UTAH'S HOME
TONGANS & PACIFIC ISLANDERS
IN UTAH
Percentage of Population That Is Pacific Islander in Mainland U.S.

Source: U.S. Census 2000
Percentage of Utah Population That Is Pacific Islander by County

Source: Utah Census 2000
http://factfinder.census.gov
National Tongan American Society

- Started in 1994 due to citizenship issues.
- 1996 – 501 c 3
- Volunteers
- Used family funds
- First funding
  - citizenship classes
  - festivals
P.I. Health in Utah

- Highest in Obesity
- Highest in Diabetes
- Highest in Infant Mortality
- Diabetes getting younger
* Utah Department of Health (DOH) estimates that PI (with majority being Tongan and Samoan) have highest rate of obesity in Utah... 79.9%

* Two of the top three leading causes of death (strokes, diabetes) for PI in Utah can be linked to being overweight and obese

* Obesity healthcare treatment costs = ~ $8,500 per year $2,700 more than for a person with a healthy weight!
OBESITY PREVALENCE

- Prevalence of obesity in Tongans appears to be increasing and occurring at a younger age in adolescents, especially females.
HEALTH ISSUES:
NO WHERE TO TURN

Health Access?  Insurance?

Diabetes?  Deaths?

Health Barriers?  Heart Diseases?
LOOKING FOR SOLUTIONS

THE DPCP VISIT: Looking for Brenda!?
Motivation to Partner

- NTAS/CBO: No resources, no expertise, no funding
- Institution/Agencies: Needed to reach underserved population, no connection, cultural and language barriers
Developing the Network

- **Utah Health Department: DPCP**
  - GRANT: DIABETES TODAY FUNDING
  - Immunization
  - Multicultural Health
  - Chronic Disease
  - Maternal and Child Care and others

- **University of Utah**
  - Health Promotion and Education
  - Evidence Base Programs - SFHP
  - Genetics Learning
  - Community Faces of Utah
Partnership Center:
Social Health Determinants
Root Cause of Obesity? Inactivity?

- Eating behaviors?
- Body Preference?
- Meaning of Food?
- Beauty?
- Cultural Values?
- Laziness?
A Case Study

A Triangulation approach:
1) U of U: Tim Behrans’s Study - the background
2) NTAS/DPCP survey - comparison
3) U of U Evidence Base Program: SFHP
   - pre/post
   - 3 month follow up
<table>
<thead>
<tr>
<th>Variable</th>
<th>Total (N = 38)</th>
<th>Male (n = 13)</th>
<th>Female (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive (min/d)</td>
<td>868.4 145.2</td>
<td>782.5 86.5</td>
<td>912.9 150.8**</td>
</tr>
<tr>
<td>Light PA (min/d)</td>
<td>113.2 59.8</td>
<td>141.0 63.4*</td>
<td>98.8 53.4</td>
</tr>
<tr>
<td>Moderate PA (min/d)</td>
<td>20.3 19.1</td>
<td>33.5 22.3*</td>
<td>13.4 12.9</td>
</tr>
<tr>
<td>Vigorous PA (min/d)</td>
<td>0.3 1.5</td>
<td>0.1 0.2</td>
<td>0.5 1.9</td>
</tr>
<tr>
<td>Meeting PA Recommendation</td>
<td>8 (21.1)</td>
<td>6 (46.2)</td>
<td>2 (8.0)</td>
</tr>
</tbody>
</table>

*p < 0.05; males > females
**p < 0.05; females > males
***χ² < 0.01; males > females
NTAS Survey

- DPCP Technical Assistance
Percentage of Youth Who Describe Themselves as Slightly or Very Overweight: Utah vs. Tongan Youth

Utah youth: 23.8%
Tongan youth: 39.8%

p < .05
Accuracy of Weight Perception

- 67% were overweight or obese
- Among those, only 43.6% described themselves as slightly or very overweight
- 24% of Utah youth described themselves as overweight
- Among those, only 8% were overweight
Obesity

- Low SES
- Genetics
- Diet
- Physical Activity
Physical Activity

Tongan vs. Utahn
What is PHYSICAL ACTIVITY?

Physical Activity

“...any bodily movement that results in energy expenditure”

- Occupation
- Transportation
- Leisure-time
- Activities of daily living (i.e., housework, etc.)

Exercise

Physical activity using large muscle groups that is planned, structured, repetitive, and purposive.

Casperson, 1985
Objectives of Study

- Recognize the unique health care needs of Pacific Islanders and look at root causes of obesity
  - physical activity: Tongan vs. Utah (youth and adults)
  - dietary habits: Tongan vs. Utah (youth and adults)
STUDY
To increase understanding of Tongan health behaviors related to obesity…
Design

1) Very little to no data specifically on this population – collection of data (probably one of the very first data collection of its’ type)

2) Exploratory in nature

3) GIVE INSIGHTS TO NEEDS, HABIT AND ENVIRONMENT OF TARGET POPULATION
Data Collection

- Churches
- Health Fairs
- Festivals
- Senior Centers
- Consent Forms/IRB Compliant
Percentage of Youth Who Are Obese
Tongan vs. Utah Youth

<table>
<thead>
<tr>
<th></th>
<th>Tongan</th>
<th>Utah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>39.7</td>
<td>6.4</td>
</tr>
<tr>
<td>Male</td>
<td>44</td>
<td>8.3</td>
</tr>
<tr>
<td>Female</td>
<td>35.9</td>
<td>4.4</td>
</tr>
</tbody>
</table>
Weight Status for Tongan Adults by Gender

- Not overweight:
  - Male: 13.1%
  - Female: 25.7%

- Overweight:
  - Male: 32.8%
  - Female: 19.0%

- Obese:
  - Male: 54.0%
  - Female: 55.3%
Weight Status for Utah Adults by Gender

- **Not overweight**
  - Male: 34.8%
  - Female: 44.7%

- **Overweight**
  - Male: 39.8%
  - Female: 27.8%

- **Obese**
  - Male: 25.4%
  - Female: 22.6%
Percentage of Youth Engaging in 5+ Days of Exercise 60+ Minutes a Week by Age Group and Gender

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Tongan</th>
<th>Utah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>31.3</td>
<td>40.8</td>
</tr>
<tr>
<td>Female</td>
<td>19.0</td>
<td>57.7</td>
</tr>
<tr>
<td>Male</td>
<td>34.4</td>
<td>36.7</td>
</tr>
<tr>
<td>Female</td>
<td>15.0</td>
<td>51.8</td>
</tr>
</tbody>
</table>

Tongan vs. Utah Youth
Boys and Girls

Percentage of Males Engaging in 5+ Days of Physical Activity a Week by Age Tongan vs. Utah Youth

Percentage of Females Engaging in 5+ Days of Physical Activity a Week by Age Tongan vs. Utah Youth
Percentages of Barriers to Engaging in Physical Activity Reported by Pacific Islander Adolescents by Gender

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of company</td>
<td>53.6</td>
<td>66.7</td>
</tr>
<tr>
<td>Discouragement</td>
<td>43.2</td>
<td>51.5</td>
</tr>
<tr>
<td>Self-consciousness</td>
<td>58.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Lack of interest</td>
<td>60.7</td>
<td>64.5</td>
</tr>
<tr>
<td>Lack of energy</td>
<td>59.8</td>
<td>67.4</td>
</tr>
<tr>
<td>Lack of enjoyment</td>
<td>50.8</td>
<td>60.9</td>
</tr>
<tr>
<td>Lack of self-discipline</td>
<td>44.6</td>
<td>62.3</td>
</tr>
<tr>
<td>Lack of equipment</td>
<td>65.6</td>
<td>58.0</td>
</tr>
<tr>
<td>Lack of time</td>
<td>51.6</td>
<td>63.0</td>
</tr>
<tr>
<td>Lack of good health</td>
<td>45.5</td>
<td>57.5</td>
</tr>
</tbody>
</table>
Percentage of Youth Who Engage in 3+ Hours of Screen Time a Day
Tongan vs. Utah Youth

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>27.1</td>
<td>27.7</td>
</tr>
<tr>
<td>Video</td>
<td>16.4</td>
<td>16.1</td>
</tr>
<tr>
<td>Video</td>
<td>32.0</td>
<td>28.5</td>
</tr>
</tbody>
</table>

Tongan | Utah
Percentages of Youth and Adults Who Engage in Regular Physical Activity

Tongan Youth vs. Utah Youth
Tongan Adults vs. Utah Adults

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male Tongan</th>
<th>Female Tongan</th>
<th>Male Utah</th>
<th>Female Utah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aged 12-16</td>
<td>40.8</td>
<td>19.0</td>
<td>57.5</td>
<td>56.3</td>
</tr>
<tr>
<td>Aged 17-18</td>
<td>34.3</td>
<td>15.0</td>
<td>51.6</td>
<td>42.9</td>
</tr>
<tr>
<td>Aged 18-24</td>
<td>58.7</td>
<td>41.8</td>
<td>56.6</td>
<td>41.7</td>
</tr>
<tr>
<td>Aged 25-39</td>
<td>62.3</td>
<td>41.7</td>
<td>56.8</td>
<td>35.4</td>
</tr>
<tr>
<td>Aged 40-54</td>
<td>58.4</td>
<td>51.6</td>
<td>49.0</td>
<td>47.6</td>
</tr>
<tr>
<td>Aged 55+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary

- Both adult and young Tongans have higher rates of obesity than Utah counterparts.
- Both also have lower rates of physical activity.
Also...

- Results aligned with focus group findings.
- Confirmed by key informant interviews
Now What??
Physical Inactivity as a Public Health Issue

- PIA and poor diet accounted for 365,000 deaths in the year 2000, second only to smoking as the leading cause of actual death in the U.S.\(^2\)

- The direct medical costs of PIA are approximately $76.6 billion\(^3\)

\(^2\) Mokdad, et al., 2004 (correction); \(^3\)Pratt, Macera, & Wang, 2000
Strengthening Families Health Program
Strengthening Families Health Program

- Worked with churches to implement 7-wk program
- Included the whole family
- Did not have the typical exercise, but rather family games, some brought in by the families themselves (sock throwing, red-light green-light, tickle/protect family member, balloon popping, etc.)
Men’s & Women’s Rugby Tournaments

- 8 Women’s team*
- 7 Men’s team

*New in 2010
- Over 160 women participated AND their children
- 3-4 days/at least 2 hrs exercise
Limitations

- Different definitions of physical activity among youth and adults
- Tongan survey are not generalizable
Conclusion

- Tongans have low rates of physical activity
- Lower rates of physical activity contribute to obesity risk
- This problem is clearly evident in our Tongan youth