The reliability and validity of the Vulnerability Index and a community-based revised version from Fort Worth, TX

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In 2008, the City of Fort Worth adopted Directions Home (DH): a 10 year plan to make homelessness rare, short-term and non-recurring.

2009: Municipal funding created 200 new Permanent Supportive Housing (PSH) units.

Paradigm shift: housing readiness approach to a Housing First model (Stefancic & Tsemberis, 2007).
The Vulnerability Index as a housing prioritization tool

- **Vulnerability Index** (VI; 100khomes.org.) created by NYC-based Common Ground, based on mortality research by Boston’s Healthcare for the Homeless program (Hwang et al, 1998)

- As of March 2013, more than 40,000 VI’s have been collected in a national database (100khomes.org, 2013); to date there has been **minimal psychometric evaluation** of this tool (Cronley, et.al, in press)
A closer look at the Vulnerability Index

People who take the Vulnerability Index receive a score from 0 (not scored at all or no vulnerability) to 8 (highest level of vulnerability).

- To receive a score of 1 or higher, a person must be homeless for a **minimum of 6 months**.

- Additionally, each of the following is worth 1 point:
  - 1. Kidney/renal disease
  - 2. Frostbite, hypothermia, immersion foot
  - 3. Liver disease
  - 4. HIV+ or AIDS
  - 5. Over 60 years
  - 6. Three or more emergency room visits in previous 90 days
  - 7. Three or more ER or hospitalizations in prior year
  - 8. Tri-morbidity: psychiatric disorder, substance abuse & chronic health condition
Initial Fort Worth Community Response to the Vulnerability Index (2008)

- Initial pushback- no more agency level control
- Items were added, but not included in scoring criteria

Does Boston translate to Fort Worth?
- Cold weather injuries
- Self-report versus health records
2009: More local concerns with VI

- Some people with serious health concerns received a score of zero

- Confidential data about health status was uploaded into a national database

- Some questions were overly broad (e.g., mobility and vision impairment) or subjective

- Hundreds received scores of 1 and 2

- Sole focus on mortality
“The Fort Worth Way”*

- Concerns were raised routinely in quarterly evaluation interviews with Directions Home (DH) staff and monthly DH consumer advisory meetings.
- The DH continuous improvement process led to the creation of a task force in the spring of 2010.
- The Fort Worth Vulnerability Task Force met 4 times and included two Delphi Surveys in between meetings.

* A phrase coined by Former Fort Worth Mayor Mike Moncrief referring to the uniqueness of our community as well as sense of compassion for one another.
Task Force process & Delphi method

- Meeting 1: Introduction to process and literature
- Interim Survey 1: Assessment of preferred solutions
- Meeting 2: Reviewed survey findings, discussed literature
- Interim Survey 2: Identification of vulnerability characteristics
- Meeting 3: Reviewed survey findings, compared proxy versions
- Interim questionnaire development
- Meeting 4: Refined conceptual definition of vulnerability, developed weighting criterion and new scoring system
Key Task Force process findings

- Of the 12 participants, 8 responded to the initial survey:
  - 50% agreed that the VI should be used in some capacity but only 12.5% wanted it as 1st method
  - 50% agreed that we should create a new way to score the VI
  - 37.5% agreed we should use the VI scores and another method
  - 87.5% agreed that agencies should participate in the decisions

- Voted to establish a committee to review case manager recommendations and special circumstances
Revising the VI

- Second survey resulted in the suggestion of new items or modifications:
  - Sexual assault while homeless
  - Heart surgery
  - Being blind or deaf
  - Requiring assistive devices for mobility
  - Having an 8th grade or less level of education
  - Having swollen, infected or open wounds
  - Difficulty controlling body functions
  - Congestive heart failure
  - Chronic obstructive pulmonary disease (COPD)

- The task force reached a consensus agreement on an expanded definition of vulnerability
The Fort Worth Vulnerability Assessment (FWVAS)

- **Triple weighted items** appear to be urgently life limiting or a threat to public health
  - Kidney disease, liver disease, heart disease or arrhythmia, cancer, heart surgery, HIV/AIDS

- **Double weighted items** increase risk of harm or injury, or represent a condition that may be exacerbated if an individual remains homeless
  - Over age 60, diabetes, physical mobility problems, homeless 6+ months, Hepatitis C, COPD, congestive heart failure, stroke, legally blind or deaf

- **Single weighted items** represent general health concerns or more serious concerns that one would expect to be managed closely by health professionals
FWVAS cont.

■ Single point items:
  ■ Tuberculosis
  ■ Mental health warrant, mental health tx
  ■ Emphysema, asthma
  ■ 3 or more hospital admissions in 1 yr, 3 or more ER visits in 3 mos
  ■ IV drug use, substance abuse tx, substance abuse problem
  ■ 8th grade education
  ■ Injured in an attack while homeless, sexually assaulted while homeless
  ■ Swollen or infected wounds, control over bodily functions, Frost bite or immersion foot
  ■ Trimorbidity (health/mental health/substance abuse)
Correlates between VI & FWVAS

- Enrolled PSH clients ($n = 271$):
  - $0.549$ ($p < 0.001$)

- All assessments ($n = 1519$):
  - $0.658$ ($p < 0.001$)
*Sample only includes clients enrolled in voucher program (n=271 w/17 deaths/health disenrollments)
# Basic psychometric comparisons

<table>
<thead>
<tr>
<th>Description</th>
<th>Vulnerability Index ($N = 1483$)</th>
<th>Fort Worth Vulnerability Assessment Scale ($N = 962$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>25 measured and 8 scored items with a possible score of 0 to 8</td>
<td>32 scored items with a possible score of 0 to 52</td>
</tr>
<tr>
<td>Mean SD Actual Range</td>
<td>.66 .89 0 to 5</td>
<td>7.9 5.6 0 to 38</td>
</tr>
<tr>
<td>Reliability/Internal Consistency: Cronbach's alpha</td>
<td>.35</td>
<td>.74</td>
</tr>
</tbody>
</table>
Conclusions

- More psychometric work on the Vulnerability Index is needed
- Fort Worth was able to address some key local concerns:
  - Greater variability provided guidance on who should be “next in line” for an open housing voucher
  - Content validity was increased by expanding the operational definition of vulnerability
  - Supported a mechanism to respond to those with high needs but less than 6 months of homelessness
  - The creation of a “tenant solutions committee” provides an inter-agency context to review concerns
Additional Concerns About Housing Placement and Prioritization

- Some high-scoring individuals are not appropriate for Permanent Supportive Housing
  - Need more/better assisted living options
  - Medical respite
  - Group homes

- Vulnerability may increase for victims of domestic violence after housing
THANK YOU!!!

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References

100,000 homes campaign. (2013). www.100khomes.org


