

Chapin Hall Research Brief



A Benefit-Cost Study of the Therapeutic Foster Care (TFC) Pilot

This research brief summarizes findings from an analysis of benefit-cost of the 5-year TFC Pilot in Illinois based on fiscal data from the Illinois Department of Children and Family Services and a review of TFC benefit-cost evidence in the empirical literature.

Ka Ho Brian Chor

Cody Oltmans

Mary Sue Morsch

April 2023

 **CHAPIN HALL**
AT THE UNIVERSITY OF CHICAGO

Introduction

The Illinois Children and Family Services Act (Illinois Public Act 099-0350) requires that the Illinois Department of Children and Family Services (DCFS) arrange for an independent evaluation of a 5-year pilot program of multidimensional treatment foster care (MTFC) “to determine whether there is a long-term cost benefit to continuing the Pilot program.” Chapin Hall at the University of Chicago (Chapin Hall) is the independent evaluator of the 5-year DCFS Therapeutic Foster Care (TFC) Pilot, implemented between July 1, 2016, and June 30, 2021.

The TFC Pilot provided therapeutic home-based settings serving youth with a history of trauma or severe behavioral challenges who would otherwise enter or remain in residential care or be discharged from residential care to other non-TFC, community-based settings such as home of relative, fictive kin, or specialized foster care. Over the 5 years Lutheran Social Services of Illinois (LSSI) became the primary community-based provider that fully implemented Therapeutic Foster Care Oregon (TFCO), the current name of MTFC (Blueprints for Healthy Youth Development, 2022), to serve youth ages 6–14 in the Cook County, Aurora, and Rockford subregions. Because LSSI implemented the evidence-based TFCO model and because LSSI youth comprised 80% of all youth in the TFC Pilot, Chapin Hall’s benefit-cost study, in response to the state legislation, focused on the LSSI TFCO model.

LSSI TFCO Model

TFC evidence-based model	<ul style="list-style-type: none"> • Therapeutic Foster Care Oregon (TFCO)
Trauma-informed intervention	<ul style="list-style-type: none"> • Trauma-informed TFCO and therapists trained in Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)
Subregion (child's legal/home county)	<ul style="list-style-type: none"> • Aurora (Kane, DuPage, Kendall, Will counties)
	<ul style="list-style-type: none"> • Cook County
Youth's age	<ul style="list-style-type: none"> • 6–14 years old
TFC caregiver	<ul style="list-style-type: none"> • Foster parent
Program length	<ul style="list-style-type: none"> • 6–9 months
Target population	<ul style="list-style-type: none"> • Deflection: Youth who were not in residential care at the time of TFC referral, though <i>were</i> indicated to need residential care based on the Child and Adolescent Service Intensity Instrument (CASII) assessment (CASII level=5)
	<ul style="list-style-type: none"> • Step-Down: Youth who were in residential care at the time of TFC referral and <i>were</i> indicated to need residential care based on the CASII assessment (CASII level=5)

Since the TFC Pilot concluded in fiscal year FY21, determining the current “long-term cost benefit to continuing the pilot program” would need to rely on evidence of TFCO benefit-cost in the empirical literature. According to the Blueprints for Healthy Youth Development (2022), an independent organization that identifies, recommends, and certifies programs based on scientific evidence of effectiveness, TFCO is “a cost-effective alternative to group or residential treatment, incarceration, and hospitalization for adolescents who have problems with chronic antisocial behavior, emotional disturbance, and delinquency.”

The Washington State Institute for Public Policy (WSIPP) is a leading authority on the long-term benefit-cost of major evidence-based programs that include MTFC or TFCO. WSIPP’s synthesis of meta-analyses and statistical modeling of benefit-cost provides a reference and methodological framework for benefit-cost study efforts in local states (Washington State Institute for Public Policy, 2019). In California, one study examined the long-term economic benefit of TFCO for 81 adolescent females who were involved in the child welfare or juvenile justice systems and were referred to congregate care, as compared to 85 adolescent females in treatment as usual in congregate care (Saldana et al., 2019). Monetization of benefits was based on long-term cost differences in long-term child welfare services, legal, victimization, incarceration, and arrest outcomes associated with the study sample. Monetization of costs was based on WSIPP’s calculation of MTFC net program cost. Compared to treatment as usual in congregate care, the cost per participant in a cohort of youth placed in TFCO with at least 8 years of follow-up was \$10,776. The benefit was \$48,965, yielding a net benefit of \$38,199 (Saldana et al., 2019).

Chapin Hall’s benefit-cost study of the 5-year DCFS TFC Pilot in Illinois: (1) focuses on youth who received the LSSI TFCO model as compared to youth who were referred to the LSSI TFCO model but entered or remained in residential care instead; (2) leverages the long-term benefit-cost evidence of TFCO established by WSIPP; and (3) applies benefit-cost methods from existing studies on evidence-based interventions in other states for adaptation to the Illinois child welfare context.

Methods

Sample

February 1, 2017 to the end of the Pilot on June 30, 2021, 74 youth received the LSSI TFCO intervention and served as the TFC Pilot group; 87 youth who were referred to LSSI TFCO but instead were placed or remained in residential care served as the comparison group. For these 161 youth, Chapin Hall analyzed DCFS administrative data from the Child and Youth Centered Information System (CYCIS), Statewide Automated Child Welfare Information System (SACWIS), DCFS contract and payment data, and the Residential Treatment Outcomes System (RTOS). All analyses were conducted using R 4.1.2 (The R Foundation for Statistical Computing, 2021).

Calculation of within Study Period (February 1, 2017 to June 30 2021) Costs for Pilot and Comparison Groups

Each of 74 Pilot and 87 comparison youth spent at least one day in TFC (Pilot only) or residential care (comparison) between February 1, 2017, and June 30, 2021. Youth were referred to TFC at different points in time within the study period, meaning that some youth had a greater number of overall placement days than others depending on their TFC referral and placement date. TFC and residential care costs were estimated for each youth based on the methods described below.

TFC Placement Cost

DCFS provided detailed living arrangement data for the 74 youth in the TFC Pilot who received LSSI's TFCO intervention and for the 87 comparison youth. The living arrangement data included contract IDs and specific per diem rate information for placements in POS providers, including LSSI. Chapin Hall used the contract IDs with annual rates in FY17–FY21 (July 1, 2016 and June 30, 2021) to identify TFC placements at LSSI's TFC sites. In order to exclude costs incurred after the study period ended, TFC placements that continued beyond June 30, 2021 were censored to an end date of June 30, 2021. Chapin Hall calculated the total number of days each Pilot youth spent in TFC within the study period and used the per diem rates to generate a total TFC cost per Pilot youth. All TFC placement costs are adjusted to FY21 dollars.

Residential Care Cost

Chapin Hall used RTOS data to identify days spent in residential care between FY17 and FY21 for both the Pilot and comparison youth. DCFS provided per diem residential care cost data for FY17–FY21. In order to exclude costs incurred after the study period ended, residential placements that continued beyond June 30, 2021, were censored to an end date of June 30, 2021. Similarly, days youth spent in residential care prior to their TFC referral date were excluded from the cost calculations. Chapin Hall calculated the total number of days each Pilot and comparison youth spent in residential care within the

study period and used the per diem rates to generate a total residential care cost per youth. All residential placement costs are adjusted to FY21 dollars.

Cohort of Youth with Two Years of Living Arrangement Data Post-TFC Start/TFC Referral: Placement Trajectories and Cost Estimates

To estimate the impact of TFC on the Pilot youth's placement trajectories after leaving TFC, Chapin Hall identified a subset of Pilot youth (n=52) and comparison youth (n=67) who had at least 2 years of DCFS living arrangement data available between their TFC start date (Pilot) or TFC referral date (comparison) and May 2022. Having a full 2 years of living arrangement data allowed Chapin Hall to observe if youth in the Pilot group benefitted from TFC and therefore were more likely to move to and remain in nonresidential care placements after leaving TFC relative to the comparison group.

Two-Year Placement Trajectories

Chapin Hall used the detailed living arrangement data provided by DCFS, as well as the RTOS data, to identify all placements and residential care spells associated with these youth. Chapin Hall excluded all placement days occurring prior to a youth's TFC start/referral date, so that the first day of placement data for each youth was either their TFC start date (Pilot) or their TFC referral date (comparison). To align with DCFS payments for pre-existing living arrangement groupings, each placement was classified under one of six categories: therapeutic foster care (TFC), transitional living program (TLP), residential care, traditional foster care/relative, specialized foster care, and unpaid placements.

With each youth having a full 2 years of placement data from the point of TFC start (Pilot) and TFC referral (comparison), Chapin Hall then created a placement profile showing, on average, the number of days a single youth spent in each placement category over the course of the 2 years for the Pilot group (beginning from the TFC start date) and the comparison groups (beginning from the TFC referral date).

Two-Year Cost Projection

DCFS also provided per diem rate information for FY17–FY21 for each of the six placement categories, allowing Chapin Hall to develop a projected cost associated with the 2 years after the TFC start/referral date for a single youth. To generate a total 2-year cost projection, Chapin Hall used the FY21 per diem rates for each placement category and multiplied them by the average number of days spent in each placement category. This cost projection represents an estimate of the total living arrangement-related expenses associated with a single youth over the course of 2 years, beginning from either their TFC start date (Pilot) or TFC referral date (comparison).

Calculation of Benefit

TFC benefit estimates, adjusted to FY21 dollars, were derived from benefits accrued to taxpayers, TFC youth, and indirect benefits, based on a meta-analysis conducted by WSIPP (2019) about TFC. These benefits include decreased criminal justice involvement, decreased repeating a grade at school, better labor market earnings, healthcare, and reduced mortality.

Calculation of Net Benefit

Chapin Hall defined the TFC net benefit as the sum of lifetime TFC benefit estimates accrued to taxpayers, TFC youth, and indirect benefits according to WSIPP (2019), and the projected 2-year cost savings associated with TFC placement in the DCFS Pilot. Specifically, Chapin Hall subtracted the Pilot group cost projection from the comparison group cost projection to obtain the estimated cost savings associated with TFC placement. The TFC net benefit represents the net benefits for a single youth participating in the TFC program.

Calculation of Net Benefit per Youth in TFC	
Component	Calculation
WSIPP (2019) estimated lifetime benefits per youth (FY21 dollars) in TFC compared to residential care (treatment as usual)	Benefits to taxpayers (\$12,199) Benefits to participants (\$290) Benefits to others (\$29,723) Indirect benefits (\$1,024)
Cost savings estimates per youth in DCFS TFC Pilot (FY21 dollars) compared to residential care (treatment as usual)	Estimated 2-year cost per comparison youth (treatment as usual) – Estimated 2-year cost per TFC Pilot youth
Net benefit per youth in TFC (FY21 dollars)	WSIPP estimated lifetime benefits per youth + 2-year cost savings estimates per youth in DCFS TFC Pilot

Findings

What were the placement durations and costs in TFC and residential care between the Pilot group and the comparison group during the study period?

Regarding placement duration, number of placements, and costs in TFC and residential care between the TFC Pilot group (n=74) and the comparison group (n=87) for placements occurring in February 2017-June 2021:

- Youth in the TFC Pilot group stayed, on average, for 5 months per TFC placement and had up to two TFC placements during the study period.
- Based on youth's length of stay in TFC and in residential care during the study period, as well as the corresponding TFC and residential DCFS per diem rates adjusted to FY21 dollars, the overall mean cost per Pilot youth for the duration of the study period was \$94,438 in TFC placement costs.
- The comparison group stayed, on average, for 13 months per residential placement during the study period, resulting in an average cost per youth in residential care of \$212,649. The 25 Pilot youth who also spent time post-TFC in residential care incurred, on average, \$174,207 in residential placement costs.

What were the 2-year placement trajectories and placement costs between the Pilot group and the comparison group?

Per diem rates from FY21 were used to project the costs associated with the average placement distribution for a single Pilot and comparison youth during the 2-year period:

- TFC Pilot youth spent nearly 50% of their days, or 355 days, on average, in TFC. In Year One, 75% of days (on average, 274 days) were in TFC, which aligned with the expected length of TFC treatment of up to 9 months. In Year Two, however, TFC Pilot youth spent 27% of days in specialized foster care and 23% in residential care.
- Youth in the comparison group spent 77% of their days, or 563 days, on average, in residential care. This was consistent between Year One (78%) and Year Two (76%).

By the end of the 2-year period, the daily cost of youth in the TFC Pilot was approximately **\$200**, compared to **\$300** in the comparison group.

- The daily distribution of placement types showed that the TFC Pilot group saw lower rates of TFC placement over time (as expected due to the short-term treatment model). Youth were equally placed in specialized foster care, traditional foster care/relative, and residential care (20–25% each) by the end of the 2-year period.
- The daily distribution of placement types showed that the comparison group saw a consistently large and static percentage (80–90%) of youth placed in residential care, with minimal filtering out into less restrictive and less expensive placement types such as specialized foster care and traditional/relative foster care over time.
- The longitudinal changes in the mean daily cost of DCFS care for a single youth showed that the TFC Pilot group began at a substantially higher average daily rate on day 0 (\$320). However, by day 50, the mean daily cost of care for the comparison group surpassed that of the TFC Pilot group and would remain higher until the end of the 2-year period. By the end of the 2-year period, the daily cost of youth in the TFC Pilot (who likely had left TFC at that point) was approximately \$200, compared to \$300 in the comparison group.
- After TFC youth exited their TFC placements after Year One, over time the majority of their placement days were in less restrictive, less costly settings. In contrast, the comparison group continued to spend more days in more costly residential care.
- The estimated cost of care for youth in the TFC Pilot group was \$179,492 over the 2-year period. The estimated cost of care for youth in the comparison group was \$230,500, yielding 2-year estimated cost savings of \$51,058 attributable to TFC.

Over the 2-year period, the estimated cost of care for youth in the TFC Pilot group was **\$179,492**, compared to **\$230,500** for youth in the comparison group, yielding **2-year estimated cost savings of \$51,058** attributable to TFC.

What is the overall net benefit of TFC per youth?

- Washington State Institute for Public Policy (WSIPP, 2019) derives the lifetime monetary benefit of MTFC (that is, TFCO, the TFC model subjected to this benefit-cost study) from a meta-analysis and from empirical literature on outcomes (such as depression) impacted by MTFC. Monetary benefit estimates were operationalized from the perspectives of taxpayers, MTFC participants, individuals other than taxpayers and MTFC participants, and indirect benefits. The total benefit of MTFC per participant in FY21 dollars is \$43,236.

- To estimate the net benefit of TFC, the lifetime monetary benefit of TFC from empirical literature (\$43,236 per youth) was added to the 2-year cost savings of TFC. Compared to residential care, the overall net benefit of TFC was \$94,294.26 per youth.

The overall net benefit of TFC per youth is **\$94,294.26** (**\$43,236.00 per WSIPP + \$51,058.26 2-year cost savings in DCFS TFC Pilot**).

Implications

Pursuant to the Illinois Children and Family Services Act (Illinois Public Act 099-0350), Chapin Hall conducted a benefit-cost study of the 5-year DCFS TFC Pilot, focusing on LSSI's implementation of the TFCO model. During the study period (February 2017–June 2021), the TFC Pilot group (n=74) on average, spent less time in residential care and incurred less cost than the comparison group (n=87). Youth in the TFC Pilot group stayed, on average, 5 months per TFC placement, had up to two TFC placements during the study period, and, in total, had close to 10 months of TFC across TFC placements, consistent with the expected program duration of the TFCO model. However, 25 youth in the TFC Pilot group also spent time in residential care—more than 15 months on average. Youth in the comparison group, who either remained in or entered residential care after TFC referral, spent on average, 20 months in residential care. The overall mean cost per youth in TFC for the duration of the study period was \$94,438. The 25 Pilot youth who also spent time post-TFC in residential care, incurred, on average, \$174,207 in residential placement costs. The comparison group, with an overall longer stay in residential care during the study period, incurred a higher average cost per youth in residential care of \$212,649. These figures represented the overall DCFS fiscal investment in TFC placements and residential care placements for the duration of the Pilot.

To estimate the impact of TFC on the Pilot youth's placement trajectories after leaving TFC, Chapin Hall identified a subset of Pilot youth (n=52) and comparison youth (n=67) who had at least 2 years of DCFS living arrangement data available between their TFC start date (Pilot) or TFC referral date (comparison) and May 2022. Over the 2-year period, the estimated cost of care for youth in the TFC Pilot group—made up of predominantly initial placement days in TFC and subsequent placement days in specialized foster care, traditional foster care/relative, or residential care—was \$179,492. In contrast, the estimated cost of care for youth in the comparison group—predominantly made up of placement days in residential care—was \$230,500. This means the overall 2-year cost savings of TFC, compared to residential care, was \$51,058 for a single youth. Significant cost savings were seen after youth exited

their TFC placement, as they tended to move into less restrictive and less expensive settings such as traditional foster care/relative and specialized foster care. Comparison youth primarily stayed in the most expensive setting, residential care, throughout the 2-year period.

To estimate the net benefit of TFC, the lifetime monetary benefit of TFC from empirical literature (\$43,236 per youth) was added to the 2-year cost savings of TFC. Compared to residential care, the overall net benefit of TFC was \$94,294.26 per youth, providing relevant evidence that there is a long-term cost-benefit to continuing the Pilot in Illinois.

This study has several limitations. By examining actual costs of the Pilot within the study period regardless of the duration of time youth spent in the Pilot, the average cost per youth might be skewed because youth who entered the Pilot later in the study period would have less time and therefore lower associated costs than youth who entered earlier. Further examination of the average cost per youth across demographic characteristics (e.g., race, gender) might also shed light on equitable investment and allocation of TFC resources. Due to the recent conclusion of the 5-year DCFS TFC Pilot in FY21, Chapin Hall was only able to project TFC-related cost savings for 2 years from TFC placement (Pilot) or TFC referral (comparison). It is possible that further cost savings are realized beyond this period; therefore, the cost-saving figures shown in this report may be considered a conservative estimate. In addition, the DCFS per diem rates for TFC from FY17 through FY21 were less costly than those for residential care, which partially explained the favorable cost-savings findings attributable to TFC. In addition, cost data in this study only reflected DCFS fiscal investment in TFC and residential care and did not account for non-DCFS costs associated with TFC and residential care, such as Medicaid billable services. Finally, building on this descriptive study, future studies could take an inferential approach to examine between-group differences as well as the correlates or predictors of time and cost of TFC.

Significant cost savings were seen after youth exited their TFC placement, as they tended to move into less restrictive and less expensive settings such as traditional foster care/relative and specialized foster care.

Statement of Independence and Integrity

Chapin Hall adheres to the values of science, meeting the highest standards of ethics, integrity, rigor, and objectivity in its research, analyses, and reporting. Learn more about the principles that drive our work in our [Statement of Independence](#).

Chapin Hall partners with policymakers, practitioners, and philanthropists at the forefront of research and policy development by applying a unique blend of scientific research, real-world experience, and policy expertise to construct actionable information, practical tools, and, ultimately, positive change for children and families.

Established in 1985, Chapin Hall's areas of research include child welfare systems, community capacity to support children and families, and youth homelessness. For more information about Chapin Hall, visit www.chapinhall.org or @Chapin_Hall.

Acknowledgement and Disclaimer

This project was funded by the Illinois Department of Children and Family Services (DCFS).

The Chapin Hall team would like to thank our partners at DCFS, especially Jason House at the Division of Budget and Finance for providing technical guidance on the appropriate use and interpretation of DCFS fiscal data for this benefit-cost study.

Suggested Citation

Chor, K. H. B., Oltmans, C., & Morsch, M. S. (2023). *A benefit-cost study of the Therapeutic Foster Care (TFC) Pilot*. Chicago, IL: Chapin Hall at the University of Chicago.

Correspondence

Brian Chor, Research Fellow, Chapin Hall at the University of Chicago
bchor@chapinhall.org; 773-256-5211

References

Blueprints for Healthy Youth Development. (2022). *Treatment Foster Care Oregon*. University of Colorado Boulder and Institute of Behavioral Science.

Children and Family Services Act, Illinois Public Act 099-0350.

<https://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=099-0350>

Saldana, L., Campbell, M., Leve, L., & Chamberlain, P. (2019). Long-term economic benefit of Treatment Foster Care Oregon (TFCO) for adolescent females referred to congregate care for delinquency. *Child Welfare, 97*(5), 179–195.

The R Foundation for Statistical Computing. (2021). *R version 4.1.2*. The R Foundation for Statistical Computing.

Washington State Institute for Public Policy. (2019). *Benefit-cost technical documentation*. Washington State Institute for Public Policy.