

Hua Kanawao Ka Liko

A Generational Study of Heart Health Among the Hawaiian People on Moloka`i

February 11, 2010

Presentation: National Library of Medicine

Farrington High School

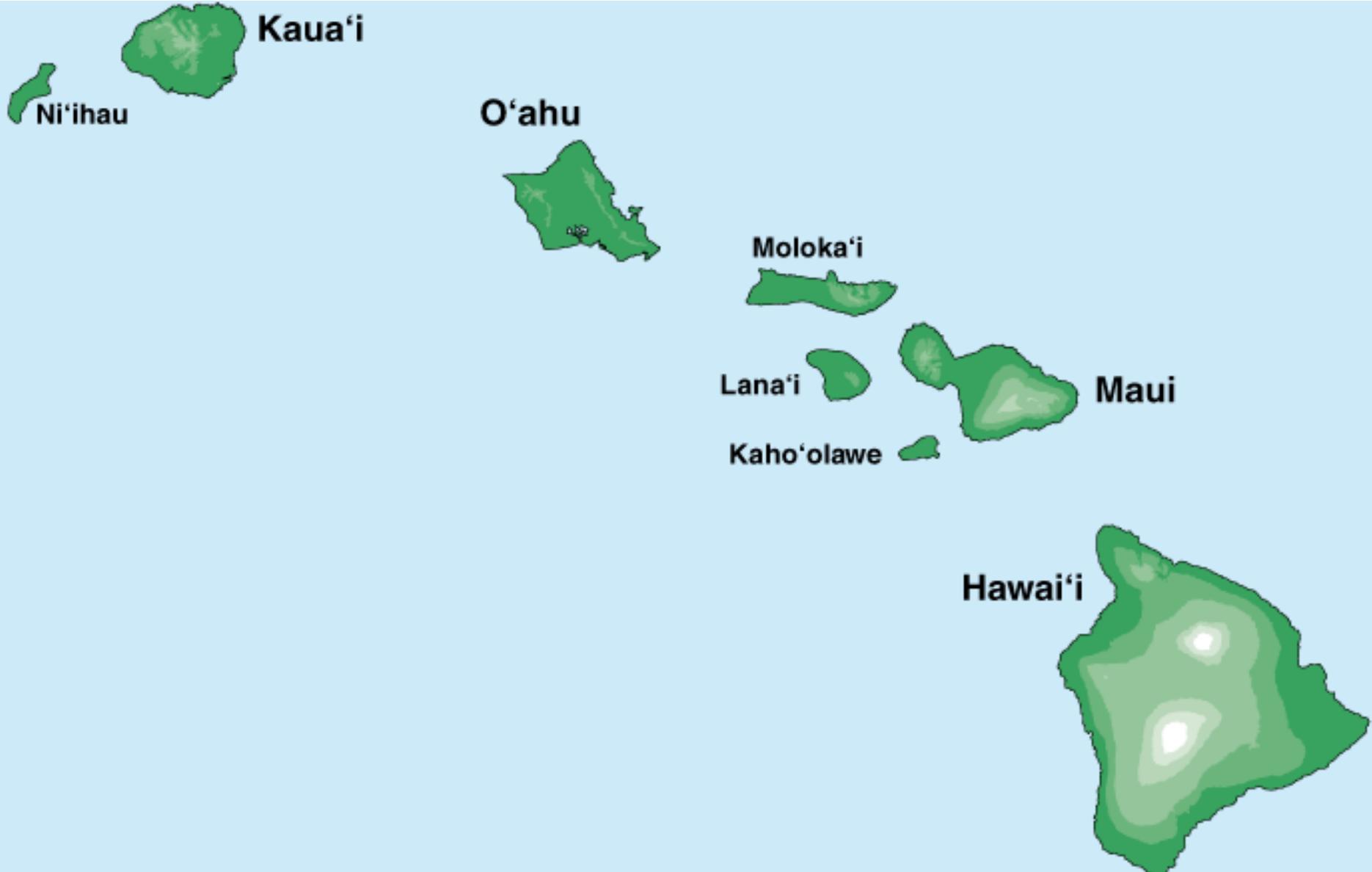
Honolulu, Hawai`i

Noa Emmett Aluli, MD



Hawai'i was at the Nexus of American Capital and Asian Labor Markets in the 19th Century

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.



The Islands of Hawai'i are the Most
Isolated Land Mass in the World

Moloka`i

- Moloka`i nui a hina - the child of Hina
- Moloka`i pule o`o - of the potent prayer
- Moloka`i aina momona - land of abundance
- Moloka`i the leper island - of the time of banishment
- Moloka`i the friendly island
- Moloka`i no ka heke - better than the best
- Moloka`i ku`i la`au - pounder of medicine



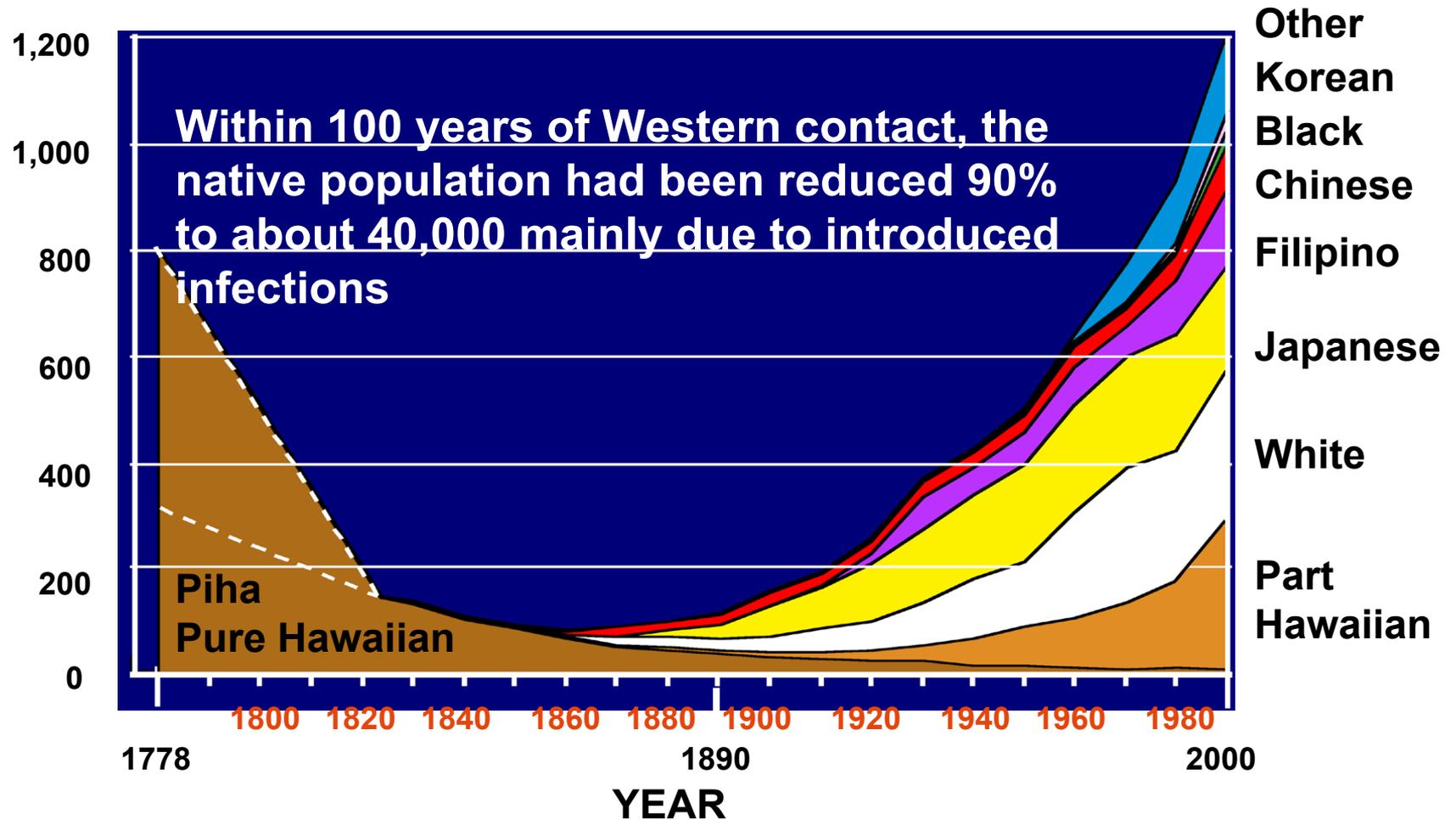
Native Hawaiians trace our ancestry to early Polynesians

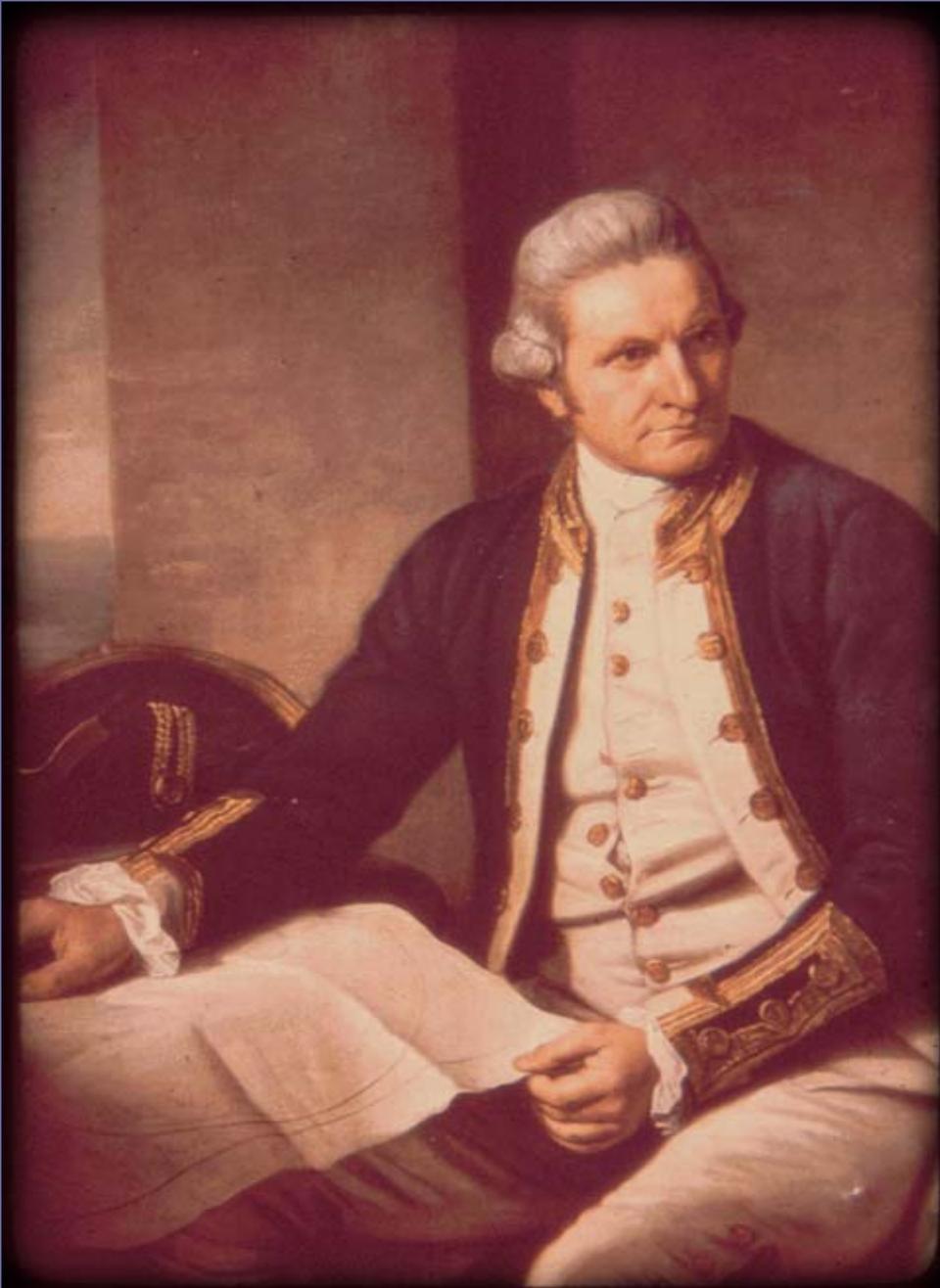


And Beyond Them . . .

To the Forces of Nature Themselves

Ka Pae‘aina Resident Population By Ethnicity 1778 - 2000





With Western
Contact
Beginning in
1778
Landscapes
Were
Degraded
for the Fur &
Sandalwood
Trades

Continental Diseases Killed Native Hawaiians

- 1778 Veneral Disease & Tuberculosis by Cook's Sailors
- 1804 Ma'i Oku'u (cholera) kills 15,000
- 1818 Catarrah & Fevers take 60 lives
- 1824-26 Epidemics of Coughs Kill Thousands
- 1832 Whooping Cough Epidemic Kills Thousands
- 1839 Mumps Kills "Great Numbers"
- 1840 First Case of Leprosy - 4,000 die of Leprosy Over Next 30 Years

- 1848 Measles & Dysentery Kill Thousands
- 1853-54 Smallpox Epidemic Kills 7,000
- 1860 Measles & Whooping Cough Epidemics
- 1861 Smallpox Epidemic - 282 Deaths
- 1866 1st Leprosy Patients sent to Kalawao/Kalaupapa
- 1890 Diphtheria Epidemic
- 1899 Bubonic Plague
- 1900 Tuberculosis Spreads in Urban Honolulu
- 1919 Flu Epidemic

Disturbing Health Disparities

- Life expectancy is lowest of all major ethnic groups in Hawai`i -- 5 yrs less than the state average
- Highest proportion of risk factors leading to illness & premature death: sedentary lifestyle, obesity, hypertension, smoking, acute drinking
- Native Hawaiians are dying at younger ages than the general population—more than double the rate for the total population in those 25 yrs or younger

Health Disparities (continued)

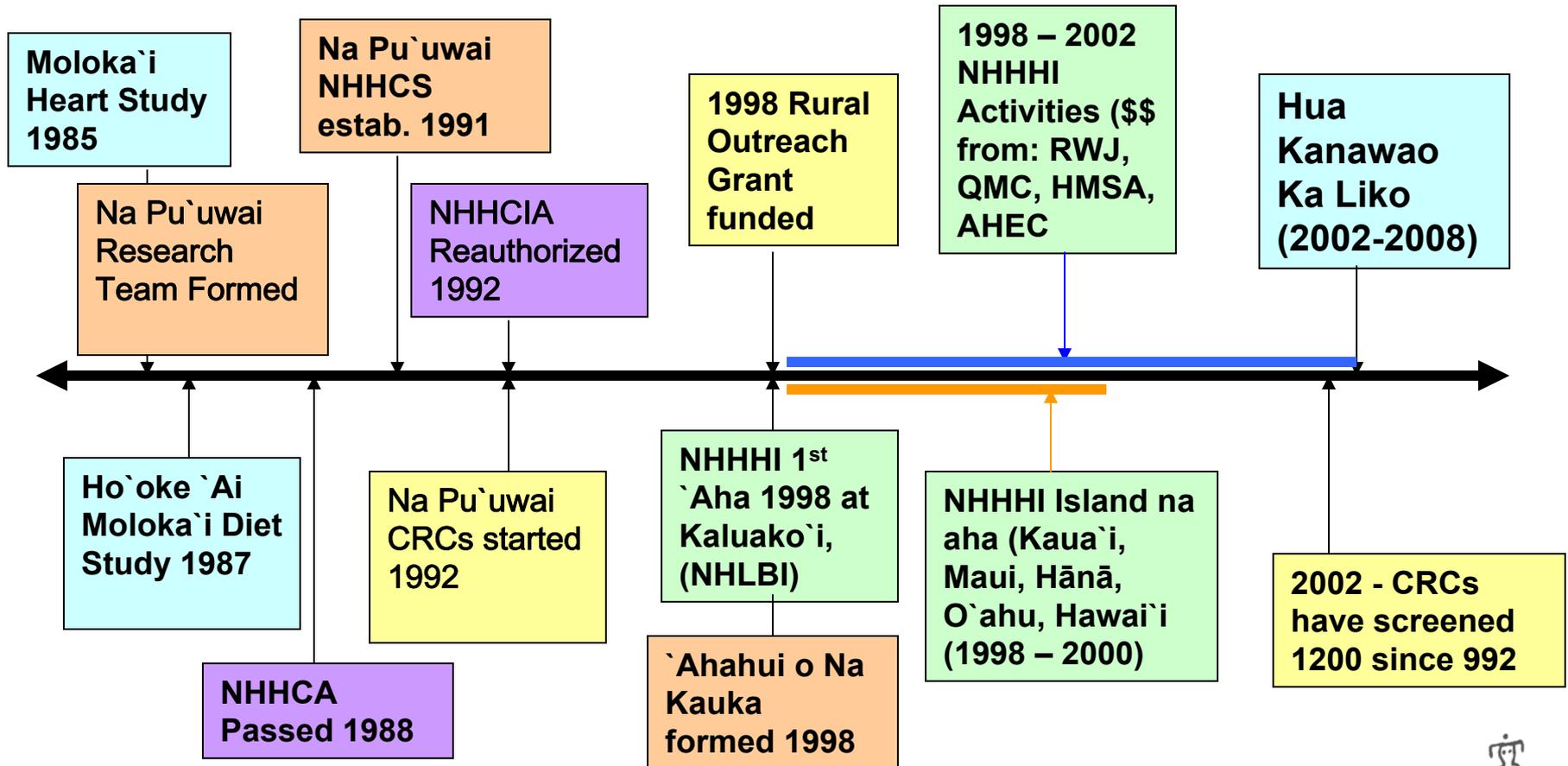
- **Cardiovascular disease** accounts for 39% of Native Hawaiian deaths
- For all **cancers** combined, Native Hawaiian males have the 3rd highest incidence rate yet the highest mortality rates. Native Hawaiian females have the highest incidence and mortality rates in Hawai`i. Combined, Native Hawaiians have the highest mortality rates in Hawai`i and second highest in the US
- Native Hawaiians >35 yrs comprise 44% of all reported cases of **diabetes** in Hawai`I

Five Leading Causes of Death

(age-adjusted rates/100,000)

Cause of Death		Native Hawaiians	Total State Population
Circulatory Disease	↑43%	497.7	283.0
- Heart Disease	↑46%	395.4	212.7
- Cerebrovascular		74.9	57.3
- Other Circulatory		27.4	13.0
Cancer	↑34%	230.9	151.9
Diabetes	↑62%	42.5	15.9
Accidents	↑23%	33.7	26.1
Influenza /Pneumonia	↑33%	32.3	21.5

A 25 year Moloka`i community investment



Research

Services

Infrastructure

Policy

Professional Education/
Community Awareness



Previous Studies and Programs

Strength-based design, builds capacity



Study Designed and Funding Sought

Hua Kanawao Ka Liko study was preceded by:

- Na Pu`u wai - Moloka'i Heart Study (1985)
- The Moloka`i Diet Study (1987)
- Cardiovascular Risk Clinics (1992-1998)
- Native Hawaiian Heart Health Initiative (1998-2002)



Na Pu`uwai Moloka`i Heart Study 1985



The Na Pu`uwai Moloka`i Heart Study Team (1985)

Front: Helen Petrovich, Noelani Joy, Helen O'Connor

Back: Emmett Aluli, David Curb, Jane Lee, Billy Akutagawa, Kekuni Blaisdell

Key Findings

- Native Hawaiians may be at high risk of premature coronary heart disease and stroke due to high prevalence of obesity, hypertension, hypercholesterolemia, low levels of HDL, smoking, and diabetes mellitus.
- Individuals found to be at high risk were often unaware of their risks, not under treatment, or not under adequate control.



Ho`oke `Ai – Moloka`i Diet Study 1987

- Demonstrated the lipid-lowering effects of the traditional (pre-Captain Cook) Hawaiian diet vs. the contemporary Western diet.
- The study demonstrated significant reductions in blood lipids.
- Subsequent 21-day Traditional Hawaiian Diet Programs have replicated reductions in blood lipids as well as weight.
- Applied to programs - Provided the protocol for the Na Pu`uwai Cardiovascular Risk Clinics



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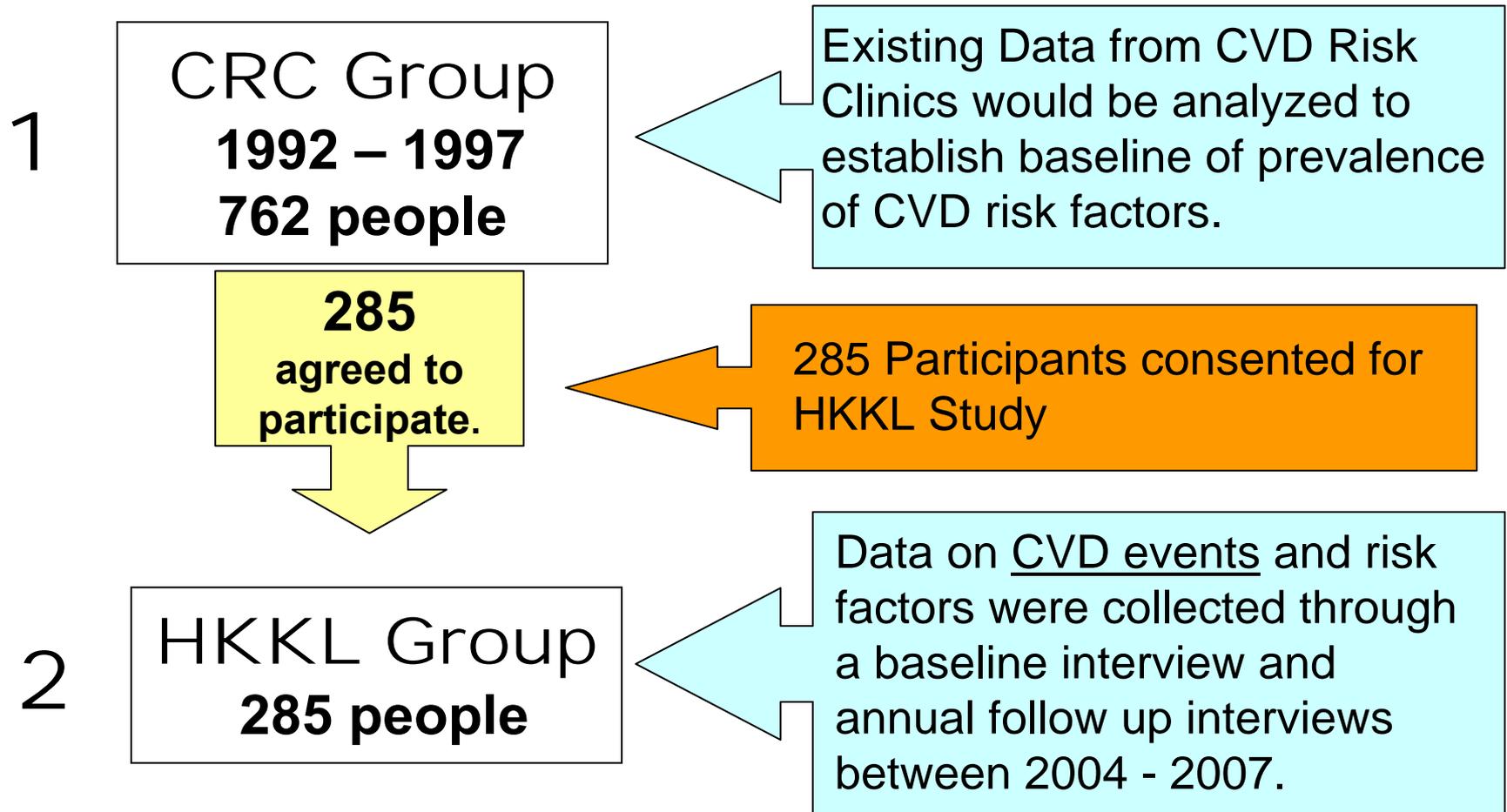
To look at the profile of heart health and the long term effects of cardiovascular risk factors among the participants of Na Pu`uwai's Cardiovascular Risk Clinics (CRCs) for the years 1992 through 1999.

Over 4 years, this project will document what has happened over the past decade to better understand what may put us at greater risk for heart disease AND what may protect us from heart disease.

A better understanding of these relationships will help up design interventions and education programs for our community.



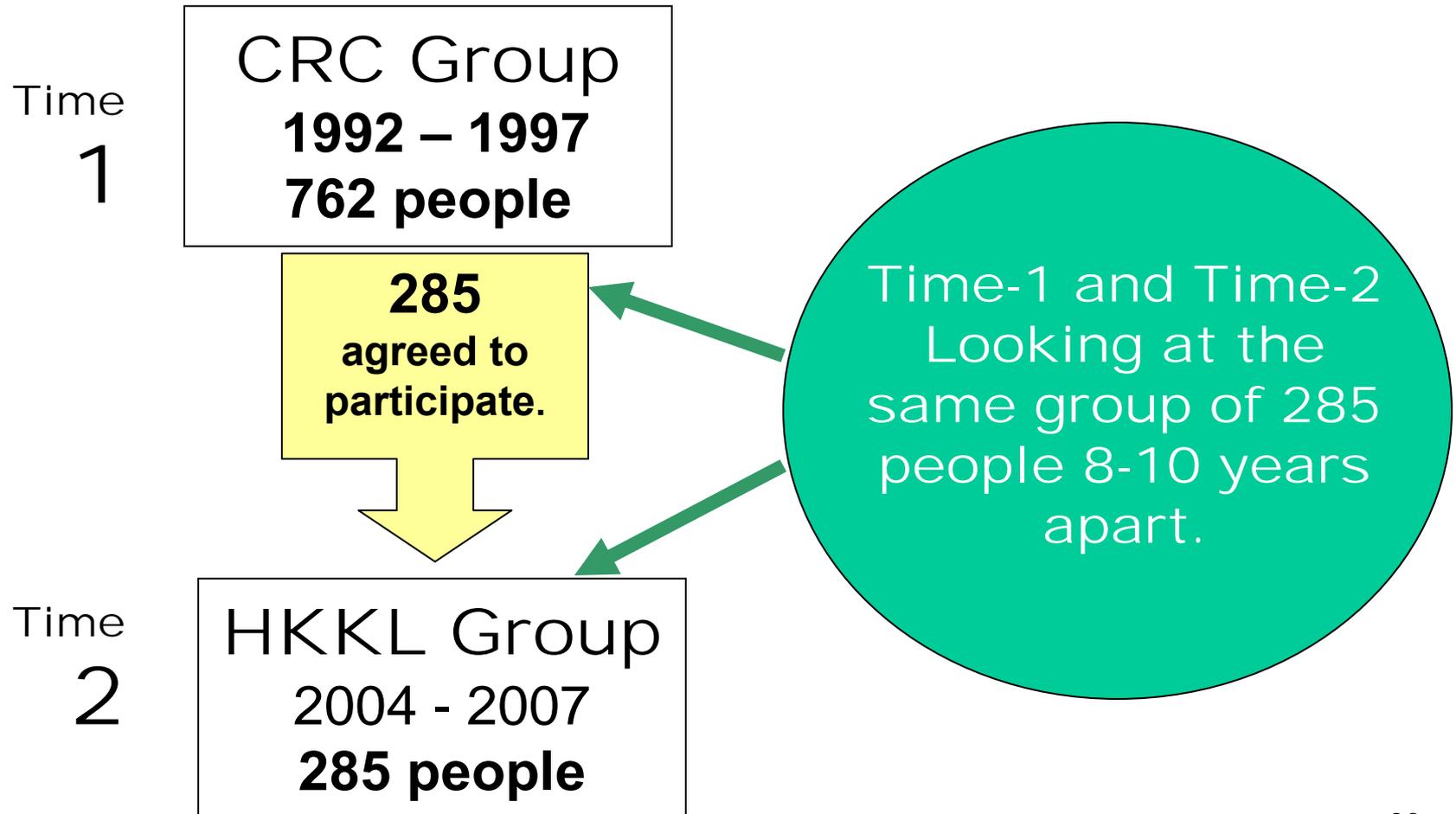
HKKL Research Design



Outcome: Establish CVD prevalence and risk factor prevalence.

Included information on the study design

Comparing a group of 285 Native Hawaiians
between two time periods



Included information on CVD

What is Cardiovascular Health?

Cardiovascular Health
Health of the **Heart** and **Blood Vessels**

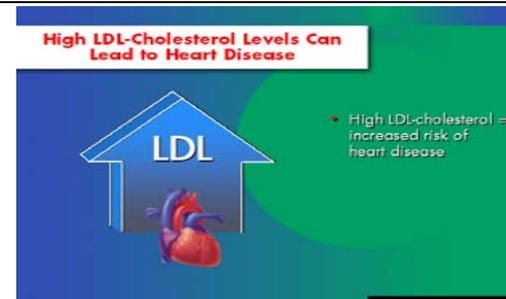
The opposite of heart health is cardiovascular disease, the number one cause of death in the U.S and Hawai'i AND Native Hawaiians get heart disease more often than non-Hawaiians in Hawai'i.

Learning about what helps and hurts our heart health is important for our families and our community.

About Cholesterol

Cholesterol refers to fatty substances

in the body's blood and cells.



Cholesterol

LDL – Low-Density Lipoproteins (the “**BAD Cholesterol**”) leads to buildup of cholesterol in the arteries. The higher the LDL level in your blood, the greater chance you have of getting heart disease.

HDL – High-Density lipoproteins (the “**GOOD Cholesterol**”) helps remove cholesterol from your body. The higher your HDL, the lower your chance for getting heart disease.

It is recommended that men have HDL levels at 40 mg/dL or more and women at 50 mg/dL or more. (Cholesterol is measured in milligrams per eciliter or mg/dL). Treatment for low HDL focuses on lifestyle changes. Losing weight (if overweight) and increasing physical activity are effective ways to raise HDL. There are only a few medicines that help treat low HDL.

HEALTHY HEARTS
HEART DISEASE
PREVENTION

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