The Pets for Life as One Health Study: Results from the First Year of Data Collection

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Institute for Human-Animal Connection (IHAC)

• Integrating social work expertise into human-animal interactions
• Teaching, practice, ethics and research
  – Animal-Assisted Social Work Certificate
  – Online professional development certificates

Two Focus Areas of IHAC Research

• Therapeutic Human-Animal Interactions
  – Animals as clinical engagement
  – Prison-based dog training
  – Residential training

• Animals in Communities
  – Incorporating animal perspectives
  – Social/economic impacts of companion animals
  – Impacts of companion animal welfare on community health

The One Health Framework

• One Health is an underlying framework for IHAC
• Based on Traditional Ecological Knowledge
• Position animal health and welfare as integral components of community health and policy making
Pets for Life addresses the inequity in animal welfare resources in communities experiencing poverty by removing barriers to accessing services, supplies and information.

Pets for Life Operations Database Study
- Retrospective database analysis of >80,000 spay/neuter surgeries in 38 Pets for Life sites (2012-2015)
- Race/ethnicity were not predictive of willingness to spay/neuter

Pets for Life as an Opportunity to Study One Health
- Pets for Life and One Health
  - Highly focused resources on one domain
  - Breaks down barriers to access
  - Outreach model increases social cohesion
  - Anecdotal evidence
- Pets for Life as One Health Study
Pets for Life as One Health Study – Presentation Overview

- Design and data collection
- Results of the Pet Inventory
- Development and implementation of the One Health Community Assessment
- Current status and upcoming analyses

Pets for Life as One Health Study

- Design and data collection

Pets for Life as One Health Study - Design

<table>
<thead>
<tr>
<th>Years</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFL Intervention</td>
<td>Positive changes?</td>
<td>Sustained changes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparison Community</td>
<td>No Intervention</td>
<td>PFL Intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compare Human, Companion Animal and Environmental Data Throughout</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pets for Life as One Health Study – Site Selection

- 30 urban sites
- 50 rural sites in 27 counties
- WA, ID, MT, ND, SD, MN and WI considered

<table>
<thead>
<tr>
<th>Urban</th>
<th>Comparison</th>
<th>Site Selection</th>
<th>Human Population</th>
<th>Poverty</th>
<th>Median Household Income</th>
<th>Race/Ethnicity</th>
<th>Unemployment</th>
<th>Educational Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle, WA (98108)</td>
<td>Seattle, WA (98108)</td>
<td>Seattle, WA (98108)</td>
<td>24,700</td>
<td>24.0%</td>
<td>$55,027</td>
<td>24% White, 76% Non-White</td>
<td>24% White, 76% Non-White</td>
<td>71% HS/31% B</td>
</tr>
<tr>
<td>Wilder, ID (83676)</td>
<td>Wilder, ID (83676)</td>
<td>Wilder, ID (83676)</td>
<td>5,396</td>
<td>33.0%</td>
<td>$46,962</td>
<td>10% White, 90% Non-White</td>
<td>10% White, 90% Non-White</td>
<td>57% HS/43% B</td>
</tr>
<tr>
<td>Granger, WA (98932)</td>
<td>Granger, WA (98932)</td>
<td>Granger, WA (98932)</td>
<td>3,394</td>
<td>33.0%</td>
<td>$46,962</td>
<td>10% White, 90% Non-White</td>
<td>10% White, 90% Non-White</td>
<td>57% HS/43% B</td>
</tr>
<tr>
<td>Madison, WI (53713)</td>
<td>Madison, WI (53713)</td>
<td>Madison, WI (53713)</td>
<td>23,250</td>
<td>23.2%</td>
<td>$36,961</td>
<td>43% White, 57% Non-White</td>
<td>43% White, 57% Non-White</td>
<td>69% HS/31% B</td>
</tr>
</tbody>
</table>
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Study Communities Experience Barriers to Access

Rural Communities

Urban Communities

Pets for Life as One Health Study - Data

- Pet Inventory
- Community Asset Maps
- Primary data
  - One Health Community Assessment
- Secondary data
  - Data collected by zip code
    - E.g., shelter intake, rates of eviction, noise pollution
  - Qualitative interviews

Pets for Life as One Health Study – Data Collection

- Community-Based DU Research Assistants
- Door-to-door surveys
- Systematic sampling grids
- Tablets connected to DU REDCap system
- DU IRB-approved consent and data monitoring protocols

Data Collection Example – South Park Neighborhood in Seattle

- Total potential sample in the neighborhood = 1,098 households
Data Collection Example – South Park Neighborhood in Seattle

- Sampling grid = 773 households
- 70% of total households

Data Collection Example – South Park Neighborhood in Seattle

- Successfully contacted = 542 households
- 70% of sampling grid
- 49% of total households

Data Collection Example – South Park Neighborhood in Seattle

- Pet Inventory data = 504 households
- 93% of successfully contacted
- 46% of total households

Data Collection Example – South Park Neighborhood in Seattle

- One Health Community Assessment data = 117 households
- 22% of successfully contacted
- 11% of total households

17 18 19 20
Pets for Life as One Health Study

- Results of the Pet Inventory

Pet Inventory Survey

- Data from first two survey questions:
  - Do you have a pet? (Yes/No)
  - What kind of pets do you have? (Dog/Cat/Other/Multiple Species)

- Highest sampling density of pet ownership conducted in single U.S. communities to date

- Observed pets also counted, but not included in this dataset

- Data from additional questions, but smaller sample

2018/19 Pet Inventory Results

<table>
<thead>
<tr>
<th>Community</th>
<th>Household Income/Taxable Income</th>
<th>Pet Ownership at the Community Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVMA Cat Owning HH (%)</td>
<td>AVMA Dog Owning HH (%)</td>
</tr>
<tr>
<td></td>
<td>(95% CI)</td>
<td>(95% CI)</td>
</tr>
<tr>
<td>Granger, WA</td>
<td>197,224 (59.1%)</td>
<td>51% (95% CI: 47.7% - 54.4%)</td>
</tr>
<tr>
<td>Wilder, ID</td>
<td>192,121 (62.3%)</td>
<td>25.4% (95% CI: 22.6% - 28.3%)</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>981,204 (8.9%)</td>
<td>28.7% (95% CI: 26.5% - 31.0%)</td>
</tr>
<tr>
<td>Madison, WI</td>
<td>550,715 (5.3%)</td>
<td>37.6% (95% CI: 35.1% - 40.1%)</td>
</tr>
</tbody>
</table>

Pet Ownership at the Community Level

- Community-level data unavailable to assess factors that impact pet ownership
  - Urban and rural communities
  - Low poverty and high poverty communities

- Several national and state-level surveys
  - E.g., AVMA, APPA, Simmons National Consumer Survey, U.S. Census Bureau’s Housing Survey

- Need detailed data on pet ownership in study sites to measure Pets for Life “dose”
**Pets for Life as One Health Study**

- Development and implementation of the One Health Community Assessment

**Measuring One Health**

- No instrument specific to measuring One Health
- Most reported studies focused on isolated interconnections
- Needed to create a One Health instrument
  - Individual domains and interconnections
  - Community focused
  - Quantitative
  - Longitudinal

**One Health Instrument Design**

- Exploratory sequential design
- Decenters definitions of health and access to reflect community perceptions

**Exploratory Sequential Design - Interview Coding**

- 20 interviews of residents in Denver Pets for Life site
  - ~30 minutes, English and Spanish
  - Broad questions about perspectives on community health and access to services
- Transcriptions coded for themes and language within five domains
  - Human Health, Animal Health, Environmental Health, Community-Wide Health and Perceived Links
Exploratory Sequential Design – Instrument Design

- 170 statements across the five domains
- Likert scale: strongly agree > strongly disagree
- Pilot of 105 responses allowed initial validation

One Health Community Assessment

- 115 scales in five domains
- English and Spanish versions

One Health Community Assessment – Example Scales

- Animal Health Domain
  - I can obtain pet care services in my preferred language.
- Human Health Domain
  - I have been satisfied with the health care services I have received.
- Perceived Links Domain
  - I would only give up my pet if I had no other option to provide necessary medical or behavior care.

One Health Community Assessment – Year One Data

- 746 surveys completed
  - Madison = 211 (2.0% of households)
  - Seattle = 214 (2.3% of households)
  - Granger = 191 (22.2% of households)
  - Wilder = 123 (26.3% of households)
- Madison and Granger surveys conducted prior to Pets for Life contact

One Health Community Assessment – Year One Participation

- Of attempted household contacts:
  - No answer/ruled out rate = 59%
  - Decline/ineligible rate = 18%
  - Acceptance rate = 23%
    - 1st Contact: 54%
    - 2nd Contact: 28%
    - 3rd Contact: 18%
### One Health Community Assessment – Reliability

- Cronbach’s $\alpha$ as a measure of internal consistency
  - Function of number of items and inter-item correlation
  - $>0.7 =$ acceptable; $>0.8 =$ good; $>0.9 =$ excellent

<table>
<thead>
<tr>
<th>Domain</th>
<th>Cronbach’s $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Instrument</td>
<td>0.943</td>
</tr>
<tr>
<td>Animal Health</td>
<td>0.894</td>
</tr>
<tr>
<td>Human Health</td>
<td>0.892</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>0.817</td>
</tr>
<tr>
<td>Community Health</td>
<td>0.830</td>
</tr>
<tr>
<td>Perceived Links</td>
<td>0.802</td>
</tr>
</tbody>
</table>

### One Health Community Assessment

- Unique quantitative measure of One Health through community perspectives
- Assesses community members’ experiences around access to care
- Capable of measuring change over time
- Ongoing validation to establish generalizability

### Pets for Life as One Health Study

- Current status

### Pets for Life as One Health Study – Year Two Data Collection

- 597 year two surveys completed (October 2019)
  - 372 year 1 and year 2
  - 109 year 1 participants who still need to be contacted
  - 225 year two only
  - 534 English; 63 Spanish
Pets for Life as One Health Study – Secondary Data Collection

We Are Very Grateful To Our Supporters

Pets for Life as One Health Study - Upcoming

Pets for Life as One Health Study Team

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