Beyond Service Volume

*Validating the Trajectories of Care Metric for **Long-term** Veteran Referral Success*

Marwa Tahboub, Qiwen Zhang, Michelle Shumate

network for Nonprofit and Social Impact

Impact Insights (Our Monthly Newsletter)

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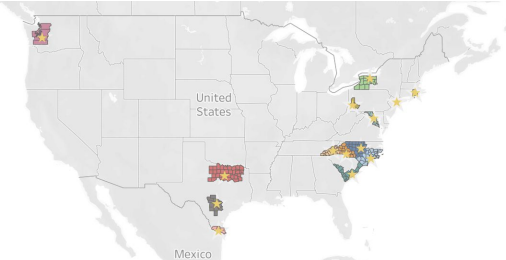

AmericaServes

300

member organization network

58,000+

veterans & military-connected individuals served

Delivers innovative technology and data sophistication to optimize connection to resources & drive network-wide efficiencies and transparency, ultimately improving the quality of life for veterans and military families.

12

active municipal & regional networks

100,000 & 43,000

managed requests & clients, respectively

"AmericaServes is the country's first coordinated system of public, private, and non-profit organizations working together to serve Veterans, transitioning service-members, and their families." (AmericaServes, 2021).

program of the D'Aniello Institute for Veterans and Military Families at Syracuse University.

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Integrated Care Coordination

describes a network of public and nonprofit organizations offering clients comprehensive and integrated social and healthcare services.

Most successful networks deploy **technology systems** that both support seamless referrals and individuals responsible for making the network run effectively.

effectiveness

efficiency

accuracy

case volume

surveys of clients

positive client-level performance

the **longitudinal improvement** of client well-being across service episodes.

Hierarchy of Needs

social needs are not equally acute & may have a relationship with client long-term well-being.

self - actualization

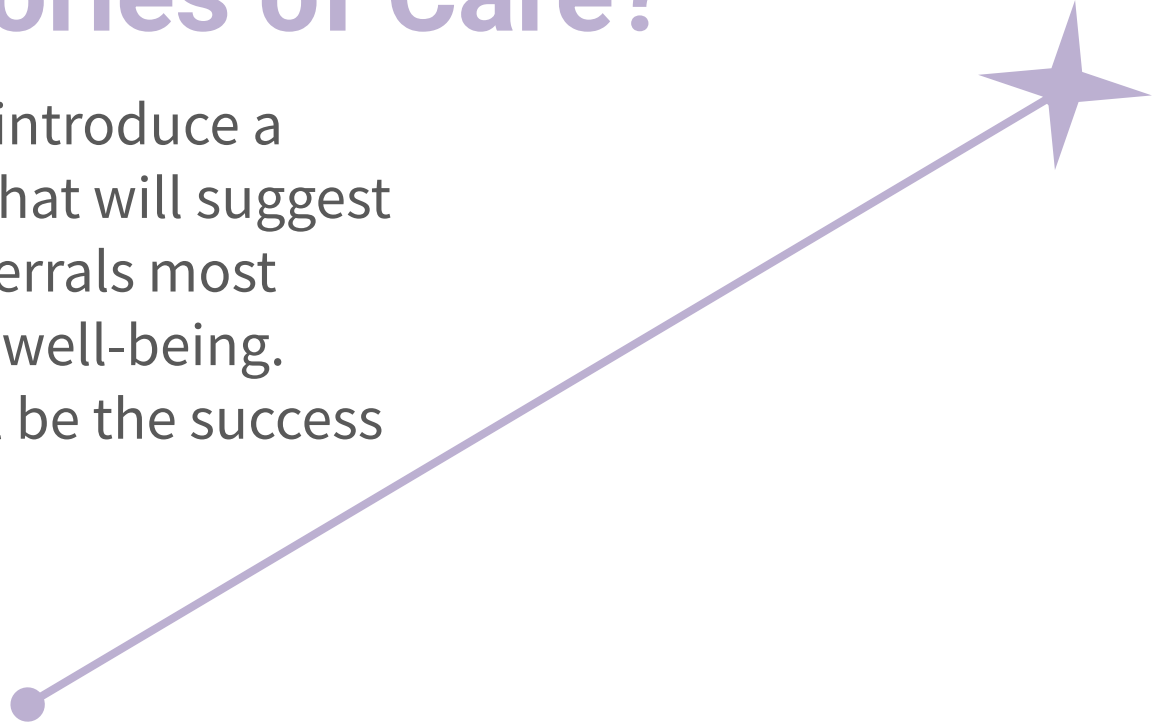esteem

love & belonging

safety needs

physiological needs

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Why Trajectories of Care?

referral

Our eventual goal is to introduce a recommender system that will suggest the referral or set of referrals most likely to improve client well-being. Trajectories of Care will be the success metric we optimize for.

client need

Why Trajectories of Care?

RQ1 How do social care providers rate the acuity of social care needs?

RQ2 What factors do referral network employees use to evaluate a client's trajectory of care?

RQ3 What are the characteristics of trajectories of care?

RQ4 What factors influence these trajectories of care?

RQ 1 **How do social care providers rate the acuity of social care needs?**

RQ 2 What factors do referral network employees use to evaluate a client's trajectory of care?

RQ 3 What are the characteristics of trajectories of care?

RQ 4 **What factors influence these trajectories of care?**

RQ1

How do social care providers rate the acuity of social care needs?

21 interviews

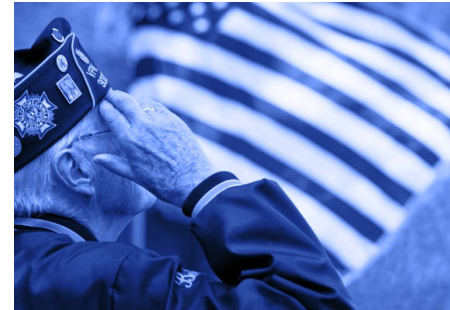**130** survey responses

122 services ranked

3 categories

Our team conducted intake provider interviews & surveys to answer:

How do social care providers rate the acuity of social care needs?

Their responses informed our classification of services into three different types of need.

Understanding U.S. Veterans and Military Connected Individuals' Needs

A Conceptual Framework for Identifying the Level of Need and Co-occurring Needs

Network for Nonprofit and Social Impact
Northwestern University

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Authors
Marwa Tahboub, Tatum Thomas, Lucia Koo, Qiwen Zhang, Michelle Shumate

HIGH

Housing Assistance · Rent / Mortgage Assistance · Counseling Services · Mental Wellness · Internal Utility Services · Family Counseling · Checking on Status of Housing · PTSD Counseling Services · Internal Rent Referral · Mission United North Texas · Mental Health Reforms

Literal Homeless · Homeless Services · MST Survivor Programs · Anxiety & Depression Counseling · Domestic Violence · Merge Wellness - Internal · Housing Services · Counseling for Youth

Financial Assistance Other · Financial Assistance · Financial Education · Career Search and Placement · Internal Mortgage Referral · Outpatient Care · VA Healthcare Enrollment · Addiction Counseling · Medical · Food Assistance · Veteran Disability Benefits Assistance · VA Care · Health Care Navigation

Internal Food Resource · Resource Referral · Youth Mentoring · Career Workshops · Child Care Programs · Career Coaching / Mentoring · General Inquiry · Commensurate Job Services · Basic Needs · Food Pantries / Resources · Utilities / Power / Water Assistance

VA Benefits · Internal Legal Aid · Resume Writing · Transition Workshop · Car Repairs · Veteran Family Resources · eBenefits · Personal Budgets / Growth · Dental · Mental Counseling · Burial & Cremation · Low Income Taxpayer Clinic

Veteran Benefit Counseling & Appeals · Home Repair · Transportation · Vehicle Repairs · Furniture Assistance · Housing Law · Employment Law · Resource Assistance · Referral · Veteran Retreats · Wraparound Career Services · GI Bill Support

Life Coaching · Professional Attire · Military Spouse Groups · Entrepreneurship Resources · Personal Budgets / Growth · Leadership Development · Education Advisory Services · Family Law · Disability Benefits · Veteran Resources · Womens Health · Benefits

Professional Networking · Home Repair / Improvement · Appeal VA Disability Benefits

Consumer / Credit Issues · Wills & Trusts · Certifications · Business Community · Peer Mentoring Groups · LinkedIn Services · Volunteer Leadership Programs · Become A Career Mentor · Career Mentoring · Interview Coaching

ID Restoration · Community Involvement · Couple & Marriage Retreats · Harkwood Act Assistance · Clearing Criminal History · Service Project Volunteer · Scholarship Research · Peer Mentor Training

Socials and Mixers · Yoga · Hunting · Sober Events · Cycling · Camping · Functional Fitness · Veteran Volunteering Programs · Meditation · Canoeing / Kayaking

Gym Workouts · Adaptive Sports Programs · Concerts · Family Get Togethers / Retreats · Tickets to Sporting Events · Caregiver Retreats · Fishing

Disaster Financial Aid · Yard work · Telehealth · Four Block Foundation inc · Corporate Interest Service

LOW

03. Non-essentials

- Entrepreneurship
- Sports & Recreation

03
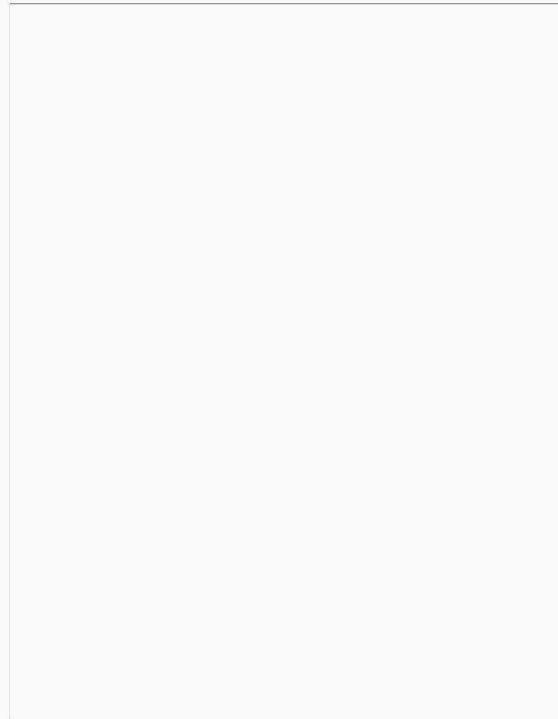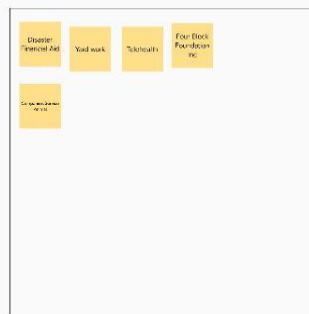
01. Basic needs

- Clothing & Household Goods
- Mental & Behavioral Health
- Individual & Family Support
- Financial Assistance
- Food Assistance
- Housing & Shelter
- Employment
- Physical Health
- Transportation
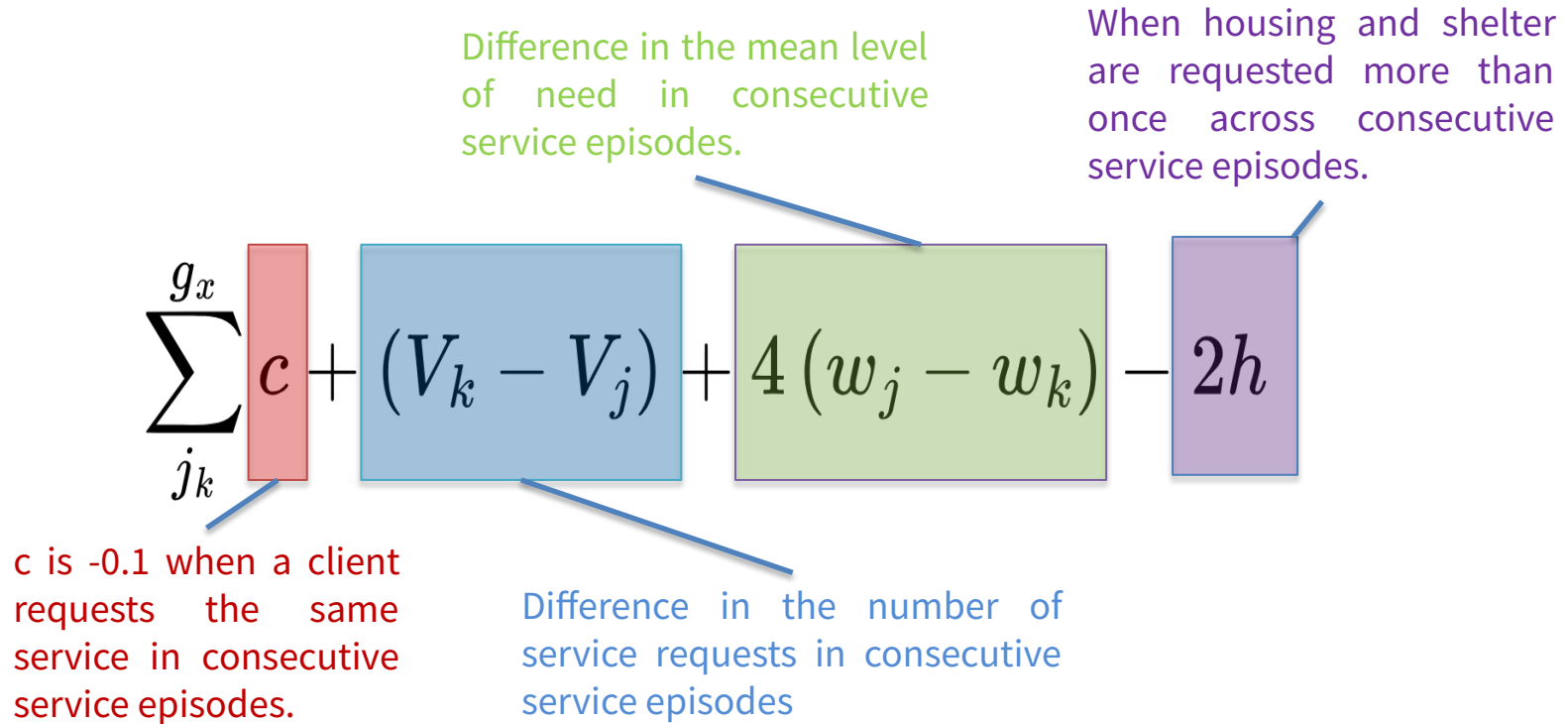- Utilities

02

01

02. Stressors

- Community Engagement
- Education
- Home Loans & Realtor Assistance
- Home Repair
- Legal Assistance
- Money Management
- Social & Spiritual Enrichment
- VA & Other Benefits Counseling

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Trajectories of Care Metric

Difference in the mean level of need in consecutive service episodes.

When housing and shelter are requested more than once across consecutive service episodes.

$$\sum_{j_k}^{g_x} c + (V_k - V_j) + 4(w_j - w_k) - 2h$$

c is -0.1 when a client requests the same service in consecutive service episodes.

Difference in the number of service requests in consecutive service episodes

Metric Validation

concurrent

We compared the level of need associated with referrals and a survey-based measure of client mental wellbeing (WHO GAP-5)

expert

We compared the trajectories of care metric with independent expert ratings of 500 clients' case records

discriminant

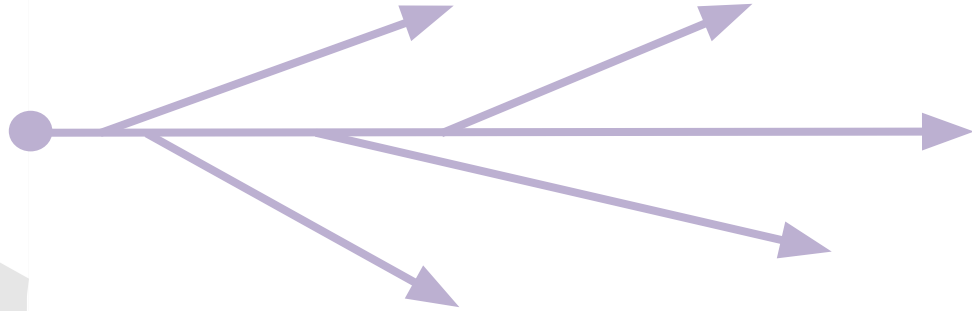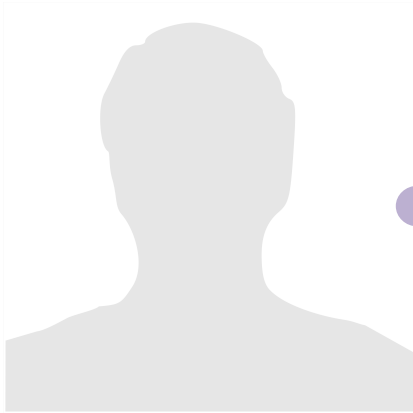We compared the trajectories of care metric to clients' average success rates.

RQ4

What factors influence these trajectories of care?

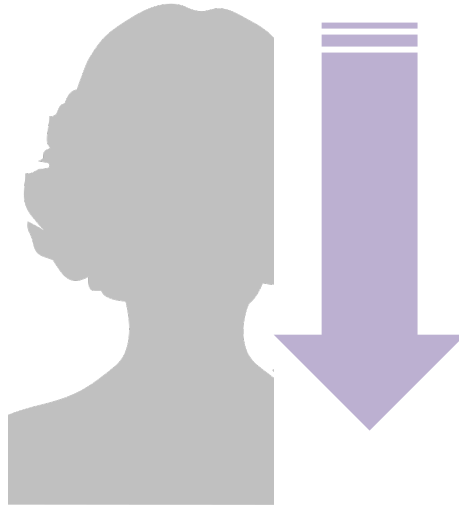**demographic factors** & **dynamic case factors**

neutral

Although age and income level are statistically significant, they made no practical difference to clients' trajectories because the coefficients of these two factors are close to 0.

negative

Being a female, served during or after the Vietnam War, being an African-American, and owning a residence had negative influenced trajectories.

demographic factors

positive

Clients with higher complexity (i.e., requesting more types of services in the first service episode) tended to have higher trajectories of care.

dynamic case factors

Recognizing and addressing the **multifaceted** nature of client needs enhances the operational efficiency of case resolution and client satisfaction and strengthens veterans' long-term well-being.

The trajectories of care metric is a **cost-effective approach** for referral networks to evaluate service episodes and client outcomes for returning clients.

Instead of case volume or number of referrals, networks can **holistically** understand how clients enter and navigate through their systems as their needs and outcomes change over time.

looking forward

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