Effectiveness of three evidence-based fall prevention programs: Findings from a national translational dissemination

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RECOGNITION OF OUR PARTNERS

Falls in America

- **Every 19 minutes, an older adult <u>dies</u> from a fall. Every 11 seconds, an older adult is treated in an <u>emergency room</u> for a fall-related injury**

- 1 in 4 adults age 65+ fall each year

- Those who fall are 2 to 3 times more likely to fall again

- 1 in 5 falls cause a serious injury (fracture, head trauma)
  - Result in morbidity, reduced mobility, loss of independence, premature mortality

- Costs associated with fall-related treatment exceeds $31B

Risk and Prevention

- Falls are common, predictable, and largely ***preventable***

- Growing recognition about the need for intervention
  - Administration for Community Living (ACL)
  - Centers for Disease Control and Prevention (CDC)
  - Patient-Centered Outcomes Research Institute (PCORI)

- Community-wide efforts are needed to reduce falls
  - Changing clinical care practices
  - Offering community-based programs
  - Introducing and enforcing policy
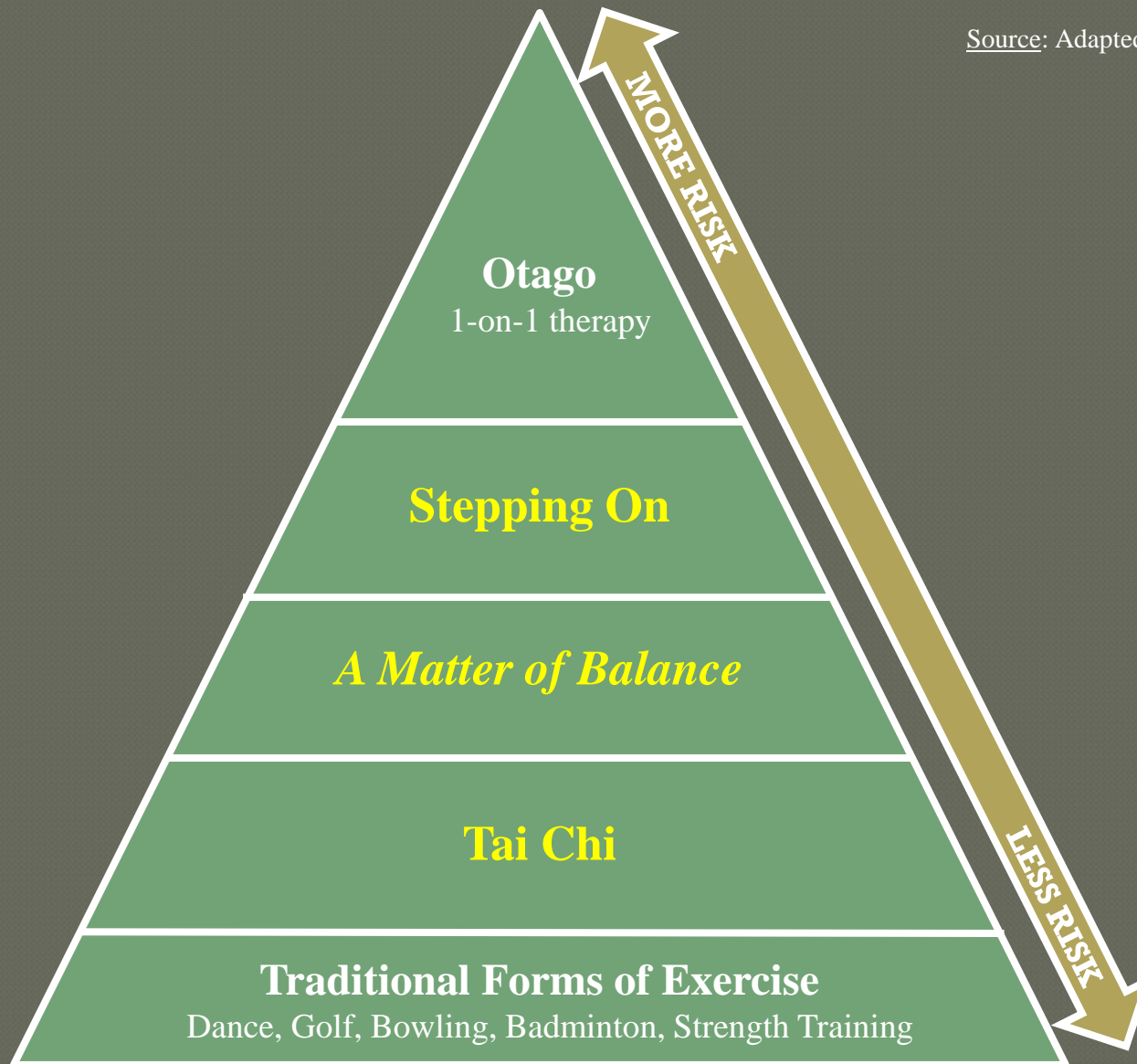
Purposes

1. Identify the national dissemination of evidence-based fall prevention programs in the U.S. from 2013 to 2016

2. Compare participant characteristics across the most predominant 3 programs
   - A Matter of Balance (AMOB)
   - Tai Ji Quan (TJQ)
   - Stepping On (SO)

3. Examine collective program effectiveness

4. Assess effectiveness across programs

Methods

- Data from 29 ACL grantees in 24 states from 2013 to 2016
  - Data collected locally and entered into a national repository

- Baseline and post-test evaluation instruments
  - Collected by program facilitators on-site
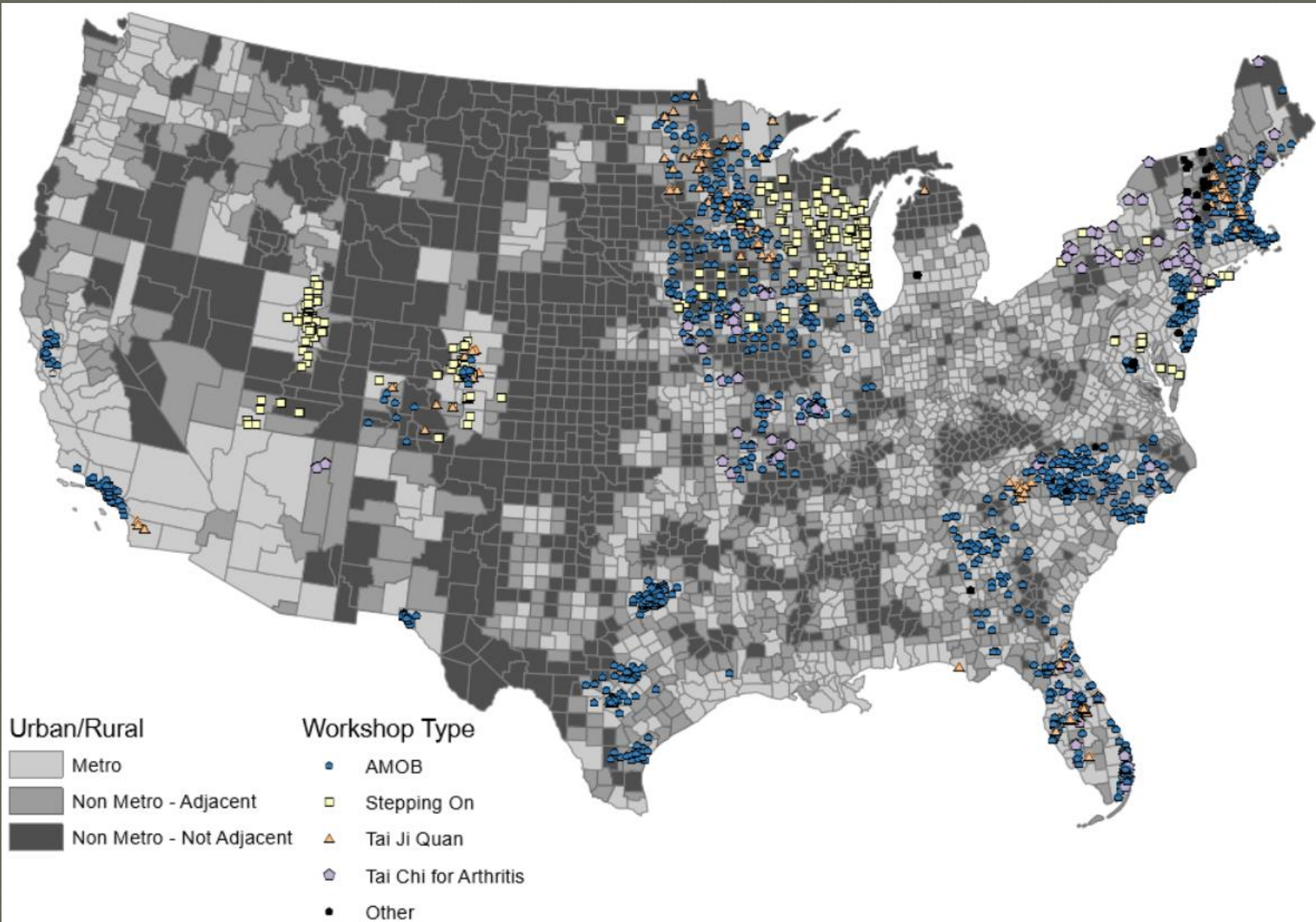 - Entered into a national repository

OUTCOMES
- General Health Status (1 to 5)
- Fear of Falling (1 to 4)
- Falls Efficacy Scale (5 to 20)
- Concern about Falling (1 to 5)

ANALYSES
- Geospatial mapping using ArcGIS
- Series of generalized estimating equation (GEE) models

Fall Prevention Workshops: 2013-2016

Fall Prevention Workshops: 2013-2016

- Almost 42,000 participants attended 3,439 workshops in 483 counties

- Most in AMOB, which had more racial/ethnic diversity

- Less baseline risk for TJQ for many outcomes at baseline

	Total	AMOB	SO	TJQ
Number of Participants	**41,852**	30,132	6,388	5,332
Number of Workshops	**3,439**	2,505	524	410
Number of Counties	**483**	345	99	39
Participant Characteristics				
Age	76.35 (±10.57)	76.67 (±11.05)	76.95 (±8.54)	73.20 (±9.45)
Sex (Female)	80.39%	80.87%	78.15%	80.47%
Hispanic	7.71%	**9.42%**	2.72%	3.59%
Non-Hispanic White	82.84%	**79.62%**	93.53%	87.94%
Baseline Values				
General Health Status	2.22 (±0.83)	2.18 (±0.84)	2.23 (±0.80)	2.42 (±0.84)
Fear of Falling	1.56 (±0.90)	1.57 (±0.91)	1.69 (±0.88)	**1.27 (±0.88)**
Falls Efficacy	8.69 (±3.64)	8.48 (±3.61)	8.67 (±3.54)	**10.56 (±3.57)**
Concern about Falling	1.03 (±1.05)	1.05 (±1.06)	1.07 (±1.04)	**0.74 (±0.95)**

Program Effectiveness

- Overall, significant improvements for all outcome variables

- Improvements were significantly larger among AMOB participants for:
  - Fear of falling
  - Falls Efficacy Scale

Outcome	n	Baseline Mean	Post-Test Mean	Coefficient	P	95% CI Lower	Upper
General Health Status	27830	2.08	2.21	0.13	<0.001	0.10	0.16
Fear of Falling	26634	1.49	1.32	-0.18	<0.001	-0.21	-0.14
Falls Efficacy	28447	8.93	10.78	1.85	<0.001	1.71	1.99
Concern about Falling	28746	1.08	0.98	-0.09	0.001	-0.15	-0.04

*Analyses controlling for age, sex, race/ethnicity, and number of chronic conditions

Conclusions

- Community-based fall prevention programs are <u>effective</u>

- It takes time to build a training and delivery infrastructure – and additional time to <u>sustain</u> it

- An <u>integrated approach</u> is needed
  - Community programs will not see full potential unless coordinated with clinical and policy approaches
  - Clinical approaches will be limited unless community programs for referral

- Opportunities for scalability and sustainability
  - Improve access (overcoming barriers of time, space, and resources)
  - Leverage multiple programs and services (bundling)
  - Translate (diversify partners and types of adults served)
  - Integrate technology