Beyond Public Benefits: Measuring Multidimensional Well-Being in Tennessee's TANF Opportunity Pilots

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TENNESSEE OPPORTUNITY PILOT INITIATIVE

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About this Brief

In 2021, the Tennessee Department of Human Services (TDHS) launched the Tennessee Opportunity Act Pilot Initiative (TOPI) to evaluate new ways of improving family well-being. MEF Associates conducted the evaluation of TOPI. As part of this work, TDHS asked MEF to go beyond examining income and safety net program use to better understand participants' well-being. In response, MEF developed a Multidimensional Hardship Index (MHI) that captures hardship across five dimensions: economic security, education and training, health, standard of living, and relational resources. This brief reviews research on multidimensional well-being measurement, describes how we built the MHI using TOPI program assessment data, presents findings on hardship levels at program entry and how they changed over time for study participants in three pilots, and discusses key takeaways, limitations, and directions for future research. The methods and lessons from this work can inform how Tennessee and other states measure well-being in future human services initiatives.

Acknowledgements

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Key Findings

- **Income-based poverty measures miss a substantial share of hardship.** Research shows that a meaningful portion of people experiencing hardship in areas like health, housing, and education do not fall below income thresholds and would be invisible to income-only poverty measures.
- **Most participants entered the Tennessee Opportunity Act Pilot Initiative (TOPI) facing hardship in multiple areas at once, and the type and intensity of that hardship varied across pilots.** All three pilots served families with overlapping challenges across economic security, health, and standard of living. Yet despite all participants meeting Tennessee's low-income criteria, the dimensions and severity of need differed considerably, underscoring the value of measuring well-being across multiple dimensions.
- **Hardship declined significantly over time at two pilots, though the pace and dimensions varied.** These are descriptive findings and do not establish that the pilots caused these changes.
- **Health-related hardship was common and did not change significantly at two pilots.** This is a gap that income-based measures would miss and one that future program design could address directly.
- **Program data can support holistic well-being tracking.** The Multidimensional Hardship Index shows how existing program data can measure participant well-being across multiple dimensions over time. The approach is replicable and can guide future efforts in Tennessee and beyond.

Introduction

Tennessee's Families First program is the state's Temporary Assistance for Needy Families (TANF) program. It supports participants in moving toward self-sufficiency by offering temporary cash assistance, transportation support, childcare assistance, educational support, job training, employment activities, and other services. In 2021, Governor Bill Lee signed the TANF Opportunity Act into law, introducing key reforms to the Families First program (Tennessee Department of Human Services, 2022). The legislation increased monthly cash assistance, launched pilot programs, created a community grants program, formed a TANF advisory board, and established guidelines for TANF reserve funds (Public Chapter No. 515, 2021; Tennessee Department of Human Services, n.d.).

As part of this legislation, the Tennessee Opportunity Act Pilot Initiative (TOPI) allocated $175 million to fund seven pilot programs offering a range of services to help families achieve self-sufficiency (Public Chapter No. 515, 2021; Tennessee Department of Human Services, 2022): A Father's Involvement Really Matters (AFIRM), Connecting Forward, East Tennessee Collaborative (ETC), Empower Upper Cumberland (Empower UC), Growing Relational and Occupational Wealth in West Tennessee Households (GROWWTH), Our ChanceTN, and STRONG Families Northeast Tennessee (STRONG Families NETN). Appendix A provides a detailed overview of each pilot program. Participants were eligible for the pilot programs if they met at least one of Tennessee's low-income criteria[1], including: living at or below the

[1] Tennessee established this standardized low-income eligibility criteria in 2020 and incorporated it into the state's TANF plan. The criteria are used across multiple TANF-funded initiatives to define income eligibility consistently.

Federal Poverty Level; being eligible for Medicaid; receiving or being eligible for safety net programs such as Families First (TANF) or the Supplemental Nutrition Assistance Program (SNAP); being unemployed or verified as having no income; living in Section 8 or low rent public housing; or being eligible for the National School Lunch Program.

The Tennessee Department of Human Services (TDHS) partnered with MEF Associates (MEF) to evaluate TOPI. As part of this effort, TDHS asked MEF to explore a new way to "*measure public support dependency*[2] *among customers before, during, and after participation in the pilots*." In plain terms, TDHS wanted to understand whether participants' reliance on safety net programs changed as they engaged with the pilots and whether looking at benefit use alone gave a complete picture of families' well-being. TDHS recognized that relying solely on the use of safety net programs could overlook individuals experiencing hardship who do not receive safety net benefits and miss other critical dimensions beyond income.

To meet TDHS's goal of a more holistic approach to measuring well-being, we used a multidimensional framework that looked beyond income and safety net program use to better understand the well-being of TOPI participants and the hardships they experienced (Exhibit 1). This approach recognizes that even when families are not receiving public benefits, they may experience hardships in areas such as economic security, education and training, health, standard of living, and relational resources. In this brief, we begin by reviewing recent research on multidimensional approaches to measuring well-being. Next, we describe our data sources and methods, present our findings,[3] and conclude with key takeaways and a discussion of limitations.

Exhibit 1. The five dimensions of the TOPI multidimensional wellbeing framework.

Why we look beyond income

Poverty is one of the most common ways to measure well-being. In the U.S., poverty is defined based on income compared to a fixed threshold. The Official Poverty Measure (OPM), first developed in the 1960s, compares pre-tax income to a poverty threshold that reflects the cost of a basic food diet (U.S. Census Bureau, n.d.a.; U.S. Census Bureau, n.d.b.). The threshold varies by family size and composition, does not vary by geography, and adjusts for inflation (U.S. Census Bureau, n.d.a.). The Supplemental Poverty Measure, introduced in 2011, improves on the OPM by accounting for additional resources

[2] In keeping with other products MEF has developed under this contract, we use the term "use of safety net programs" to refer to individuals' and families' receipt of public benefits.

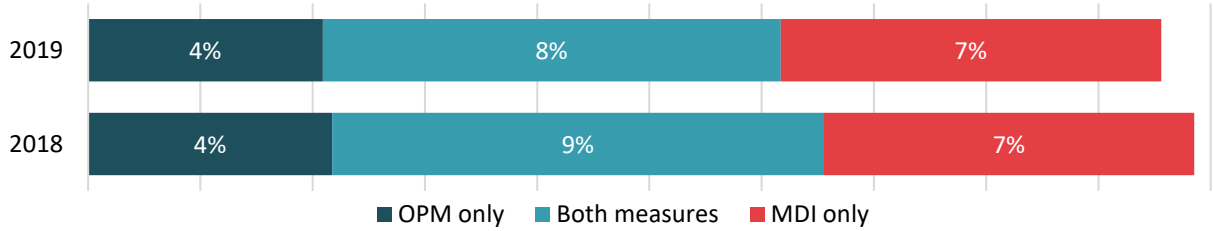
[3] This is a descriptive analysis, and findings do not establish that the pilots caused these changes.

received (such as safety net benefits), geographic cost-of-living differences, and necessary expenses like health care and childcare (U.S. Census Bureau, n.d.b.).

Both measures have limitations because they primarily rely on income, which does not fully capture all the dimensions of people's well-being. As described in MEF's literature review on self-sufficiency (Stepleton et al., 2024), researchers increasingly look beyond income to consider multiple factors that affect well-being, such as education, housing, and health. Researchers have developed multidimensional measures like the Multidimensional Poverty Index (MPI), Multidimensional Deprivation Index (MDI), and Multidimensional Hardship Index (MHI) that offer a fuller picture of hardship, especially for those served by safety net programs (Dhongde & Haveman, 2022; Glassman, 2021).

Glassman (2021) clearly illustrates the gap between income-based measures and multidimensional measures of hardship. Using American Community Survey (ACS) data, he found that in 2018 and 2019, about 12 percent of people were poor by OPM standards (blue bars), but another 7 percent were not poor by income standards but still experienced hardships in other areas (red bars) (Exhibit 2). In a separate study, Dhongde and Haveman (2022) found comparable results: between 2008 and 2019, about 13 percent of people experienced either income poverty or multidimensional poverty, but only about 6 percent experienced both. Together, these findings suggest that a substantial share of hardship is not captured by income measures alone.

Exhibit 2. Overlap of U.S. Census MDI and OPM in 2018 and 2019



Source: Adapted from Glassman (2021).

Studies have found that multidimensional poverty rates were consistently higher than income poverty rates for most demographic groups, with particularly large gaps for working-age adults, Hispanic and foreign-born individuals, married people, and adults with disabilities. This suggests that income measures systematically undercount hardship among the groups most likely to experience it (Glassman, 2021; Mitra and Brucker, 2017).

As of 2025, 49 countries, mostly in emerging and developing economies, use national or local multidimensional poverty indices as official measures (Multidimensional Poverty Peer Network, n.d.). In advanced economies like the U.S. and Europe, researchers have studied these indices, but they are not yet official measures (Glassman, 2021). This growing adoption reflects increased recognition that income is an incomplete proxy for well-being.

How researchers measure multidimensional well-being

Researchers use a range of dimensions to measure multidimensional poverty, anywhere from three to 17, depending on the data available (Glassman 2021). Most use the Alkire-Foster dual-cutoff method (Alkire & Foster, 2011). This method first sets a threshold for hardship within each dimension. For example, lacking a high school diploma counts as a hardship in education. The method then sets a

threshold for the number of dimensions. For example, if the threshold is two or more, someone experiencing hardship in both education and health would be considered multidimensionally poor.

U.S. researchers have used this method with dimensions like education, income, employment, and health, and relied on national surveys, including the ACS (Dhongde et al., 2019; Dhongde & Haveman, 2022; Glassman, 2024; Glassman, 2021; Mitra & Brucker, 2017), the Current Population Survey (Dhongde & Dong, 2022; Mitra & Brucker, 2017; Mitra & Brucker, 2019), and the General Social Survey (Wagle, 2014). They have consistently found that multidimensional poverty rates exceed income poverty rates. Appendix B summarizes the dimensions and indicator thresholds used in prior studies.

How we built the Multidimensional Hardship Index

We developed a Multidimensional Hardship Index (MHI) to measure the range and intensity of challenges TOPI pilot program participants face, beyond whether they receive public benefits or fall below an income threshold. We calculated an MHI score for each participant at intake and at follow-up points throughout the program, which allowed us to track whether participants were facing hardship in one dimension or many, and whether that changed over time.

We used the term MHI to reflect evolving terminology in the literature and use strengths-based language. Our approach builds on the multidimensional framework in MEF's literature review on self-sufficiency, which emphasizes that connected factors influence a person's ability to achieve self-sufficiency (Stepleton et al., 2024). These include structural barriers (e.g., systemic inequities and labor market conditions), community and local environments (e.g., access to resources and support networks), family well-being (e.g., caregiving responsibilities and household stability), and individual circumstances (e.g., education, health, and job skills).

Data sources

For this MHI analysis, we used assessment data collected by pilot programs from individuals who consented to participate in the TOPI evaluation.[4] These assessments captured information on employment, education, health, housing stability, food security, and support networks, allowing us to construct indicators of hardship across multiple domains and track changes over time. We drew from three types of assessments: (1) **Intake assessments** were conducted soon after study enrollment and established a baseline of demographic and socioeconomic characteristics, (2) **Quarterly assessments** tracked study participants' progress throughout the program, and (3) **Exit assessments** provided insight into study participants' circumstances at program completion.

Study sample

We included study participants who completed both an intake assessment and at least one quarterly or exit assessment. This allowed us to observe changes over time. We excluded the waitlist control groups used by three of the seven pilot programs because those participants did not receive services and were often not required to complete quarterly assessments. Assessment completion rates varied across the

[4] Our TOPI impact evaluation examines the effectiveness of the pilot programs (or specific components) in improving the economic security and well-being of families with low incomes. To measure impacts, we use two types of randomized controlled trial designs—differential designs and delayed intervention designs. Participants provide consent to be in the study and are then randomized into one of two or three service groups.

seven pilots, affecting the size and representativeness of the data. As a result, findings should be interpreted as representative of participants with follow-up data rather than all enrolled participants. To ensure robust analysis, we focused on three pilots with high assessment completion rates (Exhibit 3).

Exhibit 3. Study participants included in the MHI analysis, by pilot[5]

Pilot	% completed intake & at least one quarterly or exit	Number of people in the analytic sample
Pilot A	80%	502
Pilot B	81%	279
Pilot C	86%	307

Source: Authors' computations of TOPI assessment data

How we measured hardship

We used the Alkire-Foster method (Alkire & Foster, 2011) to define hardship consistently and transparently across participants and dimensions. The method involved three steps:

1. **Identify dimensions and indicators of hardship.** Based on available data, we selected five core dimensions: economic security, education and training, health, standard of living, and relational resources. Each includes indicators that reflect major hardship.[6]
2. **Set thresholds for each indicator.** We identified study participants as experiencing hardship if they met or exceeded a threshold aligned with research and policy benchmarks. For example, someone was identified as experiencing economic security hardship if unemployed or underemployed, or standard of living hardship if they had experienced eviction or food insecurity in the past year.
3. **Set a threshold for multidimensional hardship.** We classified participants as experiencing multidimensional hardship if they experienced hardship in at least two of the five dimensions, a threshold commonly used in research to capture overlapping hardships rather than isolated issues.

The MHI produces both a count of hardship dimensions (ranging from zero to five) and a binary indicator of multidimensional hardship (two or more dimensions). We weighted each dimension equally, consistent with common applications of the Alkire-Foster method. Within each dimension, we also weighted indicators equally. We used standard indicators and thresholds when available. For example, we defined education hardship as lacking a high school diploma or GED, consistent with other studies. We also leveraged unique data to include original indicators, such as self-reported severe mental illness in the health dimension. Exhibit 4 lists the dimensions, indicators, and thresholds we used for the MHI. Appendix B compares our selected dimensions with those in other multidimensional poverty indices.

[5] For Pilot A, this study included all people who were randomized into the enhanced and standard treatment groups. For Pilots B and C, this study included only those randomized into the immediate services groups.

[6] We treated missing responses as missing rather than estimating values and excluded participants missing more than 20 percent of items in a given dimension, which reduces the risk of misclassifying hardship but results in smaller analytic samples.

Exhibit 4. Multidimensional hardship measurement for study participants

Dimension	Indicator	Description of indicator thresholds
Economic Security	Employment Status	Unemployed
		Underemployed, i.e., worked less than 25 hours per week
Education and Training	Educational Level	Lacks a high school diploma/GED
Health	Health Insurance	Lacks Medicaid or other health insurance
	Health Status	Rates overall health as fair or poor
	Disability status	Has a disability that prevents or limits work
	Mental Health	Experiencing severe mental illness
Standard of Living	Housing Insecurity	Evicted or facing eviction in the past 12 months
	Food Insecurity	Unable to afford food in the past 12 months
Relational Resources	Support System	Lacks confidence in navigating support systems

Notes: We constructed the mental health indicator using responses to the Kessler-6 scale. Individuals were identified as experiencing hardship if they reported severe mental illness, defined as a score of 13 or higher (Kessler et al., 2002).
We based the support system indicator on responses to the statement: "I feel confident navigating the support system to receive the resources needed for myself/my family." Participants who responded with "This is a bit of a problem for me/my family" or "This is a huge problem for me/my family" were categorized as experiencing hardship.

Results

We begin by examining the Multidimensional Hardship Index (MHI) at intake to understand the hardship levels study participants experienced when they entered the program. We then track how hardship changed over time by analyzing shifts in MHI scores across dimensions. All exhibits in this brief are based on our computations of TOPI assessment data.

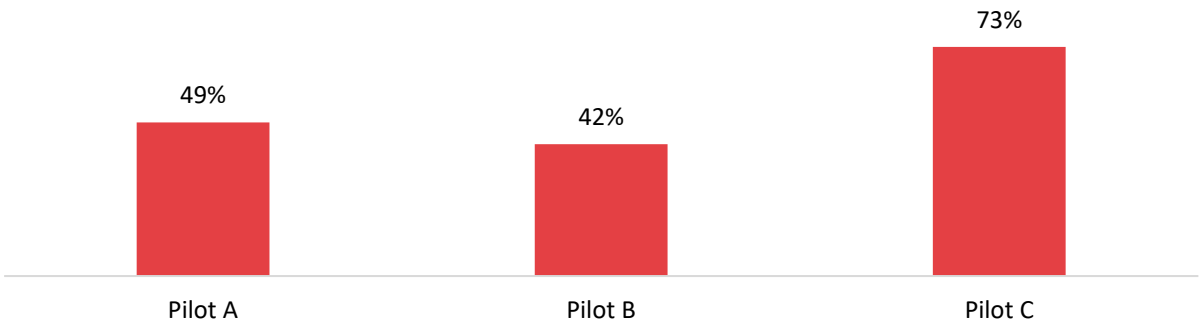
A note on interpretation: This is a descriptive analysis. We can describe how participants' well-being changed, but we cannot conclude that the pilots caused those changes. Our analysis does not compare experimental groups or account for outside factors that may have influenced participants' situations. People's circumstances can change for many reasons, such as employment shifts, income changes, or life events. In short, the analysis describes study participants' well-being at multiple time points and shows how their experiences shifted during the program, but it does not establish causality.

MHI at intake

We first looked at how many study participants experienced multidimensional hardship before enrolling. Understanding hardship levels at intake provides important context for interpreting changes over time and for assessing whether the pilots are serving families with complex needs.

Since the initiative focused on families with significant needs, it is not surprising that nearly half (49 percent) of Pilot A study participants and 73 percent of Pilot C study participants experienced multidimensional hardship at intake (Exhibit 5). Pilot B had a lower share (42 percent) of study participants experiencing multidimensional hardship at intake.

Exhibit 5. Share of study participants experiencing multidimensional hardship at intake, by pilot



The variation in multidimensional hardship at intake across pilots aligns with what we know about the populations and areas each pilot served. Pilot C served rural counties with fewer employment opportunities and more limited access to transportation, health care, and support services. As noted in our interim report, baseline analysis showed that Pilot C study participants had higher levels of need (Schaefer et al., 2025). Only 53 percent were employed at program entry, compared to 67 percent at Pilot B and 68 percent at Pilot A. In addition, 22 percent had been evicted or forced to move in the past 12 months (compared to 6 percent at Pilot B and 9 percent at Pilot A), and 72 percent had been unable to pay for food in the past 12 months (compared to 43 percent at Pilot B and 47 percent at Pilot A). Together, these data suggest that Pilot C served a population experiencing more severe and varied hardship at entry.

Next, we examined hardship across the five dimensions at intake to identify where study participants faced the greatest need. Exhibit 6 shows the share of study participants in each pilot who experienced hardship in each dimension at intake.[7] Overall, the most common hardships at intake were in economic security, health, and standard of living across all three pilots.

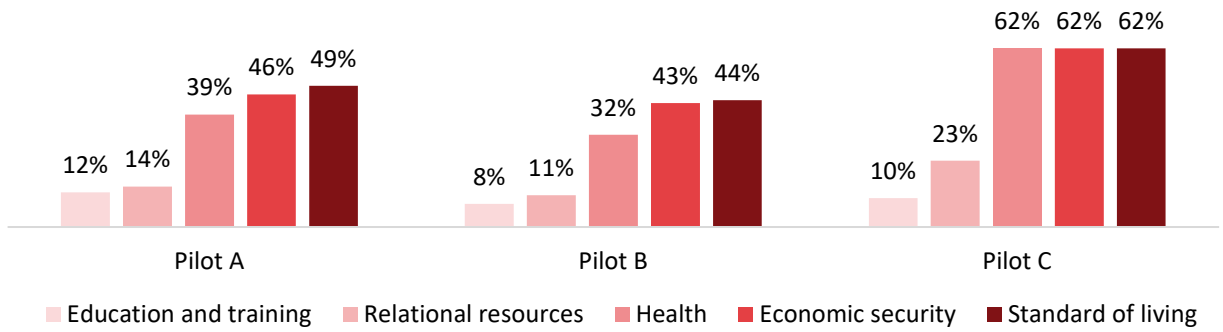
- **Economic security.** Pilot C had the highest share (62 percent), reflecting high unemployment. Fewer than half of the Pilot A and Pilot B study participants experienced hardship in this dimension.
- **Education and training.** About one in ten study participants across all three pilots experienced hardship in this dimension, making it the least prevalent hardship domain at intake. This means that the majority of participants entered the pilots with a high school diploma or GED.
- **Health.** Pilot C again had the highest share (62 percent), based on poor self-reported physical and mental health. Fewer than half of the Pilot A and Pilot B study participants experienced hardship in this dimension.
- **Standard of living.** Pilot C had the highest share (62 percent), driven by food insecurity. About half of the Pilot A study participants and 44 percent of the Pilot B study participants experienced hardship in this dimension.

[7] The tables in Appendix D provide additional detail by presenting the share of participants experiencing hardships in each indicator, broken down by pilot, dimension, and measurement timepoint.

- **Relational resources.** Fewer participants experienced hardship in this dimension. At Pilot B, about 11 percent did, compared to 23 percent at Pilot C.

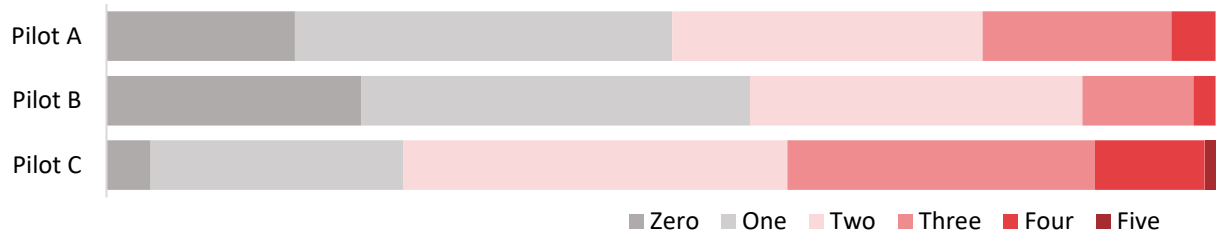
Although all participants met Tennessee's low-income criteria, these findings show that the type and intensity of need varied across pilots. This highlights the importance of tailoring support to the specific hardship participants experience and recognizing that income eligibility alone does not capture variation in multidimensional hardship.

Exhibit 6. Share of study participants experiencing hardship at intake, by pilot and dimension



Finally, we looked at how many participants experienced multiple hardships at once to understand whether they faced isolated issues or compounded challenges. Exhibit 7 shows the distribution of study participants by the number of hardship dimensions experienced at intake. The shades of grey and red represent increasing hardship, from zero dimensions (no hardships)[8] to five dimensions (hardship in all areas). Pilot A and Pilot B had higher shares of study participants with no hardship at intake (17 percent and 23 percent, respectively) compared to Pilot C (4 percent). Pilot C had the highest share of study participants experiencing hardship in four or five dimensions (11 percent), compared to 5 percent at Pilot A and 2 percent at Pilot B. In other words, participants in Pilot C were more likely to experience compounded hardship across multiple domains rather than isolated challenges.

Exhibit 7. Share of study participants experiencing hardships at intake, by pilot and number of dimensions



[8] TOPI included several eligibility criteria, and individuals only needed to meet one to qualify. The dark grey bar represents individuals who did not meet our threshold for self-reported hardship but were still eligible based on other criteria, e.g., receiving SNAP benefits, or living in Section 8 housing.

How hardship changed over time

We use two approaches to track changes in MHI. First, we compare study participants' MHI measures from intake to their first quarterly assessment. This approach provides a consistent timeframe across participants and captures early changes, though it does not reflect longer-term trends. Second, we compare MHI measures from intake to the most recent quarterly assessment within a 12-month follow-up period. This approach offers a broader view and incorporates longer-term changes while standardizing the timeframe across participants, ensuring that changes reflect a consistent observation window rather than varying program tenure. However, participants may still contribute different numbers of quarterly assessments within that 12-month window. Participants completed between one and seven quarterly assessments, depending on the pilot and program tenure, and Appendix C shows the distribution across participants by pilot. Together, these approaches offer complementary insights into how participants' well-being evolved throughout the program.

We use McNemar's chi-square tests to assess the statistical significance of changes in these binary measures. Changes marked with an asterisk (*) are statistically significant at the $p<0.05$ level. All findings are descriptive and show how participants' well-being shifted during the program, but do not establish that the pilots caused these changes.

Pilot A

Pilot A provided coaching, care coordination, supportive service payments, milestone payments, and transitional benefits.[9] The share of Pilot A study participants experiencing multidimensional hardship fell by four percentage points to 45 percent after the first quarter (Exhibit 8). Over a longer period, this share dropped by five percentage points to 44 percent at the most recent quarter. Both declines were statistically significant.

Exhibit 8. Change in multidimensional hardship over time: Pilot A

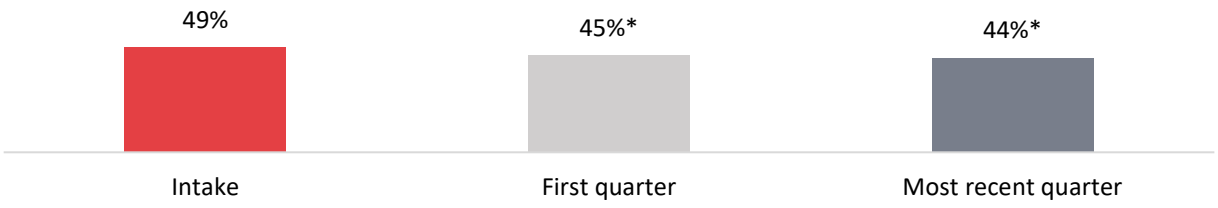
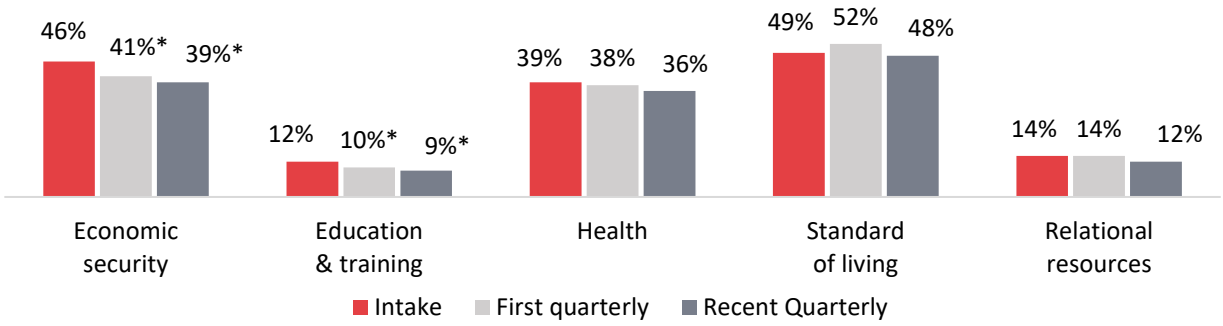


Exhibit 9 examines hardships by dimension for Pilot A study participants. The share experiencing hardship in the economic security dimension dropped significantly by five percentage points after the first quarter and by seven percentage points by the most recent quarter. At the indicator level, the share reporting they were unemployed decreased significantly by six percentage points after the first quarter and by 10 percentage points by the most recent quarter.[10]

[9] See Appendix A for more details on each pilot's services, their service area, and the population they serve.

[10] See Appendix D for supplementary exhibits showing hardship by individual indicator, pilot, and time point. These results help explain changes observed at the dimension level.

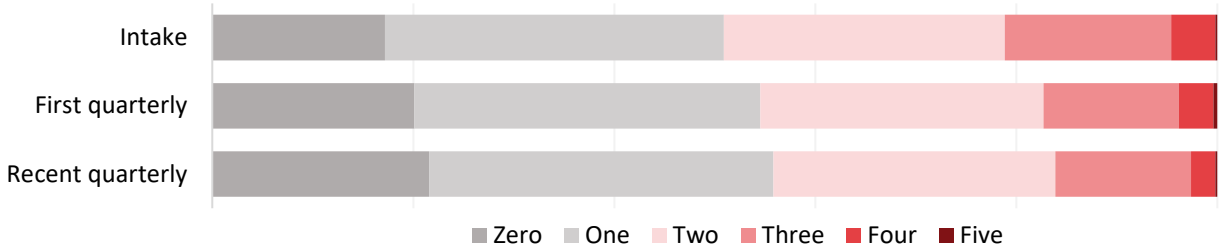
Exhibit 9. Change in multidimensional hardship by dimension over time: Pilot A



Hardship in the education and training dimension also declined significantly, by one percentage point after the first quarter[11] and three percentage points by the most recent quarter. In the education and training dimension, this change was driven by more study participants reporting they had earned a high school diploma or GED. Although overall health hardship did not change significantly, the share reporting severe mental illness declined significantly by three percentage points after the first quarter.

Finally, the share of Pilot A study participants experiencing multiple hardships declined slightly (Exhibit 10). The share experiencing no hardships increased significantly by three percentage points after the first quarter and by four percentage points by the most recent quarter. The share experiencing three hardships declined significantly by three percentage points after the first quarter.

Exhibit 10. Change in the number of multidimensional hardship dimensions over time: Pilot A



Pilot B

Pilot B provided coaching, goal setting, financial support including incentive payments, education and workforce training, and parenting education. Multidimensional hardship among Pilot B study participants did not change significantly after the first quarter, nor at the most recent quarter (Exhibit 11).

[11] Percentages in exhibits are rounded to whole numbers. Because of this, the education and training bars for intake and the first quarter appear to show a 2-percentage-point change, even though the underlying change is smaller (1.22 percentage points).

Exhibit 11. Change in multidimensional hardship over time: Pilot B

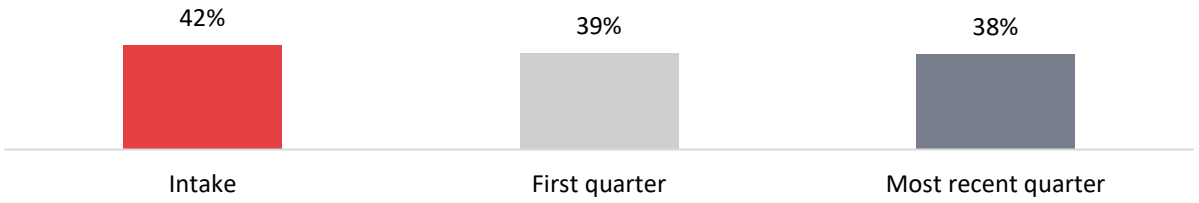


Exhibit 12 shows changes in hardship by dimension. Across the dimensions, Pilot B study participants did not experience statistically significant changes in hardship after the first quarter nor at the most recent quarter.[12] We also looked at whether participants experienced multiple hardships at the same time and did not observe any significant changes (Exhibit 13).

Exhibit 12. Change in multidimensional hardship by dimension over time: Pilot B

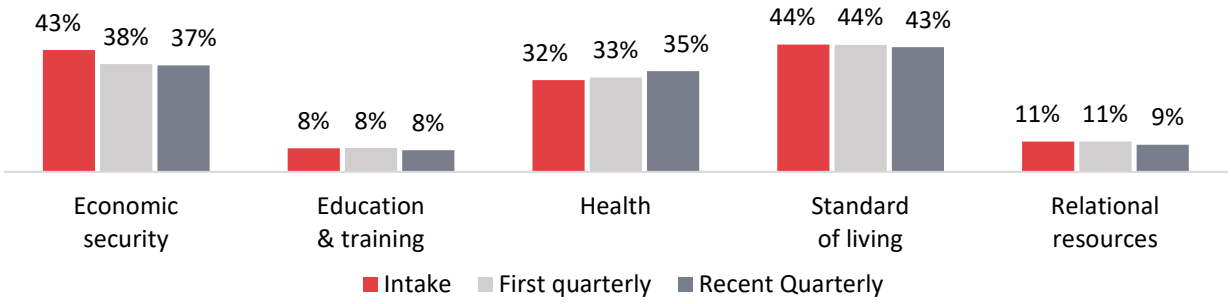
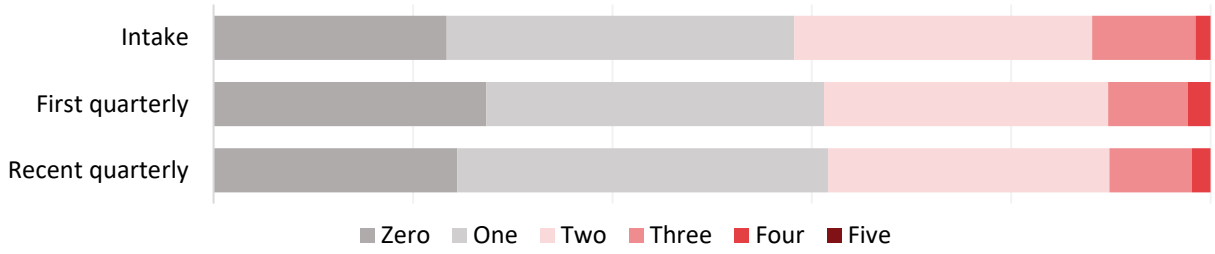


Exhibit 13. Change in the number of multidimensional hardship dimensions over time: Pilot B



[12] Two indicator-level changes are worth noting (see Appendix D). The share of participants reporting unemployment declined by six percentage points after the first quarter, suggesting some movement toward employment. At the same time, the share reporting severe mental illness increased by three percentage points after the first quarter, though this change was not sustained at the most recent quarter.

Pilot C

Pilot C provided coaching, financial support, behavioral health services, education and training, and activities to strengthen social connections. Of the three pilots, Pilot C study participants saw the largest drop in multidimensional hardship. The share experiencing multidimensional hardship fell by nine percentage points, from 73 percent at intake to 64 percent after the first quarter, and by 15 percentage points to 59 percent at the most recent quarter (Exhibit 14).[13] Both changes were statistically significant.

Exhibit 14. Change in multidimensional hardship over time: Pilot C

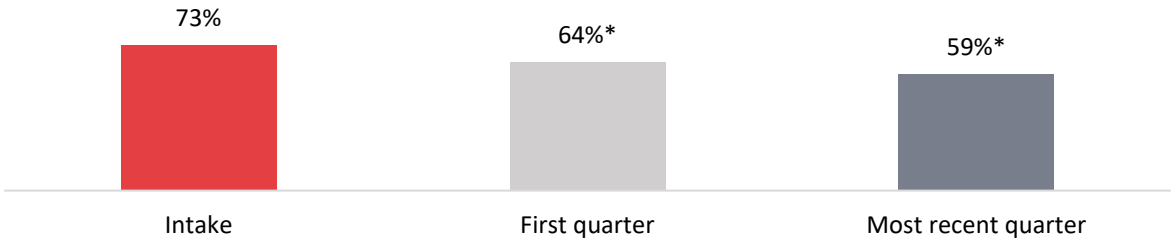


Exhibit 15 shows changes in hardship by dimension. We found significant improvements from intake to the most recent quarter in three out of five dimensions, including health, standard of living, and relational resources. We also saw significant declines in hardship in the standard of living and relational resources after the first quarter. The share of study participants who experienced hardship in the health dimension dropped significantly by eight percentage points from intake to the most recent quarter. The drop in hardship in the health dimension reflects improvements in self-reported mental and physical health. The share of participants reporting severe mental illness fell significantly by eight percentage points at the most recent quarter. Similarly, the share reporting fair or poor health dropped significantly by seven percentage points from intake to the most recent quarter.

Hardship in the standard of living dimension also declined. The share dropped by seven percentage points from intake to the end of the first quarter, and by 13 percentage points from intake to the most recent quarter. These changes reflect significant declines in food insecurity, down five percentage points after the first quarter and 11 percentage points by the most recent quarter. We also saw significant improvement in relational resources. The share of participants experiencing hardship in this dimension fell by five percentage points after the first quarter and by eight percentage points by the most recent quarter, reflecting increased confidence in navigating support systems.

While these results are promising, readers should interpret them with caution. Some improvement may reflect natural variation over time. For example, participants who initially reported high levels of hardship at intake may naturally report fewer hardships later, even without intervention, due to personal circumstances improving or other external factors.

[13] Percentages in exhibits are rounded to whole numbers. The change from 73 percent at intake to 59 percent at the most recent quarter appears as 14 percentage points based on rounded values, but the underlying change is 14.6 percentage points, which rounds to 15.

Exhibit 15. Change in multidimensional hardship by dimension over time: Pilot C

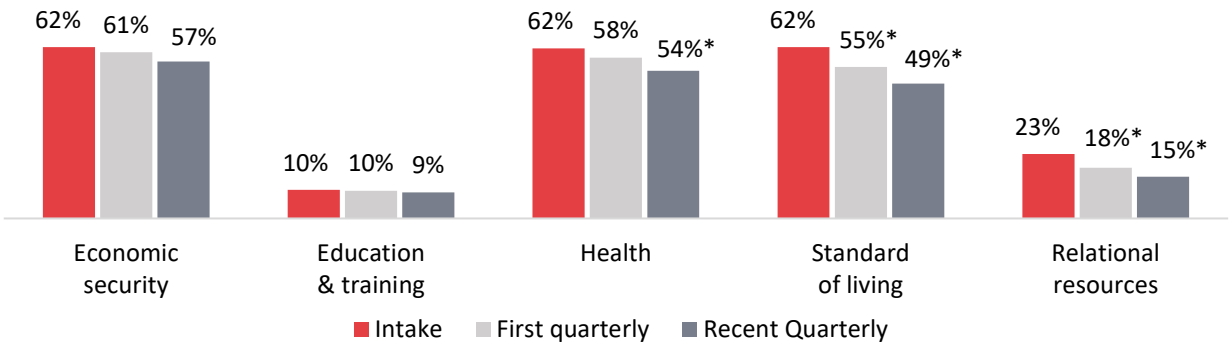
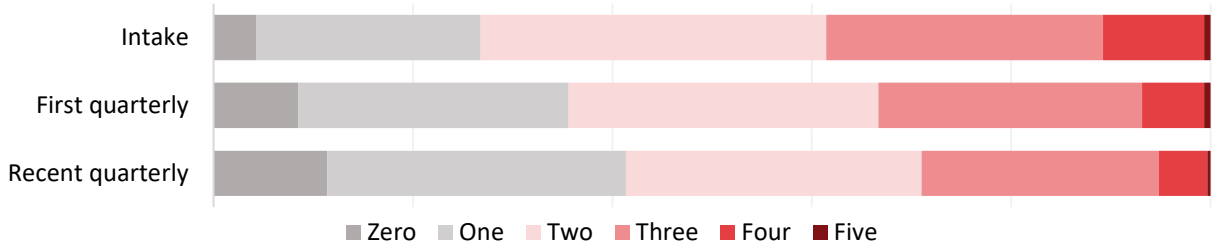


Exhibit 16 shows changes in the number of concurrent hardships experienced by Pilot C study participants. The share experiencing no hardships rose by four percentage points after the first quarter and by seven percentage points by the most recent quarter. The share experiencing four hardships dropped by four percentage points after the first quarter and by five percentage points by the most recent quarter. These changes were statistically significant.

Exhibit 16. Change in the number of multidimensional hardship dimensions over time: Pilot C



Discussion

The MHI gives us a more complete picture of what TOPI participants were facing and how their situations changed than income or benefit receipt measures alone could provide. The findings show that participants were navigating overlapping, compounded hardships when they enrolled, and that hardship declined over time across multiple dimensions at Pilot A and Pilot C. While we cannot draw conclusions about causality from this descriptive analysis, these patterns of improvement highlight areas for further exploration and can help shape future research.

The pilots offered a range of supports, including employment services, financial assistance, and mental health resources. They provided individualized career planning, job search assistance, and job placement to improve employability. Financial supports included supportive service payments, milestone payments, and transportation assistance to help participants meet basic needs. These services may have contributed to improvements in economic security and standard of living, though we cannot confirm this from the descriptive analysis alone. Forthcoming results from our experimental impact evaluations will help determine whether the pilot interventions led to measurable changes in these outcomes.

However, gaps remained in addressing health-related hardship. We did not observe significant changes in this dimension for study participants in two of the three pilots. This may partly reflect the fact that many health-related challenges, such as disabilities or serious mental health conditions, may be slower to change than economic or material conditions. In addition, while some pilots connected participants to mental health resources, none provided direct access to physical health care.[14] This left many without support in an area where they faced challenges. Since health-related hardship persisted, future program refinements could include more comprehensive health services, especially if improving health outcomes is a program goal.

Limitations

As with any descriptive analysis using program data, readers should consider several limitations when interpreting the results. Importantly, these limitations do not change the core descriptive finding that many participants experienced overlapping hardships at intake.

Descriptive design. First, this is a descriptive pre-post comparison, so we cannot say that the pilot programs caused the observed changes in well-being. External factors like economic trends or changes in public assistance eligibility may have also influenced these changes. For example, if a local employer expanded hiring, participants' economic conditions might have improved regardless of program support.

Attrition and non-response bias. We only included study participants who completed both an intake and at least one follow-up assessment. Participants who dropped out of the program or did not complete assessments may differ in important ways from those who stayed engaged. For instance, those experiencing severe hardship may have been less able to continue in the program. As a result, our findings may overestimate improvement. To assess this risk, we compared baseline characteristics between participants with and without follow-up data and found a few statistically significant differences, suggesting the analytic sample may underrepresent individuals facing greater barriers to employment and justice system involvement. Our findings apply only to study participants who engaged in the program and completed assessments. They may not reflect the experiences of those who faced barriers to enrolling or staying in the program. Results should not be generalized to the broader population of program participants or to other populations with low incomes in Tennessee.

Measurement constraints. Our choice of indicators was limited by the data collected in participant assessments, so some aspects of hardship, like housing quality, are not captured. The number of indicators in each dimension varied, which may influence the extent of hardship observed. Dimensions with more indicators, like health (four indicators) and standard of living (two), may show higher hardship because they include more indicators. In contrast, relational resources had only one indicator, which may understate hardship in that area. Our measure of relational resources, while based on available data, may be more limited than those used in other studies.[15] Our definition of hardship (two or more dimensions) reflects common practice in the literature, but different threshold choices would produce different estimates.

[14] This reflects TANF funding rules, which generally prohibit using TANF funds for physical health care services, limiting pilots to making referrals rather than directly covering costs.

[15] Wagle (2014) uses multiple indicators to measure hardship in the relational resources dimension—specifically electoral participation, political activism, associational membership, and social contacts.

Self-reported data. Because the assessments relied on self-reported data, participants may have overreported improvements or underreported hardship due to social desirability. For example, someone who received financial help might feel pressure to report improved economic security, even if financial stress remains high. Similarly, someone with mental health challenges might downplay their situation due to stigma. Because the MHI includes multiple items across dimensions, a single biased response is unlikely to affect the overall index, and it would take consistent bias across many items to meaningfully skew the results.

Varying follow-up. Finally, participants varied in how long they remained in the program and how many assessments they completed within the 12-month follow-up period (see Appendix C). Those who stayed in the program longer had more opportunities to show change, which may influence results and make it difficult to draw consistent conclusions across the full sample.

Despite these limitations, the findings offer useful insights into the complex and overlapping hardships experienced by people with low incomes in Tennessee. The MHI provides a practical framework that policymakers, practitioners, and researchers can use to holistically understand well-being. Unlike national or international indices, our MHI is tailored to the context of people with low incomes served by community-based programs. It is built using program data and shows how participant assessments can be used to track well-being over time. The index also expands on existing measures by including indicators of basic needs insecurity, like housing and food, and mental health, which are important aspects of well-being that are often missing from other frameworks.

Future directions

Building on this work, future research could extend these findings in several ways:

- **Measure program impacts using existing study infrastructure.** Because this analysis is descriptive, it does not show whether the pilots caused changes in well-being. One option for generating stronger evidence is to leverage the experimental designs and follow-up surveys already included in the TOPI evaluation to build an MHI and compare well-being outcomes between experimental groups. This would help us test whether the pilots led to measurable changes in hardship and identify which dimensions were most affected. While the necessary data infrastructure already exists, completing this work would require additional resources for analysis and reporting.
- **Use administrative data.** While administrative data can be limited or lack nuance, it adds value when paired with self-reported measures. Administrative data available through Tennessee's state longitudinal data system (P20 Connect) could supplement several self-reported MHI indicators, improving objectivity and reliability across dimensions. For example, unemployment insurance (UI) wage records and UI receipt could strengthen the economic security dimension, SNAP and TANF receipt could provide objective indicators of standard of living hardship, and education enrollment and credential attainment data could enrich the education dimension. These linkages could offer a more complete and reliable view of participants' well-being over time. This data could also be leveraged to support experimental impact analyses, as discussed in the earlier bullet. As part of the TOPI evaluation, MEF has access to relevant administrative data through P-20 Connect, making this type of analysis feasible using existing data infrastructure.
- **Include additional dimensions.** Adding new dimensions could deepen understanding of hardship. Many studies include environmental or place-based factors, which our current framework does not.

Measures like access to public transportation or the presence of food deserts could highlight structural challenges that individual or household indicators may miss.

- **Explore interactions between dimensions.** Understanding how hardships reinforce each other, e.g., whether improvements in health are linked to gains in employment, could help programs bundle services more effectively, like pairing job support with health care access.
- **Analyze demographic or geographic differences.** Looking at how hardship varies by race, ethnicity, age, or location (e.g., rural vs. urban) could help tailor programs and policies to community needs. As part of the TOPI evaluation, baseline surveys collected key demographic characteristics as well as the county and ZIP code of residence, making this type of analysis feasible using existing data infrastructure. This analysis could help agencies and providers identify where different supports are needed, such as transportation in rural areas or childcare access in urban settings.

By exploring these directions, future work can improve our understanding of multidimensional hardship and help design more effective strategies to improve well-being for families with low incomes in Tennessee and beyond.

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Appendix A. Overview of TOPI Pilot Programs

This appendix describes the seven TOPI pilots and provides information on their services, their service area, and the population they serve.

A Father's Involvement Really Matters (AFIRM)

The AFIRM pilot is an initiative led by Families Matter. The pilot program serves the city of Memphis and greater Shelby County in the West Grand Region of Tennessee. The program speaks to three primary service pillars: a career, parenting, and a financial pillar. All participants are offered career-building services, including career planning and personalized career path supports; child support management, including support adjusting orders, negotiating payment plans, and developing visitation agreements; case management; legal and financial support services; and milestone payments for activities like completing a certification or credential training program or successful job placement.

Connecting Forward

The Connecting Forward pilot is an initiative of 11 partner agencies in Middle Tennessee and is led by Family and Children's Services. The pilot program serves twenty-eight counties in the Middle Grand Region of Tennessee. The program offers care coordination and connections to the following services and resources: counseling for individuals and families, workforce development coaching, training and education to support employment and job advancement, parenting supports, youth mentoring, housing solutions, and health education and resources for family planning.

Empower Upper Cumberland (Empower UC)

The Empower UC pilot is an initiative led by the Upper Cumberland Human Resources Agency. The pilot program serves 14 rural counties in the Middle Grand Region of Tennessee. The program offers several primary services: the Circles USA 12-week curriculum for relational coaching; goal establishment using a pathway plan and a benefit cliff planner; funding to support participants facing a benefit cliff; financial support services; milestone payments for attaining goals related to education and employment; education and training opportunities and workforce development services; and parenting education.

East Tennessee Collaborative (ETC)

The ETC pilot is an initiative led by the United Way of Greater Knoxville. The pilot program serves Knoxville's Metropolitan Statistical Area in the East Grand Region of Tennessee, including Knox, Grainger, Scott, Campbell, Morgan, Roane, Loudon, Sevier, Blount, and Anderson counties. The program has six core components: (1) EMPath Mobility Mentoring, a model for coaching for economic mobility, goal setting, and recognition using the Bridge to Self-Sufficiency tool, (2) goal action payments, which are small short-term financial rewards related to the five pillars of the Bridge to Self-Sufficiency, (3) TCRN Database, a shared care coordination database, (4) direct payment of supportive services, (5) transitional benefits to cover a loss of income from a benefit cliff, paid through gift cards and/or direct payments to housing, mental health, child care, or utility providers, and (6) milestone payments of $250-1,000 for achieving milestones aligned with the Bridge to Self-Sufficiency pillars.

Growing Relational and Occupational Wealth in West Tennessee Households (GROWWTH)

The GROWWTH pilot is an initiative of the Professional and Continuing Education (PACE) department at The University of Memphis. The pilot program serves 21 counties in the West Grand Region of Tennessee. The GROWWTH model is a comprehensive, whole-family focused program that first discovers what a participant needs, then provides a series of wraparound services, work readiness training, and access to job training pathways tailored to each participant in partnership with a case worker. The model has two main components: wraparound support services and career-building services. The model also includes milestone payments linked to participation in services and completion of employment-related milestones.

Our ChanceTN

The Our ChanceTN pilot is an initiative led by the Martha O' Bryan Center. The pilot program serves 16 counties in the Middle Grand Region of Tennessee The program consists of four primary program services: a transitional benefit equivalent to the cost of a specific benefit cliff, given in the form of food or direct payments for housing or child care; family-centered coaching (every two, four, or six weeks for the high-intensity coaching group, depending on need, and quarterly for the low-intensity coaching group); wrap-around supports, including county-specific resource navigation, care coordination, and social capital events; and education and employment services, including direct support and connections to education and employment resources and training.

STRONG Families Northeast Tennessee (NETN)

The STRONG Families NETN pilot is an initiative led by First Tennessee Development District. The pilot program serves a largely rural 10-county region in the East Grand Region of Tennessee. The program offers several primary services: high-engagement coaching and support through family partners who are employees with lived experience with poverty and/or previous work experience with individuals with low incomes; financial support, via barrier elimination payments and milestone payments; behavioral health services for participants who need mental health counseling and/or addiction treatment and recovery services; and specialized training and assistance, such as parent education classes, financial counseling, and career assessment/planning and job training. The program also has secondary components, including family power building and social capital building.

Appendix B. MHI in Prior Studies

This appendix describes the Multidimensional Hardship Indices used in key prior studies, which informed the development of the Tennessee Opportunity Act Pilot Initiative Multidimensional Hardship Index (MHI). Exhibits B.1 through B.5 illustrate how other researchers have approached multidimensional measurement, including the dimensions they selected and the thresholds they applied, and Exhibit B.6 compares the dimensions used across the six indices, showing where the indices are similar and different.

Alkire et al. (2014) built a Multidimensional Poverty Index for 22 European Union countries using 12 indicators across four dimensions based on the European Union Statistics on Income and Living Conditions survey (Exhibit B.1).

Exhibit B.1. European Union Multidimensional Poverty Index

Dimension	Indicator	Summary Description for Indicator Thresholds
EU 2020	Income	Income is above 60% of the median income
	Work intensity	Ratio of the total months worked, and the total months theoretically could have worked is higher than 0.2
	Material deprivation	Capacity to make ends meet, face unexpected expenses, keep their home adequately warm, etc.
Education	Education	Education is above primary school
Environment	Noise	Low noise from the neighborhood or street
	Pollution	Low pollution, grime, or other environmental hazards
	Crime	Low crime, violence, or vandalism
	Roof	No leaking roof, damp walls, or rotting window frames or floors
Health	Health	Self-reported health is fair or above
	Chronic illness	No chronic illnesses or long-term conditions
	Morbidity	No limitations due to health problems
	Unmet medical needs	Unmet medical needs

Source: Alkire et al. (2014)

Glassman (2024) used this method to construct the U.S. Census Bureau's Multidimensional Deprivation Index. He measured deprivation in 2022 and 2023 across six dimensions using ACS data (Exhibit B.2). He classified people as multidimensionally deprived if they experienced hardship in two or more dimensions. About 14 percent of the U.S. population met this definition. Among subgroups, people 65 and older had the highest rate (16 percent), compared to 14 percent for those 18–64 and 15 percent for those under 18. He also found that 33 percent of non-Hispanic American Indian and Alaska Native people and 27 percent of Hispanic people experienced multidimensional deprivation in 2023, three to four times higher than the rate for non-Hispanic White people, who had the lowest rate. In Tennessee, 15 percent of people experienced multidimensional deprivation in 2023. Glassman also calculated state-level indices from 2010 to 2023. In Tennessee, the rate dropped from 21 percent in 2010 to about 15 percent in 2022 and 2023. As a comparison, 17.7 percent of Tennesseans were in poverty in 2010 and 14 percent in 2023, according to the Official Poverty Measure (U.S. Census Bureau, n.d.c.; U.S. Census Bureau, n.d.d.)

Exhibit B.2. U.S. Census Bureau Multidimensional Deprivation Index

Dimension	Summary Description for Indicator Thresholds
Standard of Living	In poverty, according to the Official Poverty Measure
Education	19 years or older and without a high school diploma or GED
Health	Lack health insurance or report at least 2 disabilities (for people 65 years or older)
Economic Security	Unemployed, underemployed, or have minimal retirement income (for people 65 years or older)
Housing Quality	Live in a housing unit with more than two people per bedroom, or live in a shelter
Neighborhood Quality	Live in a deprived block group as measured by the Area Deprivation Index

Source: Glassman (2024)
Note: The author defined underemployment as households in which working-age adults averaged fewer than 20 hours per week or fewer than 26 weeks per year of work

Mitra and Brucker (2019) also used the Alkire-Foster method to measure multidimensional poverty in the U.S. from 2013 to 2017 using Current Population Survey data (Exhibit B.3). They used five dimensions and defined multidimensional poverty as hardship in at least two. They found that multidimensional poverty fell from 14 percent in 2013 to 10 percent in 2017. Groups with higher rates included Hispanic and Black people, working-age adults (18-64), foreign-born people, and people with disabilities.

Exhibit B.3. Mitra and Brucker's Multidimensional Poverty Index

Dimension	Indicator	Summary Description for Indicator Thresholds
Material Wellbeing	Family income	Income is below the official poverty line
Health	Self-assessed health	Poor or fair health
Education	Educational attainment	Have less than high school educational attainment
Personal Activities	Employment status	Unemployed in the past week
Insecurity	Health insurance	Do not have health insurance for the full year

Source: Mitra & Brucker (2019)

Dhongde and Haveman (2022) studied multidimensional poverty in the U.S. over 12 years across four regions and all 50 states using six dimensions and American Community Survey data (Exhibit B.4). They also used the Alkire-Foster method and set the threshold at two dimensions. Between 2008 and 2019, about 13 percent of the U.S. population experienced multidimensional poverty. Rates rose during the Great Recession (2008-2010) and then slowly declined. People experiencing multidimensional poverty were more likely to have incomes between 100 and 200 percent of the federal poverty level, lack health insurance, face severe housing burdens, lack a high school diploma, be children or young adults, be raised in single-parent families, be foreign-born, and be Hispanic. Geographically, multidimensional poverty was most common in the South and West, especially in California, Texas, and Florida. Tennessee's rate was slightly below the national average at about 11 percent.

Exhibit B.4. Dhongde and Haveman's Multidimensional Poverty Index

Dimension	Indicator	Summary Description for Indicator Thresholds
Health	Disabilities	Have two or more disabilities
Education	High school education	Do not have a high school diploma
Economic Security	Health insurance	Lack health insurance
Standard of Living	Housing cost burden	Housing cost exceeds 50% of household income
Social Connections	English fluency	No person speaks English only, or no person speaks another language and speaks English very well, in the household
Housing Quality	Household overcrowding	More than one person occupies a room in a unit

Source: Dhongde & Haveman (2022)

Most recently, Dhongde et al. (2024) estimated multidimensional economic hardship during the COVID-19 pandemic using data from the 2018 to 2021 Survey of Household Economics and Decision-making. They used subjective indicators—financial strain and feeling worse off than the previous year—and objective indicators—unable to pay bills, unable to afford healthcare, and unemployment (Exhibit B.5). Like earlier studies, they used the Alkire-Foster method and set the threshold at two or more dimensions. They found that about 28 percent of people experienced multidimensional economic hardship during the COVID-19 pandemic.

Exhibit B.5. Dhongde et al.'s Multidimensional Economic Hardship

Dimension	Indicator	Summary Description for Indicator Thresholds
Economic Hardship—Subjective	Financial strain	Finding it difficult to get by or just getting by
	Worse off than last year	Much or somewhat worse off
Economic Hardship—Objective	Inability to pay bills	Cannot pay some bills
	Inability to afford healthcare	Unable to afford one or more healthcare services (including medicine, doctor/specialist visit, mental health, dental, or follow-up care)
	Unemployed	Laid off or lost a job

Source: Dhongde et al. (2024)

The indices described above vary in the dimensions they include, the indicators used to measure each dimension, and the data sources they draw from. These differences reflect both the research questions each study aimed to answer and the data available to the authors. Exhibit B.6 summarizes the dimensions included across all six indices, including the MHI developed for this study, to show where they overlap and where they diverge.

Exhibit B.6. Comparison of dimensions included in six indices

Source – Index Name	Dimension: Education	Work, Labor Market	Economic Security	Material well-being	Housing	Neighborhood quality	Environment	Health	Standard of living	Social connectedness	Personal
Alkire et al. (2014) – EU Multidimensional Poverty Index	✓	✓					✓	✓			
Dhongde et al. (2024) – Multidimensional Economic Hardship			✓[a]	✓[b]							
Dhongde & Haveman (2022) – Multidimensional Poverty Index	✓		✓		✓			✓	✓	✓	
Glassman (2024) – Census Multidimensional Deprivation Index	✓		✓		✓	✓		✓	✓		
Mitra & Brucker (2019) – Multidimensional Poverty Index	✓			✓				✓[c]			✓
Patnaik & Castañeda (2026) – Multidimensional Hardship Index	✓		✓					✓	✓	✓	

Notes:
[a] This dimension is labelled "Economic Hardship – Subjective" in Dhongde et al. (2024).
[b] This dimension is labelled "Economic Hardship – Objective" in Dhongde et al. (2024).
[c] This measure includes a fifth, "insecurity" dimension, within which falls a measure of health insurance coverage.

Together, these indices reflect a growing body of evidence that income alone is insufficient to capture the full range of hardships people experience, and that multidimensional frameworks offer a more complete picture of well-being.

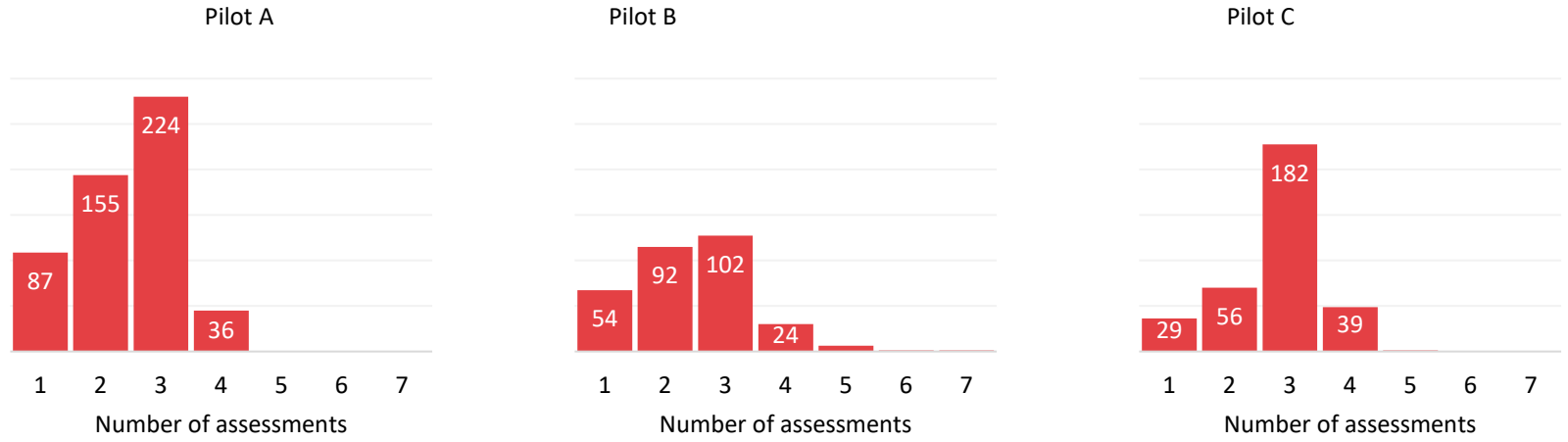
Appendix C. Follow-Up Assessment Completion

This appendix describes how many quarterly assessments study participants completed during the 12-month follow-up period. Exhibit C.1 provides summary statistics on assessment completion by pilot, and Exhibit C.2 shows the full distribution. These data provide context for interpreting the changes-over-time findings in the main narrative, as participants varied in how many assessments they completed within the follow-up window.

Exhibit C.1 Summary statistics on the number of quarterly assessments completed in the 12-month follow-up period, by pilot

	Number of quarterly assessments completed				
	Minimum	**Maximum**	**Median**	**Mean**	**Standard deviation**
Pilot A	1	4	3	2.4	0.9
Pilot B	1	7	2	2.4	1.0
Pilot C	1	5	3	2.8	0.8

Exhibit C.2 Distribution of quarterly assessments completed, by pilot



Appendix D. Supplementary exhibits

This appendix presents supplementary tables showing the share of study participants experiencing hardship in each indicator, by pilot and time point. These tables provide more granular detail than the dimension-level findings presented in the main report. Three exhibits are included for each of the three pilots: Pilot A, Pilot B, and Pilot C.

Exhibit D.1: Share of Pilot A study participants experiencing hardships in individual indicators

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Multidimensional Hardship								
Facing hardship	501	49%	45%	-4%	0.036	44%	-5%	0.010
Hardship by Dimension								
Facing hardship in the economic security dimension	488	46%	41%	-5%	0.002	39%	-7%	0.001
Facing hardship in the education/training dimension	501	12%	10%	-1%	0.031	9%	-3%	0.002
Facing hardship in the health dimension	489	39%	38%	-1%	0.761	36%	-3%	0.154
Facing hardship in the standard of living dimension	502	49%	52%	3%	0.253	48%	-1%	0.543
Facing hardship in the relational resources dimension	499	14%	14%	0%	0.774	12%	-2%	0.052
Hardship by Number of Dimensions								
Facing hardship in zero dimensions	501	17%	20%	3%	0.044	22%	4%	0.015
Facing hardship in one dimension	501	34%	34%	1%	0.839	34%	1%	0.797
Facing hardship in two dimensions	501	28%	28%	0%	0.914	28%	0%	1.000
Facing hardship in three dimensions	501	17%	13%	-3%	0.029	14%	-3%	0.124
Facing hardship in four dimensions	501	4%	3%	-1%	0.227	2%	-2%	0.052

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Facing hardship in five dimensions	501	0%	0%	0%	1.000	0%	0%	1.000
Economic Security Dimension Indicators								
Currently unemployed	500	29%	23%	-6%	0.000	19%	-10%	0.000
Currently underemployed	490	16%	17%	1%	0.418	20%	3%	0.064
Education/Training Dimension Indicators								
Earned less than a high school diploma/GED	501	12%	10%	-1%	0.031	9%	-3%	0.002
Health Dimension Indicators								
Does not have health insurance	501	8%	8%	0%	1.000	8%	0%	1.000
Self-rated health status is fair or poor	501	20%	20%	0%	1.000	18%	-1%	0.419
Has a disability that prevents/limits work	497	9%	9%	0%	0.500	9%	1%	0.250
Experiencing severe mental illness	495	15%	12%	-3%	0.029	13%	-3%	0.144
Standard of Living Dimension Indicators								
Evicted or in the midst of an eviction in the past 12 months	502	10%	10%	0%	0.791	9%	-1%	0.418
Not able to pay for food due to the cost in the past 12 months	502	45%	47%	2%	0.480	45%	0%	1.000
Relational Resources Dimension Indicators								
Not confident navigating support systems	499	14%	14%	0%	0.774	12%	-2%	0.052

Exhibit D.2: Share of Pilot B study participants experiencing hardships in individual indicators

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Multidimensional Hardship								
Facing hardship	261	42%	39%	-3%	0.200	38%	-3%	0.222
Hardship by Dimension								
Facing hardship in the economic security dimension	240	43%	38%	-5%	0.115	37%	-5%	0.143
Facing hardship in the education/training dimension	279	8%	8%	0%	1.000	8%	-1%	0.625
Facing hardship in the health dimension	241	32%	33%	1%	0.815	35%	3%	0.864
Facing hardship in the standard of living dimension	277	44%	44%	0%	0.581	43%	-1%	0.839
Facing hardship in the relational resources dimension	273	11%	11%	0%	1.000	9%	-1%	0.549
Hardship by Number of Dimensions								
Facing hardship in zero dimensions	261	23%	27%	4%	0.108	24%	1%	1.000
Facing hardship in one dimension	261	35%	34%	-1%	1.000	37%	2%	0.374
Facing hardship in two dimensions	261	30%	29%	-1%	0.636	28%	-2%	0.583
Facing hardship in three dimensions	261	10%	8%	-2%	0.210	8%	-2%	0.442
Facing hardship in four dimensions	261	2%	2%	1%	0.500	2%	0%	1.000
Facing hardship in five dimensions	261	0%	0%	0%	1.000	0%	0%	1.000
Economic Security Dimension Indicators								
Currently unemployed	272	24%	18%	-6%	0.016	19%	-5%	0.108
Currently underemployed	243	16%	18%	2%	0.791	17%	0%	0.839
Education/Training Dimension Indicators								

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Earned less than a high school diploma/GED	279	8%	8%	0%	1.000	8%	-1%	0.625
Health Dimension Indicators								
Does not have health insurance	258	9%	10%	2%	1.000	10%	2%	1.000
Self-rated health status is fair or poor	276	18%	18%	0%	1.000	19%	2%	0.405
Has a disability that prevents/limits work	272	4%	5%	1%	1.000	5%	1%	1.000
Experiencing severe mental illness	268	9%	12%	3%	0.039	11%	2%	0.332
Standard of Living Dimension Indicators								
Evicted or in the midst of an eviction in the past 12 months	277	7%	7%	0%	1.000	8%	1%	0.581
Not able to pay for food due to the cost in the past 12 months	279	41%	41%	1%	0.774	39%	-2%	0.383
Relational Resources Dimension Indicators								
Not confident navigating support systems	273	11%	11%	0%	1.000	9%	-1%	0.549

Exhibit D.3: Share of Pilot C study participants experiencing hardships in individual indicators

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Multidimensional Hardship								
Facing hardship	306	73%	64%	-9%	0.000	59%	-15%	0.000
Hardship by Dimension								
Facing hardship in the economic security dimension	305	62%	61%	-2%	0.461	57%	-5%	0.067
Facing hardship in the education/training dimension	307	10%	10%	0%	1.000	9%	-1%	0.250
Facing hardship in the health dimension	304	62%	58%	-3%	0.136	54%	-8%	0.001
Facing hardship in the standard of living dimension	305	62%	55%	-7%	0.003	49%	-13%	0.000
Facing hardship in the relational resources dimension	303	23%	18%	-5%	0.001	15%	-8%	0.000
Hardship by Number of Dimensions								
Facing hardship in zero dimensions	306	4%	8%	4%	0.004	11%	7%	0.000
Facing hardship in one dimension	306	23%	27%	5%	0.087	30%	7%	0.015
Facing hardship in two dimensions	306	35%	31%	-4%	0.248	30%	-5%	0.151
Facing hardship in three dimensions	306	28%	26%	-1%	0.699	24%	-4%	0.201
Facing hardship in four dimensions	306	10%	6%	-4%	0.029	5%	-5%	0.007
Facing hardship in five dimensions	306	1%	1%	0%	1.000	0%	0%	1.000
Economic Security Dimension Indicators								
Currently unemployed	307	47%	45%	-1%	0.689	42%	-5%	0.072
Currently underemployed	305	15%	15%	-1%	0.824	15%	0%	1.000
Education/Training Dimension Indicators								

Label	N	Intake Mean	First Quarterly Mean	Change from Intake to First Quarterly	p-value	Most Recent Quarterly Mean	Change from Intake to Most Recent Quarterly	p-value
Earned less than a high school diploma/GED	307	10%	10%	0%	1.000	9%	-1%	0.250
Health Dimension Indicators								
Does not have health insurance	307	8%	9%	0%	1.000	8%	0%	1.000
Self-rated health status is fair or poor	307	37%	35%	-2%	0.230	30%	-7%	0.012
Has a disability that prevents/limits work	304	15%	16%	1%	0.375	17%	2%	0.125
Experiencing severe mental illness	307	34%	30%	-4%	0.058	25%	-8%	0.001
Standard of Living Dimension Indicators								
Evicted or in the midst of an eviction in the past 12 months	305	15%	13%	-2%	0.065	12%	-3%	0.122
Not able to pay for food due to the cost in the past 12 months	307	56%	50%	-5%	0.018	45%	-11%	0.000
Relational Resources Dimension Indicators								
Not confident navigating support systems	303	23%	18%	-5%	0.001	15%	-8%	0.000