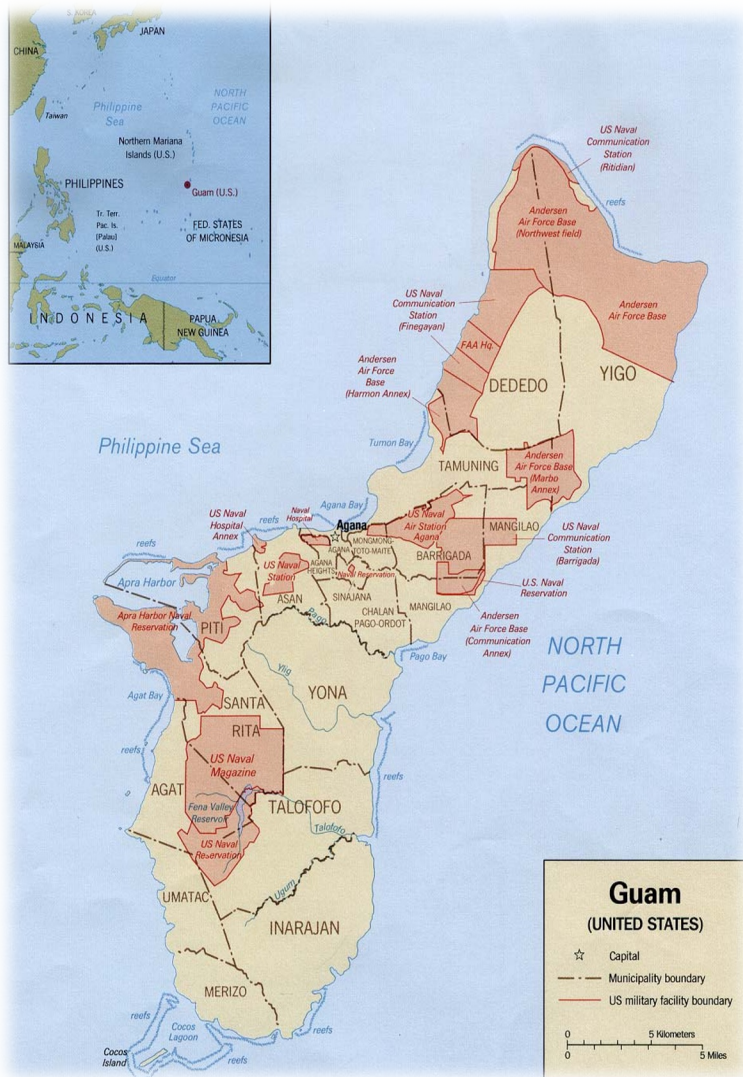
2013-17
2014-20
2015-22
2016-15
2017-14
2018-08
2019-15
2020-06
2021-12
2022-03
2023-04

* Homeless – 1
* Village not Reported – 2

Figure 1. Hansen's disease new cases and incidence rate per 100,000 population - Guam 1968-2022 (through 12/31/2022)

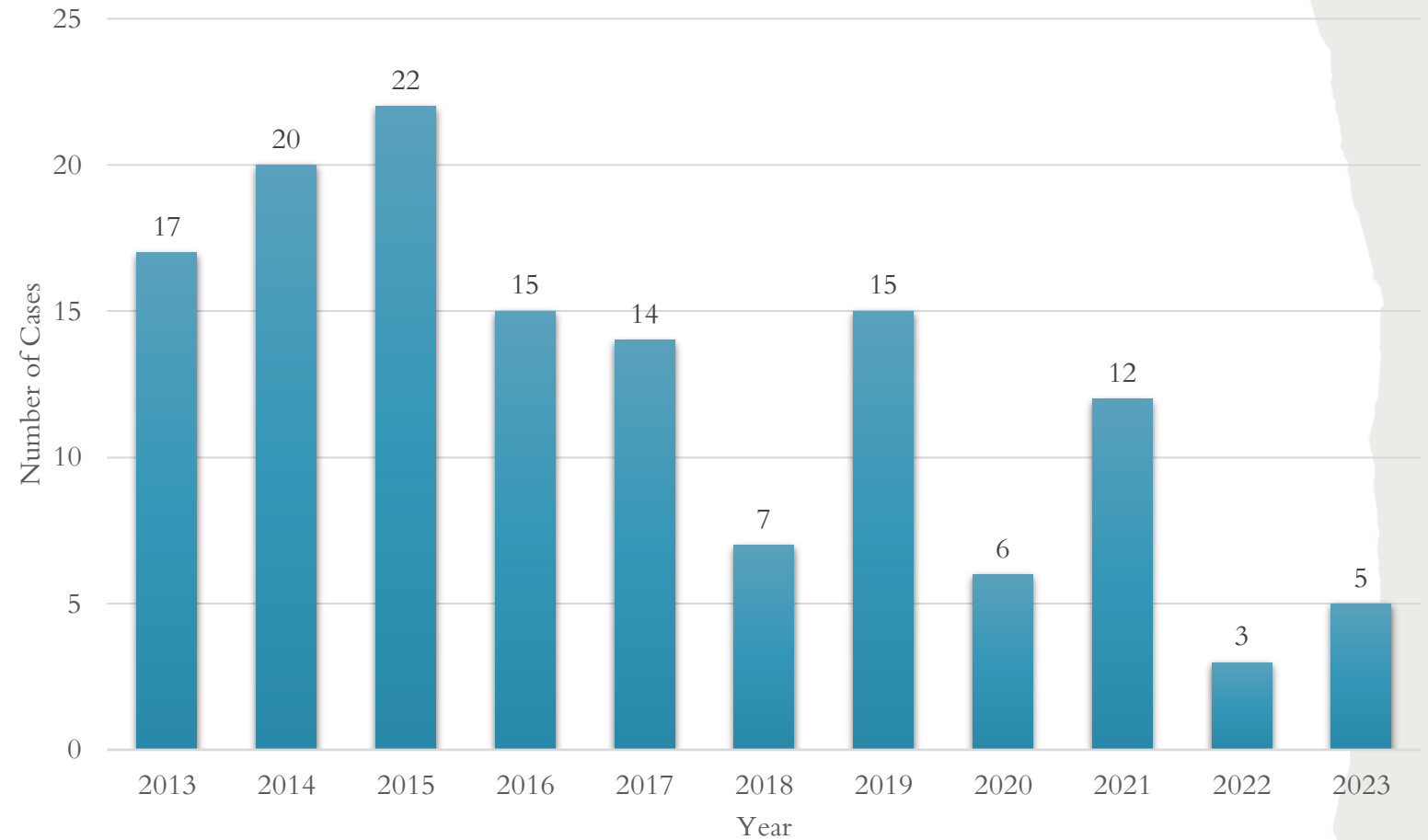


HD Cases on Guam: 2013-2023

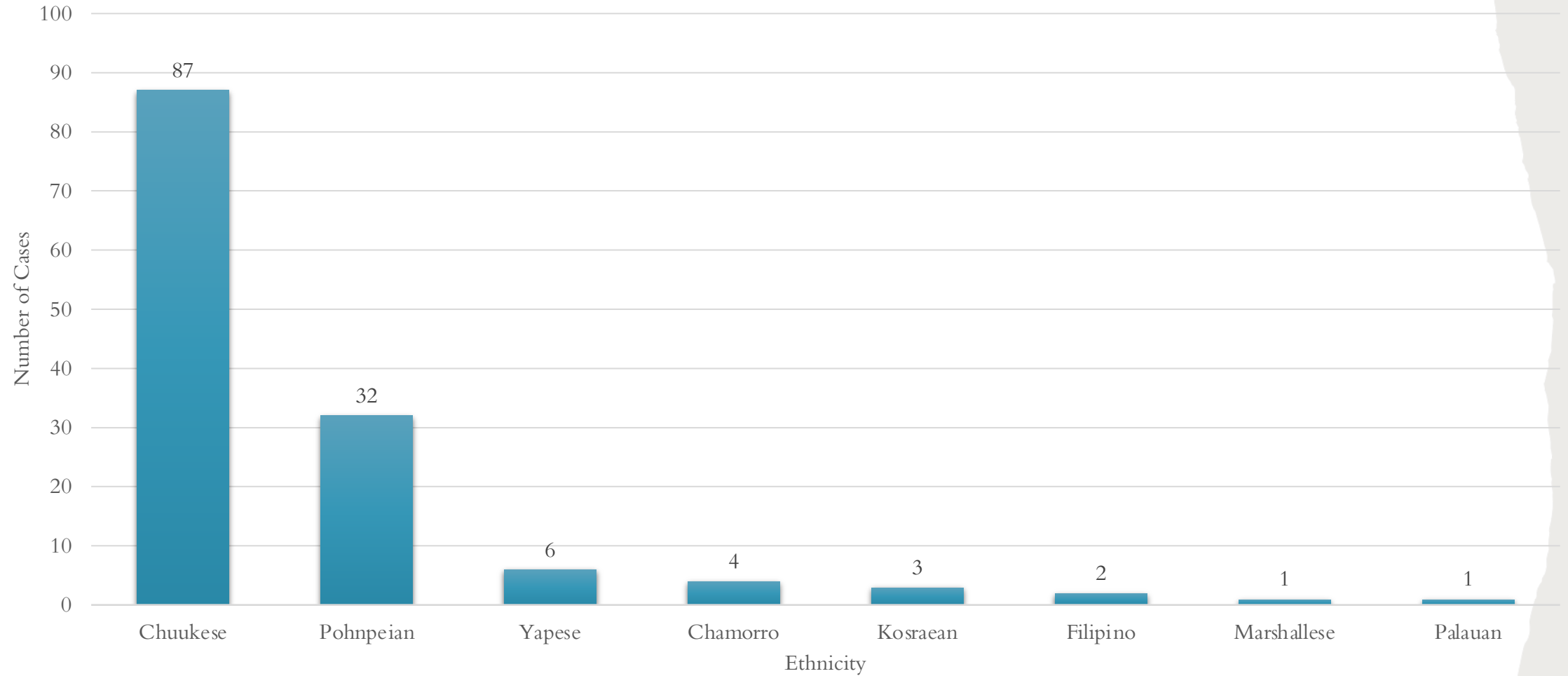


https://maps.lib.utexas.edu/maps/australia/guam_mil91.jpg

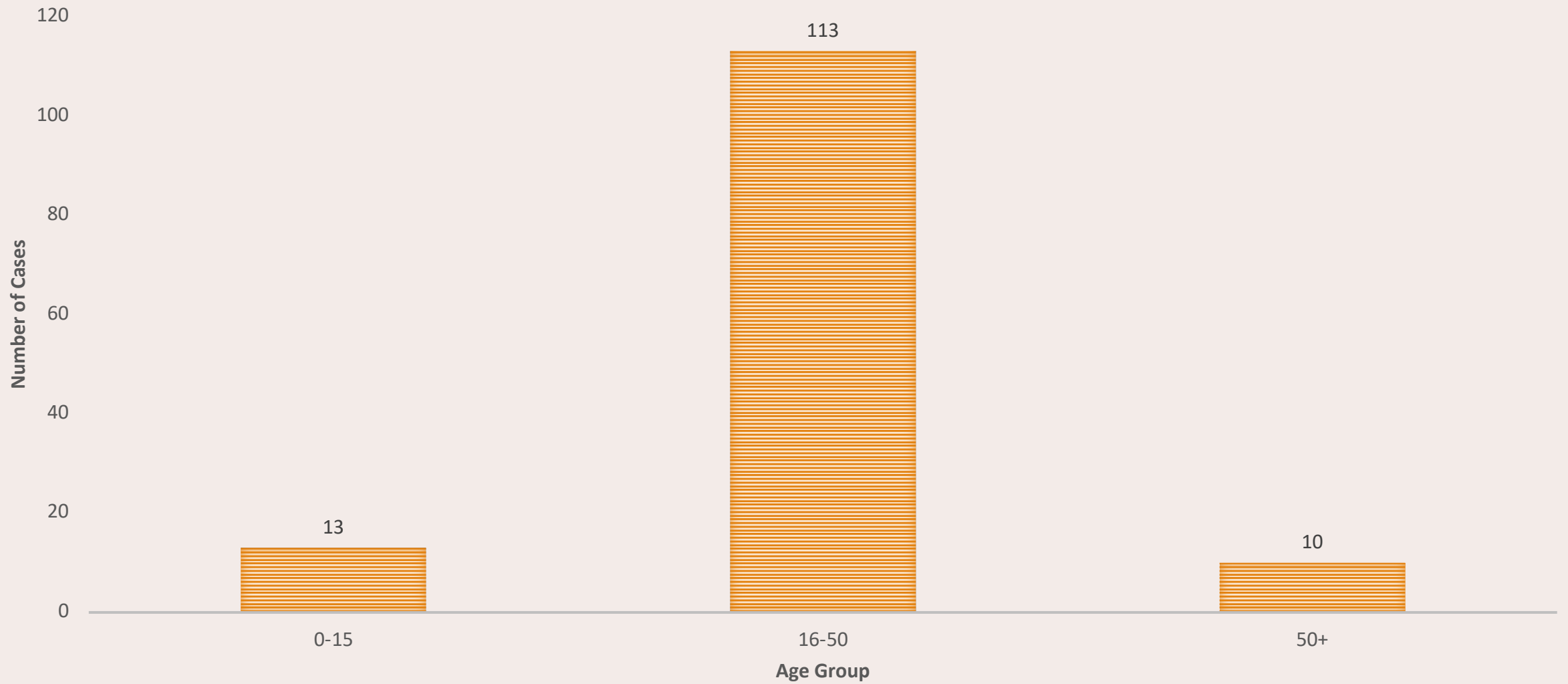
Number of HD Cases per Year (2013-2023)



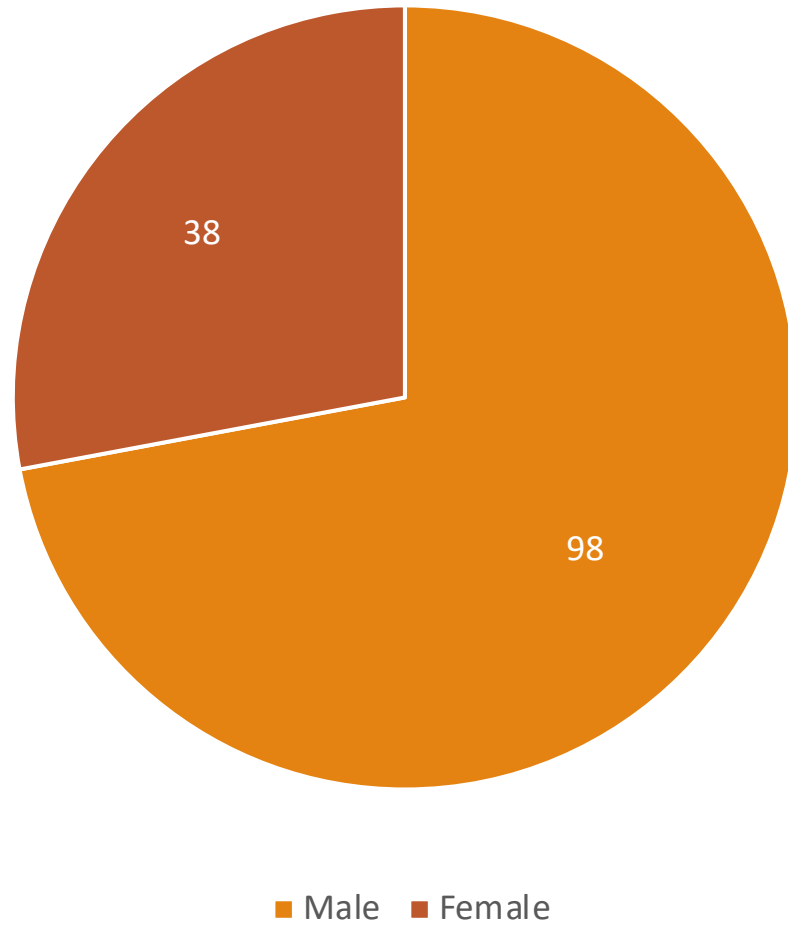
Hansen's Disease Cases by Ethnicity (2013-2023)



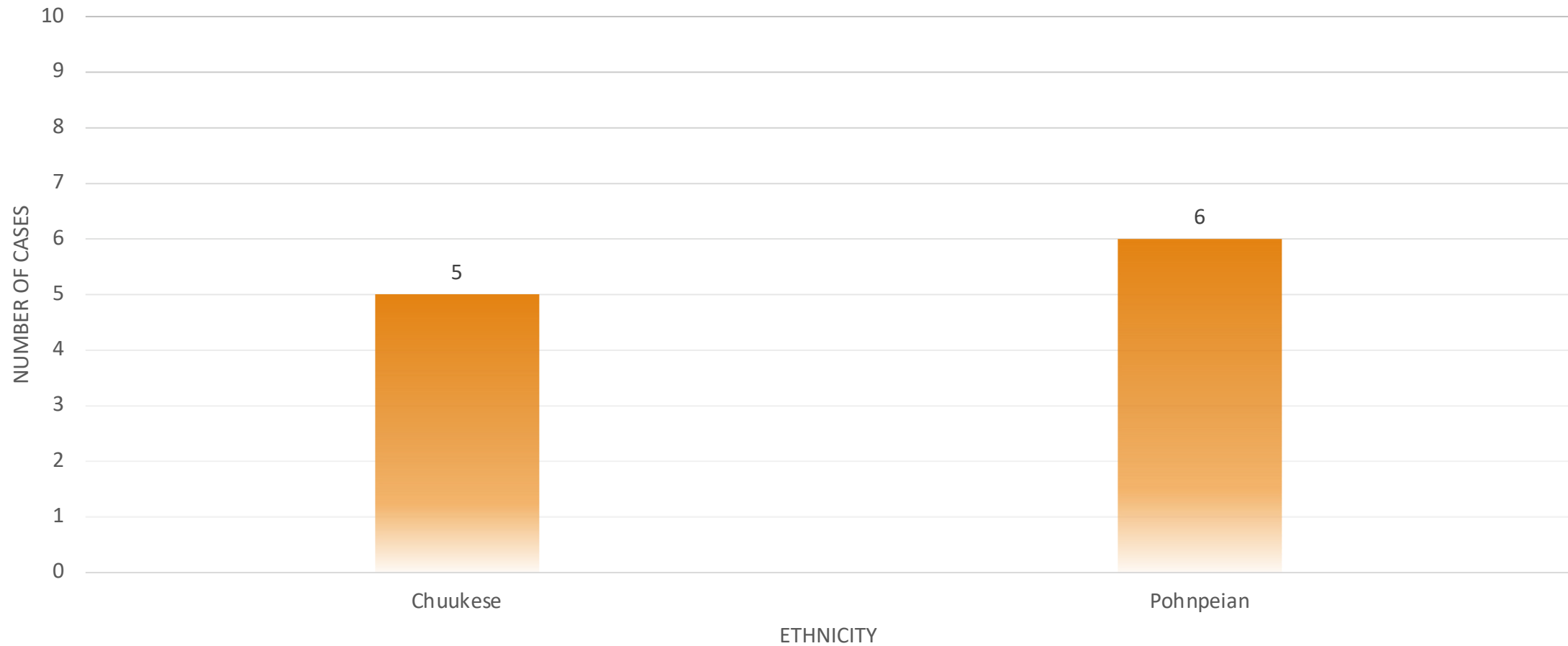
HANSEN'S DISEASE CASES BY AGE GROUP



Hansen's Disease Cases by Sex



HANSEN'S DISEASE CASES UNDER 15 YEARS OF AGE (2013-2023)





INTRODUCTION: HD CASE STUDY

- 38-yr-old Chuukese, Male. Speaks limited English. Born in Chuuk. Moved to Guam in 2003. Worked in construction. No medical history. Not on medications. NKDA. Does not smoke/drink alcohol.
- 02/18/2019. First seen at Guam Public Health HD Program Clinic. Pt stated, "Skin was fine until two months ago." Many nodules appeared on the ears, face, chest, arms, and legs. No sensory loss. No motor loss. No hypoaesthesia to lesions. Denies fever or pain.
- Skin slit smear test was performed for diagnosis of Hansen's Disease. Pt unable to afford blood labs (CBC, CMP, and G6PD). PPD test ordered.

BACTERIOLOGICAL EXAMINATION

HD (MI-BI)/Skin Split AFB smears were performed. Collection sites (Right and Left Ears, Elbows, and Knees).

ASSESSMENT: HD-MB with no disability.

Date of Birth: [redacted] Sex: M Race: CK Collection Date: 2/8/19 3:10 Specimen Source/Collection Method: SKIN

Test Requested*
 ☐ Wet Mount
 ☐ Chlamydia trachomatis-Neisseria gonorrhea PCR
 ☐ GC smear and culture
 ☐ Urine Culture
 ☐ AFB Smear Only
 ☐ AFB Smear and Culture
 ☒ Hansen's Disease (MI-BI)
 ☐ Other (specify here)

DO NOT WRITE BELOW THIS AREA. FOR LABORATORY USE ONLY.

LABORATORY RESULT:	SITE	RT. EAR	LT. EAR	RT. ELBOW	LT. ELBOW	RT. KNEE	LT. KNEE	NOTES/REMARKS:
BACT. INDEX		3+	4+	3+	2+	2+	2+	★ = 2-5 ★★ = 5-10 / Gump / [unclear]
MORPH. INDEX		0	0	0	0	0	0	

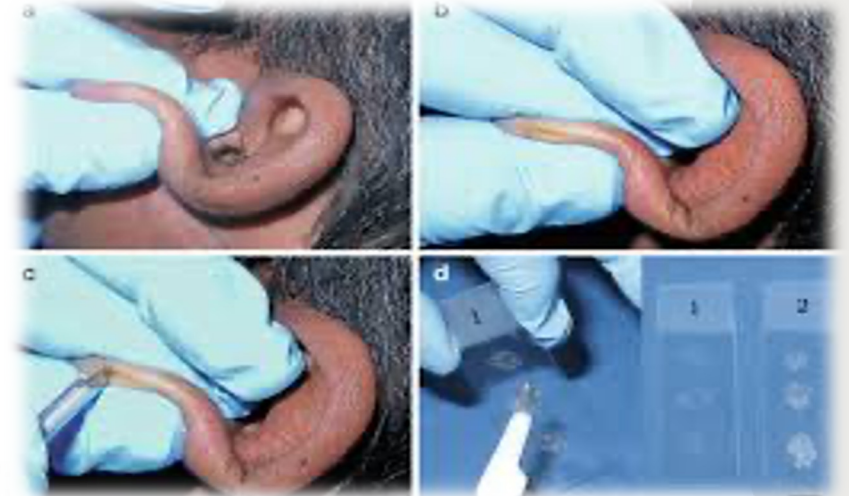
Technician Initials: [signature] Date Reported: 02/18/19

MICROBIOLOGY Accession Number: Time and Date Received:

Please use separate forms for each test requested.

JN
 2/8/19 2-18-19

Rev. 01-2014



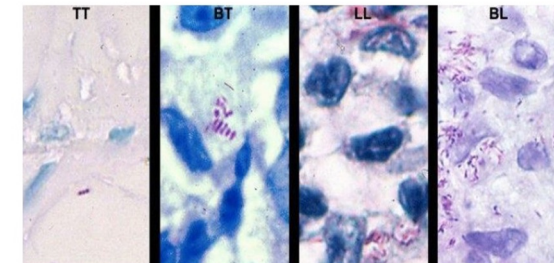
https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSD7E4Ast2XsAfjhM3_ysn6es05qZ-IUoAWzQ&usqp=CAU

Skin slit smears A measure of bacillary burden

Tuberculoid
Paucibacillary
0 - few AFB



Lepromatous
Multibacillary
Many AFB



BACTERIOLOGICAL EXAMINATION

Req#:	Sex: M	Resulted: 01/08/2021 09:49
	Ack:	Collected: 01/07/2021 08:35
Quantitative Results		
Order Name		
Test Description	Result	Normal Range
Surgical Pathology Report	AP Accession Number:	Unit

Number of Report(s): 1

=====

Surgical Pathology Report

Ver Date Time: 01/08/21 09:49

Clinical Information:-

Pre-operative diagnosis: Generalized skin lesion nodule

Post-operative diagnosis:

Clinical history:

Specimen Source:-

Biopsy of skin left upper arm (fresh)

Gross Description:-

The specimen is received in a single formalin filled container labeled with the patient's name, " " and "Biopsy of skin left upper arm" and it holds a triangular piece of skin measuring 1.5 x 0.6 cm excised to the depth of 0.7 cm. The skin surface is tan brown and it contains an atheromatous area measuring 0.6 cm located towards the middle of the specimen. The surgical margins are inked black. Submitted in entirety as follows: base of the triangle and the tip in 1, rest of the specimen serially sectioned in 2. IA/khi 1/7/2021

Signature Line:-

IA /KHI

01/07/21

Diagnosis:-

SKIN, LEFT UPPER ARM, BIOPSY

- AGGREGATES OF FOAMY (HISTIOCYTOID) CELLS SUGGESTIVE OF LEPROSY; PENDING CONFIRMATION BY FITE STAIN

- LOCALIZED COLLECTIONS OF NECROINFLAMMATORY DEBRIS CONSISTENT WITH ABSCESS

- NO EVIDENCE OF MALIGNANCY

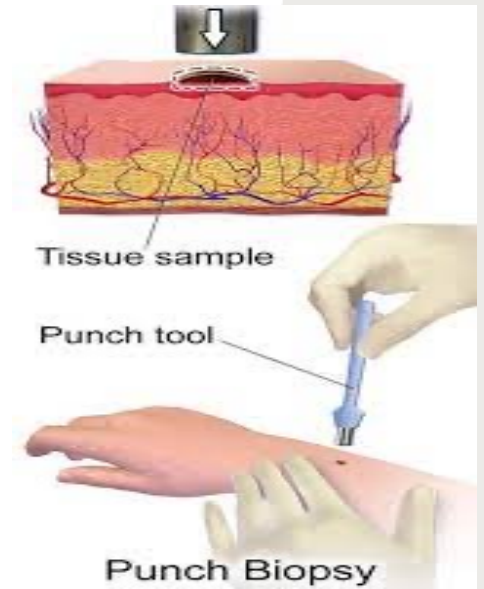
Signature Line:-

Ibrahim Aburiziq, MD

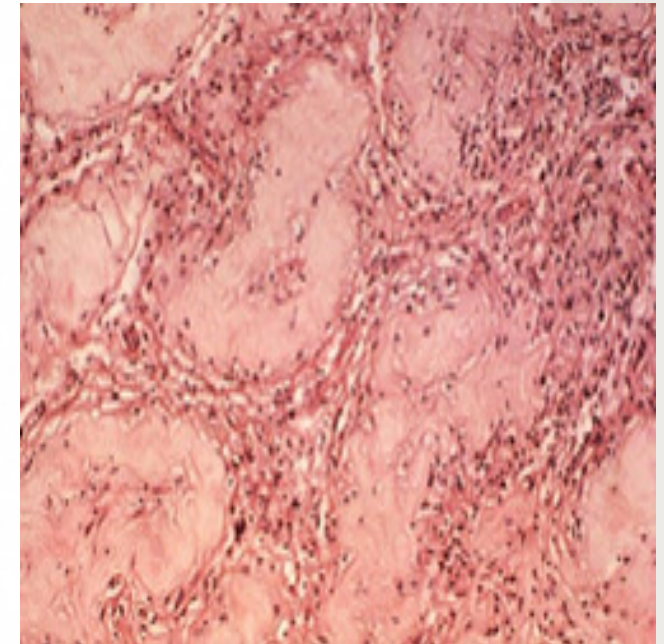
(Electronically signed by)

Verified: 01/08/21

IA /IA



<https://cdn.storymd.com/optimized/KAMPJKILq7/thumbnail.webp>



<https://www.cdc.gov/leprosy/images/health-care-workers/healthcare-18.jpg>

TIMELINE OF EVENTS



02/18/2019: Pt was started on Red Blister Pack medication therapy:

Dapsone 100 mg;
Lamprene 300 mg;
Rifampin 600 mg. –Day
1 – monthly loading
dose (under DOT)

Dapsone 100 mg;
Lamprene 50 mg. –Start
the next day and daily
for DAYS #2-28.

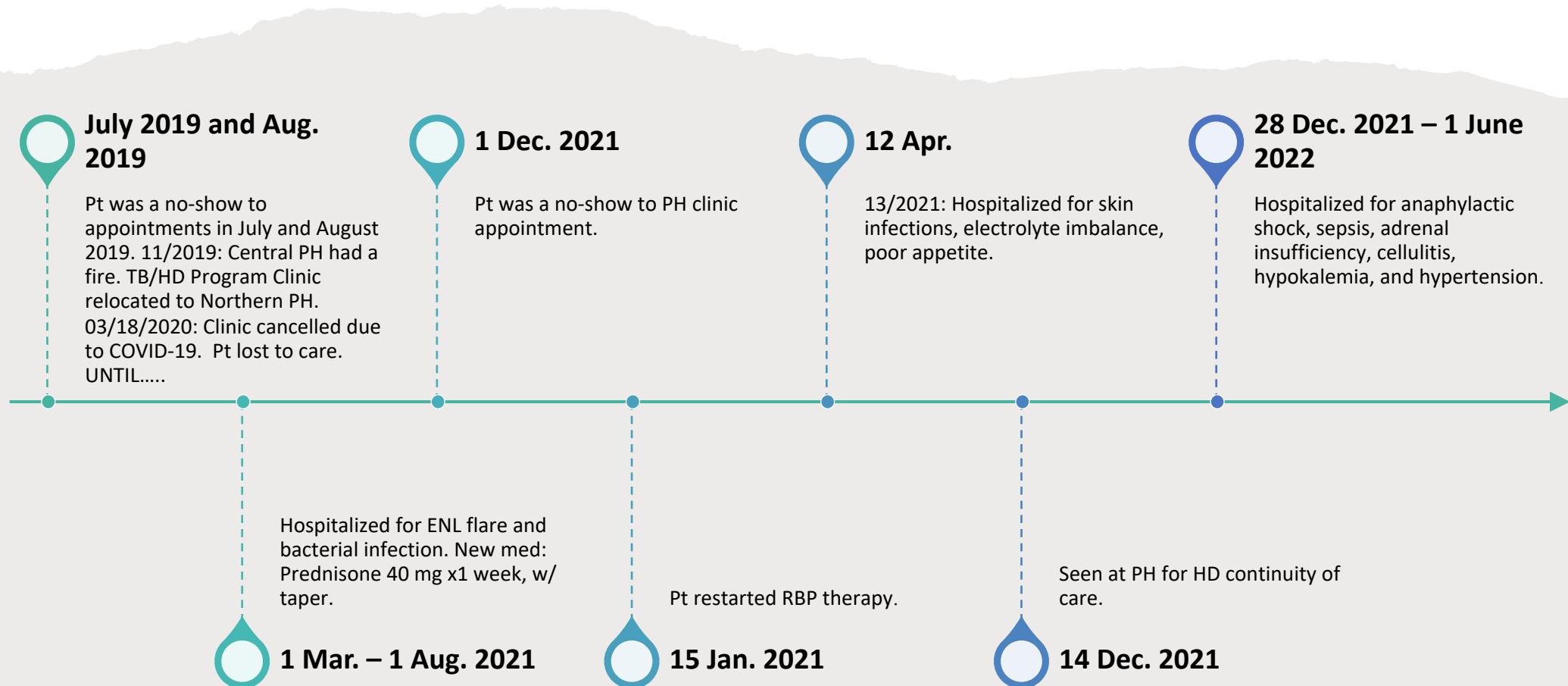
03/20/2019: 2nd Red
Blister Pack issued. Pt
reports lesions
“improved.” Pt still not
able to afford blood labs.

04/17/2019: Missed
appointment.

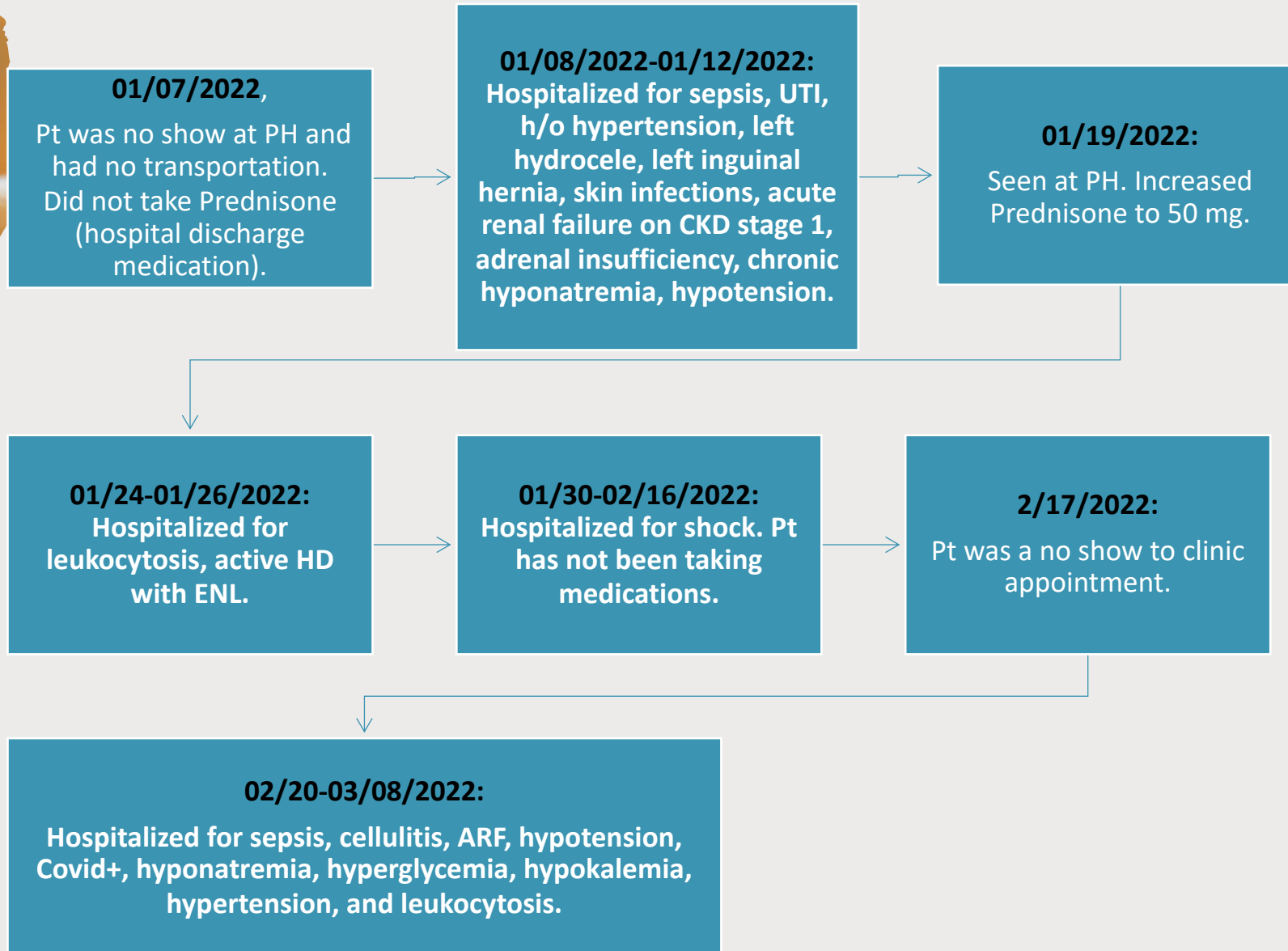
05/28/2019: Pt reports
“has many new lesions.”
Pt was advised to start
all over again with RBP
therapy.

06/24/2019: Pt
restarted RBP. Pt still
not able to do blood
labs test.

TIMELINE OF EVENTS



TIMELINE OF EVENTS



TIMELINE OF EVENTS

03/24-05/02/2022:

HOSPITALIZED FOR HYPOTENSION,
LEUKOCYTOSIS, ENL FLARES.

05/03/2022:

RECOMMENDATION OF HD THERAPY GIVEN
BY DR. BARBARA STRYJEWSKA. PT UNABLE
TO COME TO CLINIC. NO TRANSPORTATION.
HOME VISIT MADE ON 05/04/2022.
FACEBOOK VIDEO-CALL WAS SET UP TO
HELP PT W/ MED COMPLIANCE. BUS
TICKETS GIVEN TO COME TO CLINIC APPTS.

09/07-14/2022:

HOSPITALIZED FOR SEPSIS, SHOCK,
ADRENAL CRISIS, ARF.

10/01-07/2022:

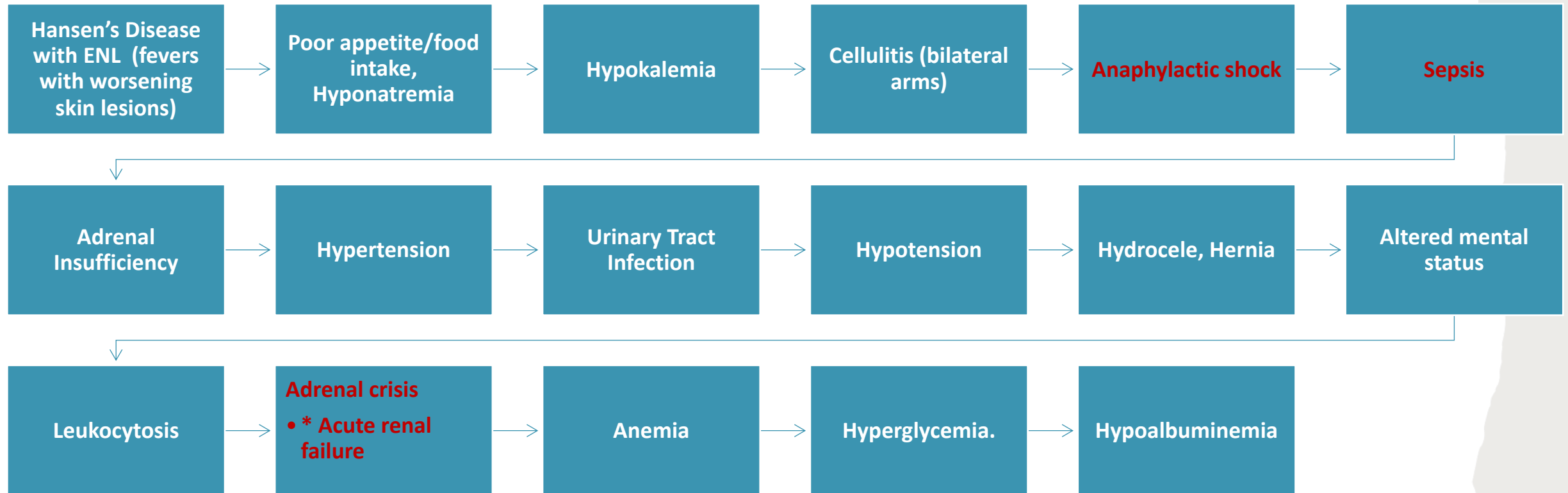
HOSPITALIZED FOR HYPOTENSION FROM ADRENAL
INSUFFICIENCY, HYPOVOLEMIC HYPONATREMIA, HD,
RENAL INSUFFICIENCY, LEUKEMOID REACTION,
ANEMIA, HYPOALBUMINEMIA, AND METABOLIC
ACIDOSIS.

11/04/2022:

NO SHOW TO CLINIC APPOINTMENT. LOST TO CARE. PT NOT
ANSWERING PHONE CALLS. THE NURSE MADE A HOME VISIT
BUT FOUND THAT THE PATIENT WAS NO LONGER LIVING AT THE
LISTED ADDRESS. THE OCCUPYING TENANT STATES THAT HE
MOVED TO ANOTHER VILLAGE IN THE SOUTH

PATIENT COMPLICATIONS

MEDICAL



PATIENT COMPLICATIONS

SOCIAL

Language Barrier

Health Literacy (Non-compliant with medications)

Unemployed

No health insurance

Lack of family support

No transportation to clinic appointments

PERTINENT STUDIES:

- SKIN BIOPSY

01/03/2021: Left Shoulder Lesion

No acid-fast bacilli seen

01/07/2021: Left Upper Arm Nodule

Aggregates of foamy (Histiocytoid) cells suggestive of Leprosy; Pending confirmation by fite stain. Localized collections of necroinflammatory debris consistent with abscess. No evidence of malignancy.

- ASSESSMENT

01/30/2022 – 02/16/2022:

Hospital Admission, BIBA to ER.

Tx: Shock; Sepsis.

Presentation: Significant weakness, inability to walk. Has not been taking medications. Lungs CTA bil. No edema. Somnolent but oriented x3. Skin multiple nodules from leprosy all over body.

Temp: 100.4 F

BP: 60/41

HR: 115

RR:18

O2 Sat%: 96 RA

- BLOOD/MICROBIOLOGY

WBC: 60

H/H: 12.9 / 38.4

Platelets: 310

BUN/Scr: 37 / 6 (AKI) .

K: 6.8. (Hyperkalemic)

Cl:86

Glucose: 224

Lactic Acid: 9.9

In ER, was given fluid resuscitation, central line placed, given Levophed gtt, insulin IV, D50, Ca Chloride, and Kayexalate. Abx (Zosyn, Vanco)

MEDICATIONS

02/18/2019

Dapsone 100 mg
Lamprane 50 mg

Dapsone 100 mg
Lamprane 300 mg
Rifampin 600 mg

12/09/2021

Dapsone 100 mg
Lamprane 50 mg

Dapsone 100 mg
Lamprane 300 mg
Rifampin 600 mg



01/11/2021

Dapsone 100 mg
Lamprane 50 mg

Dapsone 100 mg
Lamprane 300 mg
Rifampin 600 mg

12/14/2021

Prednisone 40 mg, PO,
x30 days. Then
Prednisone 30 mg, x30
days.
Ca+VitD3 1000/800, PO,
x60 days. -TL

01/06/2022

Prednisone 35 mg, PO,
x7 days. D/C Red Blister
Pack -JM

MEDICATIONS

02/08/2022

Dapsone 100 mg
Lamprene 50 mg

Dapsone 100 mg
Lamprene 300 mg
Rifampin 600 mg

05/03/2022

Clofazimine 100 mg PO BID (4 capsules of 50 mg as a loading dose x2 weeks), Then Clofazimine 100 mg, po, daily, x2 weeks. Prednisone 30 mg daily x10 days, then 20 mg po daily x10 days, then 10 mg, po daily x10 days, then 5 mg po daily.



06/01/2022

Prednisone 20 mg, PO daily, x30 days. (Taper by 2.5 mg, monthly).
Ca+VitD, 1 tab, po, daily.

04/18/2022

Lamprene 500 mg x,
Loading Dose only, po now.
Then Lamprene 50 mg, po
daily afterwards.
Dapsone 100 mg, po daily.

05/26/2022

Clofazimine 100 mg
PO BID x30 days



NURSING MANAGEMENT OF PATIENT CHALLENGES

Language Barrier/Health Literacy

- Utilized a Chuukese program staff interpreter to make sure pt understands the doctor's orders and medication instructions.

Medication Compliance/Health Status

- Provided phone cards to pt for communication with clinic. Set up Facebook (video-call) for medication compliance, monitor health status and pt needs.

Incentives

- Provided incentives (gas coupon) to family members for the patient's clinic appts. Bus tickets are given to pt if no family member is available.

Home Visits

- Conducted home visits and dropped off medications to pt when pt not showing up to appointments.

Consultation with HD Subject Matter Expert

- Reached out to HD expert physician (Dr. Barbara Stryjewska). Communicated via Zoom meeting and emails concerning this pt's case, plan of care, and HD medication therapy recommendations.

SUMMARY

The Guam Path to Zero Leprosy 2030:

In 2023, The TB/Hansen's Disease Control Program and stakeholders from all over Guam 2023 developed a Guam-specific zero leprosy road map and action plan in response to the **WHO Global Leprosy Strategy 2021–2030, which calls for accelerating action to reach the goal of zero leprosy (zero disease, zero disability, and zero stigma and discrimination).**

The action plan developed is a step-by-step approach to how Guam will move toward the

Interruption of transmission and elimination of Leprosy

Post-elimination surveillance

Zero Leprosy status in 2030

Short-term goals:

- Enhance early detection and treatment of Leprosy
- Have an Integrated and widely supported Hansen's Disease Clinic
- Provide Leprosy post-exposure prophylaxis to all leprosy contacts
- Increase Regional program collaboration for new case detection and treatment
- Increase leprosy awareness campaigns

Long-term goals :

- Zero disease, Zero disability, Zero stigma and discrimination

LEPROSY IS CURABLE



ACKNOWLEDGEMENTS



TB/HD CONTROL PROGRAM STAFF AND INTERNS

- **Janna Manglona:** TB Physician (NOT PICTURED)
- **Chima Mbakwem:** Program Manager
- **Alice Cuenca:** Coordinator II
- **Juan Santiago:** Investigator
- **Marsa Meter:** Community Program Health Aide
- **Ester Bilon:** Clerk Typist II
- **Herrold Templanza:** X-ray Technician II
- **DemieRose Brennan:** Coordinator I
- **Lea T. Bolano:** Nurse Aide
- **Alyssa Ignacio:** University of Guam Intern
- **Aaron Lagrimas:** University of Guam Intern

Si Yu'os Ma'ase Para Atension-mu
THANK YOU FOR LISTENING



QUESTIONS

