

VALIDATING SELF-REPORTED HISTORY OF CHRONIC CONDITIONS AMONG ARECA (BETEL) NUT CHEWERS IN GUAM

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Pacific Global Health Conference

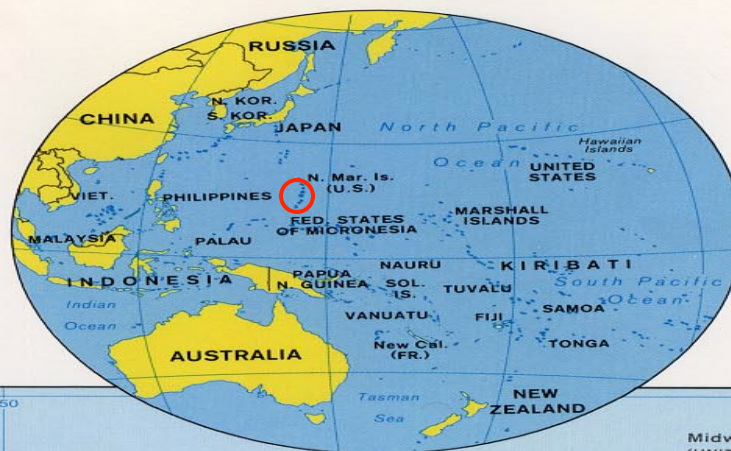
Honolulu, Hawaii

October 9, 2012

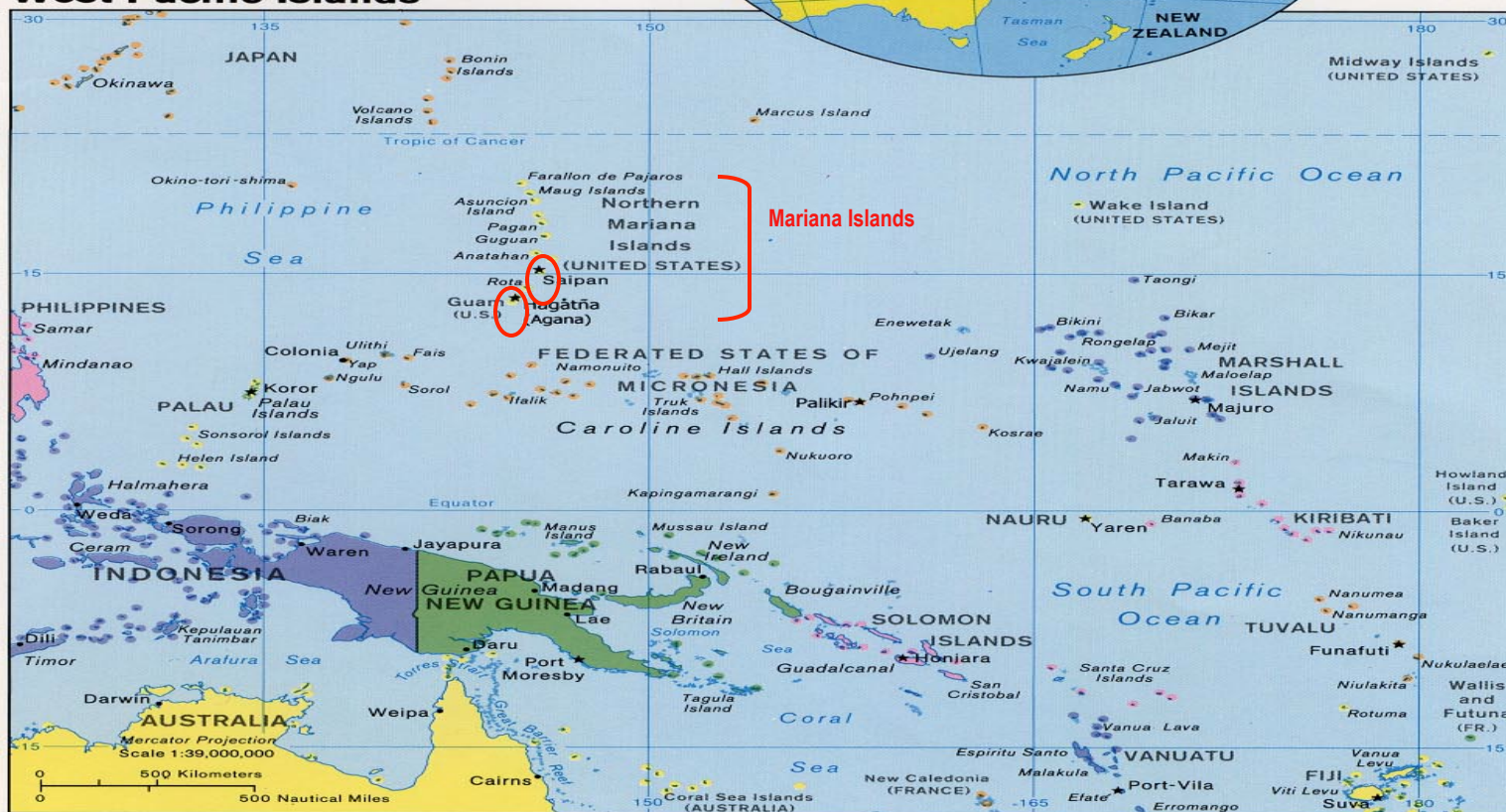
Guam Population: 159,358

147,798 Chamorros/Guamanians & Mixed in US

CNMI Population: 53,883

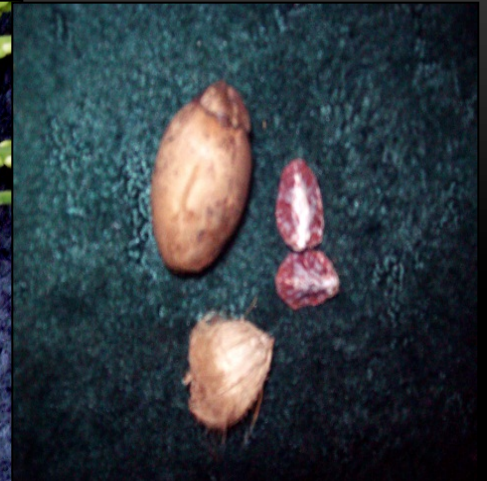


West Pacific Islands

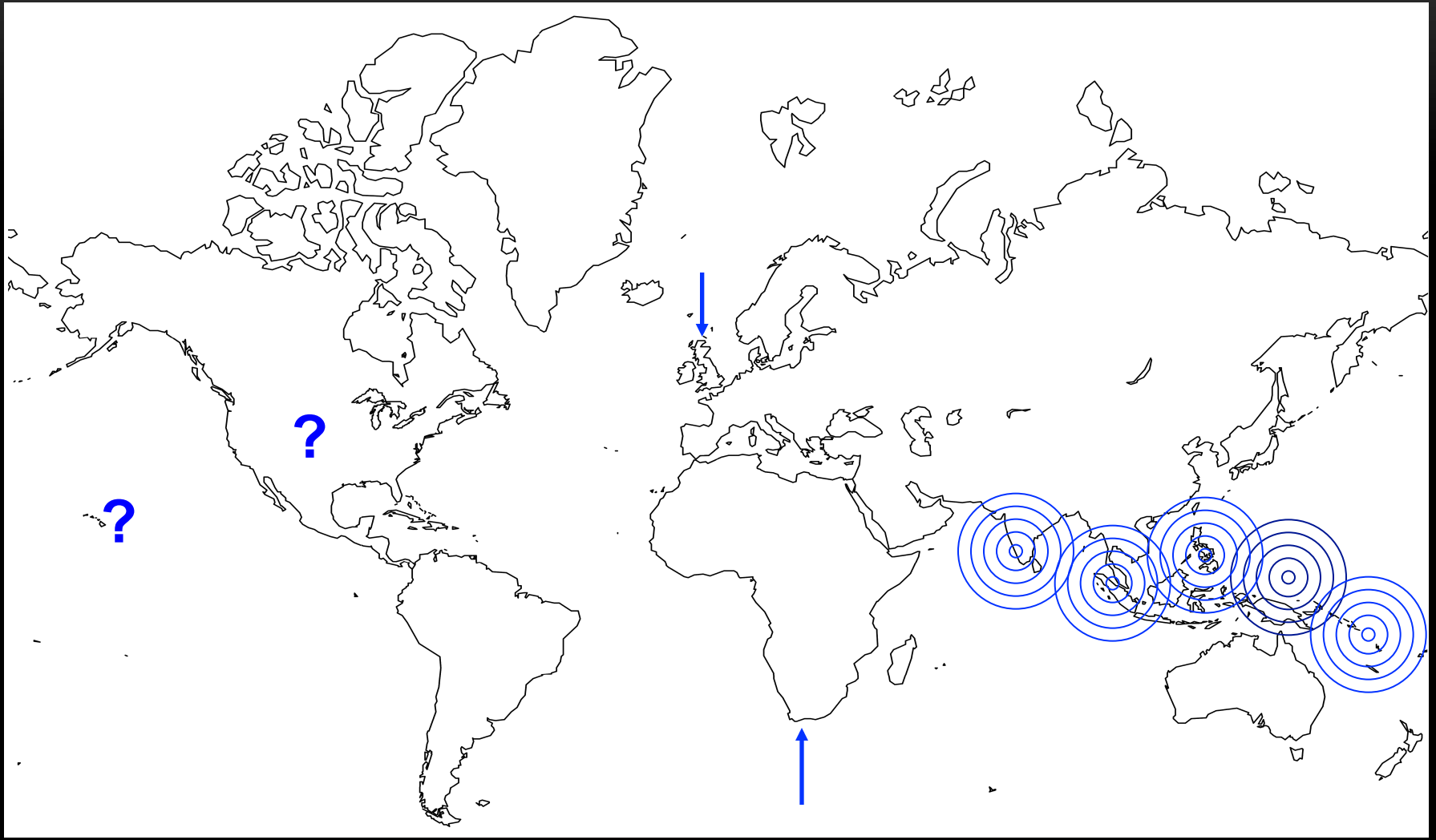


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A photograph showing a dense grove of coconut palm trees. The trees are tall with slender, light-colored trunks and large, green, feathery fronds. Several clusters of brown, mature coconuts are visible hanging from the trunks and lower branches of the trees. The background is a bright, slightly overcast sky.



600 million people worldwide chew betel nut.



Endemic populations embrace betel nut.

CULTURE



Betel offering to the spirits¹.



Tribal woman with red lips from chewing².

CONSUMPTION



Offerings during special occasions³.

COMMERCE



Vendor selling betel nut and leaves⁴.



Betel beauty selling betel quid⁵.



Betel box with ingredients⁶.



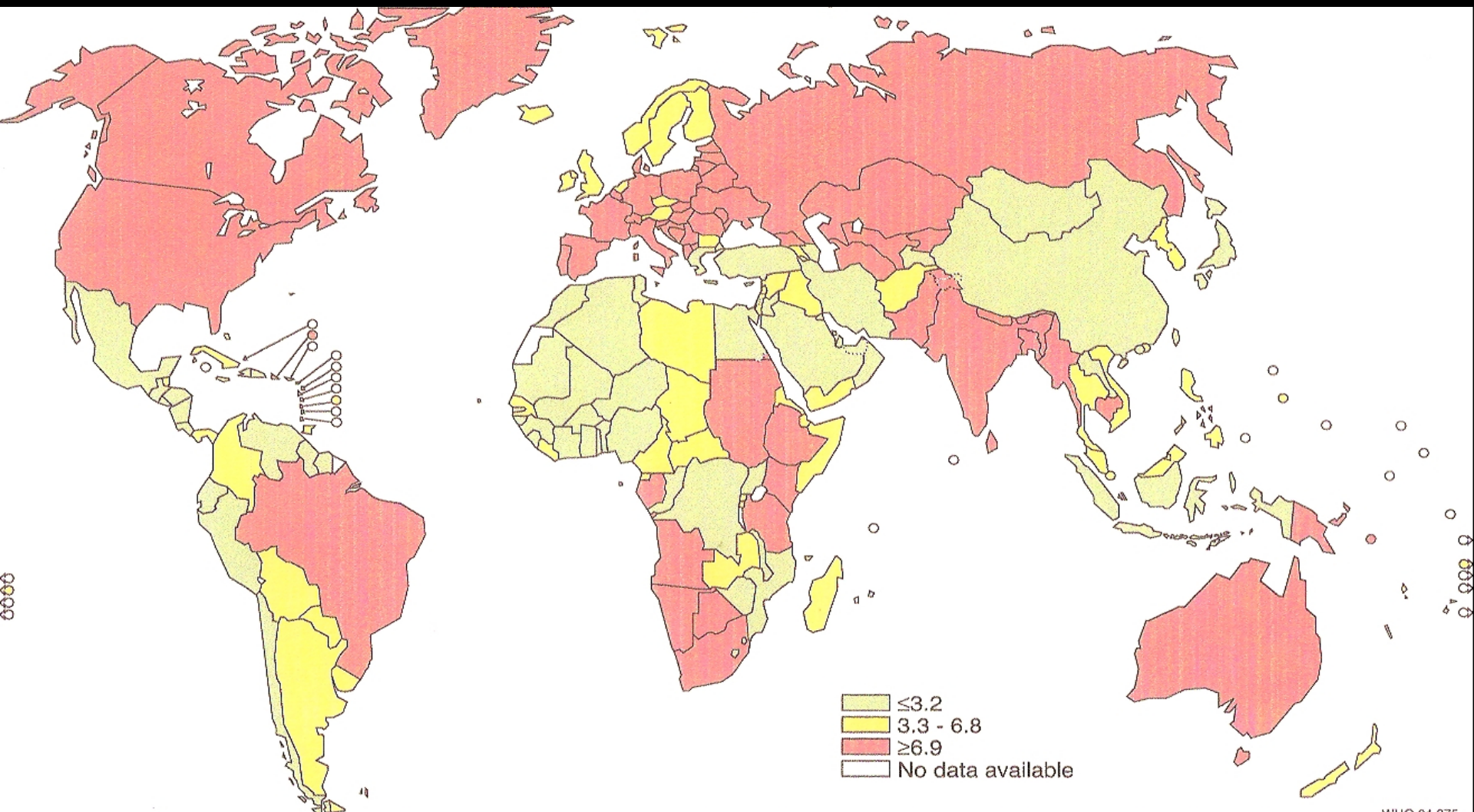
Chamorro quid ingredients⁷.

BETEL NUT AND CANCER

- There is *sufficient evidence* in humans for the carcinogenicity of **betel quid with/without tobacco**.
- There is *sufficient evidence* in experimental animals for the carcinogenicity of **areca nut with/without tobacco**.

Age Standardized Oral Cavity Incidence Rates per 100,000 World Population

Males, all ages



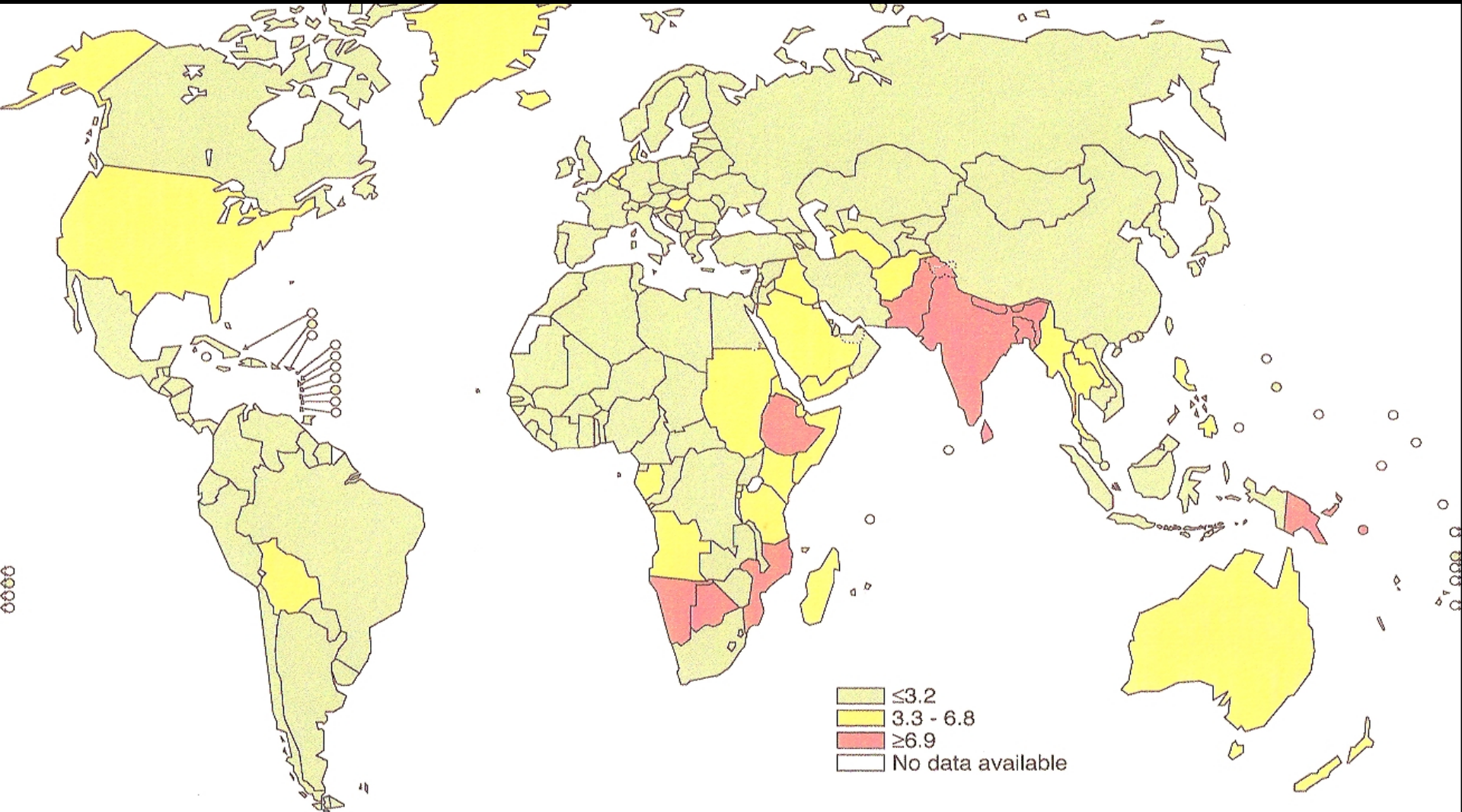
WHO 04.275

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dashed lines represent approximate border lines for which there may not yet be full agreement

Source: GLOBOCAN 2002 International Agency for Research on Cancer <http://www.depd.b.iarc.fr/globocan/globocan2002.htm>

Age Standardized Oral Cavity Incidence Rates per 100,000 World Population

Females, all ages



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WHO 04.276

Source: GLOBOCAN 2002 International Agency for Research on Cancer <http://www.depdb.iarc.fr/globocan/globocan2002.htm>

BETEL NUT USE AND OTHER CHRONIC CONDITIONS

Disease/Condition	# Studies	Conclusion
Asthma ¹⁻⁴	4	2 aggravation of asthma
CVD ⁵⁻¹⁰	6	5 associations
Diabetes ^{5, 11-13}	4	3 associations
Hypertension ¹⁴⁻¹⁷	4	2 associations
Metabolic syndrome ¹⁸⁻²⁰	3	2 associations
Obesity ²¹⁻²⁴	4	4 associations

1. Kiyngi, 1991; 2. Timberlake, 1992; 3. Kiyngi, 1994; 4. Taylor, 1992; 5. Lan, 2007; 6. Lin, 2008; 7. Yen, 2008; 8. Guh, 2007; 9. Chiang, 1998; 10. Hung, 1998; 11. Benjamin, 2001; 12. Tung, 2004; 13. Benjamin, 2005; 14. Tseng, 2008; 15. Chou, 1992; 16. Chu, 1993; 17. Lin, 2002; 18. Chen, 2006; 19. Guh, 2006; 20. Yen, 2006; 21. Strickland, 1997; 22. Mannan, 2000; 23. Chang, 2006; 24. Lin, 2006

PILOT PROJECT I

- Funding
 - NIH-NCI U54 University of Guam/Cancer Center of Hawaii Partnership Program
 - Goal
 - To develop the protocols for studying oral precancerous lesions and other chronic diseases in betel nut chewers in Micronesia
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RESEARCH TEAM

- CNMI, Guam, Hawaii, Missouri, London



PILOT PROJECT I (SUB-STUDY)

- Objective
 - To validate chronic conditions reported by betel nut chewers

RESEARCH DESIGN

- Participants
 - 137 betel nut chewers recruited in Guam
 - Questionnaire
 - “Has a medical doctor ever told you that you have/had...”
 - Diabetes
 - Heart attack
 - Stroke
 - Hypertension
-

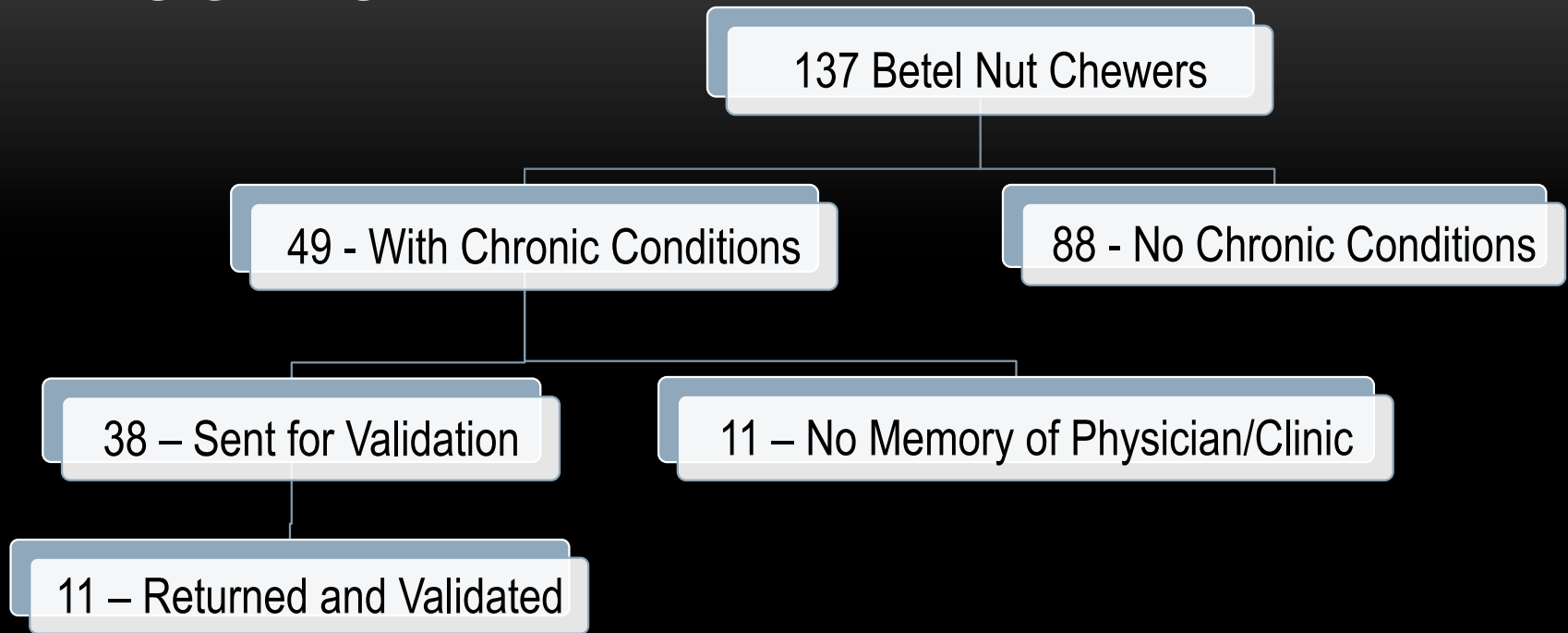
RESEARCH DESIGN

- Validation
 - Participants consented to validation
 - Consent/validation form and cover letter sent corresponding physician/clinic

RESULTS

CHARACTERISTICS OF 49 BETEL NUT CHEWERS WITH CHRONIC CONDITIONS		STATISTICS
		Mean \pm Standard Error
AGE	<i>years</i>	48.0 \pm 1.8
CHEWING DURATION	<i>years</i>	24.2 \pm 6.2
		Number (%)
SEX	<i>Male</i>	23 (46.9)
	<i>Female</i>	26 (53.1)
MARITAL STATUS	<i>Unmarried</i>	27 (55.1)
	<i>Married</i>	14 (28.6)
	<i>Widowed</i>	8 (16.3)
EDUCATION	<i>< HS</i>	5 (10.2)
	<i>HS graduate</i>	41 (83.7)
	<i>College graduate</i>	3 (6.1)

RESULTS



- All conditions (17 total) confirmed
- Two additional unreported conditions identified by physician/clinic
- Majority (72%) of validated forms from Community Health Center

IMPACT

- Findings suggest that self-reported data on chronic conditions collected in this population are valid, but may be underestimated
 - Response from CHC shows great promise for cooperative and mutually beneficial relationship
 - Additional work needed to improve communication with private health care providers
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MAHALO, SI YU'OS MA'ASE, THANK YOU

**All Study Participants
Research Team**



CANCER RESEARCH CENTER
UNIVERSITY OF GUAM
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