HEALTHY AGING COMMUNITY
CITY OF LAWRENCE

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Department of Biomedical and Nutritional Sciences
OVERVIEW

• Partnership between the City of Lawrence and University of Massachusetts Lowell for community-engaged research

• Current research projects and continued community engagement

• Age-friendly Lawrence funded by the Tufts Health Plan Foundation

• Next steps for Age-friendly Lawrence
### Race

<table>
<thead>
<tr>
<th>Subject</th>
<th>Amesbury, town</th>
<th>Andover, town</th>
<th>Beverly, city</th>
<th>Haverhill, city</th>
<th>Lawrence, city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One race</td>
<td>98.9</td>
<td>99.0</td>
<td>99.0</td>
<td>98.0</td>
<td>93.8</td>
</tr>
<tr>
<td>White</td>
<td>97.2</td>
<td>91.6</td>
<td>96.0</td>
<td>89.7</td>
<td>48.6</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0.6</td>
<td>0.7</td>
<td>1.0</td>
<td>2.4</td>
<td>4.9</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.8</td>
</tr>
<tr>
<td>Asian</td>
<td>0.6</td>
<td>5.7</td>
<td>1.3</td>
<td>1.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Hispanic or Latino and Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino (of any race)</td>
<td>0.9</td>
<td>1.8</td>
<td>1.8</td>
<td>8.8</td>
<td>59.7</td>
</tr>
</tbody>
</table>
NEEDS OF THE AGING POPULATION
THE CITY OF LAWRENCE

- 12.8% of Lawrence’s 76,377 residents are 60 years or older
- Higher rates of: Depression, Alzheimer’s, Diabetes, COPD, Heart problems, Hospital/ER visits
- 52% of elders speak a language other than English
- 52% of elders have incomes <$20,000
- 30% of seniors spend more than half of their income on housing

Other priorities identified during a 2015 Community Health Needs Assessment were abuse of elders and need for additional programming.

Lawrence General Hospital Community Needs Assessment, 2016
Holy Family Hospital Community Needs Assessment, 2015
COMMUNITY-ACADEMIC PARTNERSHIPS: CITY OF LAWRENCE AND UMASS LOWELL

Academia
University of Massachusetts Lowell

- Identify needs and priority areas of the community
- Develop and implement and evaluate community-driven interventions
- Guide tailoring of programs for the culture and needs of the community
- Expertise in existing infrastructure and political atmosphere

Ideas
Expertise
Resources

Community
City of Lawrence

- Develop relevant scientific research questions
- Identify funding sources
- Develop and implement and evaluate community-driven interventions
- Translation of scientific result to partners and their community
- Identify priority areas within the community

Ahmed, AJPH, 2010
BONE DISPARITIES AMONG CARIBBEAN LATINO ADULTS

Figure 1. Age-adjusted prevalence of osteoporosis and LBM at either the femoral neck or lumbar spine for Puerto Rican men from the Boston Puerto Rican Osteoporosis Study and Mexican American, non-Hispanic white and non-Hispanic black men from NHANES (2005-2010).\(^1\)

Figure 2. Age-adjusted prevalence of osteoporosis and LBM at either the femoral neck or lumbar spine for Puerto Rican women from the Boston Puerto Rican Osteoporosis Study and Mexican American, non-Hispanic white and non-Hispanic black men from NHANES (2005-2010).\(^1\)

\(^1\) Estimates with the same superscript signify overlap of 95% CI between groups.
Preliminary Findings:

- 94% of participants considered osteoporosis to be a serious disease
  - 22% agreed or 49% strongly agreed that osteoporosis is as serious as diabetes, heart disease or cancer
- Doctors as the most trusted sources of health information, but paradoxical relationship with their doctors emerged
  - “My doctor only tells me: ”That’s to help you with the pain”, but he does not tell me why.”
- Dietary and osteoporosis
  - “My mother [who has osteoporosis], I know that she almost never liked to eat food rich in calcium, almost never”
**PROPOSED BONE HEALTH INTERVENTION**

### Intervention Components and Activities

<table>
<thead>
<tr>
<th>Key components of the intervention</th>
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</thead>
<tbody>
<tr>
<td>Understanding osteoporosis and awareness of risk factors</td>
</tr>
<tr>
<td>Modifiable risks: healthy eating and physical activity</td>
</tr>
<tr>
<td>Dietary quality for bone health (e.g., increasing or decreasing foods important for bone health)</td>
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<tr>
<td>Physical activity for bone health and muscle strength</td>
</tr>
<tr>
<td>Goal-setting, tracking, problem-solving to address barriers to adherence</td>
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<tr>
<td>Eliciting family and social support</td>
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</table>

**Proposed intervention strategies to improve knowledge, attitudes and skills for change**

- Structured stories (print/read) of people who have made changes in diet and physical activity with guided discussion
- Cooking demonstrations and group tastings
- Recipe modification of traditional ethnic and other popular dishes and foods
- Group games (e.g., diet bingo)
- Label reading activities
- Visual aids including picture-based food guide
- Supermarket tour
- Group goal setting
- Discussion of family activities that support change efforts

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**Narrative methods illicit powerful imagery and connectedness through story**

PARTNERSHIP WITH LAWRENCE SENIOR CENTER

Bone Health Event in 2016:
- Over 400 participants attended
- Included trivia, handouts, smoothie samples, and a heel ultrasound
Aging is accompanied by microbial dysbiosis

<table>
<thead>
<tr>
<th>Week</th>
<th>Baseline</th>
<th>Month 1</th>
<th>Month 2</th>
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<tbody>
<tr>
<td>1</td>
<td>Consent, questionnaires, 24h recall, provide fecal kits, physical assessment</td>
<td>Randomization, provide yogurt, 24h recall, physical assessment</td>
<td>Provide yogurt, 24h recall, physical assessment</td>
</tr>
<tr>
<td>2</td>
<td>24h recall, Collect fecal sample, physical assessment</td>
<td>Provide yogurt, 24h recall, Collect fecal sample, physical assessment</td>
<td>Provide yogurt, 24h recall, Collect fecal sample, physical assessment</td>
</tr>
<tr>
<td>3</td>
<td>24h recall, Collect fecal sample, physical assessment</td>
<td>Provide yogurt, 24h recall, Collect fecal sample, physical assessment</td>
<td>Provide yogurt, 24h recall, Collect fecal sample, physical assessment</td>
</tr>
<tr>
<td>4</td>
<td>24h recall, Blood collection (bone markers, inflammatory markers), Collect fecal sample, physical assessment</td>
<td>Provide yogurt, 24h recall, Collect fecal sample, physical assessment</td>
<td>24h recall, Blood collection (bone markers, inflammatory markers), Collect fecal sample, physical assessment</td>
</tr>
</tbody>
</table>

Figure 1. Potential mechanisms: yogurt, microbiome and bone remodeling

- Improved bone remodeling
- Microbiome metabolism
- Immune system
- SCFA production
- Inflammation

GUT MICROBIOTA DIVERSITY

YOGURT
“Communities have greater interest in age-friendly initiatives. There's a growing understanding of the critical role older people play. They are an asset to community, and their voices and insights are invaluable to the public discourse on what communities need.”

Nora Moreno Cargie, vice president, corporate citizenship for Tufts Health Plan and president of its Foundation.

http://www.tuftshealthplanfoundation.org
AGE-FRIENDLY LAWRENCE PROJECT
TUFTS HEALTH PLAN FOUNDATION

[Diagram showing connections between various entities, including Local Government, Immigrant Services, Transportation, Housing, Council on Aging, and others, forming a network around the Elder Population.]
Planning: 6-month action steps and timeline

Months 1-3:  Hiring of Coordinator
            Leadership monthly meetings (working structure, tasks)
            Review Age Friendly City Assessment best practices
            Review secondary data (e.g., census/health/housing)

Months 3-6:  Assessment framework and tools
            Stakeholder interviews with partners for each domain
            Identify Elder Ambassadors
            Identify domain working groups
# Proposed Methods for Community Assessment

<table>
<thead>
<tr>
<th>Method of Assessment</th>
<th>Focus Areas</th>
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<tr>
<td><strong>Community Forums</strong> (All community members)</td>
<td>✓ Strengths and barriers to healthy aging in the community</td>
</tr>
<tr>
<td></td>
<td>✓ Discuss gaps in community policies, projects, and programs as they pertain to healthy aging</td>
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<tr>
<td></td>
<td>✓ Envisioning a community that supports aging and what that means</td>
</tr>
<tr>
<td><strong>Key Informant Interviews</strong> (City Council, Mayor, City Administrators, etc.)</td>
<td>✓ Assessment of current age-friendliness of community organizations</td>
</tr>
<tr>
<td></td>
<td>✓ Ideas, concerns, and needs relating to older population</td>
</tr>
<tr>
<td></td>
<td>✓ Challenges involving the 9 domains</td>
</tr>
<tr>
<td><strong>Focus Groups</strong> (Varying age groups within community)</td>
<td>✓ Perspectives of older adults on the community and community organizations</td>
</tr>
<tr>
<td></td>
<td>✓ Recommendations associated with current age-friendliness of Lawrence</td>
</tr>
<tr>
<td></td>
<td>✓ Brainstorming potential policy, project, and program advancements</td>
</tr>
<tr>
<td><strong>Surveys</strong> (Older adults in Lawrence)</td>
<td>✓ Views of Lawrence and the impact that has on aging, community organizations, community resources, and community spaces</td>
</tr>
<tr>
<td></td>
<td>✓ Perceptions of community elements that support aging, and those that create barriers</td>
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</table>
NEXT STEPS:
AGE-FRIENDLY LAWRENCE

Months 1-6: Primary data collection from residents and stakeholders (listening sessions, focus groups, survey, interviews)

Months 7-15: Analyze primary data (baseline report of needs)
- Strategy development:
  - Planning committee
  - Project coordination
  - Domain experts/research/training
- Domain-specific workgroups recommendations/action steps

Months 16-24: Community prioritization
- Planning Committee develops and finalize 3-y action plan

March 25-30: Implementation/Evaluation/Community Forums
- Integration of action items into planning efforts
- Community forums to update residents on progress
THANK YOU AND ACKNOWLEDGEMENTS

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**City of Lawrence**
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Mayreni Villegas, Community Health Specialist MHTF  
Martha Velez, Executive Director Senior Center  
Angeline Garcia, Outreach Coordinator  
Heather McMann, Executive Director Groundwork Lawrence  
Lesly Melendez, Deputy Director Groundwork Lawrence  
City Administrators

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