

ECONOMIC ANALYSIS OF HAMILTON COUNTY'S EMANCIPATED FOSTER YOUTH

Prepared by the Economics Center on behalf of
Hamilton County Job and Family Services and
The Higher Education Mentoring Initiative

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION.....	5
LITERATURE REVIEW	13
ECONOMIC IMPACT OF EMANCIPATED FOSTER CHILDREN IN HAMILTON COUNTY, 2008-2015	17
Methodology	17
Estimated Costs of Mental and Physical Health	19
Medicaid and Hamilton County Foster Youth	22
Estimated Costs Associated with Homelessness.....	24
Estimated Costs Associated with Criminal Justice System Involvement	25
Estimated Lost Productivity Costs	27
Total Estimated Outlay for Necessary Supportive Services for Emancipated Youth for Hamilton County, 2008-2015	28
HIGHER EDUCATION MENTORING INITIATIVE (HEMI).....	29
Specific Factors Influencing HEMI Outcomes Among Emancipated Youth.....	32
HEMI Success stories	34
CONCLUSION	36
APPENDIX	38
WORKS CITED.....	40

TABLE OF TABLES

Figure 1: Emancipation by Age of Former Foster Youth in Hamilton County, 2008-2015	6
Table 1: Annual Unique Youth in Foster Care in Hamilton County, 2009-2015.....	7
Figure 2: Total Length of Stay (Non-episodic) by Age Entering Care.....	9
Table 2: Demographic Weighted Averages of Children Engaged with Foster Care, 2009-2015	10
Table 3: Poverty by Race, Hamilton County, Ohio	10
Table 4: Primary Reason Children Were Removed from Previous Caretaker by Episode, 2009- 2015.....	12
Table 5: Relationship of Primary Caretaker to Child, Before Placement in Care by Episode, 2009-2015.....	12
Table 6: Approximated Emancipated Youth Population in Hamilton County by Year, 2008 - 2015.....	18
Table 7: Estimated Health Costs by Category for Emancipated Youth in Hamilton County, 2008-2015.....	20
Table 8: Top 10 Most Frequent Healthcare Providers for Foster Youth Ages 16+ Through Emancipation on Medicaid in HCJFS, 2009-2015	23
Table 9: Estimated Costs of Homelessness for Emancipated Youth in Hamilton County, 2008- 2015.....	24
Table 10: Estimated Age-Arrest Rates for Emancipated Youth in Hamilton County, Compared to Hamilton County General Population Youth Age-Arrest Rates per 1,000 People	25
Table 11: Estimated Costs of Emancipated Youth Involvement in the Criminal Justice System in Hamilton County, 2008-2015.....	26
Table 12: Estimated Lost Productivity of Hamilton County Emancipated Youth, by Comparison, 2008-2015.....	28
Table 13: Estimated Total Social Expenditures to Support Emancipated Youth in Hamilton County, 2008-2015	28
Table 14: Comparison of Outcomes in Education, Employment, and Pregnancy rates between HEMI Participants 18-25, Emancipated Youth, and General Population Ages 18-24	30
Table 15: HEMI Costs and Estimated Savings FY2015.....	31
Table 16: Impact of HEMI Scholarships on Employment.....	32
Table 17: Impact of HEMI Scholarships on Post-Secondary Education	33
Table 18: Demographic Comparisons of Ohio, Illinois, Wisconsin, Iowa, 2015	38
Table 19: Comparisons between Foster Youth Populations in Hamilton County (2009-2015) and the Midwest Study.....	39
Table 20: Demographic Summary of Participants in the Midwest Study across Four Intervals of Interviews	39

EXECUTIVE SUMMARY

Every year, thousands of children in child protective custody (commonly referred to as foster care) emancipate from the system on their 18th birthday in the United States. In Hamilton County alone, approximately 110 youth emancipate from the Hamilton County Job and Family Services (HCJFS) foster care system, each year. Without traditional family support systems, children in foster care are left to social service programs to support them financially, physically, mentally, socially, and emotionally. The emancipation process can exacerbate the circumstances of children in foster care by virtue of losing a number of support programs on the day they leave care.

Children in foster care are much more likely than non-foster children of the same age to be involved in the criminal justice system, have physical and mental health complications, and/or experience episodes of homelessness. These children are also much less likely to finish high school, attend post-secondary school, or graduate. Children in foster care commonly enter their years of greatest wage potential either unemployed or underemployed. The early risks of leaving the foster care system can have long-term costs that are difficult to recoup. Supporting children in foster care is also expensive for the county. In Hamilton County, these estimated costs were significant for the study period from 2008 to 2015.

ESTIMATED COSTS TO HAMILTON COUNTY FOR 2008-2015:

The total costs associated with social support services unrelated to foster care and/or child welfare (e.g., emergency response, non-profit support services for persons experiencing homelessness, healthcare services, criminal justice services) combined with net economic productivity “lost” was approximately \$141 million from 2008 to 2015. This resulted in an estimated average annual cost of \$17.7 million per year.

Itemized Costs:

- Total estimated expenditures of criminal arrests, court cases, and local incarcerations of former foster youth amounted to an estimated \$16.5 million, or an average of \$2.1 million per year.
- The total estimated medical costs of emancipated youth that are not covered by some form of insurance or assistance program totaled approximately \$61.1 million; or an estimated \$7.6 million per year cost for emancipated youth.¹ These values only include medical expenditures of the uninsured as insured medical costs have been excluded.

¹ These estimates are adjusted for the percentage of the sample population who were covered by some form of insurance or Medicaid. Please see the Estimated Costs of Mental and Physical Health section for more detail.

These costs include emergency room visits, hospitalizations, pregnancies, and mental health services.

- Other social service programs for emancipated youth experiencing episodes of homelessness are estimated to total approximately \$582,000 in expenditures between 2008 and 2015.
- Emancipated youth earned an estimated \$7.9 million per year less than their peers did, representing \$63.3 million in “lost” productivity in the Hamilton County economy between 2008 and 2015.

The Higher Education Mentoring Initiative (HEMI) is an intervention meant to improve these outcomes and springboard emancipated foster youth into adulthood more adequately prepared. HEMI foster youth work with Program Specialists and dedicated volunteer mentors who champion their social, career, and/or college readiness skills through training, support, and guidance in many aspects of their lives. Participants enter HEMI during 11th and 12th grade, after being referred by a Hamilton County Job and Family Services caseworker, and many stay until they are self-sufficient—upwards of 5+ years. Youth join the program at different stages of life plan development, with different long-term goals, and with a wide range of post-secondary education readiness.

Foster youth in the sample set who participated in HEMI were much more likely to finish high school, enroll in a post-secondary institution, and obtain a job than their emancipated foster peers. HEMI participants were employed more frequently than the general population and had a higher mean wage. Additionally, the female participants from the study group had lower rates of teen and early-adult pregnancy than both the general population and emancipated foster youth.

OUTCOMES FOR HEMI PARTICIPANTS:

- 88 percent of participants eligible to graduate had obtained a High School Degree or GED at the time of the analysis.
- 47 percent of participants had attended some college or earned a post-secondary degree.
- 71 percent of participants were employed at the time of the analysis with a mean hourly wage of \$12.83; nearly \$1 per hour higher than the general population.
- 17 percent of female participants had at least one dependent at the time of the analysis, compared to 52 percent of foster youth and 22 percent of females in the general population.

These positive effects on social outcomes also contributed to lower net costs for the county. The associated social impacts of HEMI’s programming included the less frequent use of both

social and emergency support services. As such, HEMI expended \$248,000 in programming expenses and scholarships in 2015. It is estimated that the related outcomes represented approximately \$768,000 in reduced necessary spending to support the HEMI participants in Hamilton County. The ROI for the one-year sample period was 248 percent.

DATA LIMITATIONS:

Due to a lack of longitudinal data concerning foster children in Hamilton County, the Economics Center extrapolated findings from national and regional studies regarding emancipated foster youth, to estimate local costs for items such as involvement in the justice system and healthcare costs. When cost information was not locally available, national figures were used and cited throughout the full report. Please refer to the Methodology Section and/or the Appendix for more details.

Numerous data points were used to estimate the social costs necessary to care for Hamilton County foster youth outside of child welfare programs. Other less direct, longer term variables also likely contribute incremental costs, such as multi-generational impacts of foster care and the impact of inadequate health care over time, but have not been assessed. Not all of these longer term, less direct factors are readily quantifiable. Therefore, it is likely that the total social costs quantified in this report represent conservative estimates.

Additionally, the available HEMI data only focused on a single-year sample. With students' longer-term maturation in the program, more accurate calculations will be possible. Tracking additional parameters longitudinally for both Non-HEMI and HEMI participants will help to focus on a wider range of variables and outcomes, e.g., college graduation rates, income, other social outcomes, and next-generation statuses, etc.

The calculation of HEMI's ROI was limited, since many of the social outcomes and related statistics were unknown or not measured locally. Therefore a number of comparative analyses were necessary, with associated assumptions. The study results only capture participant income increases and costs related to pregnancies. This could be expanded to evaluate costs incurred due to homelessness and criminal justice system involvement, to render a more comprehensive picture of the full economic benefits of the program.

INTRODUCTION

An unfortunate reality that persists in Hamilton County is the maltreatment of children. Many children periodically face imminent danger from child abuse or neglect or because their parents or legal custodians are not able to care for them due to factors such as death, incarceration, or deportation.

When risk to children's health or welfare is reported and substantiated by an investigation, children are removed from their homes and placed by Court order in child protective custody. Local children in these situations are in the care of Hamilton County Job and Family Services (HCJFS). HCJFS works with local agencies to identify a suitable living arrangement for each child – a licensed foster home or placement with a relative, or a licensed residential group home or treatment facility. Throughout the remainder of this report, all children in child protective custody will be referred to as “foster youth” regardless of placement type.

Many foster youth remain in the system until they are 18 when they become legal adults. Leaving the foster care system after the age of 18 is known as “emancipation.” Beginning at age 16, Hamilton County Job and Family Services (HCJFS) thoroughly evaluates the readiness of each individual to leave the foster system, and typically recommends that around one-third remain in care past age 18. However, once 18, any individual in the foster system may request emancipation, which supersedes HCJFS's recommendation to remain in care. While these emancipated individuals are eligible for the same social assistance programs that are available to the entire adult population, the abrupt loss of foster care services that they had relied upon can make the already challenging transition to adulthood, difficult. Figure 1 shows the profile of emancipation from the HCJFS foster care system by the age of the person, from 2008 and 2015; averaging 108 per year and totaling 864 people over the study period.

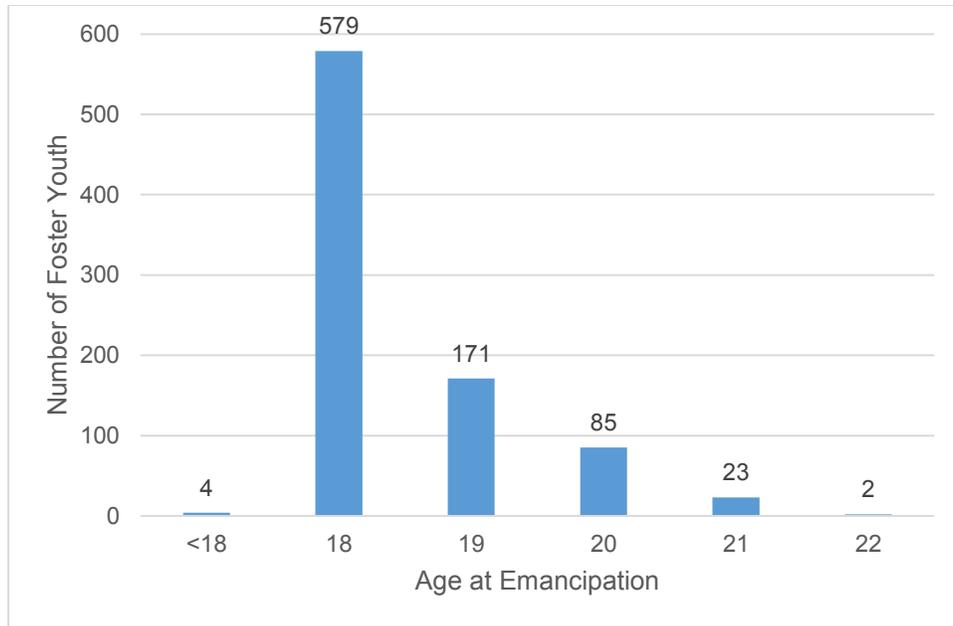


Figure 1: Emancipation by Age of Former Foster Youth in Hamilton County, 2008-2015
 Source: Hamilton County Job and Family Services

The transition is estimated to have significant costs. The individuals attempting to navigate the world without support are exposed to more risk, often lose access to financial services, access to education, food, and the broader social connections developed while in foster care. In the following sections, local statistics for Hamilton County emancipated youth will be addressed in relation to regional averages. Many of these outcomes have broad social and personal consequences. For example, former foster youth experience episodes of homelessness at higher rates than the general population, require physical and mental health interventions more frequently, are more likely to be involved in criminal activity, often lack a job or have unstable employment, and female foster youth have higher rates of teenage and early adulthood pregnancies. These social impacts entail complicated costs for both the individuals and society as a whole. This report represents an estimate of those costs for Hamilton County. All dollar figures presented in this report are 2015 dollars.

HAMILTON COUNTY FOSTER YOUTH POPULATION, 2009-2015²

From 2009 to 2015 HCJFS had an average of 2,211 children in foster care each year. The year with the greatest number of people in care was 2015, with 2,515, while 2010 experienced the fewest, 2,029.

Table 1: Annual Unique Youth in Foster Care in Hamilton County, 2009-2015

Year	Youth in Foster Care
2009	2,113
2010	2,029
2011	2,205
2012	2,246
2013	2,222
2014	2,147
2015	2,515
Annual Average	2,211

Source: Hamilton County Job and Family Services³

According to HCJFS records the average age of children entering foster care between 2009 and 2015 was 7.1 years of age, and the average length of stay was just under 793 days. This figure obscures differences in the length of stay by age entering foster care. Those aged 0-4 had average stays of 597 days, while those aged 14-18 had average stays of 839 days. For children aged 0-1, the average length of stay in foster care was 571 days, significantly below the mean length of stay.⁴

Figure 2 below, illustrates the relationship between the age at which a child enters foster care and the child's total length of care (non-episodic). The distinctive line that emerges in Figure 2 represents the remaining length of time until the individuals would need to stay in care to reach age 18. The data shows two distinctly different groups: one group generally exits care at consistent and predictable rates (the children below the line), while the other group exits care clustered along the "age-18" line, the common age of emancipation. In Hamilton County it is not a requirement to emancipate at 18, and many stay longer, as shown in the Figure. Regarding these outcome patterns, these two groups may represent different sets of life circumstances/challenges and/or each group has different needs. Additionally, HCJFS recommends that some foster youth stay in care past the traditional age of emancipation. The implications behind the data in Figure 2 are complex and beyond the scope of this report.

² While this report covers the impact of emancipation for foster youth between 2008 and 2015, the detailed counts by race, ethnicity, removal circumstance, and relationship to primary caregiver were only available for 2009-2015. This section will detail the demographics of 2009-2015 and the remainder of the paper will be based on the counts of 2008-2015.

³ HCJFS Agency Custody Summaries, 2009-2015.

⁴ HCJFS Custody Terminations, "Days in Custody", 2008-2015 records.

Further research would be necessary to test variables related to the group above the age-18 line and those below the line.

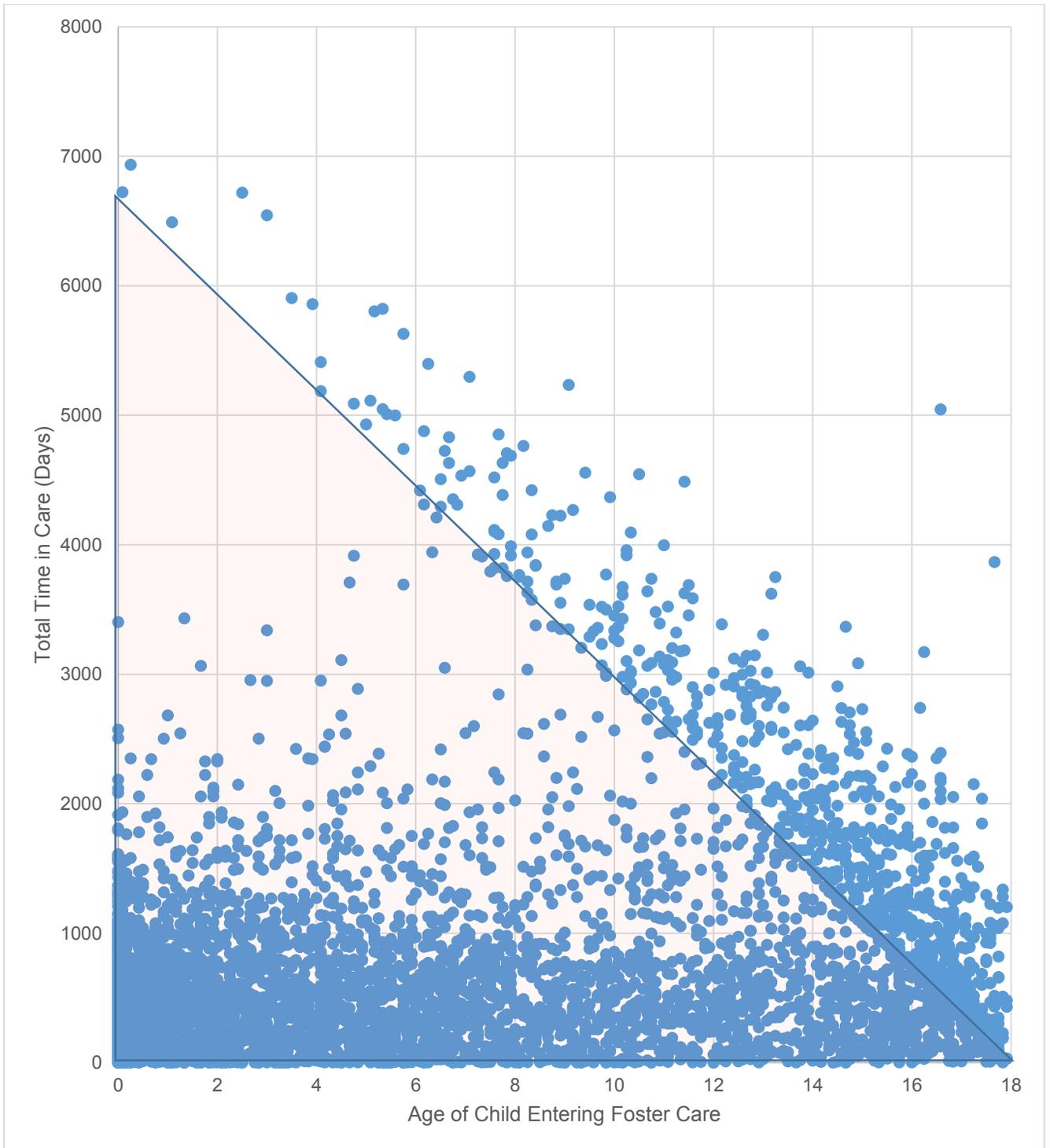


Figure 2: Total Length of Stay (Non-episodic) by Age Entering Care

Source: Hamilton County Job and Family Services⁵

⁵ HCJFS Custody Terminations, "Days in Custody", 2008-2015 records.

Table 2 shows the weighted averages for the demographic makeup of children who were in foster care **at some point** between 2009 and 2015. Table 2 also contains the demographic split between the sexes; during this period there were more female foster children than males by a slim margin.

Table 2: Demographic Weighted Averages of Children Engaged with Foster Care, 2009-2015

Race	Male	%	Female	%	Total	%
Black or African American	622	57.0%	646	57.3%	1,269	57.2%
White	371	34.0%	387	34.2%	758	34.1%
Multi-Racial	87	7.9%	82	7.3%	169	7.6%
Other	12	1.1%	13	1.2%	25	1.1%
Total	1,092	100%	1,128	100%	2,221	100%

Source: Hamilton County Job and Family Services, 2009-2015⁶

Table 3: Poverty by Race, Hamilton County, Ohio

Race	Population	Percent Share of Total Population	Number in Poverty	Percent Share of Individuals Below Poverty Level
White	540,876	68.8%	62,626	43.6%
Black or African American	201,843	25.7%	71,604	49.8%
Multi-Racial	19,012	2.4%	4,832	3.3%
Other	24,816	3.1%	4,716	3.3%
Total	786,547	100%	143,778	100%
Under 18 years	184,490	23.5%	49,449	34.4%

Source: POVERTY STATUS IN THE PAST 12 MONTHS
2011-2015 American Community Survey 5-Year Estimates⁷

⁶ HCJFS Agency Custody Summaries, 2009-2015

⁷ The U.S. Census Bureau defines poverty status by comparing pre-tax cash income against a threshold that is set at three times the cost of a minimum food diet in 1963, updated annually for inflation using the Consumer Price Index, and adjusted for family size, composition, and age of householder. For more information, see: <http://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

Comparing Tables 2 and 3, the demography of foster youth and the breakdown of poverty by race in Hamilton County shows some noteworthy relationships. Among the general population in Hamilton County, Black or African Americans comprise approximately 25 percent of the population, while Whites make up 69 percent. Of individuals below the federal poverty level, nearly 50 percent are Black or African American and 44 percent are White. The demographic makeup of foster youth in Hamilton County shows that 57 percent are Black or African American and 34 percent are White. These disparities suggest a potential relationship between poverty in adult populations and the incidence of youth in foster care.

Children make up 24 percent of the total population of Hamilton County and 34 percent of all individuals at or below the federal poverty level. Furthermore, the total Hamilton County poverty rate is approximately 18 percent, but the poverty rate of Hamilton County children is 27 percent. In other words children experience poverty at nearly twice the rate of the adult population in Hamilton County.

In 2015 HCJFS Child Services Division (CSD) investigated 7,022 reports of possible maltreatment. This number was down from 7,396 in 2014, but up from a low of 6,149 in 2011. Some of those reports led to a child being placed into foster care, and Table 4 shows the primary reasons children were placed in the care of HCJFS. More than one-quarter of children were removed because of physical, sexual, or verbal abuse or a combination thereof between 2009 and 2015. Nearly one-quarter were removed due to Dependency. Dependency refers to children who do not have anyone present or capable of caring for them. If family members or parents are not available to care for a child, dependency is commonly the given reason for removal. The next highest category is Neglect at 16.5 percent of cases.

Table 4: Primary Reason Children Were Removed from Previous Caretaker by Episode, 2009-2015

Reason for Removal by Episode	Percent
Abuse	27.3%
Dependency	24.0%
Neglect	16.5%
Drug Abuse of Previous Caretaker	13.0%
Child's Behavior Problems	4.9%
Caretaker's Inability to Cope	4.5%
Other	9.8%
Total	100%

*Includes children experiencing multiple episodes of removal

Source: Hamilton County Job and Family Services⁸

Table 5 shows the relationship of the primary caretaker to a given child before that child was moved to foster care. The vast majority, 78 percent, of children were under the care of their biological mother when they entered foster care. Biological fathers and grandmothers each accounted for 4 percent of primary caretakers. The remaining 13.8 percent were "Other" relationships, none of which comprised more than 1.5 percent of the total, independently.

Table 5: Relationship of Primary Caretaker to Child, Before Placement in Care by Episode, 2009-2015

	Percent
Biological Mother	78.1%
Biological Father	4.1%
Grandmother	4.0%
Other	13.8%
Total	100%

Source: Hamilton County Job and Family Services⁹

⁸ HCJFS Removal Circumstances by Episode, 2009-2015.

⁹ HCJFS Removal Circumstances by Episode, 2009-2015.

LITERATURE REVIEW

When assessing the total outlay for support services outside of the Hamilton County foster care system it is necessary to begin by discussing the myriad forces that impact the lives and context of foster children. To assist in contextualizing adverse childhood experiences faced by many foster children in Hamilton County, the Economics Center performed a literature review of national and regional studies; facts and figures are therefore national and regional (nonlocal) numbers. In this light, a picture of foster youth provides the background in which to understand the findings of this report. Included in this picture are the traumas that the majority or all foster youth experience. Traumatic experiences can have a wide-variety of ramifications for current and future life outcomes.

Trauma results from various forms of adverse childhood experiences (ACEs). ACEs include physical abuse, sexual abuse, emotional abuse, witnessing violence in the home or neighborhood, loss or incarceration of a parent/primary caregiver, neglect of the child's basic needs for nurturing and security, and economic hardship. In the U.S., 46 percent of children have experienced at least one ACE, with economic hardship being the most prevalent.¹⁰ Individuals, as well as communities, can experience and suffer from trauma, which can affect the development and wellbeing of individuals, cause disruption of community social relationships, and alters behavioral norms of groups. According to a 2010 study, 34 percent of children in Ohio have experienced one ACE, and 14 percent have experienced three or more ACEs.¹¹ Data collected revealed that 48 percent of adults 18 years of age and older in Hamilton County had been maltreated as children. Not all children who experience ACEs enter the foster care system. Many cases go unreported and/or unrecognized in the community (some children are resilient to the harmful effects of traumatic experiences). When child maltreatment is brought to the attention of HCJFS, a thorough investigation is conducted. A child is taken into child protective custody when maltreatment is substantiated and the child is considered at risk in the home.

Trauma stemming from childhood maltreatment has been shown to negatively impact brain development, behavioral maturation, and social skills.¹² Lastly, there is significant evidence to suggest that youth who experience complex trauma are more at risk of behavioral problems or having a clinical diagnosis than children who do not experience complex trauma.¹³

¹⁰ Vanessa Sacks, M.P.P., David Murphey, Ph.D., and Kristin Moore, Ph.D., "Adverse Childhood Experiences: National and State-Level Prevalence," (Child Trends, July 2014).

¹¹ Alonzo Folger and Jillian Garratt, Ohio Centers for Disease Control and Prevention: Ohio Behavioral Risk Factor Surveillance System (BRFSS). 2010. <https://www.odh.ohio.gov/healthstats/brfss/behrisk1.aspx>

¹² Bonnie D. Kerker and Martha Morrison Dore, "Mental Health Needs and Treatment of Foster Youth: Barriers and Opportunities," *American Journal of Orthopsychiatry* 76, no. 1 (2006): 138–47.

¹³ Greeson, et al. "Complex Trauma and Mental Health in Children and Adolescents Placed in Foster Care: Findings from the National Child Traumatic Stress Network" (Child Welfare, Vol 90, No 6).

For these children, life has already started on a rough path. Prior to entering foster care, nearly two-thirds of children had experienced some form of abuse or maltreatment by their primary caregiver.¹⁴ In child welfare, maltreatment is described in four categories, physical abuse, sexual abuse, psychological abuse, and neglect.¹⁵ Children also enter care because of the failure of primary caregivers to protect them from maltreatment by others, physical illness or psychological illness of the caregiver, homelessness, substance addiction, abandonment, and poor relationship quality between the caregiver and the child.¹⁶ Some children involved in the foster care system have also been involved in the juvenile delinquency system and have untreated mental health issues, or have post-traumatic stress disorder resulting from one or more catastrophic life events.¹⁷

Bonds between biological families, foster families, and/or foster agencies can provide support and structure.¹⁸ For children who have experienced physical abuse, social support found in family and peers provides a barrier against the development of anxiety and depression.¹⁹

Unfortunately, not all children have opportunities to develop stable, supportive relationships with others, but instead experience turnovers and inconsistencies throughout their lives. For example, on average, foster youth experience three home placements and one-third of foster children have changed schools at least five or more times. These disruptions in social support have contributed to high rates of foster children struggling with anger, social ambivalence, experiencing perceptions of loss, distrust, and commonly, serious academic problems. Children who experience these types of inconsistencies in their lives also have issues forming trusting relationships with others.²⁰

Disruptions in the consistency of out of home care can affect children throughout their lifetimes. Most foster youth are school-aged and often their school life is severely affected by their home care circumstances. They often have lower standardized test scores, they have

¹⁴ Amy M. Salazar, Thomas E. Keller, and Mark E. Courtney, "Understanding Social Support's Role in the Relationship Between Maltreatment and Depression in Youth With Foster Care Experience," *Child Maltreatment* 16, no. 2 (May 1, 2011): 102–13.

¹⁵ RT Leeb, L. Paulozzi, C. Melanson, T. Simon, and I. Arias. "Child Maltreatment Surveillance: Uniform Definitions for Public Health and Recommended Data Elements" (Center for Disease Control and Prevention: National Center for Injury Prevention and Control, 2007).

¹⁶ Catherine R. Lawrence, Elizabeth A. Carlson, and Byron Egeland, "The Impact of Foster Care on Development" (Development and Psychopathology).

¹⁷ Katie Lockwood, Susan Friedman, Cindy Christian, "Permanency and the Foster Care System," (Current Problems in Pediatric and Adolescent Health Care, 2015, pgs 306-215).

¹⁸ Cassandra Chaney, Meghan Spell, "In the System:" A Qualitative Study of African American Women's Foster Care Stories Cassandra Chaney- Louisiana State University Meghan Spell- Independent Scholar," (Western Journal of Black Studies, 2015, pgs 84-101).

¹⁹ Exell CE, Swenson CC, and Brondino MJ, "The relationship of social support to physically abused children adjustment," (Child Abuse and Neglect, 2000, pgs 641-651).

²⁰ (Chaney & Spell, 2015)

higher absentee rates, they are more likely to drop out of school, and they are more likely to be referred for special education services by comparison to their peers.²¹

Most victims of abuse have significantly higher rates of psychiatric treatment as compared to the overall population. African American children are more threatened by mental health issues as they are less likely than Caucasian children to have access to and utilize mental health services.²² One study suggests that victims of maltreatment are 1.9 times as likely to be arrested for a juvenile offense as their peers and 1.6 times more likely to be arrested for an adult crime.²³ Extensive child welfare involvement is associated with an increased risk of juvenile justice system involvement, particularly for males.

The trauma that children face when experiencing maltreatment causes consequences like increased hospital visits, joblessness rates, incarceration rates, and special education costs. Children who fall victim to nonfatal maltreatment are estimated to pay significant costs over their lifetimes. This includes short- and long-term healthcare costs, productivity losses, welfare costs, criminal justice costs, and special education costs.²⁴

The Chapin Hall Center for Children at the University of Chicago, in collaboration with the University of Wisconsin Survey Center (hereafter referred to as The Midwest Study), evaluated outcomes related to emancipated foster youth years after leaving foster care. This study measured the impact that instability had on educational consequences. Foster children are twice as likely to be absent from school and two-and-a-half to three-and-a-half times more likely to require special education than their non-foster peers were. Given these considerable obstacles, foster children generally have much lower levels of educational attainment. Of the emancipated youth tracked in the Midwest Study, 72 percent between ages 18 and 24 had graduated from high school or received a GED. By contrast, the general population's graduation rate was 19 points higher, at 91 percent. Of the foster youth who finished high school, only 31 percent attended some college. Of the same study group, only 8 percent had graduated from a post-secondary institution by the age of 26, compared to 46 percent of 26-year-olds in the general population.²⁵

In 2015, workers with lower levels of educational attainment than Associate's degrees had unemployment rates higher than the national average and earnings that were significantly

²¹ M. Fox and K. Arcuri. "Cognitive and Academic Functioning in Foster Children." (*Child Welfare*, 1980, pgs 491-496).

²² (Chaney & Spell, 2015)

²³ C.S. Widom. "Childhood victimization: Early adversity, later psychopathology." *National Institute of Justice Journal*. (2000).

²⁴ Fang Xiangming, Derek S Brown, Curtis Florence, James A Mercy, "The Economic Burden of Child Maltreatment in the United States and Implication for Prevention," (*Child Abuse and Neglect*, 2012, pgs 156-165).

²⁵ Mark E. Courtney, S. Terao, and N. Bost, "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Conditions of Youth Preparing to Leave State Care" (Chapin Hall at the University of Chicago, 2004).

below the median.²⁶ This trend remains true for foster youth, as well, who have lower outcomes in both employment rates and relative earnings. In comparison to demographically similar, low-income youth, former foster children are even less likely to be employed and are even more likely to earn lower wages if they do have a job.²⁷ Only half of emancipated foster youth are employed at age 23 or 24, as opposed to three-quarters of their peers in the general population.²⁸ The income disparity between individuals who have emancipated from the foster system and their peers increases throughout their mid-twenties and the wage gap continues to expand until age 30; the entire duration of the study.²⁹

²⁶ "Earnings and unemployment rates by educational attainment, 2015", U.S. Bureau of Labor Statistics, (March 2016), https://www.bls.gov/emp/ep_table_001.htm.

²⁷ J.I. Hook and Mark E. Courtney, "Employment of Former Foster Youth as Young Adults: Evidence from the Midwest Study" (Chicago, IL: Chapin Hall at the University of Chicago, 2010).

²⁸ Mark E. Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 23 and 24" (Chicago, IL: Chapin Hall at the University of Chicago, 2010).

²⁹ C. J. Stewart et al., "Former Foster Youth: Employment Outcomes up to Age 30", *Children and Youth Services Review* 36 (January 1, 2014): 220–29.

ECONOMIC IMPACT OF EMANCIPATED FOSTER CHILDREN IN HAMILTON COUNTY, 2008-2015

Methodology

Findings from the Midwest Study corroborate the troubling reality experienced by the emancipated foster youth with a detailed dataset. This longitudinal research study followed a sample of emancipated foster children, interviewing them periodically, years after they left care in Iowa, Illinois, and Wisconsin. The Midwest Study findings were also able to be compared with those of a national longitudinal study of adolescents, the National Longitudinal Study of Adolescent to Adult Health (Add Health Study)³⁰, thus enabling comparisons between the emancipated youth and a representative sample of their national peers. In this report the Economics Center will use this dataset to analyze estimated costs to support emancipated youth in Hamilton County.

Since longitudinal outcome data are not available for Ohio, three Midwestern states were used as proxies for foster children living in Hamilton County.³¹ Illinois, Iowa, and Wisconsin share many similarities with Ohio including demographics, culture, relative latitude, and economics.

Baseline data were collected from participants in the Midwest Study when they were 17 or 18 years old (n=732), and those same individuals were interviewed again at ages 19 (n=603)³², 21 (n=591)³³, 23 or 24 (n=602)³⁴, and 26 (n=596)³⁵ for a total of four intervals of post-care interviews. Thus, these data show a snapshot of former foster children over an eight-to-nine-year period and allow for more granular time series analyses, capturing a broad perspective of experiences throughout early adulthood.

The analysis described in this report is predicated on the assumption that the findings of the Midwest Study approximate the adverse childhood experiences of former foster children in Hamilton County. Under this assumption, the findings from the Midwest Study were applied to

³⁰ K. M. Harris, J.R. Udry, and P.S. Bearman, "The National Longitudinal Study of Adolescent to Adult Health", (2005 – 2011). Information on how to obtain Add Health data files is available on the website: <http://www.cpc.unc.edu/addhealth>

³¹ See the Appendix for a more detailed discussion of why the Midwest Study population makes an acceptable proxy for Hamilton County's foster youth population, as well as additional information on the Midwest Study population.

³² Mark E. Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 19" (Chicago, IL: Chapin Hall at the University of Chicago, May 2005).

³³ Mark E. Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 21" (Chicago, IL: Chapin Hall at the University of Chicago, December 2007).

³⁴ Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 23 and 24."

³⁵ Mark E. Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 26" (Chicago, IL: Chapin Hall at the University of Chicago, 2011).

data on the population of Hamilton County’s foster care system. Between 2008 and 2015, 864 children emancipated from foster care, or an average rate of 108 per year.³⁶ This rate assumes that roughly the same number of children leave care (and leave the cohort) as those who age into the cohort (foster children, ages 18 – 26). This age cohort is the focus of the study to align the experience of Hamilton County foster children with the Midwest Study’s focus population. Table 6 illustrates the nature of the numeric approximations used in the calculations regarding the total year-over-year emancipated population living in Hamilton County that are compared throughout the report.

Table 6: Approximated Emancipated Youth Population in Hamilton County by Year, 2008 - 2015

	Year of the Study							
	2008	2009	2010	2011	2012	2013	2014	2015
	+108	108	108	108	108	108	108	108
		+108	108	108	108	108	108	108
			+108	108	108	108	108	108
				+108	108	108	108	108
					+108	108	108	108
						+108	108	108
							+108	108
								+108
Cumulative Emancipated Youth	108	216	324	432	540	648	756	864

Source: Methodological illustration

Accordingly, the findings from the four interview intervals in the Midwest Study, ages 18 to 26, were applied to the Hamilton County’s study population of 864.³⁷ These findings covered a host of topics including involvement in the criminal justice system, physical and mental health issues, homelessness, employment and income, and education. Therefore, these numbers were used to estimate the potential Hamilton County outlay for programs and services necessary to mitigate the social complications that are statistically more common for emancipated foster children. These economic accounts are grouped into two categories: the cost of social services unrelated to foster care (crime, health, and homelessness) and lost productivity.

³⁶ This study population came from data on children in foster care with Hamilton County Job and Family Services, which is available back to 2008. Therefore, it is assumed that similar numbers of children aged out of the system before 2008, and thus, the study population held constant every year from 2008 to 2015.

³⁷ From here on, unless stated, the emancipated youth and general populations under discussion are those of Hamilton County, though the underlying data may be applied from the Midwest or Adolescent Health Studies.

Estimated Costs of Mental and Physical Health

The Midwest Study provided impacts on the physical and mental health of foster children. The following estimates and utilization rates are based on the findings from the Midwest Study. For many measures, emancipated youth were at a greatly increased risk of physical and mental health problems in comparison with their peers. The implication of more frequent health issues per person is higher rates of health care utilization.

These costs totaled more than \$61 million between 2008 and 2015 and are broken down into physical and mental health costs in Table 7. The physical health costs were accounted for using estimates of the cost of emergency room visits, hospitalizations, and childbirth. The majority of the total healthcare costs for the sample population were estimated to be pregnancy related. This value is relatively high, in part due to dramatically different pregnancy rates among foster women and the general population. Women who were formerly in foster care were more than twice as likely as their peers to have a child by age 21.³⁸ Over half of the women involved in the Midwest Study had become pregnant after leaving foster care.³⁹ When interviewed at the age of 26, close to 75 percent of emancipated women had given birth to at least one child. Of this group, 33 percent had become pregnant since leaving foster care.⁴⁰ Accordingly, between 2008 and 2015, costs associated with pregnancy among emancipated women in Hamilton County are estimated to have totaled \$34 million or \$4.3 million annually.⁴¹

These approximated costs exclude the percentages of the foster youth population that were estimated to be covered by some form of insurance. The assumption used for the calculations was that if an individual had Medicaid coverage or some form of insurance, his or her care would be covered 100 percent by insurance and therefore result in no additional costs incurred by the county. The uninsured portion of the emancipated youth were assumed to be unable to pay for medical care with the costs then being incurred by the county.

Collectively, 59.4 percent of the Midwest study group were insured across the study period, most commonly through an employer or Medicaid. For comparison, 77.3 percent of the Add Health Study (the proxy for the general population) group was insured.⁴² Hamilton County uses

³⁸ The upper limit of the Midwest Study data on pregnancies was “2 or more since last interview.” Since interviews were conducted every two years, and having more than two pregnancies in two years would be difficult, the estimates of numbers of pregnancies here are likely to be fairly accurate, with a conservative bias.

³⁹ Courtney et al., “Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 21,” 50.

⁴⁰ Courtney et al., “Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 26,” 74.

⁴¹ Median cost for a maternity stay was found in X. Xu et al., “Wide Variation Found In Hospital Facility Costs For Maternity Stays Involving Low-Risk Childbirth,” *Health Affairs* 34, no. 7 (2015): 1212–19.

⁴² Mark E. Courtney, S. Terao, and N. Bost, “Midwest Evaluation of the Adult Functioning of Former Foster Youth: Conditions of Youth Preparing to Leave State Care” (Chapin Hall at the University of Chicago, 2004).

a Children's Services and Mental Health tax levy to help cover the costs incurred for the health care of foster youth.⁴³

Table 7: Estimated Health Costs by Category for Emancipated Youth in Hamilton County, 2008-2015

	Total Costs	Annual Costs
Physical Health	\$53,448,000	\$6,681,000
<i>Pregnancy</i>	\$34,011,000	\$4,251,000
<i>ER Visit</i>	\$14,072,000	\$1,759,000
<i>Hospitalization</i>	\$5,365,000	\$671,000
Mental Health	\$7,615,000	\$952,000
<i>Hospitalization</i>	\$3,636,000	\$455,000
<i>Treatment</i>	\$2,059,000	\$257,000
<i>Medication</i>	\$977,000	\$122,000
<i>Counseling</i>	\$943,000	\$118,000
Total	\$61,064,000	\$7,633,000

Source: Calculated by the Economics Center⁴⁴

By age 21, 26 percent of emancipated males and 10 percent of females reported having been the victim of a violent crime.⁴⁵ By age 26, approximately 15 percent were afflicted with a chronic medical condition, almost twice the rate of the general population.⁴⁶ Also by age 26, 13 percent were dependent on alcohol, while approximately 20 percent experienced substance dependence.⁴⁷

Between 2008 and 2015 Hamilton County emancipated youth made an estimated 1,400 trips to the emergency room each year. At an average cost per ER visit of \$1,258, emergency services totaled \$14 million.⁴⁸ Non-emergency hospitalizations over that same period

⁴³ Health Management Associates. "Review of Health Care Services Provided by Hamilton County, Ohio: Final Report," May 30, 2014.

⁴⁴ All dollar figures in this report are in 2015 dollars.

⁴⁵ Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 21."

⁴⁶ Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 26," 46.

⁴⁷ Ibid., 60.

⁴⁸ Estimates for costs associated with ER visits are derived from Nolan Caldwell et al., "'How Much Will I Get Charged for This?' Patient Charges for Top Ten Diagnoses in the Emergency Department," ed. Harry Zhang, *PLoS ONE* 8, no. 2 (February 27, 2013): e55491.

accounted for \$5.4 million.⁴⁹ When pregnancy costs were factored in, Hamilton County's emancipated youth were associated with an estimated \$53.4 million in costs related to physical health services.

From the Midwest Study's evaluation of former foster youth, in addition to an increased risk of physical health issues, they were also more likely to have mental health problems. At age 21, 14 percent of females and five percent of males had been diagnosed with a serious mental health disorder.⁵⁰ When interviewed at the age of 26, close to 40 percent of former foster youth had attempted suicide in the previous year and 60 percent displayed symptoms associated with Post Traumatic Stress Disorder (PTSD).⁵¹ Nearly 20 percent of emancipated youth had received some form of mental or behavioral health care in the past year and were more than twice as likely as their peers to receive counseling or be placed in a substance abuse program.⁵²

Based on these data, it is estimated that former foster youth in Hamilton County have received almost \$1 million annually in mental healthcare services.^{53 54} Approximately half of these services were a response to being hospitalized for behavioral health-related incidents. One-quarter of a million dollars was spent on substance abuse treatment programs in this time frame and nearly half as much was spent on counseling and medication. Services necessary to treat mental health totaled \$7.6 million for Hamilton County foster children between 2008 and 2015. When combined with the \$53.4 million spent on physical health care over that same period, the result was estimated to be \$61 million or approximately \$7.6 million per year, as shown in Table 7.

⁴⁹ Hospitalization costs were calculated using data from A Pfunter, LM Wier, and C Steiner, "Costs for Hospital Stays in the United States, 2010," HCUP Statistical Brief #146 (Rockville, MD: Agency for Healthcare Research and Quality, January 2013).

⁵⁰ Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 21," 46.

⁵¹ Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 26," 53.

⁵² Courtney et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 23 and 24," 44.

⁵³ The Midwest Study only reports percentages of respondents who utilized mental health services. Thus, the assumption was made that each person would not engage each type of service more than once in a year. Again, this resulted in relatively conservative estimates of utilization and overall costs of mental health care.

⁵⁴ Costs for mental health hospitalization were taken from Karen E. Davis, "Expenditures for Treatment of Mental Health Disorders among Young Adults, Ages 18-26, 2007-2009: Estimates for the U.S. Civilian Noninstitutionalized Population," Statistical Brief #358 (Rockville, MD: Agency for Healthcare Research and Quality, February 2012).

Medicaid and Hamilton County Foster Youth

Health care provision for emancipated foster youth is commonly a challenge. As mentioned in the previous section, the rate for healthcare coverage among foster youth is nearly 18 percent lower than for the general population of a similar age cohort. The two most common types of health care coverage for emancipated foster youth, from the Midwest Study, were Medicaid and employer-provided health insurance.⁵⁵ Both of these forms of health insurance are difficult to obtain, outside of foster care.

As will be discussed in the “Lost” Productivity section of this report, the employment rates of foster youth are significantly lower than for the general population and the scale of wages and benefits they receive are generally lower. This creates an additional obstacle to access for obtaining coverage. Additionally, until 2010, Medicaid/CHIP, the child version of the healthcare assistance program, ended at age 18. A CHIP recipient would then be required to reapply to the program to receive benefits, now being subject to the same restrictions as adults, including income restrictions. With the inception of the Affordable Care Act, emancipated foster youth can now remain on Medicaid/CHIP until age 26 without restriction, making coverage easier to retain into adulthood.⁵⁶

Even so, programs like Medicaid require applicants to provide a wide array of paperwork for review before receiving benefits. This presents complications, particularly for individuals struggling with complicated circumstances. Third-party assistance programs are meant to help foster youth and other disadvantaged populations connect to assistance programs. Potentially, the lower Medicaid utilization rates of eligible foster youth are a result of these complications.

Of the Medicaid benefits received for 2009-2015 by HCJFS youth (children in care ages 16+ through emancipation), Table 8 shows the top 10 providers. This list illustrates the most common challenges for the Hamilton County foster youth population. The Ohio Department of Mental Health was utilized the most, at 34.9 percent of total visits. The most common forms of care were mental health services, general health care, substance abuse programs, behavioral health services, and pharmaceuticals. Table 8 also shows the percentage of total visits to each provider and the types of services provided.

⁵⁵ Mark E. Courtney, S. Terao, and N. Bost, “Midwest Evaluation of the Adult Functioning of Former Foster Youth: Conditions of Youth Preparing to Leave State Care” (Chapin Hall at the University of Chicago, 2004).

⁵⁶ Robin Rudowitz, Samantha Artiga, and Rachel Arguello, “Children’s Health Coverage: Medicaid, CHIP and the ACA,” (The Kaiser Family Foundation, March 2014).

Table 8: Top 10 Most Frequent Healthcare Providers for Foster Youth Ages 16+ Through Emancipation on Medicaid in HCJFS, 2009-2015

Provider Name	Type of Service	Visits	Share of Visits
Ohio Department of Mental Health	<i>Mental Health</i>	137,828	34.9%
Children's Hospital Medical Center	<i>General Care</i>	33,734	8.5%
Dept. of Alcohol & Drug Addiction Services	<i>Substance Abuse</i>	18,836	4.8%
Walgreens	<i>Pharmaceuticals</i>	12,520	3.2%
St. Joseph Orphanage	<i>General Care</i>	10,640	2.7%
Home Care Pharmacy	<i>Pharmaceuticals</i>	6,267	1.6%
Mullaney's Pharmacy	<i>Pharmaceuticals</i>	5,736	1.5%
Abraxas Youth & Family Services	<i>Behavioral Health</i>	5,601	1.4%
Necco	<i>Behavioral Health</i>	4,386	1.1%
Foundations for Living	<i>Mental Health</i>	4,156	1.1%
Total		239,704	60.8%

Source: Ohio Medicaid, 2009-2015 data accounting claims and benefits received by foster youth.
Calculated by the Economics Center

Estimated Costs Associated with Homelessness

By the age of 24, approximately 25 percent of former foster youth had experienced homelessness for a period of time. In Hamilton County, emancipated youth collectively experienced an estimated 1,088 episodes of homelessness between 2008 and 2015. Considering the expense of shelter accommodations alone, the county is estimated to have paid \$582,000 from 2008 to 2015. The average length of stay was approximately 24 days at an average daily cost of \$22.⁵⁷ While not the largest cost category, homelessness must be included in the overall service expenditures because these services provide necessary support for individuals who have emancipated from the foster system.

Table 9: Estimated Costs of Homelessness for Emancipated Youth in Hamilton County, 2008-2015

Estimated Episodes of Homelessness	1,088
Mean Stay Duration	Approximately 24 days
Average Daily Cost	\$22.0
Annual Costs	\$73,000
Total Costs	\$582,000

Source: Calculated by the Economics Center. Estimates may not be additive due to rounding.

⁵⁷ Des Moines comparison figures from Jill Khadduri et al., "Costs Associated with First-Time Homelessness for Families and Individuals" (Department of Housing and Urban Development, March 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1581492.

Estimated Costs Associated with Criminal Justice System Involvement

Emancipated youth are frequently involved in the criminal justice system by age 26. From the Midwest Study, approximately 68 percent of males and 42 percent of females had been arrested as adults, compared to 22 percent of males and 5 percent of females from a similar age group in the general population as tracked by the Add Health Study. Additionally, 64 percent of males and close to 33 percent of females had been incarcerated since age 18, compared to 9 percent and 3 percent, respectively, of the general population sample.⁵⁸

For context and comparison, Table 10 shows arrest rates by age from the Hamilton County Sheriff's Department in 2010 compared to an estimate of Hamilton County emancipated youth.⁵⁹ As shown below, the estimated rates of involvement in the criminal justice system are nearly ten times greater for the emancipated youth population than for the same age cohort of the general population. These values were calculated using arrest rates from the Midwest Study population by age with adjustments using the Hamilton County arrest rates by age, of the general population.

Table 10: Estimated Age-Arrest Rates for Emancipated Youth in Hamilton County, Compared to Hamilton County General Population Youth Age-Arrest Rates per 1,000 People⁶⁰

Age	HC Emancipated Youth (Estimated)	HC Youth Gen. Pop. (Actual)
20 to 24	121.4	15.6
25 to 29	101.4	11.6
Average	111.4	13.6

Source: National Institute of Justice, Hamilton County Sheriff's Office, 2010
Calculated by the Economics Center

Following the methodology described above and the summary statistics from the Midwest Study, individuals who are emancipated from the foster care system in Hamilton County are projected to have shared an average arrest rate of 111.4 per thousand population members from 2008 to 2015. The estimated costs related to involvement in the criminal justice system for emancipated youth totaled an estimated \$16.5 million, or \$2.1 million per year.

⁵⁸ Courtney, Dworsky, Brown, et al., "Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 26," 93.

⁵⁹ National Institute of Justice, "Age-Arrests", Hamilton County Sheriff's Office, 2010.

⁶⁰ Due to methodological and data limitations, the age groups in Table 10 offer the most appropriate estimated comparisons between Emancipated Youth in Hamilton County and the general, similarly aged population.

For Hamilton County, significant costs stem from high rates of involvement with the justice system. This is a particularly difficult cost category to estimate because many similar estimates are made using very broad measures such as “cost of a criminal career” or simply likelihood of delinquency for a particular group of people. The U.S. Department of Justice does not track data on what a given criminal activity costs. Considering these complications, a study from Washington State University was used as a guide to calculate the cost of each step of a given offense in the criminal justice system.⁶¹ In 2015, these costs ranged from \$1,374 for a misdemeanor arrest to close to \$34,000 for a court case resulting from violent crime. Table 11 estimates these costs in Hamilton County by arrests, convictions, and incarcerations, and each cost category covers all types of offenses. Arrest costs only cover local police and sheriff departments. Conviction costs cover county-level courts and prosecutors. Incarceration costs reflect only the portion of time an offender would spend in a local jail.

Table 11: Estimated Costs of Emancipated Youth Involvement in the Criminal Justice System in Hamilton County, 2008-2015⁶²

	Total Costs	Annual Costs
Incarceration	\$3,980,000	\$498,000
Police Arrests	\$2,943,000	\$368,000
Court Costs	\$9,571,000	\$1,196,000
Total	\$16,494,000	\$2,062,000

Source: Calculated by the Economics Center

⁶¹ The criminal justice costs for each category were calculated by type of offense and level of severity, and are found in Steve Aos et al., “The Comparative Costs and Benefits of Programs to Reduce Crime. Version 4.0” (Washington State Institute for Public Policy, May 2001). Since the reported figures are from 1996 and the State of Washington, they have been inflated to 2015 dollars and adjusted to Ohio by purchasing power parity.

⁶² This total comes from incarceration, police arrests, and court costs.

Estimated Lost Productivity Costs

While the aforementioned social costs were significant, they were all outweighed by the lost productivity of former foster children in Hamilton County. By the age of 21, only half of emancipated youth in the Midwest Study were employed, while three-quarters of a peer group of similarly aged youth were employed.⁶³ The disparity worsened by age 26 when only 46 percent of emancipated youth were employed while 80 percent of their peers were. When employed, the emancipated youth held positions that paid less. At age 21, roughly the same percentage of former foster and non-foster youth who were employed worked full-time; approximately 50 percent for both. By age 24, 56 percent of emancipated youth were working full-time, compared to 76 percent of their peers. Emancipated youth also lagged their non-foster peers in median earnings. At age 21, the emancipated foster youth earned only 60 percent of the median income of the comparison peer population. However, at age 26 emancipated youth only earned one-third as much as their peers.

In Hamilton County, between 2008 and 2015, it is estimated that emancipated youth had a median income of \$6,787 while their peers earned \$11,357 annually. The gap widened by age 26, with emancipated youth earning median annual wages of \$10,296 against their peers' \$31,417. Former foster children lagged in median income because those who were employed were more likely to be part-time or work less than 40 hours per week and be engaged in temporary employment. The annual emancipated population of 108 individuals was estimated to have earned a combined \$3.2 million, while their peers earned more than three times as much, bringing in an estimated \$11.1 million annually, as shown in Table 12.

The low-income levels of former foster youth result from their relatively low-skill level in the labor market (associated with lower educational attainment), the significantly lower wages at these skill levels, and the frequency of foster youth having less-than-full-time employment. The gap between what their peers earned and what former foster youth earned resulted in relative "lost" productivity for Hamilton County. Thus, on an annual basis, emancipated youth accounted for almost \$8 million in estimated "lost" productivity. In other words, if emancipated youth were employed and compensated at the same level as their peers, Hamilton County's economy would have been \$8 million larger every year from 2008 to 2015. Conversely, it was \$63.3 million smaller than it otherwise might have been. This large income differential represents the largest category of financial hardship experienced by former foster youth compared to their peers.

⁶³ Ratios of median incomes and the proportions of employment among the two different populations are found in the Midwest Study. These findings were combined with median household income data for Hamilton County from the U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

Table 12: Estimated Lost Productivity of Hamilton County Emancipated Youth, by Comparison, 2008-2015

	Total	Annual	Average Annual Earnings
General Population	\$88,845,000	\$11,106,000	\$12,854
Emancipated Youth	\$25,505,000	\$3,188,000	\$3,690
"Lost" Productivity	\$63,340,000	\$7,918,000	\$9,164

Source: Calculated by the Economics Center

Total Estimated Outlay for Necessary Supportive Services for Emancipated Youth for Hamilton County, 2008-2015

Between 2008 and 2015 the estimated costs associated with emancipated youth in Hamilton County totaled approximately \$141 million, or approximately \$17.7 million per year, as shown in Table 13. The largest portion of these estimated costs was related to the low rates of employment and relatively low wages for the employed. This "lost" productivity totaled \$63.3 million between 2008 and 2015. The next highest estimated cost resulted from physical and mental health services, which totaled approximately \$61 million over the 8-year period. Additionally, estimated rates of involvement in the criminal justice system totaled to approximately \$16.5 million. Lastly, the circumstances of many former foster children contributed to episodes of homelessness, with estimated costs of \$582,000 over the eight-year period.

Table 13: Estimated Total Social Expenditures to Support Emancipated Youth in Hamilton County, 2008-2015

	Total Costs	Annual Costs
Lost Productivity	\$63,340,000	\$7,918,000
Criminal Justice System	\$16,494,000	\$2,062,000
Physical and Mental Health	\$61,064,000	\$7,633,000
Homelessness	\$582,000	\$73,000
Total	\$141,480,000	\$17,686,000

Source: Calculated by the Economics Center

HIGHER EDUCATION MENTORING INITIATIVE (HEMI)

HCJFS Children's Services provides supports and services to families to help keep children safe and promote their healthy development. When it finds children who are living in unsafe situations, typically resulting from abuse or neglect, Children's Services seeks temporary or permanent child custody. To reduce the number of children needing protective custody, HCJFS Director Moira Weir has implemented award-winning initiatives to help parents make good decisions and to identify children at risk of maltreatment – programs including Choose Your Partner Wisely and Do Ask, Do Tell. For those children who do require protective custody, Director Weir introduced two new targeted programs designed to help children and youth in foster care overcome the barriers typically encountered in the process of maintaining connections to their schools and in achieving academic success – Kids in School Rule! and the Higher Education Mentoring Initiative (HEMI).

HEMI was launched in 2009 to increase the rate at which foster youth graduate from high school and obtain some form of post-secondary degree. HEMI is a partnership between the Hamilton County Board of County Commissioners, HCJFS, the University of Cincinnati, Cincinnati State Technical and Community College, Great Oaks Career Campuses, and Mount St. Joseph University. HEMI matches volunteer mentors one-on-one with foster children. The mentors are asked to make a long-term commitment and receive extensive training on the child protection system, childhood trauma, educational options and education law, financial literacy for youth, applying for post-secondary education scholarships, emancipation, and independent living. The transition from high school to college or vocational school is particularly difficult for foster children who typically have little or no income. To address the income barrier, HEMI has established a scholarship program for its participants using money donated by individuals, foundations, and companies.

The first HEMI cohort entered the program in 2009 and 114 people had been involved from 2009 to 2015. While 114 is a small sample, data received from HEMI provide an indication of how the program may positively influence outcomes for its participants. Table 14 compares representative outcomes for individuals participating in HEMI to emancipated youth generally, and peers in the population at large. HEMI participants 18 and over who have not completed high school designated that they are still pursuing a high school degree or a GED. At the time of data collection, the graduation rate for participants eligible to graduate had a high school graduation rate of 88.1 percent. This rate is higher than the estimate for HEMI's peer group of emancipated youth and very close to the graduation rate of the general population. Therefore, they graduated at a rate more than 15 percent higher than their peer group from the Midwest Study. Similarly, the college attendance rates were more than 16 percent higher than the Midwest emancipated youth group in the same age range. The HEMI participants were also employed at levels similar to their general population peers and earned similar mean wages. HEMI participants appear to outpace the general population on both employment rates and

wages, due to large numbers of “unknown” employment and wage status for participants. Similarly, the data available for dependents of HEMI participants had a significant number of “unknown” quantities. Of the portion whose number of dependents was known, 16.9 percent of females had at least one dependent; a rate lower than the general population of the same age.

Table 14: Comparison of Outcomes in Education, Employment, and Pregnancy rates between HEMI Participants 18-25, Emancipated Youth, and General Population Ages 18-24⁶⁴

	HEMI age 18-25	Emancipated youth age 18-24	General population age 18-24
Education			
HS Degree/GED	88.1%	71.8%	90.9%
Some College or Degree Earned	46.9%	30.8%	57.1%
Employment			
Employed	70.6%	46.7%	65.9%
Estimated Mean Hourly Wages	\$12.83 ⁶⁵	\$8.91	\$11.96
Females with at least one dependent	16.9%	51.5%	21.9%

Sources: HEMI, Midwest Study, and Add Health Study⁶⁶

It is worth attempting to quantify HEMI’s “return on investment” (ROI), a measure of how effectively the organization has utilized its resources. It is evident that HEMI has been effective in achieving positive outcomes among youth who engaged. Table 15 lays out this ROI and its components costs and savings of the HEMI program. Since HEMI is relatively new, a one-year period was chosen to assess the organization’s costs and savings ROI. Fiscal year 2015 (FY2015) was chosen both because that year had one of the largest cohorts and because it saw the highest amount of utilized scholarship monies, giving a snapshot of how the organization performs with a large sample of participants.

HEMI’s costs consisted of its operating expenses and of the scholarships that were used by HEMI participants in a given year, rather than total awarded amount.⁶⁷ In FY2015 it cost

⁶⁴ In Table 14, the categories of “Employed” and “Females with at least one dependent” are calculated from a subset of HEMI data because these values were marked “unknown” for a number of participants. Therefore, about 40% of eligible participants are not reflected in these calculations, and the actual number of HEMI participants either employed or having children may be higher or lower than what is reflected here.

⁶⁵ The wage estimate for HEMI participants was made using job title and employment data for the sample population. This information was matched with regional wages from the Bureau of Labor Statistics.

⁶⁶ The numbers for emancipated youth and the general population are weighted averages across multiple age cohorts using data from the Midwest Study and the Add Health Study.

⁶⁷ Though much more is awarded in scholarships each year, it is not all used in the year it is awarded, and so calculating HEMI’s costs with the full scholarship amount would give a distorted view of the activities actually taking place in a given year.

\$240,600 to run HEMI and another \$42,900 in scholarships, equaling \$283,500 in total expenses. Calculating HEMI's overall annual gains required some care. A portion of those gains came from the actual revenues received from the Initiative's partners, in the amount of \$219,400. However, as an organization with a public mission, HEMI's gains in a given year must include an account of its public benefits. As noted above, HEMI participants were more likely to have a job and less likely to become pregnant. Therefore, in a given year, those who have gone through the HEMI program earned much more than their peers, reduced their yearly "lost" productivity numbers, and were less likely to incur costs related to uninsured pregnancy. Therefore, it was estimated that HEMI participants were responsible for a reduction in Hamilton County's total expenditures for emergency and support services by \$767,800 in 2015 alone.⁶⁸ In total, HEMI's preliminary FY2015 value impacts were estimated to be \$987,200 for an ROI of 248 percent. It is important to note that these ROI calculations are calculated based on the available data from the first life-cycle of HEMI's program⁶⁹. Nonetheless, based on the positive impact HEMI has had during its first six years, investment in the program has generated a positive return in social and economic savings.

Table 15: HEMI Preliminary Value Impacts, FY2015⁷⁰

Costs			Savings + Revenues			ROI 248%
HEMI Expenses	Scholarships Used	Total	HEMI Revenues	Reduced Social Costs	Total	
\$240,600	\$42,900	\$283,500	\$219,400	\$767,800	\$987,200	

Source: Calculated by the Economics Center Using Data Provided by HEMI

⁶⁸ The majority of this reduction comes from earnings by HEMI participants, which is estimated to have totaled \$1.1 million in FY2015.

⁶⁹ Due to the lack of longitudinal data for HEMI participants, the current ROI was calculated based on national and regional data. Additional data gathered by HEMI over time will allow for more precise long-term estimates based on the actual outcomes of HEMI's program.

⁷⁰ The HEMI ROI calculation does not account for in-kind donations.

Specific Factors Influencing HEMI Outcomes Among Emancipated Youth

The Economics Center prepared a regression analysis of the impact of HEMI's scholarships on the employment and enrollment in post-secondary education for participants within the program. The Economics Center used 114 records of HEMI participants to inform the models.

The first model took into account the current age of the participant, his/her race, the age when he/she entered foster care, the number of years engaged in HEMI, the age when he/she entered the program, and the value of the scholarship received (but not necessarily utilized). The findings show that HEMI scholarships have a significant relationship to the likelihood of employment for HEMI participants. Table 16 shows that if an individual receives approximately \$7,000 in scholarship funding, he or she is nearly twice as likely to be employed as those who did not receive aid. The odds of employment are calculated by comparing the level of employment to unemployment between the scholarship populations. For example, individuals who have received \$8,000 in scholarships, if 67 percent of participants are employed, and 33 percent are unemployed, that population is twice as likely to be employed than unemployed ($67\%/33\% = 2$).

Table 16: Impact of HEMI Scholarships on Employment⁷¹

HEMI scholarship awarded	Odds of employment
\$1,000	1.10
\$2,000	1.21
\$3,000	1.32
\$4,000	1.45
\$5,000	1.60
\$6,000	1.75
\$7,000	1.92
\$8,000	2.11
\$9,000	2.32
\$10,000	2.55

Source: Calculated by the Economics Center using Data Provided by HEMI

The other analysis completed looked at the level of scholarship and the likelihood of enrolling in post-secondary education. While it is logical that the scholarship amount and enrollment rates are correlated, not all recipients enrolled in post-secondary education. However, \$2,000-\$3,000 worth of scholarship resulted in more than twice the likelihood of enrolling in post-

⁷¹ A number of HEMI participants' employment status was unknown. Therefore, the sample used for this analysis utilized 68 participants' data, rather than the total sample population of 114.

secondary education. This shows that while financial considerations are a major concern for HEMI participants, the amount of scholarship necessary to make an impact is low. Table 17 shows the highest impacts are associated with the highest scholarship values. This discovery has a level of confirmation bias (students with the highest academic achievement are more likely to enroll in post-secondary education options as well as have higher levels of scholarship), but the findings are encouraging for acknowledging the impact of HEMI's scholarship. Similar to the above example, the odds of enrollment were calculated by examining the populations who received certain scholarship levels and to calculate what the relationship is between enrollment and non-enrollment for each subgroup.

Table 17: Impact of HEMI Scholarships on Post-Secondary Education⁷²

HEMI scholarship awarded	Odds of enrollment in post-secondary education
\$1,000	1.35
\$2,000	1.82
\$3,000	2.46
\$4,000	3.32
\$5,000	4.49
\$6,000	6.06
\$7,000	8.18
\$8,000	11.05
\$9,000	14.92
\$10,000	20.15

Source: Calculated by the Economics Center using Data Provided by HEMI

⁷² Similar to Table 16, a number of HEMI participants' current education status was unknown. Therefore, the sample used for this analysis utilized 68 participants' data, rather than the total sample population of 114. The number of known participants' education status is the same number as those with known employment status, there is no significance to be drawn from this coincidence.

HEMI Success stories

Success Story # 1

DS, a 2010 graduate of Aiken College and Career High School, was matched with her HEMI mentor in 2009. She and her mentor were part of the first cohort of HEMI students, and they continue to keep in touch regularly. DS also remains engaged with the HEMI program, and often volunteers to participate or speak at HEMI events.

DS was in the care of HCJFS when she met her mentor. Shortly after, DS emancipated from foster care and has successfully supported herself since that time.

In May 2014, DS graduated from The College of Mount St. Joseph (now Mount St. Joseph University) with a bachelor's degree in Communications and New Media Studies. Immediately after graduation, she began her career pathway as a Youth and Public Information Summer intern with the Southwest Ohio Region Workforce Investment Board.

After working various jobs in retail and banking, DS was hired on in 2015 at the Kennedy Heights Arts Center as the Events and Marketing Manager. This job is a perfect fit for DS; she is able to build on the knowledge she gained from her education at Mount St. Joseph and showcase her talents in planning events and marketing the diverse programs Kennedy Heights offers to the community.

Along with working full-time, DS is a mother to two daughters. She is also very involved in the community as a volunteer. Her dream for the future is to open a restaurant.

Success Story # 2

AA was introduced to HEMI and was a part of the 2009 cohort. Upon graduating from high school in 2009, AA enrolled into Cincinnati State. While at Cincinnati State, AA was able to receive his PCA certificate and STNA license. During this time, AA also went through the Next Step program at Cincinnati Works. After finishing at Cincinnati State, he decided to go to Johnson State College in Vermont, where he received his bachelor's degree in Health Science in 2014.

During all of these transitions, AA has remained connected to the HEMI program. AA still has frequent communication and meets with his HEMI mentor. AA attends and volunteers at a number of HEMI events. AA is also a member of Hamilton County's Youth Advisory Board, which is a board for current and past foster youth to advocate on behalf of others in foster care.

In August 2015, AA was presented with the opportunity to join Public Allies and complete a year of service working at Cincinnati Children's Hospital Medical Center's Check Center for

youth in foster care. AA helped with research and supported the Center's ICARE2CHECK initiative. The goal of this program was for current adolescent foster youth to learn how to take better care of themselves and to use a care guide booklet to store their medical information. Being a former foster youth, Cincinnati Children's Hospital felt that AA was a good fit for this position.

AA successfully completed his year of Public Allies service and is currently seeking professional full-time employment.

CONCLUSION

Foster children face profoundly challenging obstacles. Responding to the needs of the foster children and emancipated youth population in Hamilton County is difficult considering the broad range and complex nature of those challenges. From 2009 to 2015, HCJFS was engaged with 2,211 foster children on average. These children were subjected to one or many traumatic experiences in their home life. The negative experiences of HCJFS foster youth included physical and sexual abuse, neglect, drug abuse by caretakers, poverty, and/or caretakers' inability to support them.

County level support for the foster youth population is expensive, both while they are in custody and after emancipation. However, little is known about the costs of youth emancipating in Hamilton County because the costs are spread among various governmental units and private organizations. Many of the services utilized are emergency services, rather than more affordable social services. From 2008 to 2015 the estimated costs associated with the necessary support services external to foster care and child welfare totaled \$141 million, or an average of \$17.7 million per year. However, because those costs were spread among a variety of county government units and private organizations, they are not readily apparent. During the 8-year study period, emancipated youth accounted for estimated costs of \$16.5 million within Hamilton County's criminal justice system, approximately \$61 million in estimated health costs covered in part by tax levies, approximately \$582,000 in expenses to local homeless shelters, and \$63.3 million in "lost" productivity within the local economy.

The study of a group of foster youth who participated in the HEMI program showed improvements in educational outcomes, and lower net social support service needs for the participants. For the sample group, HEMI spent approximately \$284,000 on scholarships and ancillary services and saw a reduction in social support needs of \$768,000 associated with the group of 114 foster youth. HEMI participants graduated more often, attended post-secondary schools more frequently, were more likely to find a job, were paid better, and the female participants were significantly less likely to become pregnant than their emancipated peers.

The long-term value of HEMI interventions is difficult to estimate. Each of the aforementioned outcome gains represents an improvement in quality-of-life circumstances for emancipated foster youth, fewer risk factors, better chances for employment, and more opportunities for the participants to successfully support themselves outside of the social service system post-emancipation.

HEMI's programming has dramatically improved the social and economic outcomes of its participants. Its scholarship awards improve the odds that foster youth will find employment and/or enroll in post-secondary education. Foster children who participate in HEMI see outcomes nearly even with their general population demographic peers, and they substantially outperform other children facing similar challenges.

Therefore, it was estimated that HEMI participants were responsible for a reduction in Hamilton County's total expenditures for emergency and support services by \$767,800 in 2015 alone. In total, HEMI's FY2015 value gains were \$987,200 for an estimated ROI of 248 percent.

The study period and student sample size were small due to the recent implementation of the program. Further studies and time-series data could be used to more precisely measure the long-term benefits of HEMI. As mentioned, the HEMI ROI result only captures participant income increases and costs related to pregnancies. This could be expanded to cover costs incurred due to homelessness and involvement in the criminal justice system, as well, rendering a clearer picture of the full benefits (and likely a higher ROI percentage). In addition to the improvements in educational attainment and income earnings demonstrated by the study's population, there is significant evidence to suggest that behaviors and cognitive development related to education contributes to better health outcomes over a lifetime.⁷³

As important and substantial as the short-term effects of HEMI have been, the long-term effects could potentially be greater in magnitude. Longitudinal research on interventions such as HEMI is vital to understanding and strengthening programs designed to prepare children for life after foster care. Comprehensive studies will continue to be important for the purpose of expanding the body of data related to foster youth, their outcomes pre- and post-emancipation, and their life experiences. Additionally, tracking variables specific to foster care programming could provide important insights. This type of feedback would be immediately useful for the efficacy of foster care interventions and better estimates of value (to the child and the community).

⁷³ Baker, DP. et al. "The Education Effect on Population Health: A Reassessment." (Population and development review, June 2011).

APPENDIX

Due to instabilities experienced by former foster children, they are often difficult to track once they leave care. There have been efforts to gain insights into what happens to foster children once they leave care. The most extensive of these efforts is the Midwest Study by Chapin Hall at the University of Chicago.

One of the primary reasons the Midwest Study was chosen to approximate the outcomes of Hamilton County foster children is simply because it represents perhaps the best source of such data available nationally. However, there are additional reasons to believe this study's population compares favorably to Hamilton County's own foster children population. Ohio is similar to Illinois, Wisconsin, and Iowa both demographically and economically. Broader social and economic conditions affect the circumstances in which children enter care in the first place, and how their lives develop after leaving care. Table 18 compares Ohio with the Midwest Study's states in a number of demographic factors and poverty statistics.

Table 18: Demographic Comparisons of Ohio, Illinois, Wisconsin, Iowa, 2015

	Ohio	Illinois	Wisconsin	Iowa
Population	11,575,977	12,873,761	5,742,117	3,093,526
Median Household Income	\$49,429	\$57,574	\$53,357	\$53,183
Median Age	39.2	37.3	39.0	38.1
Unemployment Rate	4.9%	5.9%	4.6%	3.8%
Poverty Rate	15.8%	14.3%	13.0%	12.5%
Incarceration Rate (% of population)	0.6%	0.5%	0.6%	0.4%
% HS Graduate or Higher	85.7%	86.4%	88.0%	88.9%

Source: Census Bureau, Bureau of Labor Statistics, and the Sentencing Project⁷⁴

Additionally, the data available on Hamilton County foster children show several similarities to the Midwest Study's foster youth population. Table 19 compares the two foster youth populations. In both population groups, the genders are split almost evenly with slightly more females in foster care in Hamilton County. The racial composition of the two populations was also quite similar, with approximately one-third identified as Caucasian and close to 57 percent African-American in both populations. The similarities continue to extend to life

⁷⁴ The U.S. Census Bureau defines poverty status by comparing pre-tax cash income against a threshold that is set at three times the cost of a minimum food diet in 1963, updated annually for inflation using the Consumer Price Index, and adjusted for family size, composition, and age of householder. For more information, see: <http://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

circumstances before being placed in foster care. In both populations, around three-quarters lived with their biological mother and approximately one-third experienced abuse, broadly defined.⁷⁵

Table 19: Comparisons between Foster Youth Populations in Hamilton County (2009-2015) and the Midwest Study⁷⁶

	Hamilton County	Midwest Study
Gender		
Male	49.2%	48.9%
Female	50.8%	51.1%
Race		
White	34.1%	31.1%
Black or African American	57.1%	56.7%
Other	8.7%	12.2%
Life Circumstances before Foster Care		
Lived with Biological Mother	78.1%	75.4%
Experienced Abuse	27.4%	35.1%

Source: HCJFS Foster Youth, 2009-15 and Midwest Study

Table 20 summarizes the demographics of the participant in the Midwest Study at each of the four intervals of interviews conducted after emancipating. Approximately 600 were interviewed in each interval, ensuring a consistently sized dataset.

Table 20: Demographic Summary of Participants in the Midwest Study across Four Intervals of Interviews

	Age 19	Age 21	Age 23/24	Age 26
Number of Participants	603	590	602	596
Gender				
Male	45.9%	46.8%	46.5%	44.3%
Female	54.1%	53.2%	53.5%	55.7%
Race				
White	31.0%	32.5%	29.9%	29.7%
Black or African American	56.5%	55.6%	54.5%	55.0%
Other	12.5%	11.9%	15.6%	15.3%

Source: Midwest Study

⁷⁵ Though more data on caretakers and reasons for removal are available, the discrepancies between the variables in the two datasets make these the two most comparable variables.

⁷⁶ The Economics Center assumed homogeneity between the ready-to-emancipate Midwest Study foster population and the general Midwest Study foster population. Therefore, the Economics Center compared the Midwest Study population and the Hamilton County foster care population.

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of Hamilton County residents.

Hamilton County Job and Family Services administers state, federal, and local programs designed to help those in need and help families work toward self-sufficiency. The agency has served Hamilton County since 1947. Today, the approximately 780 employees who work for the agency serve hundreds of thousands



harmonyproject

Harmony Project is an innovative private nonprofit foundation established in 2001 to improve the health, social and emotional development, and education of at-risk children and youth in Greater Cincinnati. Harmony Project has backed evidence-based programs and promising new initiatives within existing organizations and has incubated new organizations that encourage at-risk youth to become confident, accomplished, empathetic and inclusive adults.



Ohio Reach improves post-secondary outcomes for foster care youth and alumni through leadership, empowerment, advocacy, research and networking (L.E.A.R.N.)