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ANNUAL CONVENTION

HONOLULU, HAWAII • JULY 31–AUGUST 4, 2013

Using Hula, the Traditional Hawaiian Dance Form, to Address Cardiovascular Disparities in Hawai'i

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Using Hula to Address Cardiovascular Disparities in Hawai'i

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Overview

- Burden of Cardiovascular Disease in Native Hawaiians
- Rationale for Use of Hula
- Design of the Interventions
- Preliminary Findings



Mapuana de Silva



Todd Seto



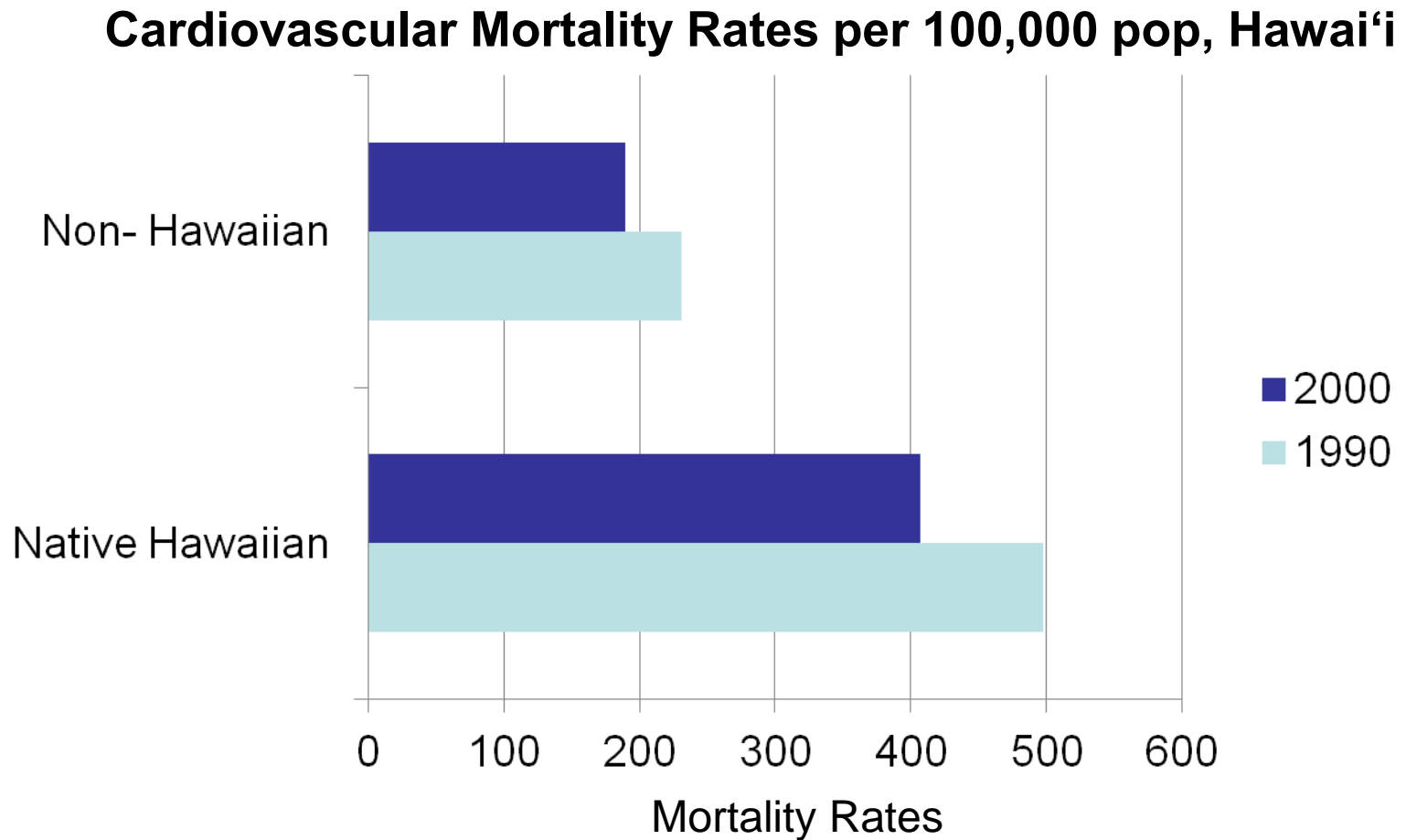
Trisha Usagawa

Hypertension & Cardiac Rehabilitation Studies

- Ola Hou I ka Hula: Hypertension & Hula Pilot Study
 - Evaluate hula-based program to improve poorly-managed hypertension (BP > 140/90)
 - Randomized Control Trial, CBPR guided
 - Found significant improvement in BP post intervention
- Hula Empowering Lifestyle Adaptations (HELA) Study
 - Evaluate hula-based cardiac rehabilitation program
 - Quasi-Experimental, CBPR guided
 - Found improvement in physical functioning & social support



Native Hawaiians & Cardiovascular Disease



Why Hula?

- Indigenous dance form
- Visual accompaniment to oral literature
- Cultural purpose is to enhance the meaning, and provide interpretative insight to the accompanying song or chant
- Continues to be popular with all ages
- Vibrant part of Hawaiian community social activities



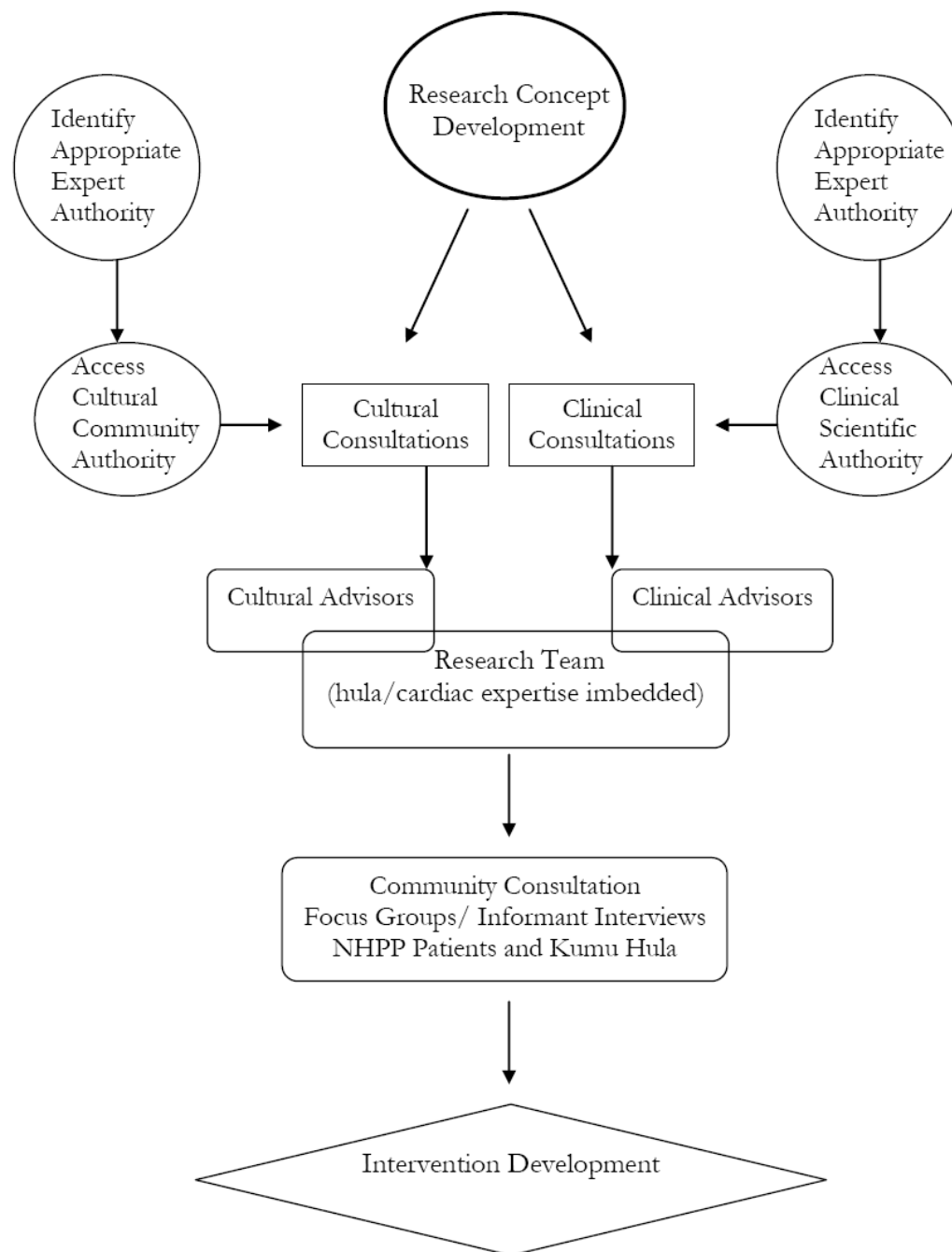
Balancing Cultural & Scientific Protocols

- First biomedical research study to use hula
- Community-Based Participatory Research Approach
- Astute Advisory Committee



Balancing Cultural- Community & Scientific-Clinical

Flow Chart of Intervention Development



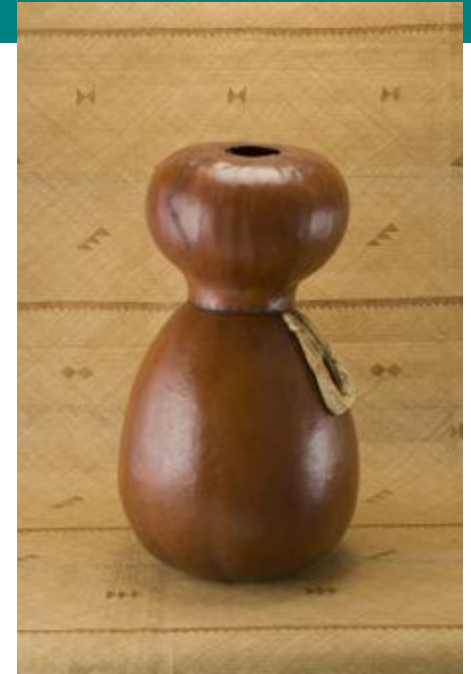
How did we develop the interventions?

- Qualitative Studies

- CVD patients post- hospitalization
- Kumu Hula (hula experts)

- Key Findings

- Hula is appealing and appropriate
- Impacts cognitive, emotional, spiritual, as well as physical aspects of health
- Creates strong social support
- Good for stress & negative emotion management



What is the level of energy expenditure of hula?

Activity	METs
Resting	1.0
Walking (20 min/mile, level and firm surface)	3.3
Gardening (general)	4.0
Dancing (ballroom, fast)	5.5
Basketball (general)	6.0
Tennis (general)	7.0
Basketball or Volleyball (game)	8.0
Soccer (game)	10.0

low intensity hula (5.7)

Hula 6.6

high intensity hula (7.5)

*Ainsworth, BE *et al* (2000). Compendium of physical activities: an update of activity codes and MET intensities. *Medicine & Science in Sports and Exercise*, 32(9 Suppl), S498-504.

Intervention Design

- OLA HOU STUDY

Community-based hypertension management

- 12 weeks
- 1 hour group hula class, 2x week
- 3 hours culturally tailored heart health education

- HELA STUDY

Hospital-based cardiac rehabilitation

- 12 weeks
- 1 hour group hula class, 3x week



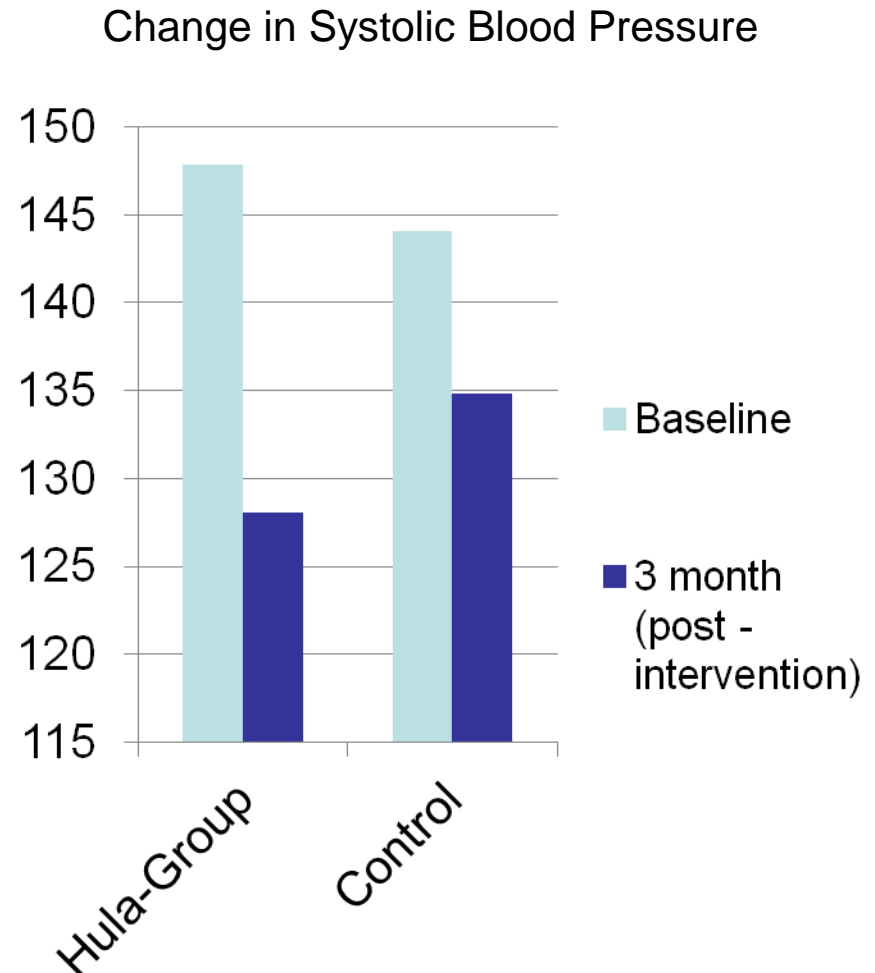
Key Elements of Hula Class

- Establish 'aloha' as a class expectation
- Circle sharing in first & last class
- Do not dilute the cultural practice
- Class components:
 - walk-sing warm up
 - stretches
 - footwork
 - continuous dancing (5-40 min)
 - walk-sing cool down



Findings for Hypertension & Hula Study

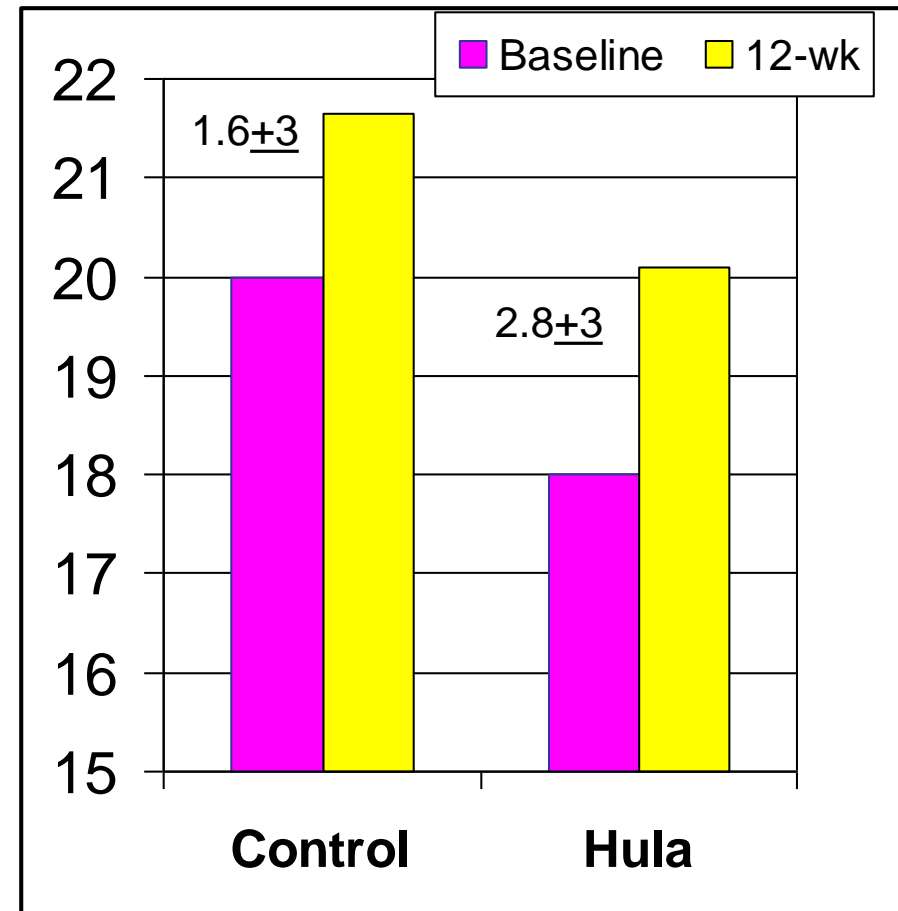
- 27 intervention and 28 control, well matched
- 55 yrs old 78% female, 90% NHPI, 55% diabetic, 67% no hula experience
- Statistically significant decrease in systolic blood pressure for both groups
 - Hula group -20 mmHg
 - Control -9 mmHg
- Significant ($p=.036$) difference between the groups



Findings from Hula & Cardiac Rehabilitation Study

- 30 intervention, 28 control
- 63% male, CABG, MI, valve surgery, Hrt Failure, 95% no hula experience
- 68% of Hula Group improved and 56% of intervention group. Strong evidence of social support within group
 - Hula Group 2.8 O₂ consumption improvement
 - Control 1.6 O₂ consumption improvement

Peak O₂ Consumption



Conclusions

- Hawaiian cultural practice of hula was successfully incorporated into a CVD secondary prevention and a cardiac rehab program
- Culturally and community relevant interventions can be both medically effective and appealing



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- Important to retain cultural integrity
- Clear clinical improvements were found
- Social support, stress reduction, and management of negative emotions
- Sensitivity and balance is needed to meet requirements of both cultural and medical considerations



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