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Transition Readiness, Perceived Health, and Health Services Utilization in Transitional Age Foster Youth Compared to Controls

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Transition Readiness, Perceived Health, and Health Services Utilization in Transitional Age Foster Youth Compared to Controls

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in Nursing

by

Sharrica Denise Miller

2017

ABSTRACT OF THE DISSERTATION

Transition Readiness, Perceived Health, and Health Services Utilization in Transitional Age Foster Youth Compared to Controls

by

Sharrica Miller

Doctor of Philosophy in Nursing

University of California, Los Angeles, 2017

Professor Nancy A. Pike, Chair

Many transitional age foster youth (TAFY) emancipate from the foster care system with little or no support or resources, experience higher rates of homelessness, unemployment and worse physical and mental health. However, factors related to health outcomes, readiness to transition and health services utilization (HSU) in TAFY and young adults without a history of foster care remains unclear. The purpose of this study was to compare health-related outcomes among TAFY and young adults without a history of foster care and determine the differences between transition readiness and HSU outcomes among TAFY. This was a cross-sectional, comparative study of 206 young adults (103 TAFY and 103 controls), ages 18 to 26 years, recruited from local foster youth centers in the Los Angeles area. Controls were matched for age, gender, and ethnicity from the California Health Interview Survey (CHIS) database. TAFY participants completed health interview questions from the CHIS and the Transition Readiness

Assessment Questionnaire (TRAQ). In addition, the TAFY group provided written responses to open-ended questions to assess preparations for independent living, future goals and aspirations.

The TAFY group was 63% female, mean age 21 ± 2.6, African American (40%), 7 or more years in foster care (56%), 7 or more foster placements (35%), income of less than $5,000 per year (39%), living in unstable housing (40%), and having at least one child (38%). There was no statistical significance between TAFY and CHIS controls except for variables related to socioeconomic status such as income, housing and employment. Foster youth reported statistically significant higher Emergency Department (ED) services use and lower perceived health status compared to controls (41% vs 17%, p <.001; 56% vs. 83%, p <.001), respectively. Mean transition readiness scores were assessed using the TRAQ which rates transition readiness on a 1 to 5 scale, with higher numbers indicating better transition readiness. Higher mean TRAQ scores were found when TAFY were grouped according to having a primary care provider (PCP) or no PCP (3.1 vs 2.1, p < .001), receiving preventative health care or no preventative care (3.0 vs 2.1; p <.001), and having no lapse in health insurance coverage or no insurance (3.0 vs 2.3; p <.001) within the past 12 month. Three themes emerged in the open-ended questions were: 1) the need for support in the transition process, 2) desire for success or financial wealth, and 3) to be part of a family or have their own family.

The findings from this study suggest that TAFY living in Los Angeles showed decreased transition readiness and self-perceived health, increased physical and mental health conditions and HSU related to ED use compared to youth without a history of foster care. Routine screening for depression and early referral to mental health care and assessment of transition readiness is warranted to identify youth that lack independent living skills.

The dissertation of Sharrica Miller is approved.

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2017

Dedications

To my sister, Tonisha, for her unwavering support.

To my daughter, Kapten, for her infinite potential.

To my partner, Kirstin, for her unconditional love.

And to all the foster youth who trusted me with their stories.

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PRESENTATIONS

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Chapter 1 Introduction

Transitional age foster youth (TAFY), defined as current or former foster youth between the ages of 18 and 26, experience mental and physical health challenges to a significantly higher degree than young adults without a history of foster care (American Academy of Pediatrics [AAP], 2012). As many as 60% enter the child welfare system with at least one acute or chronic condition and they are twice as likely as their peers to report having a health condition when emancipated (Courtney et al., 2011; Courtney et al., 2016). Transitional age foster youth are also less likely to seek preventative care services. Subsequently, they are more likely to be hospitalized and more likely to use the emergency department for routine medical care than other young adults of similar age and socioeconomic status (AAP, 2012). Nearly 20% of this group lack medical coverage, despite being eligible to apply for Medicaid until their 26th birthday (Courtney et al., 2016).

TAFY further experience significant barriers when accessing care, particularly much needed mental health services (Child Welfare Council, 2011). Those who do manage to obtain health insurance expend more per health episode and utilize more time per visit than their matched peers (California Health and Human Services [HHS], 2012). Most are unprepared to manage their health needs independently and often experience poor care coordination (HHS, 2012; State Policy Advocacy and Reform Center, 2013). There has been a recent legislative shift towards providing better support for the 28,000 TAFY who emancipate from foster care nationwide each year (Casey Foundation, 2013). The Social Security Act has been amended three times since 1986 as child welfare experts become more aware of the challenges faced by this population long term. The latest amendment, Fostering Connections to Success Act of 2008, tripled the amount of funds allocated to care for TAFY. States use these funds to provide

independent living skills training to adolescents in foster care and provide resources to recently emancipated youth (Casey Foundation, 2013). Despite this steady increase in legislative focus and funding, physical and mental health outcomes remain poor.

This study will explore differences in transition readiness, defined as the capacity to physically and emotionally engage in the transition process (Betz & Telfair, 2007, p.77), and health services utilization in TAFY between the ages of 18 and 26. This is an important first step towards designing and evaluating theoretically sound interventions to improve health and other outcomes in this needy population

Factors Impacting Transition Readiness

Young adulthood marks a distinct period of transition that differs dramatically from both the adolescent phase that came before it and the adult period that will follow. While historically 18-year- olds were regarded as independent adults, there has been a gradual but steady cultural shift toward acceptance of delayed independence (Arnett, 2014). Today's youth are confronted with a competitive job market and declining economy and are often unprepared to meet their needs independently (Arnett, 2014). This is a difficult time for them as they adjust to their newfound independence and learn the concrete skills necessary to manage the transition to adulthood and adult care successfully. As a result, many will need ongoing housing and financial support from their parents and other relatives well into their 20's (Arnett, 2016).

In addition to being prepared with the concrete skills necessary to take care of themselves, young adults must exhibit psychological readiness for transition into adulthood (Arnett, 2014). There is now a greater understanding of the physiologic and cognitive changes occurring during the young adulthood period, particularly from the ages 18 – 21. Reasoning and

problem-solving skills remain underdeveloped. Brain plasticity makes them hypersensitive to their changing environment and leads to emotional instability (Arnett, 2016). Not surprisingly, psychiatric disorders and risk-taking behaviors peak in young adulthood (Arnett, Zukauskiene, & Sugimura, 2014).

During the transition to adulthood, young adults are also transitioning from pediatric to adult care. According to a recent consensus statement released by the AAP's Council on Foster Care, Adoption, and Kinship Care, young adults with a history of foster care have a more difficult time making the transition to adult care than young adults without a history of foster care (AAP, 2012). Factors thought to contribute to this difficult transition from pediatric to adult care include lack of insurance, lack of family support, and lack of transition readiness (AAP, 2012).

Assessment of transition readiness has been increasingly incorporated into pediatric and adolescent care with the goal of improving the transition readiness of pediatric patients with special health care needs and chronic conditions (Sawicki et al., 2011). A well-planned, well-coordinated transition plan allows young adults with chronic conditions to independently manage their conditions as well as assume adult roles and functioning (Schwartz, Tuchman, Hobbie, & Ginsberg, 2011). Thus, there is a need to study transition readiness as it relates to health care utilization in TAFY in order to better understand how to improve mental and physical health outcome in this population.

Transitional Age Foster Youth and Adult Functioning Outcomes

The term *adult functioning outcomes* refers to a set of outcome domains including living arrangements, education, employment, physical and mental well-being, pregnancy status, and

health services utilization, all of which are used to gage how young adults fare as they make the transition from adolescence into adulthood (Courtney et al., 2011, p. 5). While the trajectory into adulthood is becoming a gradual process for most youth that extends from the teen years until the mid–to–late 20's, TAFY experience a more abrupt transition. Many entered the foster care system due to trauma or abuse and subsequently lack a stable family support system upon emancipation (HHS, 2012). Nearly one-third reported experiencing placement instability while in foster care as they were moved from home to home due to various reasons, such as behavioral issues of the child or inability of the foster parents to continue to provide care for the child (Jones, 2014; Koh, Rolock, Cross, & Eblen-Manning, 2014).

The long term effects of trauma, separation, and placement instability become apparent in these emancipated young adults as they struggle with interpersonal relationships and managing their needs independently (Courtney et al., 2016; Jones, 2014). TAFY often report feeling physically and emotionally unprepared to make the transition into adulthood and have little opportunity to practice skills learned during independent living skills training, which most foster youth receive around their 16th birthday (Greeson et al., 2015). Although many TAFY remain emotionally and physically connected with their biological parents, they are often unable to rely on them for concrete financial and emotional support (Osgood, Foster, & Courtney, 2010).

Consequently, TAFY lag significantly behind their peers in nearly every domain of adult functioning, including pursuing postsecondary education, maintaining stable housing, and managing their mental and physical health needs. For example, nearly 20% of TAFY lack a high school diploma (Courtney et al., 2016), while 81% of adults graduate high school nationwide (National Center for Education Statistics, 2014) and only two percent of TAFY will go on to

receive a bachelor's degree (Courtney et al., 2016). In terms of housing, less than one-third of TAFY report having a place of their own in comparison to nearly half other young adults without a history of foster care (Courtney et al., 2016). They are also five times more likely to be living with someone other than their parents. (Courtney et al., 2016). These youth are also more likely to parent out of wedlock and usually do so at a young age. As many as 30% of female TAFY become pregnant before their 18^{th} birthday and male TAFY are twice as likely as their counterparts to report being a father at 18 (Dworsky & Courtney, 2010).

While these outcomes have been well validated, research is in the beginning stages of identifying risk factors for successful transitioning which can be modified over time. This study will therefore explore the impact of risks as well as readiness for transition into adulthood on three main adult functioning markers: housing, educational attainment, and parenting. Understanding modifiable risk factors is critical to improving outcomes in this population.

Health Services Utilization

Increasingly available health coverage and the subsequent need to reduce healthcare spending have refocused legislative attention towards understanding health service utilization (HSU) behaviors in various populations. The Behavioral Model for Vulnerable Populations (Gelberg, Anderson, & Leake, 2000) conceptualizes HSU as the receipt of preventative care, outpatient services, and/or inpatient hospital care (Gelberg et al., 2000). Fragmented HSU - - i.e. lack of preventative care, using emergency department services for routine care, failure to follow-up with primary care providers etc - - has been found to be associated with poorer health outcomes and increased health care cost in homeless individuals (Stein, Anderson, Robertson, & Gelberg, 2012), the uninsured (Lau, Adams, Boscardin, & Irwin, 2014), and individuals from

low socioeconomic backgrounds (Blackwell, Martinez, Gentleman, Sanmartin & Berthelot, 2009). Understanding factors associated with HSU is an important step toward improving health outcomes as well as health care spending among vulnerable populations.

The HSU patterns of young adults ages 18-26 are of particular interest as they make the critical transition from pediatric to adult care. A lack of transition readiness has been found to negatively impact HSU in young adult populations with chronic disorders such as diabetes and cystic fibrosis (Schwartz, Tuchman, Hibbie, & Ginsberg, 2011). Specifically, a lack of transition readiness as well as a poorly coordinated transition plan can be associated with declining adherence to medical plans (Annunziato et al., 2007), poor health status (Dugueperoux et al., 2008), and increased rates of hospitalizations (Gurvitz et al., 2007) among adolescents and young adults with chronic health conditions. There is a dearth of literature exploring transition readiness and its relationship to HSU in TAFY. This relationship is important to understand given the poor mental and physical health outcomes seen in this population. Doing so can inform future intervention studies aimed at improving transition readiness and planning among TAFY.

Research Purpose and Specific Aims

Using the Transition Readiness Assessment Questionnaire (Sawicki et al., 2011), the main purpose of this study is to explore transition readiness and health services utilization among TAFY between the ages of 18-26. The specific aims are:

Aim 1: To compare health services utilization (primary care provider [PCP], preventative care, ED use, hospitalizations, coverage by Medi-Cal, and insurance status), self-reported health, and adult functioning outcomes (housing status, attainment of high school diploma, income, and parenting status) among young adults ages 18-26 *with and without* a history of foster care.

Hypothesis: Youth without a history of foster care will demonstrate more favorable health-related and adult functioning outcomes compared to youth with a history of foster care.

Aim 2: To *determine* the difference between transition readiness scores and HSU among TAFY 18-26 years of age.

Hypothesis 2a*:* Transition readiness scores will be higher among TAFY who report having a primary care provider compared to TAFY who report not having a primary care provider.

Hypothesis 2b: Transition readiness scores will be lower among TAFY who report the ED use as their usual source of care compared to TAFY who report either the clinic or doctor's office as their usual source of care.

Hypothesis2c: Transition readiness scores will be lower among TAFY who report being hospitalized in the last 12 months compared to TAFY who report not being hospitalized in the last 12 months.

Aim 3: To explore differences in self-perception of health and HSU outcomes in TAFY.

Hypothesis 3a*:* Self-perception of health will be higher in TAFY who report their usual source of care as being either a clinic or doctor's office.

Hypothesis 3b*:* Self-perception of health will be lower in TAFY who report using the ED within the last 12 months.

Data from the California Health Interview Survey (CHIS) will be used to obtain a matched comparison group in order to provide descriptive data on HSU, self-reported health status, and adult functioning outcomes.

Significance

This study is significant in several ways. First, previous research has demonstrated that fragmented HSU can contribute to poor health outcomes and increased health care costs in vulnerable populations (AAP, 2012). There are also data to suggest that a lack of transition readiness can lead to fragmented HSU and poorer health outcomes among adolescents and young adults with chronic health disorders (Schwartz, Tuchman, Hobbie, & Ginsberg, 2011). While it has been suggested that TAFY demonstrate worse HSU patterns than young adults without a history of foster care, there is a dearth of research exploring factors which may be related to HSU such as transition readiness. Having a better understanding of these influencing factors can have the potential to decrease health care cost by reducing hospitalizations and emergency department visits while improving the likelihood of receiving preventative care among TAFY (AAP, 2012; HHS, 2012).

Secondly, the American Academy of Pediatrics has issued a consensus statement regarding the importance of health care professionals in supporting the transition from pediatric to adult care for young adults with and without special health care needs (AAP, 2011). The authors identified lack of transition readiness as a significant barrier to coordinating care during the transition process (AAP, 2011). TAFY experience a more tumultuous transition as they often lack the support and skills necessary to demonstrate transition readiness (AAP, 2012). Healthcare advocates well as child welfare experts have called for a better understanding of the factors

influencing health outcomes in TAFY who are making the critical transition into adult care (AAP, 2012; State Policy Advocacy and Reform Center, 2013). Healthcare providers such as advanced practice nurses play a vital role in working with local child welfare officials to assure that TAFY receive coordinated services during the transition from pediatric to adult care (State Policy Advocacy and Reform Center, 2013; HHS, 2012).

Lastly, exploring adult functioning outcomes in this population has several important financial implications as well. An estimated $295 million in direct costs will be spent on resources and training for transitioning foster youth from 2008-2018 (Casey Foundation, 2013). On average, for every young person who ages out of the foster care system, taxpayers and communities pay $300,000 in indirect social costs (i.e. public assistance, incarceration, homelessness, etc.) over that person's lifetime (Casey Foundation, 2013; Zlotnik et al, 2012). Persistently dismal outcomes despite a steady increase in funding and support have prompted child welfare experts to move toward more theoretically-based transition services (Jones, 2014; Pecora et al, 2005). This study is therefore significant because it potentially identifies a modifiable variable, readiness for transition, that can be used to identify youth at risk for developing poor health and other outcomes once emancipated. Future studies can use this data to design and evaluate theoretically sound intervention to improve health and other outcomes in TAFY.

Chapter 2: Literature Review

A focused approach was taken to review the background literature for this study designed to explore the relationship between readiness for transition, health service utilization, and health-related outcomes among transitional age foster youth (TAFY). A systematic literature search was conducted around four main themes: 1) transition into adulthood for the general youth population; 2) transition into adulthood for foster youth; 3) health and related outcomes among TAFY; and 4) adult functioning outcomes among TAFY. Key constructs of the Social-ecological Model of Readiness for Transition (Schwartz et al., 2013) were used to organize the literature review and determine which factors can potentially influence the transition experience in TAFY. In addition, the Behavioral Model for Vulnerable Population (Gelberg, Andersen, & Leake, 2000) was used to conceptualize which health and related outcomes are potentially related to health services utilization among TAFY. The search was conducted using MEDLINE, CINAHL, and PsycINFO. Key words included in the search to identify studies related to this population were: "transitional age foster youth," former foster youth," "emancipated foster youth," and "out of home care." Results were analyzed thematically and seminal studies were highlighted. This chapter closes with a discussion on methodological limitations and implications for health care practice and policy.

Transition into Adulthood

Overview

Transition into adulthood marks an important period that must be distinguished from the one that precedes it. While adolescents are typically preoccupied with body image and peer perception, young adults become consumed with identity formation, establishing their autonomy,

and meeting work and school goals (Rew, Tyler, & Hannah, 2012; Arnett, 2016). Although there remain some cultural variations, today's westernized youth are generally meeting these milestones much later than the generation before them (Arnett, 2016).

This delay is due to a variety of factors. Technological advances over the past few decades, for example, have led to a dramatic decrease in availability of unskilled positions for young adults. Whereas preindustrial youth in the 1940s and 1950s had the opportunity to work blue collar jobs, such as factory and power plant jobs, the youth of today are often unqualified for entry level positions even with bachelor's degrees (Mortimer, Kim, Staff, & Vuolo, 2016). Subsequently, parents and other relatives play a supportive role in the lives of young adults who spend their late teens and early 20s trying to establish their independence (Arnett, 2016; Mortimer, 2012). This extra support allows the youth of today extended time to explore their options before committing to a life path in a relatively low pressure environment.

Cognitive and Psychological Development

As a result of increased interest in young adulthood research, there is now a greater understanding of the cognitive and psychological changes that occur in the late teens and early twenties. Grey matter in the frontal lobe, the brain's center for reasoning and problem-solving skills, continues to develop until the early to mid-30s. In addition, brain plasticity makes them hypersensitive to their changing environment (Arnett, 2016; Chow & Ruhl, 2014). Events that occur during this time period are likely to have lasting impressions on young adults (Chow & Ruhl, 2014).

Psychologically, this is a period of intense emotional instability. According to Arnett (2016), the main developmental task during this period is *recentering*, or achievement of

autonomy and self-identity. A major part of this process is establishing one's independence (Padilla-Walker, Nelson, & Knapp, 2014). This is typically a nonlinear process characterized by progression and regression and the need for parental support (Mortimer, 2012). Most commitments are transitory during this time of intense exploration (Chow & Ruhl, 2014). Psychiatric disorders, drug and alcohol use, sexual promiscuity, and risk taking behaviors peak in prevalence during this time (Thompson, Stockwell, Leadbeater, & Homel, 2014). Emotional support is critical during this period to help young adults with decision-making during perceived emotional crises. Those lacking this type of support, such as foster youth (Lee, Courtney, & Taijma, 2014), may experience a more difficult transition to adulthood as they struggle to manage their emotions without guidance.

Work and School

Work and school have been traditionally considered vital components of adult functioning that shapes an individual's identity and impacts their overall health and well-being (Strandh, Winefield, Nilsson, & Hammerstrom, 2014). Being unemployed creates a greater sense of instability and emotional distress in young adults than it does in older adults, particularly those lacking a concrete identity (Mortimer, 2012). For example, in a longitudinal study exploring the impact of unemployment on mental health among working age adults (N = 1,083), Strandh et al. (2014) found that those under the age of 30 experienced significantly worse mental health effects when unemployed than those over the age of 30 ($p < .05$). With the rate of unemployment among young adults steadily increasing (Strandh et al., 2014), health care providers must be aware of the stressors this population face when unemployed.

Joblessness is considered a more serious social problem in young adults when compounded with the absence of school (Strandh et al., 2014). There is an estimated 5-7 million young adults who are considered *disconnected* or *opportunity* youth, meaning they are neither working nor in school (Burd-Sharps & Lewis, 2012). Risk factors for becoming disconnected include being African-American, poor, and having a history of foster care (Belfield, Levin, & Rosen, 2012). Disconnected youth are of particular concern due to their poor health and related outcomes.

By conducting a secondary analysis of the National Longitudinal Study of Adolescent to Adult Health ("Add Health") data (N=5,419), Hair and colleagues (2009) found that disconnected youth were significantly more likely to have mental health concerns, including drug and alcohol problems, as compared with connected youth among a sample of 12 to 14 year olds ($p < .05$). Similarly, Belfield and colleagues (2012) recruited a nationally representative sample ($N = 15,170$) from the Add Health study. The authors found that disconnected youth between the ages of 16 and 24 were more likely to have spent time in a mental hospital, received Medicaid services, and were uninsured than same age connected youth. The authors also found a significant economic burden associated with disconnected youth. Specifically, each disconnected youth between the ages of 18 and 24 was found to impose a public health burden of $3,490 per year, while connected youth in the same age range imposed only $1,110 per year (Belfield et al., 2012). Having a greater understanding of predictors and barriers of being connected is crucial to improving outcomes in youth at risk for being disconnected, such as foster youth.

Transition into Adulthood for Foster Youth

Overview

According to the United States Department of Health and Human Services (HHS), over 400,000 children are under the protection of child welfare services; most commonly due to neglect or abuse in the home (HHS, 2012). Nearly half are placed in non-relative foster care where they often experience multiple placement changes and encounter a multitude of caseworkers and caregivers (Koh, Rolock, Cross, & Eblen-Manning, 2014). Some foster children are fortunate enough to be reunited with family while others remain in foster care until they age out. Upon reaching the age of emancipation (18 in some states, 21 in others), foster youth are left to fend for themselves with little to no resources or skills. Too old to be in foster care, but not quite ready to be independent, TAFY, defined as former foster youth between the ages of 18 and 26, often struggle to meet their basic housing, financial, and health needs. Their transition to adulthood often takes a much different course than their counterparts, as many lack the much needed support to make this transition successfully (Lee et al., 2014).

There has been a legislative shift over the past three decades towards providing better support for the 28,000 TAFY who emancipate out of foster care each year (HHS, 2012). Since 1986, the Social Security Act has been amended three times to provide increased funding to be used to support this transition. The latest amendment, the *Fostering Connections to Success Act of 2008*, tripled the amount of funds allocated to care for TAFY to over 140 million dollars. States are able to use these funds to provide transitional housing, tuition assistance, and follow-up services for youth who age out of the foster care system (HHS, 2012). Despite this increase in legislative focus and funding, outcomes in this population remain subpar. These youth

continue to demonstrate being unprepared to make the transition into adulthood and their outcomes reflect accordingly (Lee et al., 2014).

Readiness for Transition

Being *ready* for transition into adulthood requires not only psychological preparedness but also knowledge of concrete learning skills. Independent Living Programs (ILPs) are federally mandated services intended to provide adolescent foster youth with the skills necessary to successfully transition to adulthood independently. While the curriculum for these trainings can vary, the most commonly taught skills include managing finances, job preparation, housekeeping, and applying for government resources. Some programs also focus on personal development skills, such as anger management, communication, and decision making (Greeson, Garcia, Kim, Thompson, & Courtney, 2015).

There are limited and conflicting current data supporting the relationship between ILP programs and adult functioning outcomes in TAFY. Lemon, Hines, and Merdinger (2005) compared outcomes among TAFY who received ILP services *(N* = 81) and those who did not (*N* = 113). Findings revealed that recipients of ILP were more likely to be knowledgeable about financial aid procedures, begin college at a younger age, and to report having been taught psychosocial skills, such as utilizing adult mentors and goal setting, as compared with TAFY who have not participated in ILPs ($p < .05$). Similarly, Lorentzen, Lemley, & Byrnes (2008) conducted an analysis of 200 TAFY who received ILP services including transitional housing and found that over 80% of recipients secured employment, 90% secured stable housing, and 75% enrolled in post-secondary education. The lack of comparison group in the study, however, limits the interpretation of results.

Limited data suggest that receipt of ILP services yields little to no improvement in adult functioning outcomes among TAFY. For example, Naccarato & Park (2009) conducted a study of 365 TAFY, ages 16 - 21, using ILP session attendance as the independent variable. The authors conducted logistic regression modeling and found no statistically significant differences between ILP session attendance and educational outcomes, vocational training, or human capital. The authors also found that only 1% of youth attended all available 17 ILP sessions.

Other studies also suggest no direct benefit of receiving ILP services. Using data from the Multi-Site Evaluation of Foster youth, a randomized controlled trial of four ILPs in Los Angeles County, Greeson and colleagues (2015) examined social support among 482 TAFY (N = 234 recipients; N = 248 control). Each of the youth classified as recipients attended three-hour classes twice a week over the course of five weeks based on seven state-adopted competency skill areas: education, employment, daily living skills, survival skills, choices and consequences, interpersonal/social skills, and computer/Internet skill. The authors found no statistically significant relationships between receipt of ILP programs and social support (b = −.14, 95% CI: − .42, .13) as measured by seven different social support variables (Greeson et al., 2015).

Youth's Perspective. Very few qualitative studies have been conducted exploring the perspective of TAFY on ILP services. Greenen and Powers (2007) gathered data from 10 focus groups comprised of a total of 88 participants, current and former foster youth (*n* = 27), foster parents (*n* = 21), child welfare professionals (*n* = 20), education professionals (*n* = 9), ILP staff (*n* = 9), and other support staff (*n* = 2). The purpose of the study was to explore the experiences of youth transitioning out of foster care into adulthood from the perspective of the youth themselves, as well as those involved with the child welfare system. Some foster youth reported

difficulty engaging in ILP services due to the lack of opportunity to practice skills in real life scenarios. For example, one youth's suggestion to foster parents was: "do what you do with your own kids. When you are doing something, if you are going over your bills, bring me over and say 'this is what I am paying. This is how I am doing it" (p.49). Other participants in the study generally agreed with the observations of the current and former foster youth. ILP staff, for example, expressed that life skills training provided by ILP does not adequately prepare foster youth for transition into adulthood and that giving youth more opportunities to take responsibility and ownership for their lives is key to a successful transition.

Mares (2008) also examined the perspectives of TAFY regarding the quality of ILP services by conducting focus groups with 31 TAFY over the age of 18 who had emancipated from care within the prior three years. Most of the youth in the study felt specifically unprepared in four major areas of adult functioning: securing housing, managing finances, vocational training, and parenting. The youth emphasized the importance of adults, such as foster parents and biological family members, in helping provide "real world" experiences to better help them prepare for transition (p. 9). ILP Coordinators, those responsible for coordinating the transition to adulthood for TAFY, shared similar doubts regarding ILP's ability to prepare youth for transition into adulthood. Lemon et al (2005) conducted ethnographic interviews of ILP coordinators (N = 9) and found that ILP coordinators desired the class to be more interactive and include more hands-on learning, such as role playing, internships, college tours, and simulated living environments.

Only one study was found which explored the health-related experiences faced by TAFY. Kruszkra, Lindell, Killion, and Criss (2012) conducted semi-structured interviews with nine

former foster youth who were 18 years and older and who had emancipated from foster care within the last 12 months. The purpose of the study was to explore the *lived experiences* or TAFY who lacked health care insurance. Of the nine participants, three disclosed having asthma, one reported having reflux, and one recently diagnosed with Human Immunodeficiency Virus (HIV) but has not received treatment.

In addition to physical health problems, six of the participants reported having a mental health disorder, most commonly attention deficit hyperactivity disorder (ADHD), anxiety, and depression. Many of the TAFY in the study reported feeling unprepared to manage their health needs independently after emancipation and often neglected their health needs: "I haven't had any real treatment [for my asthma] in years…it's real bad. I go up the stairs 12 steps and I am out of breath" (p. 30). Another youth commented "I knew it was in my best interest to get back on Prozac, but I didn't have the help or guidance that I needed" (p. 30). Other themes identified in the study included being uninformed regarding insurance eligibility and having a lack of access to vital documents after emancipation. None of the participants reported regularly visiting a health care provider for preventative care. Most cited lack of insurance, financial constraints, and competing needs as barriers to seeking preventative care. More data are needed to further explore the challenges faced by TAFY as it relates to their health care experiences.

Health and Related Outcomes among TAFY

Overview

The health of young adults ages 18-26 is of particular interest as they make the critical transition from pediatric to adult medical care (Ozer, Urquhard, & Brindis, 2012; Sawicki, Kelemen, & Weitzman, 2014). High-risk behaviors and underdeveloped problem-solving skills

often complicate this transition (Arnett, 2016). Not surprisingly, young adults ages 18-26 have twice the rate of suicides, homicides, and unintentional injuries than the adolescent population younger than 18 years of age (Centers for Disease Control and Prevention [CDC], 2013). They are also more likely than adolescents younger than 18 years of age to be infected with sexually transmitted infections (STIs), have a serious mental illness, and abuse drugs and alcohol (CDC, 2015). Compounding these problems is the high rate of uninsured individuals among this population which contributes to higher levels of unmet need and lower receipt of primary care (Lau, Adams, Boscardin, & Irwin, 2014). These health seeking behavioral patterns of being uninsured and lacking primary care are important to understand in young adults as they affect not just current health status but also long term health. It is also vital to consider the unique needs of young adults with histories of foster care during this important transition.

Transition to Adult Care

Transition to adult care has been recognized as an important focus of research and policy in the last decade (McManus et al., 2014). Data suggest that poorly coordinated transitions can result in significant adverse health outcomes among young adults, particularly those with chronic health conditions (Wallis et al., 2014). The most consistently identified barriers to transition into adult care for pediatric patients included lack of transition readiness and lack of valid tools to assess transition readiness. In a recent literature review of available transition readiness tools, Schwartz et al. (2013) identified 10 instruments which met the inclusion criteria for their review, none of which reported predictive validity of transition outcomes. Many of the instruments identified were found to be disease specific, limiting the ability to perform mass screening of all

adolescent clients to identify others who may be at risk for experiencing an uncoordinated transition.

Foster youth are also particularly vulnerable during the transition from pediatric to adult care (Xie, Sen, & Foster, 2014). Transiting foster youth meet the Maternal Child Health Bureau's criteria for children with special health care needs (CSHCN) due to their increased risk of developing physical and mental health disorders. Foster youth need targeted interventions to help facilitate this transition and ensure that their health needs are met (Xie et al., 2014).

Health Insurance

Young adults between the ages 19 - 34 years old have had the highest uninsured rate of any other age group in the United States since 1997 (Collins, Ramussen, & Doty, 2014). Prior to the passing of the Affordable Care Act (ACA), approximately one-third of young adults between the ages of 18 and 30 were uninsured. Since its passage, an additional 9.5 million young adults gained insurance, most often by remaining on their parents' plan, qualifying for Medicaid, or paying for subsidized insurance out of pocket (Collins et al., 2014).

While emancipated foster youth are generally not afforded the opportunity to remain on their parent's insurance, the ACA now mandates that states provide health insurance to TAFY until their 26th birthday, regardless of their income (National Conference of State Legislatures, 2016). The most recent data estimates that between 40%-60% of Medicaid eligible TAFY fail to sign up for coverage (Jones, 2014). Although the effects of this newly passed provision have yet to be seen, this increase in eligibility is likely to lead to an increase in access to health insurance for this vulnerable population.

Having health insurance has been found to be linked to an increase in receiving preventative services and a decrease in uninsured hospital stays in young adults (Burns et al., 2016). Being insured has also been found to be linked to a decrease in the likelihood of delaying care in young adults (Sommers, Buchmueller, Decker, Carey, & Kronick, 2013), improve coordination of care (Burns et al., 2016) and decreased out of pocket health care expenses in young adults (Bain, Wong, & Slap, 2016).

Less is known about the effect of having insurance for TAFY. For former female foster youth, having health insurance increases the likelihood of contraceptive use and subsequently decreases the likelihood of pregnancy (Dworsky & Courtney, 2010). In a nationally representative sample of over 26,000 females between the ages of 18 – 44, Culwell and Feinglass (2007) found that female TAFY who lacked health insurance were significantly more likely to report using over-the-counter birth control methods or none at all, even after controlling for ethnicity and socioeconomic status ($p < .05$). Lastly, limited data suggest that even when TAFY have insurance, they are often unclear how to access services (Pergamit, McDaniel, Chen, Howell, & Hawkins, 2012).

Challenges. Despite these well documented benefits, several significant challenges make it difficult to improve health insurance rates among former foster youth. While many of these youth have been eligible to receive Medicaid until their 21st birthday prior to the passing of the ACA, a large majority of eligible youth still remain uninsured (Jones, 2014). While cost may be an important deterrent to being insured (Bain et al, 2016; Collins et al., 2012), TAFY most often report that they are either unaware of their eligibility or unsure how to complete the process (Kruszka et al., 2012). In a qualitative study of nine TAFY, Kruszka et al. (2012) found that

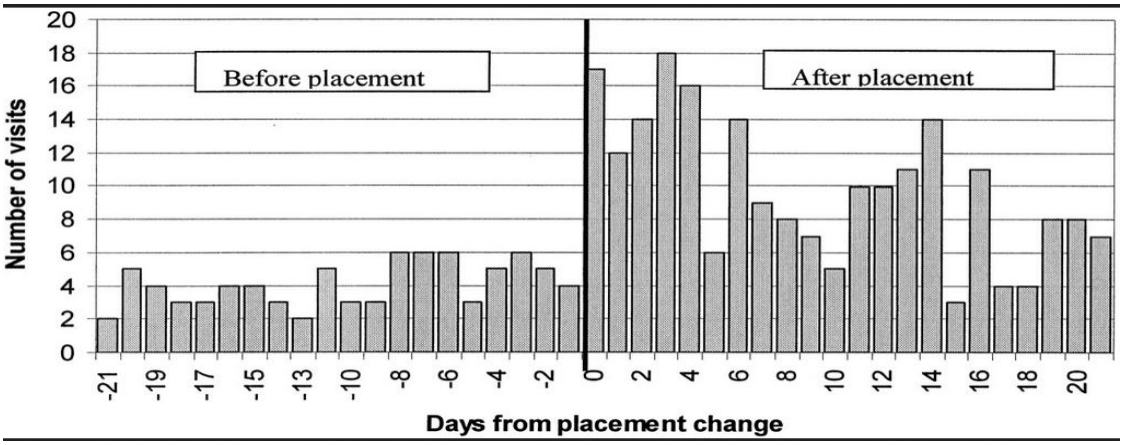
some youth reported the assumption that their coverage automatically continues after they emancipate. Youth in that same study also cited not having possession of their essential items (i.e. identification, birth certificate, social security card) as significant barriers to obtaining health insurance. These unique challenges must be addressed in order to improve access and overall health outcomes of emancipated foster youth (Courtney et al., 2016).

Health Services Utilization (HSU)

Gelberg, Anderson, & Leake (2000) conceptualize HSU as receiving preventative care, outpatient services, and inpatient hospital care. Various predisposing and enabling factors influence a person's decision to seek out and utilize particular health services (Gelberg et al., 2000). It has been established that fragmented service utilization (i.e. lack of preventative care, using emergency department services for routine care, failure to follow-up with primary care providers) which contributes to poor health outcomes and increased costs (Collins et al., 2012; Lau et al., 2011). Young adults ages 18-25 exhibit unfavorable patterns of HSU that are important to consider when caring for this population. For example, using data from the 2009 Medical Expenditures Panel Survey, Lau et al. (2014) found that insured young adults had lower rates of HSU (72%) than other insured age groups in a sample of 3,768 18 to 25 year olds (83-88%, $p < .001$). The authors also found significantly higher rates of emergency department use and lower rates of receipt of ambulatory care in young adults ($p < .01$). This is consistent with other studies which have also found low rates of ambulatory care use (Bain et al., 2016; Wallace & Sommers, 2016) and high use of emergency department services (Burns et al., 2016) among young adults.

Little is known about the recent HSU patterns of current and former foster youth. Older data, however, suggest that placement instability while in foster care may contribute to negative HSU patterns. For example, using Medicaid claims linked to foster care administrative data, Rubin, Alessandrini, Feudtner, Localio, and Hadley (2004) conducted a retrospective cohort study of 2,358 children to determine factors related to emergency department (ED) use in foster youth and compare ED use between children both in and out of foster care (See Figure 1-1). The authors found that older foster youth obtained fewer outpatient services than younger foster youth, and foster adolescents had nearly twice the rate of ED visits compared to their Medicaid-eligible adolescent peers outside of foster care. Experiencing a greater number of placements was associated with increased reliance on the ED for health care services. Figure 1 illustrates the number of visits ED visits in relation to placement changes; 75% of ED visits occurred within three weeks of a placement change.

Figure 2-1: Emergency Department Visits among Youth in Foster Care



(Rubin et al., 2004)

Once emancipated from foster care, data suggest that competing needs may impact TAFY's ability to seek and utilize health services appropriately. Kushel, Yen, Gee, & Courtney (2007) conducted a prospective cohort study of 345 TAFY ages 17 and 18 and found that homelessness after emancipation from the foster care system was significantly associated with being uninsured (OR= 3.41; 95% CI; 1.52-7.63) and having unmet health care needs (OR= 3.26; 95% CI; 1.40-7.56). Findings of investigators conducting qualitative studies also suggest a relationship between housing and health status in TAFY. For example, Hudson (2012) interviewed 19 former foster youth ages 18–22 years old during clinic visits to determine their knowledge about STI and pregnancy prevention. Several participants reported seeing different providers every time they experienced a new placement change, with some youth having had as many as 10 to 30 changes in placement. In a similar study, Yen et al. (2009) conducted focus groups with 31 homeless TAFY between the ages of 18 and 24 and found that unstable housing circumstances directly impacted the youths' ability to utilize health services appropriately. The youth in the study also cited other barriers to obtaining preventative care including bureaucratic hassle, transportation, and work/school schedules (Yen et al., 2009).

Physical Health

Transitional age foster youth experience a multitude of physical health challenges. As many as 60% enter the child welfare system with at least one acute or chronic physical health condition (Szilagyi et al., 2015). Once emancipated, they continue to experience health disparities. Using comparison data from the California Health Interview Survey, Zlotnik and colleagues (2012) found that adults over the age of 18 with histories of foster care demonstrated significantly higher prevalence rates of diabetes, asthma, hypertension, and seizure disorders

than adults over the age of 18 without a history of foster care (N =70,456; p <.05). This same study also found that being in foster care significantly increased the odds of having a physical impairment that affected daily activities within the past 30 days (OR=1.62; 95% CI=1.44, 1.82). Other common chronic medical conditions found among this population included severe allergies, obesity, and atopic dermatitis (Ahrens, Garrison, & Courtney, 2014; Szilagyi et al., 2014).

Data consistently demonstrate that TAFY suffer from physical conditions to a significantly greater degree than youth without a history of foster care. In a longitudinal study of 569 former foster youth between the ages of 25-26, Courtney and colleagues (2011) found a statistically significant higher prevalence of physical disabilities among emancipated foster youth in comparison to youth of the same age without a history of foster care (p <.05). Similarly, Anctil et al. (2007) found that youth who spent time in foster care were more likely to have physical disabilities in a sample of 1,087 (p < .05). Using data from the Ontario Health Survey (n=9,953), Chartier et al. (2006) found an association between childhood abuse and physical health problems, frequent emergency department use, and lower self-rated health (p <0.5, OR= 1.3-2.2). Lastly, in a study of 2,358 Medicaid eligible children, Rubin et al. (2004) found that respiratory conditions such as asthma or bronchitis were more common among foster youth who visited the ED than among their Medicaid-eligible peers who visited the ED (14.2% vs 5.9%, p < .001).

The physical health of TAFY is a significant public health concern that has important financial implications. For example, Zlotnik et al. (2012) found that adults with a history of childhood foster care (N = 70,456) had more than twice the odds of receiving Social Security Disability insurance due to physical and mental health problems, even after stratifying by age

and adjusting for socioeconomic and demographic characteristics (OR = 2.47; 95% CI = 2.13, 2.86). Lack of insurance and subpar HSU complicate the physical health status of TAFY and leave them particularly vulnerable to health disparities. Poorly coordinated care, housing instability, and inability of youth to navigate the health care system are all contributing factors to the poor physical health status of youth who emancipate from foster care (AAP, 2012).

Mental Health

Former foster youth are also more likely to suffer from mental health disorders than the general population (Havlicek, Garcia, & Smith, 2013). For example, Brown, Courtney, & McMillen (2015) conducted a longitudinal study of N = 732 TAFY between the ages of 18 and 23 years old. Results indicated that of the youth who participated in the study, 36.7% reported having depression, 24.5% reporting having post-traumatic stress disorder symptoms, 23.5% reported having antisocial behaviors, and 34.7% reported having a substance abuse problem. In total, 55.7% of the TAFY in the study reported utilizing some type of mental health service. In addition, other studies that have examined mental health symptoms in adolescent foster youth found similar patterns. Munson and McMillen (2010), for example, conducted a longitudinal study of 404 current and former foster youth between the ages 17 and 19 and found that 10% of the participants reported having a major depressive episode within the last 12 months.

The general consensus is that emancipated foster youth demonstrate significantly greater mental health needs than other young adults. The trauma of being separated from home, a history of placement instability once in foster care, and exposure to violence and maltreatment are hypothesized contributors to their difficulties (Havlicek et al., 2012). Former foster youth require

unique interventions to address their mental health needs and guidance on where to seek appropriate resources.

Sexual Health Development

Sexual health development among adolescents in foster care is becoming a growing concern as the rate of STIs and unplanned pregnancies within this population continues to grow (Putnam-Hornstein, Hammond, Eastman, McCroskey, & Webster, 2016). Qualitative studies suggest that foster youth do not always receive adequate health information while in foster care. In order to better understand how and where foster youth received sexual health and pregnancy prevention information, Hudson and Nandy (2012) conducted semi-structured interviews with TAFY between the ages of 18 and 24 who had been in foster care for at least 6 months. Many of the participants in the study reported feeling uncomfortable disclosing their sexual practices with their primary care provider for fear that the information would be shared with their guardians. This has been found to be particularly concerning among youth in traditional family foster care (as opposed to a residential setting) in which their health information is readily shared with caregivers who often accompany them to appointments. Most of the youth in the study reported learning about sexual health from friends, the internet, or sexual education classes at school.

Older, qualitative data support the notion that foster youth may not receive adequate sexual health training while in foster care. For example, Love et al. (2005) conducted focus groups with foster youth (N = 121) and found that many foster youth received sexual education from a variety of sources within the community including school-based sexual education classes and Planned Parenthood clinics. Foster care youth were less likely, however, to receive information directly from their foster parents. The information the youth received was often

perceived as inadequate or inconsistently delivered (Love et al, 2005). Constantine, Jerman, and Constantine (2009) conducted a study using interviews, surveys, and focus groups with 99 foster youth and child welfare stakeholders to determine barriers to accessing sexual health information. Several barriers where identified including lack of social worker training on adolescent sexual health, unclear policies on roles and liabilities, and multiple placement changes. Child welfare providers indicated that they need more training to talk with and educate youth on appropriate sexual health practices (Constantine et al., 2009).

In sum, better policies are needed to ensure that adolescent and TAFY receive consistent and systematic sexual health education starting at an early age. These policies should delineate specific role responsibilities of involved adults including foster parents, social workers, and health care providers. Information should be provided in a safe environment with an adult that the youth can trust. Meeting the sexual health needs of adolescents in foster care must be a priority for child welfare professionals and health care providers in order to reduce the risk of STI's and unwanted pregnancies.

High risk behaviors. Foster youth and young adults with a history of foster care engage in high risk sexual behaviors at a significantly higher degree than their counterparts (Putnam-Hornstein et al., 2016). For example, James and colleagues (2009) utilized data from National Survey of Child and Adolescent Well-Being (NSCAW) and found that out of a sample of 877 foster youth ages 11 – 14, about half the sample reported having experienced consensual sex. Of the foster youth that experienced consensual sex, about 40% reported being 13 or younger at age of first consensual sex (James, Montgomery, Leslie, & Zhang, 2009). Once sexually active, TAFY have a tendency to participate in unsafe sexual practices. In a study of 156 homeless

young adults, Hudson and Nandy (2012) found that a higher percentage of former foster youth reported trading sex for money or drugs then other homeless youth. Similarly, Ahrens and colleagues found that TAFY often participate in unsafe sexual practices such as inconsistent condom use and trading sex for money in a sample of 732 youth (Ahrens, McCarty, Simoni, Dworsky, & Courtney, 2013).

Due to their high risk sexual behaviors, data from large generalizable studies suggest that TAFY are at increased risk for STIs. For example, Ahrens et al. (2010) used data from Add Health and found that female participants with a childhood history of foster care were more likely to have trichomonas (OR = 3.23; 95% CI = 1.45–7.23) than female participants without a history of foster care (N =7,563). Male TAFY in this same study were found to be three times more likely to have Chlamydia (OR = 3.07; 95% CI = 1.36–6.96) and 14 times more likely to have had gonorrhea (OR = 14.28; 95% CI = 2.07–98.28) than males without a childhood history of foster care (N=6,759).

Several risk factors have been identified which may contribute to the high sexual risk behaviors observed in current and former foster youth. For example, Thompson and Auslander (2011) collected data from 320 youth in foster care (age 15 – 18) in order to examine the relationship between substance abuse, mental health problems, and high risk sexual behaviors. Using logistic regression modeling, the authors found that foster youth who abused alcohol and marijuana were significantly more likely to have vaginal sex without a condom (OR = 3.89, OR=4.82, respectively) when compared to youth who were not in foster care (Thompson & Auslander, 2011). These data suggest that youth who transition out of foster care exhibit high risk sexual behaviors and as a result, are at increased risk for developing STIs.

Pregnant and Parenting

Teen pregnancy rates among current and former foster youth remain epidemic (Putnam-Hornstein et al., 2016) despite the steady decline in the general population over the last few decades (HHS, 2013). Using child protection records from female TAFY between the ages of 17-21, Putnam-Homstein et al. (2016) found that one out of three participants had given birth at least once before their 21st birthday. Lastly, Oshima, Narendorf, & McMillen (2014) used data from a longitudinal study of 325 older foster youth and found that the pregnancy rate increased by 300% between the ages of 17 and 19.

There are several risk factors which may contribute to the high rate of pregnancy observed among current and former foster youth. James et al. (2009) conducted a longitudinal study of 877 foster youth (52% female) using data from NSCAW to determine the association between baseline psychosocial risk and protective factors on sexual behaviors and pregnancy. Baseline data were collected between age 11-14 and then again 36 months later. The authors found several risk factors associated with pregnancy among female foster youth including having higher delinquency scores ($p<.01$) and deviant peers ($p<.05$). Mental health status may also contribute to the higher rate of pregnancy observed among female foster youth. For example, Coleman-Cowger, Green, & Clark (2011) utilized data of 366 foster youth (12-17 years of age) and found that higher scores on the Internal Mental Distress scale were significantly associated with pregnancy among female foster youth (OR = 1.04, $p < .01$).

Early parenting has also been found to be significantly associated with various poor outcomes in the general population. For example, Chinman, Acosta, Ebener, Sigel, & Keith (2016) used data from Add Health (N = 4,926) to determine the long term effects of teen

pregnancy. Participants were 14 to 21 years old in 1979 and have been interviewed every year since. The study found that only 61% of teen mothers reported having graduated high school or obtained a General Educational Development (GED) certificate by age 30. In contrast, over 90% of women who delay childbirth until after their teens end up obtaining a high school diploma or GED by the same age.

Given their low educational attainment, it is not surprising that teen mothers earn lower wages and are less successful than women who delay childbirth. By age 30, for example, the annual earnings of teen mothers were found to be only 58% of the earning of those who delayed childbirth. The study also found that teen mothers received substantially higher levels of public assistance than did women who delayed their childbearing. By age 30, the teen mothers in the study reported receiving over four times more in public assistance benefits than did women who delayed ($1,984 versus $467; Geiger & Schelbe, 2012). Although no studies to date have measured the long term effects of teenage pregnancy among youth with a history of foster care, it can be reasonably concluded from the use of this nationally representative sample that foster youth who become pregnant as teenagers would demonstrate similar, if not worse, outcomes.

Pregnancy Prevention Strategies and Challenges

A significant challenge associated with preventing pregnancy and parenting is dealing with the growing number of TAFY who *purposely* become pregnant in order to fill an emotional void. Dworsky and Courtney (2010) gathered baseline data from 603 foster youth at age 18 and then again at age 19 to determine factors associated with pregnancy and parenting among foster youth. The authors found that between 22-35% of females in the study indicated that they "definitely" or "probably" wanted to become pregnant. In order to better understand their *lived*

experiences, Pryce & Samuels (2010) conducted interviews with 15 pregnant or parenting female TAFY between the ages of 17 and 21 from three Midwestern states. Many of the girls in the study reported that although not initially ready to parent, motherhood has helped them to find their purpose in life and become more motivated. "She…made me who I am, she gives me my drive..." reports one of the youth in the study in reference to her daughter (p.206). Youth in the study also talked about how having a child has allowed them to establish the sort of parent-child bond that was missing from their own childhood. In reference to her mother, one youth said: "…ok, you saying I'm responsible. I'm doing good. I'm taking care of my child. But did you do the same? Why you couldn't do the same? What was so hard?"

Limited data suggest that delaying emancipation from the foster care system beyond the traditional age of 18 may be effective in preventing pregnancies among teens in foster care. For example, Dworsky & Courtney (2010) used data from the Midwest Study, a longitudinal study following TAFY from Iowa, Wisconsin, and Illinois, to determine factors associated with teenage pregnancy among foster youth. The authors found that remaining in foster care beyond 18 was associated with a 47% reduction in the estimated hazard of becoming pregnant among female foster youth. The authors also found that female foster youth who chose to delay their emancipation beyond 18 were more likely to report having health insurance and having received family planning services than female foster youth who emancipated at age 18. Likewise, Oshima et al. (2014) used longitudinal data from 325 TAFY between the ages of 17 and 19 and found that both males and females who remained in foster care past 18 were less likely to parent than youth who emancipated from foster care at age 18 (males: OR = 5.9, $p<.001$; females: OR = 2.14, $p<.01$). Despite these benefits, it may be difficult to convince youth to remain in care due to

their desire to be independent. More data are needed to capture youths' perception of this idea and what measures can be taken to convince them to explore this option.

Adult Functioning Outcomes among TAFY

Connectedness

After having experienced frequent disruptions in interpersonal relationships while in foster care, TAFY need secure connections with stable adults after emancipation (Britner, Randall, & Ahrens, 2013). Jones (2011) followed 16 former foster youth for 3 years to examine their connectedness, or engagement with the adult world through interpersonal relationships, work, school, and the community. All of the youth in the study reported having a productive connection with at least one adult. The most frequently mentioned source of support was a family member. Another qualitative study conducted focus groups with a total of 63 individuals that consisted of TAFY ages 18-21 (n = 20), foster parents (n = 16), and child welfare workers (n = 27) to determine perspectives on the caregiver-foster youth relationship. The authors found that many foster youth felt detached from their foster families: "They don't even talk to you," explained one youth, "they may say 'hey' when you walk in the door and 'bye' when you leave, but that's it." (p. 113). Child welfare workers in the study suggested that youth may have difficulty creating bonds with foster families due to placement instability. As one worker put it, "…this foster parent could be their fifteenth foster parent…I think a lot of them are going to be like, 'Whatever, you're just another one of my foster parents who are going to tell me what to do." (p. 113). The youth in the study identified four characteristics of a connected foster home: structure/normalcy, guidance/support, a sense of belonging, and someone taking a genuine interest in their lives (Storer et al., 2014).

A few older, more generalizable studies have also been conducted exploring connectedness in TAFY. Courtney et al. (2011) found that TAFY attempt to maintain a degree of connectedness with adults following emancipation from the foster care system. Longitudinal data of 596 TAFY, age 26 and who had been tracked since age 18 indicated that 68% reported maintaining a positive relationship with a caring adult other than a parent. The caring adult was most commonly described as a grandpa, uncle, or aunt. Of the youth who reported maintaining a positive relationship with a caring adult, nearly three-quarters reported feeling very close, or quite close. Lastly, Hook and Courtney (2011) performed a secondary analysis of longitudinal data collected from TAFY in Illinois, Wisconsin, and Iowa (N=603) to explore factors associated with employment outcomes at age 24. The authors found that youth who were living with a traditional foster family at the time of emancipation were 63% more likely to be employed than youth living in residential facilities. This is significant because youth encounter multiple staff personnel when living in a residential facility as opposed to having consistent caregivers in a traditional foster family living situation.

Work and School

Youth in foster care often experience educational difficulties to a much greater degree than their peers. Courtney et al. (2011) conducted a longitudinal study of 593 TAFY age 26 and found that only 2.5% had obtained a college degree. Using comparison data from the Add Health Study (N = 890), the authors also found that TAFY were three times less likely to have a high school diploma or GED than other 26 year olds without a history of foster care. Most commonly cited reasons for not completing postsecondary education were pregnancy, needing to work for income, and family issues.

Subsequently, there is a high rate of unemployment and underemployment among emancipated foster youth. For example, Courtney et al. (2011) found that only about half of TAFY age 26 reported currently working (N=596) in comparison to 79% of 26 year olds without a history of foster care (N=890). Of the TAFY in the study who reported being currently employed, the mean hourly wage reported was only $10.73. Similarly, Stewart, Kum, Barth, & Duncan (2014) conducted secondary analysis of data from TAFY ages 18-24 in California, Minnesota, and North Carolina N = 3,593). Using comparison group of low income youth was obtained from National Longitudinal Survey of Youth, the authors found that youth who aged out of foster care experienced lower than averages rates of unemployment than youth who without a history of foster care. In addition, TAFY were found to earn an average of $700 per month while the comparison group earned an average of $1535 per group. These finding suggest that youth who emancipate from foster care are less employed and earn less wages than youth without a history of foster care.

Homelessness

Once emancipated from foster care, many TAFY experience difficulty securing stable housing. Dworsky, Napolitano, & Courtney (2013) conducted an analysis of 732 TAFY between the ages of 24 and 26 and found that 36% of the participants in the study reported being homeless at least once since emancipation from foster care. Furthermore, homelessness among TAFY has been found to be associated with a multitude of poor outcomes. Hudson and Nandy (2012) conducted a study of 156 homeless young adults between the ages of 16-25 to compare the prevalence of substance abuse, high-risk sexual behaviors, and depression symptoms' among youth with a childhood history of foster care and youth without a childhood history of foster

care. These investigators found that when compared to youth without a history of foster care, TAFY were significantly more likely to have used methamphetamine within the last six month. The study also found that a higher percentage of TAFY reported trading sex for money (19% versus 12%) and trading sex for drugs (26% versus 14%) compared to youth without foster care, respectively.

In a similar study, Bender and colleagues (2015) conducted quantitative interviews as part of a large, multi-site pilot study of youth (N = 601) seeking homeless services in Denver, Los Angeles, and Austin. One-third of the sample (n = 221) were youth with a history of foster care. The study found that TAFY who seek homeless services have significant educational, financial, and mental health needs. There was also a high rate of substance abuse disorders (69.4%), depression (36.2%), and PTSD (25.9%) found among the TAFY participants. In comparison to youth without a history of foster care, TAFY reported greater childhood physical abuse ($p < .001$) and sexual abuse ($p < .001$). In addition, TAFY reported significantly longer duration of homelessness than youth without a history of foster care (M = 39.04, SD = 36.60 versus M = 28.59, SD = 26.59; t = 17.57, $p < 0.001$), respectively.

In an older study, Fowler and colleagues (2009) followed 265 TAFY for two years following their emancipation from foster care in order to track housing trajectories and found that 20% of the participants in the study were chronically homeless during the follow-up period. Youth whose housing situation was classified as "continuously unstable" were more likely to report emotional problems (OR = 4.60; p <.001), behavioral problems (OR = 3.27; p<.001), a high level of victimization (OR=6.73; p<.001), criminal conviction (OR=2.36; p =.01), and

failure to finish high school (OR= 0.53; p = .05). Access to secure stable housing is therefore crucial to the overall well-being of youth who have recently emancipated from foster care.

Summary

The transition from pediatric to adult care occurs simultaneously as youth transition from adolescence to adulthood. For children with special health care needs, this transition can result in exacerbation of health conditions and an increase in health care spending. Youth with a history of foster care represent a vulnerable population who experience a more tumultuous transition into adulthood than youth without a history of foster care. They typically emancipate from the foster care system at the age of 18, with little to no resources or specific training on how to effectively manage their health related needs. As a result, TAFY demonstrate worse health outcomes and higher health care spending than young adults without a history of foster care. TAFY are also more likely to utilize emergency services for non-urgent needs and less likely to receive preventative care than their counterparts. Exploring factors related to HSU among TAFY can potentially result in better transition planning and subsequent improvement in health and HSU patterns.

Implications for Nursing Science and Practice

As data on the health outcomes of transitioning foster youth are just beginning to emerge, several important gaps still exists within the literature. For example, a better understanding of the HSU patterns of young adults with a history of foster care is needed. Doing so can help reduce health care cost and improve health outcomes by focusing on their preventative health care needs. Other correlates of health outcomes among TAFY must also be explored in order to create effective interventions and policies. This includes qualitative studies in which youth describe

their experiences and challenges with the health care system and what they think can be done to make improvements. While ILPs have partially reduced the burden of preparing foster youth for emancipation, they have no specific health preparation component and its effectiveness has yet to be fully established. More data are needed in order to identify effective strategies to ensure readiness for transition as it relates to health care needs.

Finally, according to the American Academy of Pediatrics (AAP, 2012), foster youth who are transitioning to adult care need targeted interventions to ensure care coordination and proper health services utilization. Recommendations from the AAP focus on the role of the Pediatrician in teaching youth the skills necessary to navigate the adult health care system. The use of nurses and other health care professionals as facilitators in the transition process, however, has been grossly underutilized. It can be argued that nurses offer a unique advantage in assisting TAFY with transitioning to adult care as they function as educators as well as holistic care providers. Upon emancipation, former foster youth need continued guidance while adjusting to their abrupt independence. This is a difficult time for them as they struggle to meet their basic needs while trying to establishing their self-identity. Nurses can provide much needed emotional support to help guide them through this process.

Chapter 3: Theoretical Frameworks

This chapter will provide an in-depth analysis of the Social-ecological Model of Readiness for Transition to adult-oriented care for adolescent and young adults with chronic health conditions (Schwartz, Tuchman, Hobble, & Ginsberg, 2011). This model will provide the foundation for assessing transition readiness in young adults with a history of foster care. This chapter will also describe the major components of the Behavioral Model for Vulnerable Populations (Gelberg, Andersen, & Leake, 2000), which posits certain variables that influence health services utilization (HSU) among vulnerable populations. Together, these models provide the foundation for the current study which seeks to explore the relationship between transition readiness and HSU in transitional age foster youth (TAFY) ages 18 – 26.

Social-ecological Model of Readiness for Transition (SMART)

The transition process is defined as "the purposeful, planned movement of adolescents with special healthcare needs from child-centered to adult-oriented healthcare systems" (Schwartz, Tuchman, Hobbie, & Ginsberg, 2011, p.37). The transition to adult care has been recognized as an important focus of policy and research over the past three decades (Schwartz et al., 2014). Current expert consensus conceptualizes the transition process within a broader perspective which accounts for developmentally-appropriate changes in employment and educational status, living arrangements, and relationships (American Academy of Pediatrics [AAP], 2011; Schwartz et al., 2014). Ideally, the transition to adult care is a gradual, multifaceted, family-centered process with the goal being appropriate engagement in the adult healthcare system to optimize health and meet developmental milestones (Schwartz et al., 2014).

Transition readiness, therefore, refers to the capacity of adolescent to "prepare for, begin, continue, and finish the transition process" (Betz & Telfair, 2007, p.77). Assessing transition readiness is the first step towards successful transition planning for adolescents with special health care needs (Davis et al., 2014; Schwartz et al., 2014). According to a consensus statement by the AAP, lack of evidenced-based, transition readiness assessment instruments that can be used across various pediatric patient populations is one major barrier to ensuring successful transitions in adolescents with special health care needs (AAP, 2011). A well-planned transition to adult care allows young adults to manage their conditions independently while assuming adult roles and functioning (AAP, 2011; McManus et al., 2013). On the other hand, an uncoordinated and poorly planned transition may result in exacerbation of health conditions, inappropriate HSU, and increase in health care costs (Davis et al., 2014).

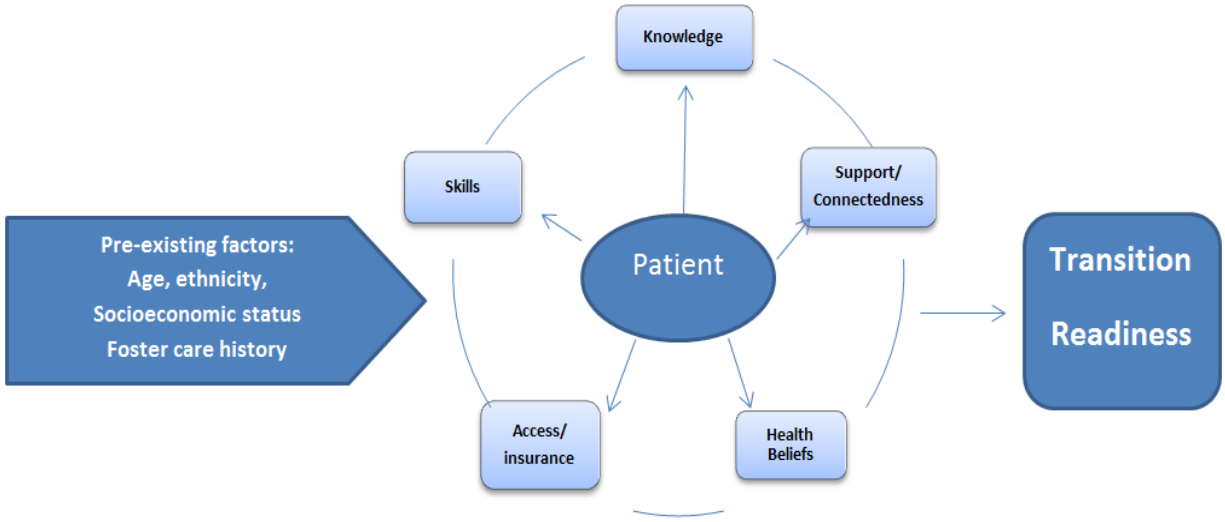
In order to improve the transition process, a clinical algorithm and related "toolkit" (www.gottransition.org) was created and disseminated among pediatric health care providers (AAP, 2011). Both the toolkit and algorithm emphasize the importance of assessing transition readiness. The Social-ecological Model of Readiness for Transition ("SMART Model") therefore developed in response to the need for transition-related theoretical frameworks to help guide the assessment process. The SMART-related components included in the present study include skills, knowledge, connectedness, health beliefs, access to care, and pre-existing characteristics such as ethnicity and number of years in foster care (Figure 3-1).

History and Development

The Social-ecologic framework (Bronfenbrenner, 1979) was used to inform the initial research for the SMART Model. The socio-ecologic framework positions the child at the center

of four systems: 1) microsystem – the most immediate system to the child which includes medical providers, families, friends, and teachers; 2) mesosystem – the interaction between two or more systems; 3) exosystem – one system removed from the child such as the parent's work environment; and 4) macrosystem – overarching cultural and political influences

Figure 3-1: Transition Readiness Related Variables



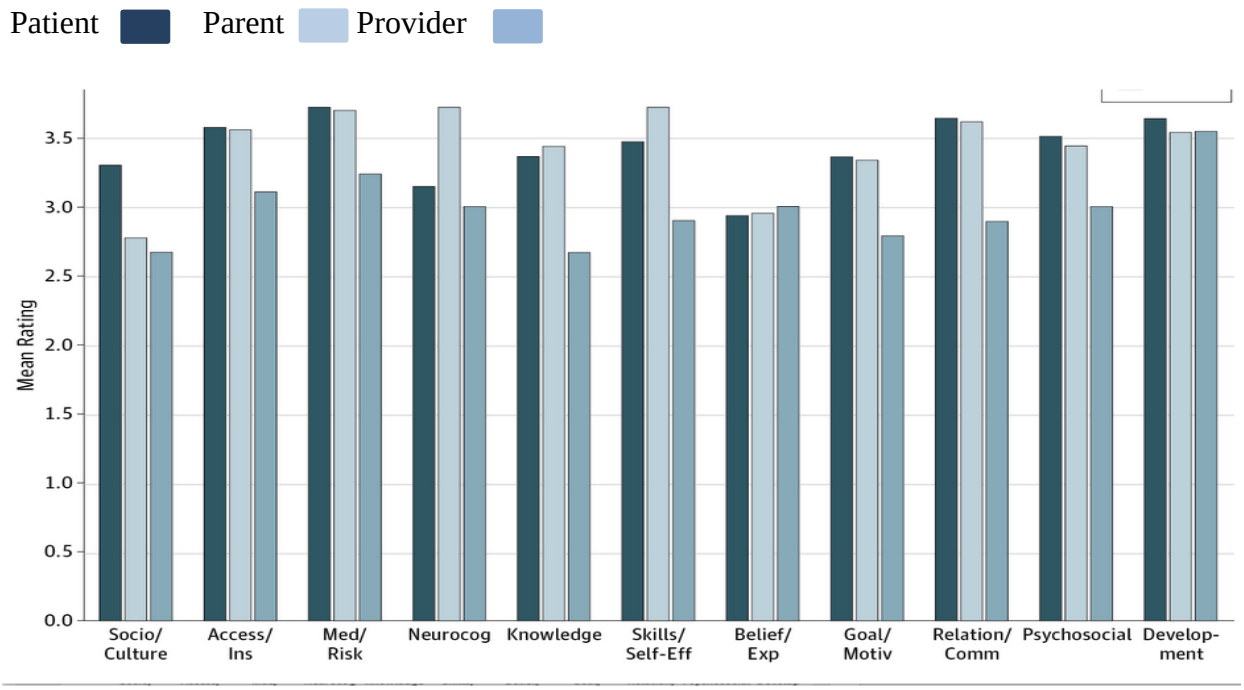
(Bronfenbrenner, 1979). Experts in transition care such as nurses, psychologists, and physicians, provided feedback for the initial model (Schwartz et al., 2011). A five-point questionnaire was developed and administered to providers (N=100) to assess their decision-making process related to transitioning patients. The SMART Model components that were found to be significantly related ($p < .05$) to decision-making processes of providers were included in the model. These included patient skills and knowledge, developmental milestones, and parent involvement (Schwartz et al., 2011).

To further establish validity of the SMART Model, Schwartz et al. (2013) conducted focus groups with young adult survivors of childhood cancer (n=14) and their parents (n = 18).

Focus group scripts were used to guide discussion on three topics: (1) importance of long term follow up care; (2) transition readiness; and (3) thoughts on the components of the SMART Model. In addition to the focus groups, participants also completed a brief questionnaire in which the SMART components for transition readiness were rated on importance, using a five point scale (0-4; ratings > 2 support validity). All the SMART components (Figure 2) were rated above 2 (mean = 2.95 – 3.60). The highest rated components were medical status (3.71) and skills (3.72).

Semi-structured interviews were then conducted with pediatric providers (n=10) to elicit feedback on the model. Minor recommendations were made regarding verbiage and definitions. Overall, the providers endorsed the SMART Model as a comprehensive and valid framework

Figure 3-2: Stakeholders Rating of Transition Readiness Concepts:



(Schwartz et al., 2013)

which can be used for transition readiness assessment and subsequent planning (Schwartz et al., 2013).

SMART-Related Components

Pre-Existing Factors

Pre-existing factors which present prior to the transition process include age, ethnicity, and socioeconomic status. Pre-existing factors may facilitate or hinder the transition process. Younger age (Schwartz & Drotar, 2006), being an ethnic minority (Kane et al., 2009), and having a lower socioeconomic status (Prior, McManus, White, & Davidson, 2014), may negatively impact the transition experience for adolescents with special health care needs. According to a recent consensus statement released by the AAP's Council on Foster Care, Adoption, and Kinship Care, youth with a history of foster care may present with pre-existing factors which can hinder their transition process (AAP, 2012). For example, households with foster children are more likely to have an income less than 200 percent of the poverty line and more likely to report receiving public assistance when compared to all households with children (O'Hare, 2008). In addition, data indicate that youth in foster care are disproportionately African American and Hispanic (Padilla & Summers, 2011). Individuals who are ethnic minorities may have more difficulty transitioning from pediatric to adult care which may lead to increased health care costs (Prior et al., 2014; Schwartz et al., 2011).

Skills and Knowledge

The degree to which youth are knowledgeable about their conditions has been found to be positively correlated with improvement in health outcomes among adolescents and young adults with chronic health disorders such as diabetes, cancer, and cystic fibrosis (Fredericks et al., 2010;

Megumi et al., 2014; Zhang, Ho, & Kennedy, 2014). Thus, young adults with a history of foster care are at a disadvantage during the transition to adulthood as they receive little to no standardized training on how to effectively manage their health care needs (Avery, 2010; Child Welfare Information Gateway, 2013). Currently, training curriculum for TAFY varies from region to region (Avery, 2010; Greeson, Garcia, Kim, Thompson, & Courtney, 2015). Foster youth are offered training classes around their 16th birthday which are intended to prepare them for adulthood. By best estimates, only about two-thirds of eligible foster youth actually receive this training and attendance has been found to be inconsistent (Greeson et al., 2015).

There are currently no best practices established on how to assess the skills and knowledge of foster youth transitioning into adulthood (Avery, 2010). There are scarce data establishing the effectiveness of such trainings using measurable outcomes among TAFY (Avery, 2010; Greeson et al., 2015). Assessing the skills and knowledge of TAFY as it pertains to health and related outcomes is therefore an important step to determining transition readiness and improving health outcomes in this population.

Connectedness and Support

Connectedness, or "positive interactions within an ongoing relational connection" (Townsend & McWhirter, 2005, p. 191) is a significant factor to consider when assessing the transition readiness of TAFY and other young adults making the transition into adult care (Schwartz et al., 2011). A lack of connectedness has been found to have a negative impact on the health and well-being of adolescents and young adults (Yang , Tan, & Cheng, 2014). Young adults with a history of foster care may experience significant difficulties maintaining interpersonal relationships because of their histories of trauma and neglect (Courtney et al.,

2011; Jones, 2011). Many experience placement instability while in foster care which makes it difficult for them to establish long term connections (Collins, Spencer, & Ward, 2010). Their biological families are often unstable and unable to provide them with proper support through the transition process (Courtney et al., 2011; Jones, 2011). As a result, TAFY who lack meaningful connections may feel isolated and lonely as they make the transition into adulthood (Ahrens et al., 2011). When compared to TAFY without connections, connected TAFY have a higher level of perceived general health, higher self-esteem, and lower rates of sexually transmitted infections (Ahrens, DuBois, Richardson, Fan, Lozano, 2008). Connectedness is therefore an important construct to consider when assessing the transition readiness of TAFY.

Health Beliefs

Health beliefs is a broad term that denotes an individuals' set of beliefs as they pertain to the care that they receive, their overall health, and the role that they play in managing their health (Green & Murphy, 2014). Data suggest that health beliefs may play an import role in the transition readiness of young adults with special health care needs (Sawicki, Kelemen, & Weitzman, 2005). Transitional age foster youth who believe that the care they received was largely beneficial, for example, are more likely to receive follow up care and adhere to their treatment plan than TAFY who perceive care received as not beneficial (Munson et al., 2012). A belief that one is able to independently manage their health needs after transition has also been found to be positively correlated with transition readiness among young adults with a history of foster care (Wilson & Deane, 2012).

Trust in the healthcare system is another important factor to consider as it relates to transition readiness in young adults with special health care needs. Young adults who believe

that their providers are trustworthy may be more likely to return for follow-up visits and adhere to their treatment plan than young adults who do not believe their providers are trustworthy (Sonneveld, Strating, van Staa, & Nieboer, 2012). Health beliefs are an important component of SMART and should be assessed in transitioning youth with special health care needs.

Health Insurance

Health insurance is an important factor to consider when addressing the transition needs of adolescents with special health care needs. Youth with a history of foster care face unique challenges pertaining to acquiring health insurance (AAP, 2012). Despite being Medicaid eligible until their 26th birthday, many foster youth report being unaware of their eligibility and unsure how to navigate the process (Kruszka et al., 2012; Sakai et al., 2014). As a result, as many as one out of five remain uninsured (Courtney et al, 2016).

Although more current data are needed to reflect the impact of recent legislative changes such as the Affordable Care Act, the literature overwhelming supports the notion that TAFY have difficulty securing adequate health care coverage (AAP, 2012). Lack of health insurance has been cited as a significant barrier to receiving appropriate health care services among TAFY (AAP, 2012; Sakai et al., 2014). Youth with a history of foster care are less likely to report having received preventative care services in the last year and more likely to report unmet health needs than young adults without a history of foster care (Ahrens, Garrison, & Courtney, 2014). Evaluating the insurance status of former foster youth, therefore, is essential to ensuring that TAFY receive timely and appropriate health care during the transition to adulthood.

Behavioral Model for Vulnerable Populations

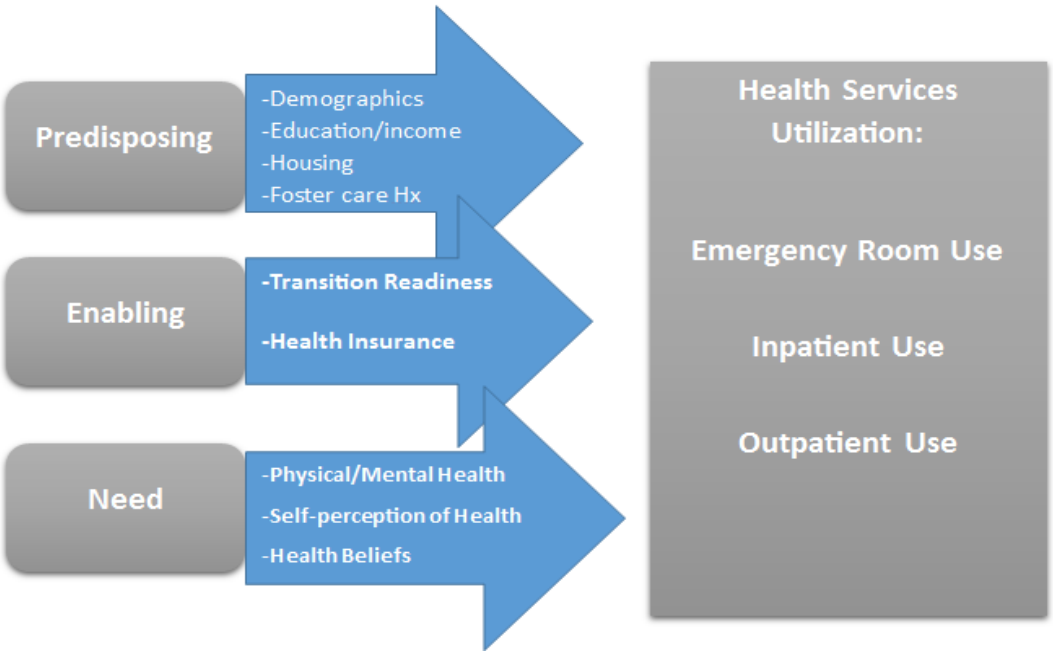
Increasingly available health coverage and the subsequent need to reduce healthcare spending have refocused legislative attention towards understanding health services utilization (HSU) behaviors in various populations. Of particular interest are vulnerable populations, defined as social groups who experience limited resources and have a high relative risk for morbidity and mortality (Flaskerud & Winslow, 1998). Fragmented HSU - - i.e. lack of preventative care services use, using emergency department services for routine care, frequent hospitalizations etc. - - has been found to be associated with poor health outcomes and increased health care cost in homeless individuals (Stein, Anderson, Robertson, & Gelberg, 2012), the uninsured (Lau, Adams, Boscardin, & Irwin, 2014), and individuals from low socioeconomic backgrounds (Blackwell, Martinez, Gentleman, Sanmartin & Berthelot, 2009).

Transitional age foster youth are also considered a vulnerable population who exhibit unfavorable HSU patterns. They are more likely to utilize emergency services and less likely to utilize preventative services (AAP, 2012). Thus, there is a need to better understand HSU patterns in TAFY as it can possibly lead to better use of health services and improvement in health outcomes. The Behavioral Model for Vulnerable populations, subsequently referred to as the "Behavioral Model", will be used in this study to provide a framework to better understand factors which influence HSU in TAFY.

The three major domains and corresponding variables depicted in the Behavioral Model and that will be measured in the present study include: 1) Predisposing (demographics, education, housing status, foster care history); Enabling (transition readiness and health insurance); and 3: Need (physical/mental health, self-perception of health, and health beliefs).

The main outcome that will be measured is health services utilization includes emergency department use, inpatient use, and outpatient use.

Figure 3-3: Proposed Variables as depicted in the Behavioral Health Model



(Gelberg, Andersen, & Leake, 2000)

History and Development

The Behavioral Model was originally developed by Ronald Andersen (1995) as a three-stage model in which *predisposing*, *enabling*, and *need* variables were used to predict HSU in vulnerable populations. The original model posits that appropriate HSU takes place when (1) a family is predisposed to receive medical care; (2) health services are available; and (3) the family perceives the need for care. The main outcome of the model, HSU, includes emergency department, outpatient, and inpatient use. Originally, Andersen (1995) focused on the family as the unit of measurement but later shifted the focus toward the individual patient due to difficulty developing measures at the family level. Following this first phase of development, Andersen

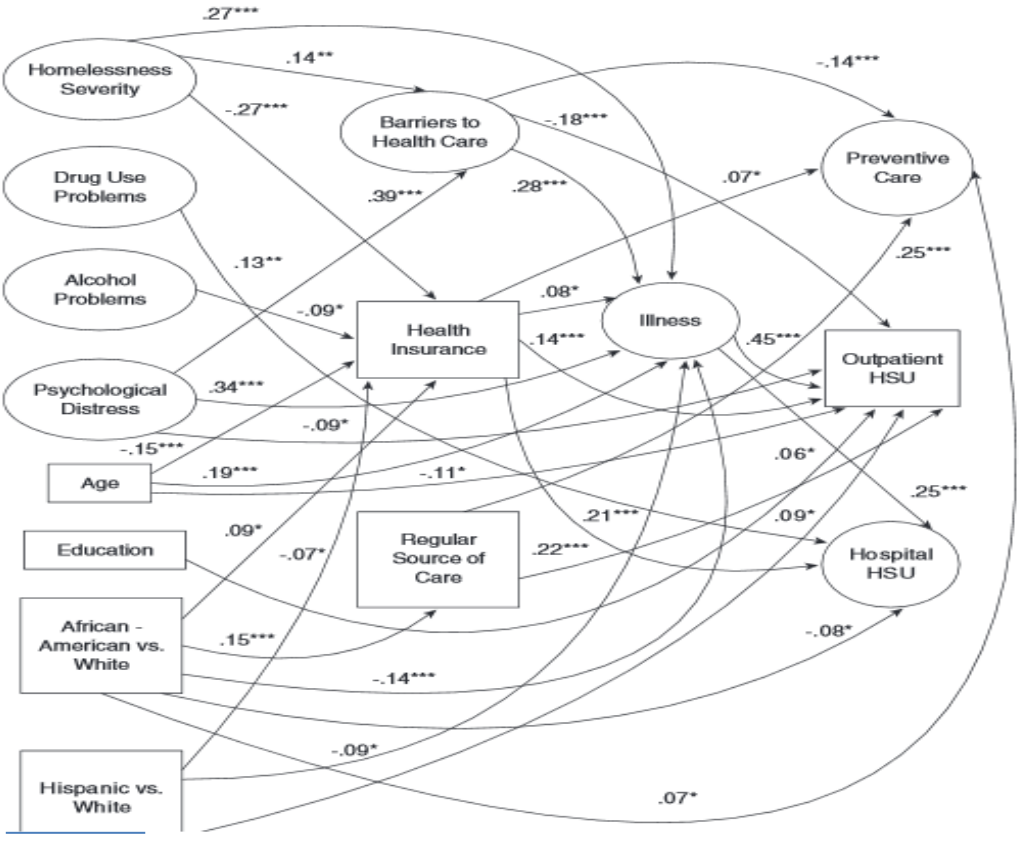
(1995) developed a second phase in the 1970's which was more reflective of health policy changes and available resources seen as important determinants of the use of services. This second phase also included elaboration of the measure of health services utilized as well as customer service as an outcome of use.

The third phase of development was significant because Andersen (1995) began to include health status, both perceived and evaluated, as an explicit variable in the model. Until this point, the model mostly focused on use. The third revision included health-related measures such as personal health practices while acknowledging the influence of the political and economic environment on health outcomes. The inclusion of health outcomes was important to establish a relationship between HSU and health outcomes and provide more empirical evidence for policy changes. The last and final revision of this model was conducted by Gelberg and colleagues (2000). This revision maintains the original three-stage model which predicts use as a function of predisposing factors, enabling factors, and need, while adding variables specific to vulnerable populations. According to Andersen (1995), vulnerable populations include minorities, minors, the elderly, undocumented immigrants, impoverished persons, foster youth, and any other populations who are significantly higher risk for disease and injury. Their inclusion in the model allows for more appropriate selection of relevant variables and allows for population-specific interventions.

To further validate the Behavioral Model, Stein, Andersen, and Gelberg (2007) conducted a study using structural modeling with a sample of 875 homeless women. The authors assessed the effects of *predisposing* (demographics, psychological distress, alcohol/drug problems, and homelessness severity), *enabling* (health insurance, source of care, and barriers),

and *need* (illness) variables on HSU (preventative care, outpatient visits, and hospitalizations). The initial factor analysis had an excellent fit and did not require any model modifications to improve the fit further. Statistical significance ($p < .001$) was found in all hypothesized factor loadings in the predisposing, enabling, and need domains. Figure 4 represents the significant regression paths predicting HSU. Large circles represent latent variables while rectangles represent single-item indicators.

Figure 3-4: Significant Regression Paths Predicting Health Services Utilization



(Stein et al., 2007)

Domains

Predisposing

Predisposing factors refer to characteristics that influence the likelihood of HSU and include demographics, education, income, and housing (Stein, Anderson, & Gelberg, 2007). Differences in HSU associated with ethnic minority status have been widely documented. Ethnic minorities typically receive less preventative care services (Castaneda et al., 2014) and less mental health services (Guerro, Marsh, Khachikian, Amaro, & Vega, 2013) than non-ethnic minorities. Ethnic minorities are also more likely to utilize emergency services for non-emergent needs and less likely to report having a usual source of care than non-ethnic minorities (Guerro et al., 2013). Having a childhood history of foster care will also be included as a predisposing variable in this study. Limited data suggest that youth with a history of foster care have been found to have fragmented health services use including frequent emergency department use and lack of primary care services youth (Hudson, 2011; Jones, 2014).

Data have also long documented the poor HSU patterns of homeless individuals. Homeless individuals are less likely to report having a regular source of care and more likely to report using emergency department services than individuals who are not homeless (Stein et al., 2007; Stein et al., 2012). This is especially concerning as former foster youth are significantly more likely to be homeless than youth without a history of foster care (Dworsky, Napolitano, & Courtney, 2013). Being homeless and having a childhood history of foster care has been found to be associated with having unmet health care needs (Kushel et al., 2007), lack of receipt of preventative health care (Yen et al., 2009), and increase in HSU (Hudson & Nandy, 2012) when compared with homeless youth without a history of foster care.

Lastly, education, income, and social structure are also important predisposing factors to consider when exploring factors related to HSU among vulnerable populations. Poorer, uneducated individuals from lower socioeconomic communities tend to have higher unmet health needs and difficulty accessing health care services (Kawachi, Adler, & Dow, 2010; Kondo et al., 2009). Variables in the predisposing domain are considered by Andersen (1995) to have low mutability, meaning that they are difficult to manipulate and not highly associated with a change in HSU behavior.

Enabling

Enabling factors are defined as conditions that facilitate HSU in vulnerable populations (Andersen, 1995). Enabling factors tend to be positively associated with desirable HSU patterns and are considered by Andersen (1995) to have high mutability. The main two enabling factors from the Behavioral Model that are applicable to the present study are *insurance* and *transition readiness*.

Insurance has been identified as a significant barrier to accessing health services. Young adults between the ages 19 - 34 years old have had the highest uninsured rate of any other age group in the United States since 1997 (Lau et al., 2014). Prior to the passing of the Affordable Care Act (ACA), approximately one-third of young adults between the ages of 18 and 30 were uninsured. Since its passage, an additional 9.5 million young adults gained insurance, most often by remaining on their parents' plan, qualifying for Medicaid, or paying for subsidized insurance out of pocket (Collins, Ramussen, & Doty, 2014). Young adults without health insurance are significantly more likely to delay or defer obtaining needed medical care than young adults with health insurance (Anderson, Dobkin, & Gross, 2012; Cohen, 2008). Being insured has also been

found to be associated with having a usual source of care among young adults (Sommers, Buchmueller, Decker, Carey, & Kronick, 2013)

There are limited data exploring the relationship between insurance and HSU among TAFY. However, it is clear that TAFY experience significant difficulties when attempting to obtain insurance. The most recent data estimates that approximately 20% of Medicaid-eligible TAFY fail to sign up for coverage (Courtney et al, 2016). The most commonly reported barriers to obtaining health coverage among TAFY are being unaware of their eligibility and being unsure how to complete the application process (Courtney et al., 2011; Kruszka et al.,2012). Of note, the ACA now mandates that states provide health insurance to TAFY until their 26th birthday, regardless of their income (Juvenile Law Center, 2015). Although the effects of this newly passed provision have yet to be seen, this increase in eligibility is likely to lead to an increase in access to health insurance as was noted in various other populations (United States Census Bureau, 2015). Given that young adults and other vulnerable populations demonstrate improvement in HSU patterns when insured, the present study hypothesizes that insurance will be associated with improved HSU patterns in TAFY as well.

Transition readiness and its relationship to HSU among adolescents with special health care needs is another area of research that has not been well explored. Much of what has been established regarding the predictive value of transition readiness focuses on specific health outcomes as opposed to HSU. Adolescents with cystic fibrosis (Tuchman, Schwartz, Sawicki, & Britto, 2010), diabetes (Pierce & Wysocki, 2015), and kidney disease (Ferris et al., 2015), for example, have been found to have better outcomes when they display higher levels of transition readiness. To date, no research has been conducted exploring the relationship between transition

readiness and HSU among TAFY. Given that this population demonstrates worse health outcomes (Zlotnick, Tam, & Soman, 2012) and more unfavorable HSU patterns (Yen, Hammond, & Kushel, 2009) than young adults without a history of foster care, exploration of this relationship is warranted. The present study will fill an important gap in foster care research and potentially improve health and related outcomes in the TAFY population.

Need

The need domain includes both perceived and actual health needs which may influence HSU in vulnerable populations. According to Andersen (1995), need is one of the strongest predictors of health service utilization. The present study will employ the following variables as part of the need domain: self-reported physical and mental health status, self-perception of health, and health beliefs.

Self-reported physical and mental health status has been found to positively predict health services use among various vulnerable populations. For example, homeless individuals who report having poor general physical health have been found to be more likely to seek primary care services than homeless individuals who report excellent health (Harcourt et al., 2014). The same has also been found to be true among patients with hypertension, diabetes, and COPD (Skroumpelos, Pavi, Mylona, & Kyriopoulos, 2014). Patients with self-reported mental health diseases follow a similar pattern. Individuals who report having mental health disorders, such as depression, have been found to be more likely to report outpatient service use than individuals who report not having a mental health disorder (Fluery et al., 2012). In young adults, illness has been found to positively correlate with primary care service use as well (Lau et al., 2014). The relationship between self-reported health status and HSU in TAFY remains unknown.

Self-perception of health, typically measured by asking individuals to evaluate their health status on a four- or five-point scale, is one of the most widely used predictors of morbidity and mortality in public health research (Jylha, 2009). Self-perception of health is an important predictor of HSU. Individuals who perceive their health as being poor, for example, are more likely to report having a primary care provider than individuals who perceive their health as excellent. The general consensus is that there is an inverse relationship between self-perception of health and desirable health service use. For example, individuals who rate their health as poor have been found to be more likely to report being affiliated with a primary care provider when compared to individuals who rate their health as excellent (Jatrana, Richardson, & Crampton, 2014). Research on self-perception of health and HSU among TAFY is limited to date.

Health beliefs is a broad term that denotes an individuals' set of beliefs as they pertain to their health status and the care that they receive text (Green & Murphy, 2014). There are four broad health beliefs that have been found to consistently predict health services seeking behaviors: perceived susceptibility to ill health, perceived severity of ill-health, perceived benefits of behavior change, and perceived barriers to taking action (Jones, Smith, & Llewellyn, 2014). Qualitative data indicate that the health beliefs of TAFY may provide insight into their HSU patterns. For example, Munson and colleagues (2012) conducted semi-structured interviews with 60 TAFY between the ages of 18-25 to explore factors associated with mental health services utilization during the transition to adulthood. Results indicated that participants who reported perceiving previous mental health services as being efficacious were more likely to report seeking future mental health services. Quantitative data on health beliefs of TAFY suggest that youth who reported believing that prior mental health services were helpful were

significantly more likely to report seeking additional mental health services (Wilson & Deane, 2012).

Conclusion

The transition from pediatric to adult care is associated with increased health care costs and poor clinical outcomes. Despite these well-documented risks, how to best assess transition readiness in the young adult population remains unclear. Much of the research conducted in this area has been disease specific and focused on youth with cystic fibrosis, diabetes, sickle cell, and cancer. There is a paucity of evidence linking transition readiness to measurable health service use outcomes among vulnerable young adult populations. Youth with a history of foster care are particularly vulnerable to experiencing poor transitions given the abrupt discontinuation of services and unreliable parental support that they experience upon emancipation from the foster care system. They receive little to no formal training on how to manage their health needs. As a result, TAFY tend to have poorer health outcomes and less desirable HSU patterns than young adults who do not have a history of foster care. Assessment of transition readiness is therefore needed to identify areas of intervention to improve the overall transition experience.

The SMART provides an appropriate framework for assessing transition readiness in TAFY by identifying relevant factors that contribute to transition readiness. It is well validated and has been used in various young adult populations. The Behavior Health Model is also fitting for the present study as it provides a framework for better understanding HSU in vulnerable populations. Together, these models will be used to meet the main objective of exploring the relationship between transition readiness and health service utilization in TAFY. Establishing a

relationship between these two variables is significant as it provides justification for future policies and interventions aimed at improving transition readiness in this population.

Chapter 4: Methods

This chapter presents the research methods for this study which examined health services utilization (HSU) in transitional age foster youth (TAFY) ages 18-26. The chapter begins by stating the aims and hypotheses of the study followed by the design, sample selection and setting, data collection procedures, protection of human subjects, study measures (Transition Readiness Assessment Questionnaire [TRAQ] and the California Health Interview Survey [CHIS]) and statistical analyses are outlined.

Specific Aims and Hypotheses

Aim 1: To compare health services utilization HSU (primary care provider [PCP], preventative care, ED use, hospitalizations, coverage by Medi-Cal, and insurance status), self-reported health, and adult functioning outcomes (housing status, attainment of high school diploma, income, and parenting status) among young adults ages 18-26 *with and without* a history of foster care.

Hypothesis: Youth without a history of foster care will demonstrate more favorable health-related and adult functioning outcomes compared to youth with a history of foster care.

Aim 2: To *determine* the difference between transition readiness scores and HSU among TAFY 18-26 years of age.

Hypothesis 2a*:* Transition readiness scores will be higher among TAFY who report having a primary care provider compared to TAFY who report not having a primary care provider.

Hypothesis 2b: Transition readiness scores will be lower among TAFY who report the ED use as their usual source of care compared to TAFY who report either the clinic or doctor's office as their usual source of care.

Hypothesis2c: Transition readiness scores will be lower among TAFY who report being hospitalized in the last 12 months compared to TAFY who report not being hospitalized in the last 12 months.

Aim 3: To explore differences in self-perception of health and HSU outcomes in TAFY.

Hypothesis 3a*:* Self-perception of health will be higher in TAFY who report their usual source of care as being either a clinic or doctor's office.

Hypothesis 3b*:* Self-perception of health will be lower in TAFY who report using the ED within the last 12 months.

Design

This study used a cross-sectional, descriptive study design to measure HSU and transition readiness among TAFY 18-26.

This study also compared HSU outcomes, self-reported health status, and adult functioning outcomes between young adults with and without a history of foster care. The comparison sample was comprised of 103 young adults between the ages of 18-26 from the 2013-2014 California Health Interview Survey (CHIS) cycle. The CHIS is described in detail below.

Sample Selection

The selection of the sample size was calculated using G *Power version 3.1.2 (Faul, Erdfelder, Lang, & Buchner, 2007). Using Mann-Whitney (Wilcoxon), it was determined that a sample size of 200 (100 subjects per group) would allow a detection of a small-to-medium effect size (d=.38-.49) at an alpha of 0.05 and a power of 0.80 (95% confidence interval).

Transitional Age Foster Youth Sample

A convenience sample of 103 TAFY ages 18-26 were recruited for this study. Youth were eligible for this study if they self-identified as having spent at least one consecutive year in foster care and emancipated from the foster care system between their 18th and 26th birthday. Participants were also required to read and speak English at the 6th grade level. This was determined by having the participants read a portion of the informed consent aloud. Participants who were cognitively delayed or institutionalized were excluded from the study.

Comparison Sample

A comparison sample of 103 young adults between the ages of 18 and 26 was obtained from the CHIS database. Self-reported health status and HSU outcomes were compared between the TAFY and CHIS sample. A total of 19 items from the 2013-2014 CHIS were utilized (see "Selected CHIS Questions", Appendix A).

Permission to obtain CHIS data was provided by submitting an application to the University of California, Los Angeles Center for Health Policy Research. Once approved, the CHIS data were provided to the principal investigator (PI) on a password protected disc.

Participants from the CHIS were matched to the TAFY participants using three criteria: age, gender, and ethnicity.

Study Settings

Initial recruitment took place in the greater Los Angeles area at three sites: St Anne's Residential Facility, California Youth Connection (CYC) meetings, and Independent Living Program classes at El Camino College – Compton Center. CYC is a statewide advocacy organization comprised of current and former foster youth whose collective goal is to create policy changes in the child welfare system. The Los Angeles chapter is comprised of over 100 members between the ages of 14 and 26 and meets twice a month at various locations in the Los Angeles area. Some of the members are current foster youth while others are young adults who have emancipated. St Anne's is a six acre residential facility for parenting former foster females between the ages of 18 and 24 and their children. St. Anne's is part of a comprehensive program which offers job training, child care, health services, and life skills training to its residents.

Using snowball sampling, participants of the study as well as site liaisons identified other participants through "word of mouth" and provided them with information about the study and instructions to contact the PI if interested.

Procedure for Data Collection

Prior to data collection, the PI met with all three recruitment sites to obtain permission to post study fliers (Appendix B). Youth who were interested in study participation contacted the PI and were provided study information and screened to determine eligibility. If eligible, a meeting time and place was agreed upon. The PI assured adequate privacy for all meeting locations.

During the informed consent disclosure, participants were asked if they could read and write English and did not have any hearing disabilities that would preclude interview participation. Foster youth who participated in the study were asked to read the first paragraph of the informed consent aloud and then read the rest of the document to themselves and were given time to ask any questions. The participants were also asked to explain the study in their own words to assess understanding of information provided and participant rights.

After informed consent was obtained, the PI conducted quantitative interviews by reading the CHIS questions and recorded the participant's verbal responses. The participants were also given a copy of the questionnaire and were encouraged to follow along with the PI. Lastly, participants were instructed to write out their responses for the three open-ended questions. The quantitative interviews took approximately 15 and 20 minutes to complete. Participants were compensated $20 for completion of all study measures and the PI thanked them for their participation.

Protection of Human Subjects in Research

University human subject protection approval was obtained from the University of California, Los Angeles Institutional Review Board. The PI completed the Collaborative Institutional Training Initiative (CITI) and Health Insurance Portability and Accountability Act (HIPAA) certification training.

This study presented minimal risks to the participants. Participating in this study required TAFY to evaluate their abilities to perform certain tasks, which may have invoked negative feelings such as anxiety, worthlessness, or low self-esteem. Each participant was offered a list of mental health services resources compiled from the Southern California Foster Family and

Adoption Agency. As an additional safeguard, Gwenita Watson, a marriage and family therapist with over 7 years working with emotionally disturbed foster and juvenile youth, served as an on-call mental health care provider for participants. None of the participants reported or showed signs of emotional distress while participating in the study.

The TAFY participants received $20 compensation upon completion of all study measures. This compensation is a minimal amount so to reduce the possibility of monetary coercion of study participation. All participants were informed that: 1) participation is voluntary; 2) information provided in questionnaires would be used solely for scientific purposes; 3) participation would not affect eligibility for services; and 4) could decline to answer any questions or withdraw from the study at any time.

All personal information was coded and recorded to protect the patient's anonymity / confidentiality. Electronic data was stored in a computer that has password protection software. A hard copy was locked in a secure file cabinet in a locked office with access only by the PI.

Independent Variables of Focus

Transition Readiness

The main variable of interest in this study, transition readiness, was measured using the Transitional Readiness Assessment Questionnaire ([TRAQ] Sawicki et al., 2011). Transition readiness occurs when young adults demonstrate competency in the areas of healthcare decision making, self-care, and self-advocacy that allows them to take responsibility for their health care (Sawicki et al., 2011). This is a holistic, interdisciplinary assessment that requires a comprehensive understanding of the patient and their environment (Meleis, Sawyer, Im, &

Messias, 2000). The development, reliability, and validity of this instrument will be discussed in detail below.

Self- perception of Health

Self-perception of health was assessed using an individual item from the 2013-2014 CHIS. Participants were asked to rate their self-perception of their health on a 5-point Likert scale that ranged from poor to excellent.

Dependent Variables of Focus

Health Services Utilization

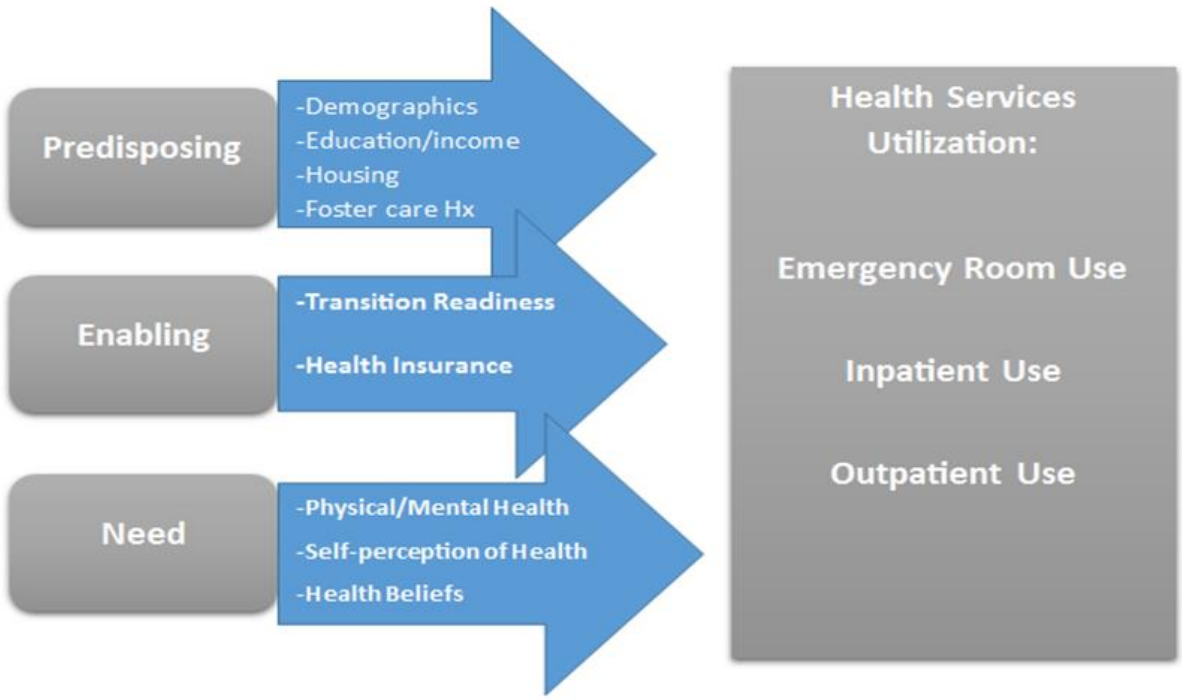
The main dependent variable of focus in this study was HSU. This variable was operationalized as individual measurements of a patient's emergency department, inpatient, and outpatient use. Emergency department HSU was measured by a single item that reported the number of times the participant visited the emergency department in the last 12 months). Inpatient HSU was measured by a single item that reported the amount of times the participant was hospitalized in the last 12 months and the number of days hospitalized. Finally, outpatient HSU was measured by a single item that reported the patient's usual source of care. Variables are displayed in Appendix 1.

Remaining Variables

Several other variables were measured in this study. These variables were organized according to the domains of the Behavioral Health model (Figure 4-1). The predisposing domain included demographics and foster care history. The enabling domain included variables that were hypothesized to be associated with HSU such insurance status and degree of transition readiness.

Lastly, the need domain included factors such as health status and self-perception of health. Selected questions from the 2013-2014 CHIS were used to measure these variables (Appendix A).

Figure 4-1: Behavior Health Model Variables



Instruments

Transition Readiness Assessment Questionnaire

The Transition Readiness Assessment Questionnaire (TRAQ) was originally developed by investigators at the University of Florida, Jacksonville in response to the lack of assessment readiness instruments for adolescents transitioning into adulthood and adult care (Sawicki et al., 2011). Prior to its development, informal checklists and questionnaires were used by clinicians to determine a young adult's readiness to transition into adult care. No standard existed to guide the

development of such questionnaires and therefore they varied widely from clinic to clinic (Sawicki et al., 2011).

Nine such questionnaires that covered a broad range of content were selected during the initial development of the TRAQ. A total of 79 medical care-related items and 83 independent living-related items were pooled together. Items with similar subject content were combined which reduced the total number of items from 162 to 62. The 62 items were then organized into 3 domains and 11 subdomains.

The authors used the Transtheoretical Stages of Change Model (Table 4-1) to organize responses into a 5-point ordinal response scale. The Transtheoretical Stages of Change Model posits that there are five stages of change: pre-contemplation, contemplation, preparation, action, and maintenance. Each of the five purported stages corresponds with intention to take action within a specified amount of time. The decision was made to correlate the TRAQ responses with the stages of change because it allowed for greater variation in skill acquisition level than traditional "yes" or "no" responses would have provided.

Table 4-1: Stages of Change Model for TRAQ Development

Stage	Definition[a]	TRAQ response category	TRAQ score
Precontemplation	Has no intention of taking action within the next 6 months	I do not need to do this	1
Contemplation	Intends to take action in the next 6 months	I do not know how but I want to learn	2
Preparation	Intends to take action within the next 30 days and has taken some behavioral steps in this direction	I am learning to do this	3
Action	Has changed behavior for less than 6 months	I have started doing this	4
Maintenance	Has changed behavior for more than 6 months	I always do this when I need to	5

(Prochaska & DiClemente, 1986)

The next step in the development process involved ethnographic interviews with a convenience sample of 15 youth and young adults from the Jacksonville Health and Transition Services clinic in order to assess content and face validity. The participants ranged from 16 to 23 years old (8 males and 7 females). Two-thirds of the participants were Black and one-third were White. The participants were asked whether the wording of the response categories (a) was clear and (b) was consistent with the stages of change definitions as described by Prochaska & DiClemente (1986). Each question was read to the participants and they were asked to explain what the question meant to him or her, and to identify any words, phrases, or concepts that were unclear. Revisions were made based on the feedback of the participants.

Using a list-serve from the University of Florida Health Care Transition Program, the authors then selected 12 providers (three physicians, seven nurses, and two social workers) to rate each question from 1 to 5, with 1 = not important and 5 = highly important, to the process of healthcare transition. The 12 providers had an average of 9 years working in transition-related services. The average question rating scores ranges from a low of 2.91 to a high of 4.73. The authors eliminated or combined items with a score of <4.0 and retained all items with a score of 4.0 or above (33 items).

The resultant 33-item questionnaire was then fielded to a total of 192 participants between the ages of 16 and 26 years old (mean age 19.7 years) from three academic clinics in Florida, North Carolina, and Boston. Some of the participants had chronic disorders such as cystic fibrosis and sickle cell disease, while others were just receiving regular checkups. It was not stated what percentage of the participants, if any, were current or former foster youth. Exploratory factor analysis was conducted using three criteria to identify which items would be removed: (1) the eigenvalue > 1, (2) the percentage of variance explained by the factors, and (3)

the number of factors at which a clear elbow appears in the scree plot. A total of four items were removed. Remaining items were classified into one of two domains: Self-Management and Self-Advocacy (Table 4-2). Specific items were retained if their factor loadings were > 0.3 on one domain and ≤ 0.3 on the other domain. Both domains demonstrated high internal consistency, with a Cronbach's alpha of 0.92 for Self-Management and 0.82 for Self-Advocacy. The Cronbach's alpha for the entire 29-item questionnaire was 0.93.

Table 4-2: Factor Analysis of the Transition Readiness Assessment Questionnaire

TRAQ item	TRAQ domain 1: skills for chronic condition self-management	TRAQ domain 2: skills for self-advocacy and healthcare utilization
Eigenvalue	9.73	2.16
Total variance explained by two domains, %	56	12
Cronbach's alpha	0.92	0.82
Domain score (mean ± SD)	3.51 ± 1.01	3.86 ± 0.74

(Sawicki et al., 2011)

Four external variables were used to demonstrate construct validity of the TRAQ, including gender, race (white and non-white), diagnosis type (physical and mental limitations), and age group (16-18, 19-20, and 21-26). T-tests were performed to demonstrate whether hypothesized relationships between known-groups and TRAQ domain scores were statistically significant. As hypothesized, those with activity-limiting health conditions had statistically significantly higher mean scores (3.72) than those mental health conditions (2.67; $p < .0001$). Older age and being of female gender also led to significantly higher scores in both domains

when compared to younger, male participants. There was no significant difference in either domain score based on race.

Multivariate linear regression was used to demonstrate relationships of one known group with TRAQ domain scores after adjusting for the influence of other known groups. For Self-Advocacy, having an activity-limiting health condition ($p = .007$) and being female ($p = .006$) were associated with higher scores. For Self-Management, having an activity limiting health condition ($p < .0001$) and being of older age ($p < .001$) were associated with higher scores. The final revisions of the TRAQ were conducted using convenience samples of adolescents and young adults who ranged in age from 14 to 26 from three different sites: the University of Florida Jacksonville Health and Transition Services Clinic, Boston Children's Hospital, and the University of North Carolina's Successful Transition for Adulthood Treatment Program *(*N = 526). The participants had a wide range of chronic disorders such as cystic fibrosis, diabetes, and sickle cell disease. It was not stated what percentage of the participants, if any, were current or former foster youth. Exploratory factor analysis (EFA) was conducted in order to reduce the number of items from 29 to 20 (Table 3). Items that did not load on at least one factor with a level of 0.45 or greater after orthogonal and oblique rotation were eliminated. The five largest eigenvalues for the final EFA were 21.36, 2.59, 1.24, 1.07, and 0.92. The authors also conducted confirmatory factor analysis (CFA) using goodness-of-fit criteria to establish five different domains. The factor loadings and standard errors (SE) are listed on table 4-3.

Lastly, the authors conducted reliability analysis by calculating the Cronbach's alpha for the overall instrument as well as the five domains. The Cronbach's Alpha for the five domains ranged from .64 – .93 and the overall TRAQ was .94. For the current study, the TRAQ showed excellent internal reliability with a Cronbach's alpha of .86 (normal > .70). The subscales

showed Cronbach's alpha for managing medications .91, appointment keeping .89, tracking health Issues .90, talking with providers .91, and managing daily activities .88.

Table 4-3: Factor Loadings for the Transition Readiness Assessment Questionnaire

		EFA		CFA	
Domain	Questionnaire Item	Loading	SE	Loading	SE
Appointment Keeping	Do you call the doctor's office to make an appointment?	0.577	0.061	0.905	0.017
	Do you follow up on any referral for tests or check-ups or labs?	0.607	0.215	0.849	0.023
	Do you arrange for your ride to medical appointments?	0.481	0.060	0.752	0.034
	Do you call the doctor about unusual changes in your health (ie, allergic reactions)?	0.569	0.063	0.862	0.021
	Do you apply for health insurance if you lose your current coverage?	0.680	0.047	0.783	0.031
	Do you know what your health insurance covers?	0.562	0.054	0.699	0.042
	Do you manage your money and budget household expenses (ie, use checking/debit card)?	0.588	0.052	0.742	0.035
Tracking Health Issues	Do you fill out the medical history form, including a list of your allergies?	0.662	0.053		
	Do you keep a calendar or list of medical and other appointments?	0.571	0.058	0.836	0.036
	Do you make a list of questions before the doctor's visit?	0.495	0.060	0.648	0.049
	Do you get financial help with school or work	0.529	0.060	0.576	0.059
Managing Medications	Do you fill a prescription if you need to?	0.536	0.069	0.875	0.022
	Do you know what to do if you are having a bad reaction to your medications?	0.574	0.063	0.691	0.043
	Do you take medications correctly and on your own?	0.531	0.071	0.656	0.046
	Do you reorder medications before they run out?	0.629	0.059	0.499	0.099
	Do you fill out the medical history form, including a list of your allergies?*			0.836	0.027
Talking With Providers	Do you tell the doctor or nurse what you are feeling?	0.715	0.046	0.763	0.057
	Do you answer questions that are asked by the doctor, nurse or clinic staff?	0.815	0.046	0.575	0.061
Managing Daily Activities	Do you help plan or prepare meals/food?	0.565	0.064	0.647	0.055
	Do you keep home/room clean or clean up after meals?	0.540	0.064	0.495	0.065
	Do you use neighborhood stores and services (ie, grocery stores and pharmacy stores)?	0.463	0.068	0.731	0.050

EFA = exploratory factors analysis; CFA = confirmatory factor analysis; SE = standard error.
*Only factor loadings greater than 0.45 are included.

(Wood et al., 2014)

California Health Interview Survey

The remaining variables in this study were measured using data and selected questions from the California Health Interview Survey (CHIS). First administered in 2001, the CHIS is one of the largest health surveys in the nation. It collects information on key health indicators such as health status, health-related behaviors, health insurance coverage, and access to health care

services for all age groups. The CHIS is conducted annually by the University of California, Los Angeles (UCLA) Center for Health Policy Research in collaboration with the Public Health Institute and the California Department of Health Services. The survey is funded by both private and public organizations and is overseen by six advisory committees comprised of over 200 members (Brown, Hotlby, Zahnd, & Abbot, 2005).

Much effort was taken to establish validity of the CHIS items during its early stages of development. The first CHIS database was the product of a 3-year planning project that included input from a wide variety of content experts including public health agencies, advocacy groups, researchers, and members of the community (Brown at al., 2005). To assess data quality, data from CHIS were compared with data from the National Health Interview Survey (NHIS) and the Medical Expenditure Panel Survey (MEPS). The comparisons among the three surveys revealed no significant differences. The estimates of demographic, economic, and health variables are comparable between the three surveys with the exception of four variables: general health, flu shot, prostate screening, and seeing a doctor in the past year (CHIS, 2008).

The CHIS data was also compared against Medicaid administrative data. This type of comparison provides a standard with which to judge the accuracy of information obtained from large surveys. Findings suggest that the CHIS data closely match actual Medicaid enrollment counts while NHIS was found to undercount enrollment (CHIS, 2008). Survey questions are removed, added, and modified in each yearly cycle of the CHIS based on methodological evaluations and feedback (Brown et al., 2005).

The first CHIS survey was administered in 2003. The original sample design included a multistage random-digit–dial telephone survey with 41 geographically defined sampling strata.

The participants included one randomly sampled adult over the age of 18 in each of the selected households (*n* =55,428). Adolescents aged 12-17 were also surveyed (*n* =5,801); and in households with young children, the adult who was deemed most knowledgeable about the child reported information (*n* =12,592). The CHIS has been administered biennially since then and its data have widely used by local, state, and national policymakers, advocates, and researchers to improve access to healthcare and management of chronic diseases.

The CHIS was selected for this study for various reasons. First, it provided appropriate wording for the variables of interest in this study, including self-reported health status and health services utilization. It also provided data which was used to compare HSU and self-reported health status among participants with and without a history of foster care. Lastly, the CHIS' long standing reputation and use within academia and research was also considered.

Statistical Analyses

The statistical analyses used for this study included descriptive statistics, independent sample t-test, ANOVA, and Chi-square. Data were analyzed with SPSS version 22 (IBM, 2016). Descriptive statistics of frequencies and percentages were used for categorical variables (i.e. education, income, self-perception of health, HSU and health outcomes, housing status, ILP class attendance) and mean and standard deviations was used for continuous variables (i.e. age, transition readiness scores, foster care duration and placement, and number of ED visits). All data were checked for assumptions of each analysis to verify that data were analyzed appropriately. The continuous data had normal distributions [per Shapiro-Wilks tests of normality] and groups were compared using parametric statistics.

Specific Aim 1

Descriptive statistics were used to provide data on HSU, self-reported health status, and adult functioning outcomes in young adults with and without a history of foster care. Means, standard deviations, and percentages were provided on each variable. Comparison data were obtained from a matched sample via the CHIS database. Pearson's Chi-square analyses were conducted to determine if differences between the two groups were statistically significant. The grouping variable, having a history of foster care, was the independent variable while HSU, self-reported health status, and adult functioning outcomes were the dependent variables. This type of statistical testing allows for the detection of significant differences between two groups when categorical data are used (Plichta & Kelvin, 2013).

Specific Aim 2

Means and standard deviations were calculated to assess differences in mean TRAQ scores in TAFY participants. Independent samples t-test were conducted to determine if significant differences in TRAQ scores were found when TAFY were categorized into two groups, such as whether or not they used ED services in the last year. When participants were categorized into three groups, such as usual source of care (clinic, doctor's office, or emergency room), one-way analyses of variances were conducted to determine significance in mean TRAQ scores. All post hoc analyses were conducted using Fisher's least significant difference.

Specific Aim 3

Percentages and descriptive data on self-perception of health were first calculated. Next, Chi square analyses were conducted to determine if there were differences in HSU outcomes

when TAFY were grouped according to whether or not they perceived their health as being fair / poor or excellent / good.

Thematic Analysis

Thematic analysis was used to analyze open-ended responses provided by the TAFY participants. Thematic analysis is an independent qualitative method that is used for identifying and analyzing patterns and themes within the data (Marshall & Rossman, 2011). Themes are defined as "coherent integration of disparate pieces of data that constitute the findings" (Sandelowski & Leeman, 2012, p. 1407).

The first step in the thematic analysis process was becoming familiar with the data (Braun & Clarke, 2006). To do this, the written responses were transcribed and reread multiple times. Notes on initial ideas were taken. Next, the responses were examined individually and initial segments of data, or codes, were generated. The codes were derived from all responses in the entire data set and analyzed. Patterns within the segments of data were identified and potential themes developed. The themes were then reviewed and further analyzed to ensure that they were externally divergent and internally consistent; meaning, similar to one another but distinct from those in other categories (Marshall & Rossman, 2011). The final phase of this analysis was to interpret the themes within the context of the literature. In doing this, alternate explanations of the themes were considered. The findings were reported using direct statements (quotations) from the participants (Braun & Clark, 2006).

Chapter 5 Results

This chapter presents the results of this study, which include the sample characteristics of the transitional age foster youth (TAFY) and matched controls from the California Health Interview Survey (CHIS) dataset. This study also explored group differences in health-related outcomes per CHIS questions, mean transition readiness scores in the TAFY group, and differences between transition readiness, self-perception of health (independent variables) and health services utilization (HSU) (dependent variable*).* Within the dependent variable HSU, there are six main outcome variables in four categories: 1) emergency department (ED) use, 2) inpatient hospitalizations, 3) outpatient (usual source of care, primary care provider (PCP), preventative care), and 4) insurance status. The results of each specific aim and hypothesis were examined using independent sample t-tests, analysis of variance (ANOVA) with post-hoc analysis, or chi-square for categorical variables. The results of the TAFY groups written responses to open-ended questions to assess preparation for independent living, future goals and aspirations were analyzed for emerging themes. Lastly, a summary of the specific aims and hypothesis results will conclude this chapter.

Sample Characteristics

Two hundred and six young adults were identified as eligible to participate in this study either by active recruitment of the TAFY participants or matched controls per the CHIS dataset. Of the TAFY group, 103 young adults agreed to participate and provided written informed consent between July 2016 to December 2016 with 100% consent rate and completion of all study items. Forty youth were recruited from California Youth Connect (CYC), 21 from St. Anne's residential facility, 14 from the independent living program at EL Camino College – Compton Center, and 28 by word of mouth from other foster youth.

Transitional age Foster Youth Sample Characteristics

Demographic characteristics of the TAFY and CHIS groups are listed in Table 5-1. In the TAFY, mean age was 21 ± 2.6 with a range of 18 to 26 years. The sample was predominantly female (63%), African-American (41%), and making less than $5,000 per year (39%). Fifty percent of the TAFY sample had a high school diploma or general education diploma (GED), 24% did attend some college with 10% having a bachelor's or graduate degree. Conversely, nearly one in five participants reported not having a high school diploma or GED. Forty percent reported having unstable housing (homeless or couch surfing) with 38% having one or more child.

California Health Interview Survey Control Characteristics

The CHIS control group was matched on three levels (age, gender, and ethnicity) to the TAFY group. Homogeneity between groups was assessed using t-test, which showed no statistically significant difference on matching criteria and education (Table 5-1). However, there were differences noted between groups related to income and employment. Seventy-one percentage of the TAFY group had income less than $15,000 per year compared to 15% of the CHIS group (p <.001). Furthermore, 59% of the CHIS group were employed compared to only 38% of the TAFY group (p =.005). The majority of the CHIS group had reported stable housing (97%) with 19% having one or more child.

Table 5-1

Demographic Characteristics between Transitional Age Foster Youth and Children's Health Interview Survey Groups (N = 206)

Characteristics	n (%)		*P* value
	TAFY ***n* = 103**	**CHIS** ***n* = 103**	
Age (mean ±SD)	21±2.6	21±2.6	1.0
18-20	42 (40.8)	42 (40.8)	
21-23	33 (32)	33 (32)	
24-26	28 (27.2)	28 (27.2)	
Gender (%)			1.0
Male	38 (36.9)	38 (36.9)	
Female	65 (63.1)	65 (63.1)	
Ethnicity (%)			1.0
Black	42 (40.8)	42 (40.8)	
Hispanic	29 (28.2)	29 (28.2)	
Caucasian	15 (14.5)	15 (14.5)	
Other	17 (16.5)	17 (16.5)	
Education (%)			0.2
High School Diploma or GED	52 (50)	53 (51.5)	
No High School Diploma or GED	18 (17.5)	5 (4.9)	
Some College or Higher	33 (32)	44 (42.7)	
Income (%)			**<.001**
< $5,000 per year	40 (39)	5 (1)	
$5,000 - $14,999 per year	33 (32)	14 (14)	
Over $15,000	30 (29)	78 (76)	
Employed [Yes] (%)	40 (38)	61 (59)	**.005**
Children [Yes] (%)	39 (38)	20 (19)	**.005**
Housing Status (%)			**<.001**
Stable Housing*	31 (30)	100 (97)	
Unstable Housing†	42 (40)	3 (3)	
State Provided Housing‡	31 (30)	0 (0)	

SD = Standard Deviation; GED = general education diploma, TAFY = Transitional Age Foster Youth; CHIS = California Health Interview Survey; *Stable Housing = dorms, renting an apartment or house, living with biological family; †Unstable Housing = Homeless or Couch Surfing; ‡State Provided Housing = Transitional Living Home or Group Home. Group differences were assessed with independent t-test for continuous variables and Chi-square for all categorical variables; statistical significance $p < .05$

Foster Care Related Characteristics of the Transitional Age Foster Youth

Foster care characteristics of the TAFY sample are reported in Table 5-2. All TAFY participants self-reported having spent at least 1 consecutive year in foster care with a mean of 4.1 ± 1.1 years and 51% emancipated at age 18 (range 18 – 21) with a mean of 19.2 ± 1.4 years. Half of the TAFY group reported being in foster care for seven or more years with 34% reporting seven or more different foster care placements. However, 60% of the sample did report attending one or more independent living program classes during the process of transitioning from foster care to independent living.

Table 5-2

Foster Care Characteristics of Transitional Age Foster Youth Group (n=103)

Characteristics	**(Mean ± SD)**	**n (%)**
Total Years in Foster care	4.1 ± 1.1	
1 to 2 Years		16 (15)
3 to 4 Years		19 (18)
5 to 6 Years		17 (16)
7 or More Years		51 (50)
Number of Foster Care Placements	3.6 ± 1.3	
1 to 2 Placements		32 (31)
3 to 4 Placements		19 (18)
5 to 6 Placements		17 (16)
7 or More		35 (34)
Age at Emancipation	19.2 ± 1.4	
18 Years Old		52 (51)
19-20 Years Old		19 (18)
21 Years old		32 (31)
Attended Independent Living Program Classes		
Did Not Attend Any Classes		41 (40)
Attended Between 1 and 3 Classes		32 (31)
Attended 4 or More Classes		30 (29)

SD = Standard Deviation

Independent Variables

Transition Readiness Assessment Questionnaire (TRAQ) Scores

The TAFY verbalized their answers to questions from the TRAQ questionnaire. Mean TRAQ scores, subscale scores, and scores based on recruitment site are listed in Table 5-3. These results show that TAFY lack transition readiness to independently manage medical or health-related issues in all subscales of the TRAQ with mean scores ranging from 3.0 – 4.6 on a scale of 1 – 5. These scores indicated that TAFY are just starting to learn or just starting to perform medication management, appointment keeping, tracking health issues, talking to providers and managing daily medications. The lowest TAFY TRAQ subscale mean scores were in the areas of managing medications (3.5 ± 1.1) and tracking health issues (3.5 ± 1.0). All mean TRAQ scores can be found on table 5-3.

The study sample was further analyzed to assess for homogeneity across the four recruitment sites compared to mean TRAQ scores (Table 5-3). This was performed using one way ANOVA with post-hoc Fisher's Least Significant Difference (LSD). The *word of mouth* group had the lowest mean total TRAQ scores (3.1 ± 1.1) compared to all other sites (CYC=3.8 ± 0.8; St. Anne =3.9 ± 0.7; ILP=4.02 ± 0.6). In post-hoc analysis, *word of mouth* was the only site to show a statistically significant difference between sites (CYC, p=.001; St. Anne, p=.002; ILP, p=.003) and mean TRAQ scores.

Table 5-3

Transitional Age Foster Youth Transition Readiness Assessment Questionnaire Scores by Group and Recruitment Site (n=103)

		Recruitment Site				
TRAQ Subscales	**Total TAFY (n=103)**	**CYC (n=40)**	**St. Anne (n=21)**	**ILP (n=14)**	**WOM (n=28)**	***P* Value**
			Mean ± SD			
Managing Medications	3.5 ± 1.1	3.6 ± 1.1	3.6 ± 1.1	4.2 ± 0.6	3.0 ± 1.1	**.009**
Appointment Keeping	3.7 ± 1.0	3.7 ± 1.0	4.1 ± 0.9	4.1 ± 0.8	3.2 ± 1.1	**.012**
Tracking Health Issues	3.5 ± 1.0	3.7 ± 1.0	3.5 ± 1.0	3.9 ± 0.7	3.1 ± 1.1	.057
Talking with Providers	3.9 ± 1.1	4.3 ± 0.9	4.2 ± 1.0	3.7 ± 1.0	3.4 ± 1.5	**.019**
Managing Daily Activities	3.8 ± 1.2	4.1 ± 1.0	4.3 ± 0.8	4.2 ± 0.8	3.1 ± 1.4	**<.001**
Total Score	3.7 ± 0.9	3.8 ± 0.8	3.9 ± 0.7	4.0 ± 0.6	3.1 ± 1.1	**.002**

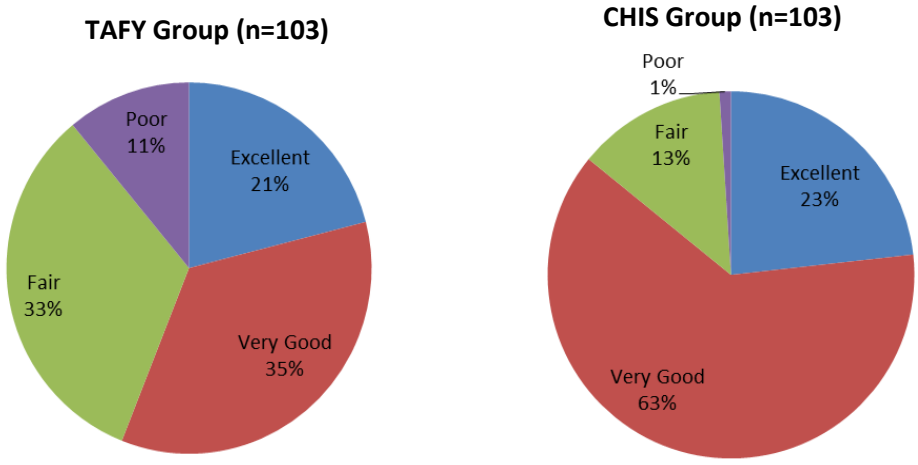
SD= standard deviation; TAFY = transitional age foster youth; TRAQ = transition readiness assessment questionnaire, scale 1-5 with higher numbers indicating higher levels of transition readiness; CYC=California Youth Connect; St. Anne's residential facility, ILP = independent living program at EL Camino College – Compton Center, WOM=word of mouth. Anova were used to assess subscale scores compared to different sites; statistical significance $p < .05$

Self-Perception of Health

Self-perception of health between TAFY and controls are shown in Figure 5-1. Fifty-six percent of the TAFY group rated their health as excellent or very good while 44% rated their health as fair to poor. Conversely, the majority of the controls (85%) rated their health as excellent or very good with only 15% as fair or poor. The results showed a statistically significant difference between TAFY and CHIS controls related to self-perception of health (p <.001) (Table 5-4).

Figure 5-1

Self-Perception of Health between Transitional Age Foster Youth and California Health Interview Survey Controls (n=206)



TAFY= Transitional Age Foster Youth; CHIS=California Health Interview Survey

Physical and Mental Health

Physical and mental health between TAFY and CHIS controls are listed in Table 5-4. Questions from the CHIS survey and demographic information form were used to assess these variables. The TAFY group reported statistically significant differences in symptoms or feelings of hopelessness (p <.001), depression (p =.007) and worthlessness (p <.001) compared to CHIS controls. In addition, more TAFY participants were taking an antidepressant compared to CHIS controls (21% vs. 12%; p =.034), respectively.

This study also found that 55% of the TAFY had one or more medical conditions compared to 30% of the CHIS group (p <.001). The most commonly reported medical conditions from the TAFY group were related to mental health [anxiety (14%) and depression (12%)] compared to physical health [asthma (11%), hypertension (3%)]. More TAFY compared to CHIS participants reported taking medications (51% vs. 26%; p <.001) and have a disability causing

inability to work (10% vs. 4%; p =.037). Overall, both physical and mental health appeared to be worse in TAFY youth compared to controls.

Health Beliefs

A person's health behavior is often an expression of their health beliefs. In this study, health beliefs were assess using CHIS questions related to contacting the doctor's office with health-related questions, making doctor appointment, and if the person felt listened to and received clear information about their health. There were only two statistically significant differences in health beliefs between groups. The TAFY group did not feel listened to by the provider (35% vs. 41%; p <.001) and were less likely to attempt to get a doctor's appointment within two days (26% vs. 40%; p=.002) compared to CHIS controls, respectively. Many health beliefs that were not statistically significant between groups reflect common difficulties faced by young adults who first interact with the health care system and providers (e.g. contact doctor's office with questions, difficult time understanding doctors, and always able to get appointment within 2 days, etc.) (Table 5-4).

Dependent Variable

Health Services Utilization

Health services utilization between TAFY compared to CHIS controls is listed in Table 5-4. Emergency department use within the last 12 months were significantly higher in TAFY compared to controls (42% vs. 17%; p <.001), respectively. In addition, Medi-Cal coverage was higher in TAFY compared to controls (81% vs. 29%; p <.001), respectively.

Hospitalization was previously hypothesized as a variable of interest in this study. However, there were not enough TAFY hospitalizations (10%) to conduct meaningful statistical

analyses [hypothesis 2c was removed from the study]. Furthermore, having a primary care doctor (p =.335) and receiving regular check-ups (p =.154) was not statistically significant between TAFY and CHIS controls. These findings coincide with 55% of TAFY having health conditions that require or have mandated medical follow-up.

Specific Aim 1

Aim 1: *To compare* health services utilization (HSU; primary care provider [PCP], preventative care, ED use, hospitalizations, coverage by Medi-Cal, and insurance status), self-reported health, and adult functioning outcomes (housing status, attainment of high school diploma, income, and parenting status) among young adults ages 18-26 *with and without* a history of foster care. Descriptive statistics and cross tabulation analysis were computed to compare differences on the dependent variables HSU and independent variables of self-reported health status, and adult functioning outcomes between TAFY and CHIS groups (see Tables 5-1, 5-4, and Figure 5-1).

Health Services Utilization. Health services utilization was assessed using ED services with a higher usage identified among TAFY compared to controls (42% vs. 17%; p<.001), respectively. In addition, Medi-Cal insurance use was significantly higher in TAFY compared to controls (81% vs. 29%; p <.001) and of the total participants who reported having a place to go for usual source of care, more TAFY reported using the ED as their usual source of care compared to controls (24% vs. 4%; p<.001). However, when it came to preventative care, hospitalizations, and PCP status, there was no statistically significant difference found between the groups.

Table 5-4

Physical/Mental Health, Health Beliefs/Behaviors, Self-Perception of Health and Health Services Utilization between Transitional Age Foster Youth and California Health Interview Survey Groups (N = 206)

	n (%)		
CHIS Survey Questions	**TAFY *n* = 103**	**CHIS *n* = 103**	***P* value**
Mental Health			
Feelings of Hopelessness [Last 30 days]	66 (64)	35 (34)	**<.001**
Feelings of Depression [Last 30 days]	52 (50)	33 (32)	**.007**
Feelings of Worthlessness [Last 30 days]	52 (50)	13 (13)	**<.001**
Taking an Antidepressant [Yes]	22 (21)	12 (12)	**.034**
Anxiety Diagnosis	14 (14)	N/A	
Depression Diagnosis	12 (12)	N/A	
Bipolar	5 (5)	N/A	
Physical Health			
Has a Medical Condition [Yes]	54 (55)	31(30)	**<.001**
Asthma	11 (11)	N/A	
Hypertension	3 (3)	N/A	
Impairment – not able to work last year [Yes]	10 (10)	4 (4)	**.037**
Taking medications [Yes]*	52 (51)	27(26)	**<.001**
Self-Perception of Health [Fair or Poor]	45 (44)	15(15)	**<.001**
Health Beliefs / Behaviors			
Contact Doctor's Office with Question [Yes]	25 (24)	28 (27)	.060
Always Felt Listened to by Medical Provider	36 (35)	42 (41)	**<.001**
Difficult time understanding Doctor [Yes]	28 (28)	22 (21)	.513
Always Received Clear Health Instructions	41 (39)	41 (39)	.060
Attempted to get Doctor's appt. within 2 days	27 (26)	41(40)	**.002**
Always able to get appt. within 2 days	6 (6)	6 (6)	.414
Health Services Utilization			
Has a Primary Care Provider [Yes]	64 (62)	50 (70)	.330
Received Check-Up [Last 12 months]	71 (70)	62 (61)	.154
ED Visits [Last 12 months]	43 (42)	17 (17)	**<.001**
Admitted to the Hospital [Last 12 months]	10 (10)	8 (7)	.806
Covered by Medi-Cal [Yes]	83(81)	30 (29)	**<.001**
Uninsured Anytime Last 12 months	32 (31)	19 (18)	**.002**
Usual Source of Care [ED]	25(24)	4(4)	**<.001**

N/A = not applicable (not a question in the CHIS dataset); * includes over the counter medications and vitamin supplements. TAFY= Transitional Age Foster Youth; CHIS=California

Health Interview Survey. Group differences assess using Chi-square; statistical significance $p<0.05$

Self-reported Health Status. Self-perception of health was also statistically significant between TAFY and CHIS controls ($p<.001$). Fifty-six percent of the TAFY group rated their health as very good to excellent compared to 83% of the CHIS group. Youth without a history of foster care showed better mental health by reporting less symptom of feeling of depression ($p<.001$), worthlessness ($p<.001$), or hopelessness ($p<.001$).

Adult Functional Outcomes. Only 30% of TAFY reported living in stable housing which is defined as dorms, renting an apartment or house, or living with biological family, compared to 97% of CHIS controls ($p<.001$). Approximately 50% of both TAFY and CHIS groups had attained a high school diploma or GED ($p=0.2$). However, there was a statistically significant difference related to income (greater than $15,000) between the TAFY and CHIS groups (29% vs. 76%; $p<.001$). In addition, there was a statistically significant difference between parenting status; 38% of the TAFY reported having one or more child compared to 19% in CHIS group ($p=.005$). Overall, there were statistically significant differences between the CHIS and TAFY groups related to achievement of adult functional outcomes except for high school diploma or GED.

Hypothesis.

Hypothesis 1: Youth without a history of foster care would demonstrate more favorable health-related and adult functioning outcomes than youth with a history of foster care.

Hypothesis Results: Youth without a history of foster demonstrated a lower ED use, higher self-perceived health, lower Medi-Cal use, and lower mental health-related symptoms compared to youth with a history of foster care. Youth with a history of foster care have lower

annual incomes, higher rates of pregnancy, and higher rates of unstable housing. These results suggest that youth without a history of foster care demonstrated more favorable HSU and adult functioning related outcomes than youth with a history for foster care, which support the hypothesis for specific aim # 1.

Specific Aim 2

Aim 2. *To determine* the difference between transition readiness scores and HSU among TAFY 18-26 years of age. HSU incorporates: 1) usual source of care; 2) emergency room use; 3) PCP status; 4) preventative care status; and 5) insurance status.

Descriptive statistics and independent sample t-test were used to assess differences between transition readiness scores, demographic and foster care characteristics, and HSU variables in the TAFY group. Usual Source of care had three groups: doctor's office, clinic, and ED. As such, a one-way ANOVA was conducted to determine if differences existed in transition readiness when TAFY were grouped according to usual source of care. A post hoc analysis using Fisher's Least Significant Difference (LSD) was also performed to determine where the differences occurred and to reduce the likelihood of a Type I error.

Mean Transition Readiness Scores among Transitional Age Foster Youth

The TAFY group were asked to respond to each question on the TRAQ with a number from 1 ("I do not know how to do this") to 5 ("Yes, I always do this when I need to"). The subscales scores and total score was determined by calculating the average score across each subscale item and all items on the questionnaire. The total mean TRAQ scores ranged from 1.3-4.9 with a mean score of 3.71 ± .91. The lowest scored subscales were tracking health issues and

managing medications. The mean TAFY TRAQ subscales and total scores are listed in Table 5-3.

Significant differences in mean TRAQ scores were detected when grouped according to demographics and foster care history in Table 5-5. For example, female TAFY participants demonstrated statistically significant higher mean TRAQ scores (3.9) than males (3.4; p=.015). Furthermore, there were statistically significant higher TRAQ scores among TAFY who delayed emancipation until 21 years old (p =.05), attended college (p=.02), remained in foster care for four years or less (p < .001), had four or less foster care placements (p = .05), and attended one or more independent living program classes (p<.001). There was no statistically significant differences in TRAQ scores were detected when TAFY were grouped according to parenting status, housing status, employment status, or income (Table 5-5).

Differences in Transition Readiness Scores among Transitional Age Foster Youth Grouped According to Health Services Utilization Outcome. Independent sample t-tests were conducted to compare TRAQ scores in TAFY who were grouped according to PCP status, preventative care use, insurance status, and ED use (Table 5-6). The results showed statistically significant differences found in mean TRAQ scores between all TAFY grouped according to HSU. Youth who demonstrated more favorable HSU outcomes had higher mean TRAQ scores than youth who demonstrated unfavorable HSU outcomes. For example, TAFY who reported using the ED within the last 12 months had a mean TRAQ score of 3.3 while TAFY who reported not using the ED had a mean score of 4.0 (p < .001). Thus, youth who used ED services within the last 12 months demonstrated lower transition readiness.

Table 5-5

Mean Transition Readiness Scores among Transitional Age Foster Youth Grouped by Demographics and Foster Care History (n=103)

Characteristics	N (%)	Mean ± SD TRAQ Score	P Value
Gender			**.015**
Female	66 (64)	3.9 ± 0.7	
Male	38 (37)	3.4 ± 1.1	
Ethnicity			.09
Black	42 (41)	3.9 ± 0.8	
Not Black	61 (59)	3.6 ± 1.0	
Age			**.05**
21 Years or Younger	55 (53)	3.5 ± 1.0	
22 Years or Older	49 (48)	4.0 ± 0.8	
Parenting Status			.95
No Children	65 (63)	3.7 ± 0.9	
One or More Children	39 (38)	3.7 ± 0.9	
Housing status			.39
Stable Housing	73 (71)	3.8 ± 0.9	
Unstable Housing	31 (30)	3.6 ± 1.0	
Education			**.02**
Attended College	34 (33)	4.0 ± 0.7	
Has not Attended College	70 (68)	3.6 ± 1.0	
Employment Status			.30
Employed	40 (39)	3.8 ± 0.8	
Not Employed	57 (55)	3.6 ± 1.0	
Yearly Income			.15
$0 – 14,999	74 (72)	3.6 ± 1.0	
$15,000 +	30 (39)	3.9 ± 0.8	
Total Years in Foster Care			**< .001**
4 Years or Less	35 (34)	4.1 ± 0.5	
5 Years or More	69 (67)	3.5 ± 1.0	
Number of Foster Care Placements			**.05**
4 Placements or Less	51 (50)	4.0 ± 0.7	
5 Placements or More	55 (53)	3.5 ± 1.0	
Age at Emancipation			**.05**
21 Years Old	33 (32)	4.1 ± 0.8	
20 Years Old or Younger	71 (69)	3.6 ± 0.9	
Attended Independent Living Program Classes			**<.001**
Attended 1 or More Classes	62 (60)	4.0 ± 0.6	
Did Not Attend any Classes	42 (41)	3.3 ± 1.0	

Table 5-6

Differences in Mean Transition Readiness Scores According to Health Services Utilization Outcomes (n=103)

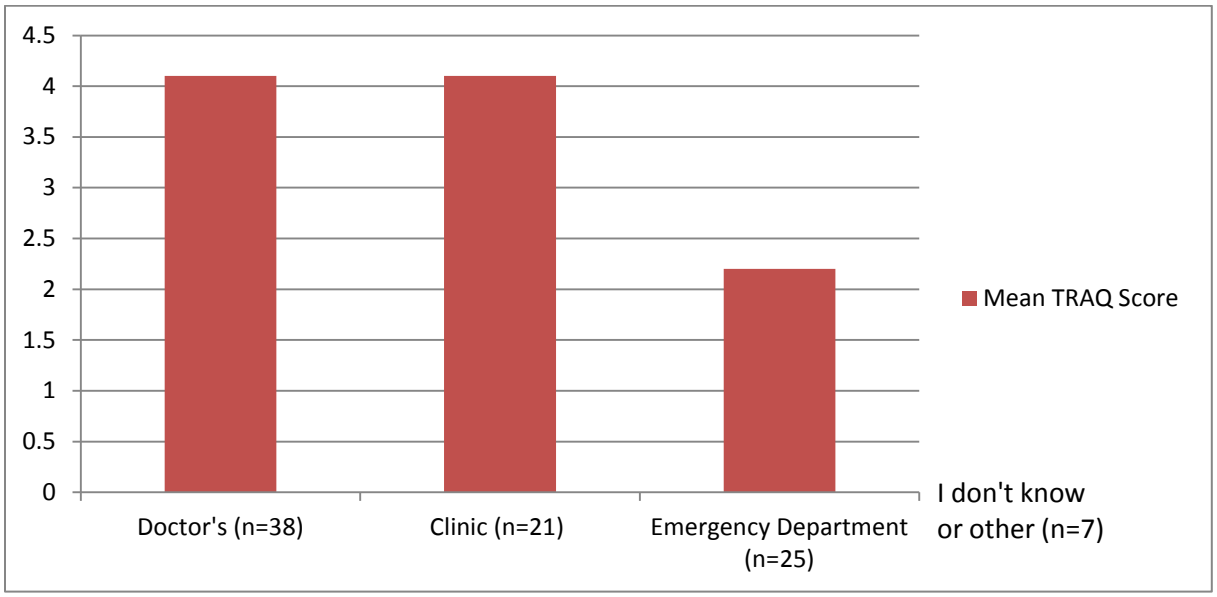
Health Services Utilization Outcome	n(%)	Mean ± SD TRAQ scores	P Value
Has a Primary Care Provider	64 (62)	4.1 ± 0.5	**<.001**
Does not have a Primary Care Provider	40 (39)	3.1 ± 1.0	
Last Checkup < 12 Months	71 (68)	4.0 ± 0.7	**<.001**
Last Checkup > 12 Months	33 (32)	3.1 ± 1.0	
No Lapse in Coverage	64 (62)	4.0 ± 0.7	**<.001**
Uninsured in the Last 12 Months	33 (32)	3.2 ± 1.1	
Last ED use > 12 Months ago	61 (59)	4.0 ± 0.7	**< .001**
Last ED use < 12 Months ago	43 (41)	3.3 ± 1.0	

ED= Emergency department Use; TRAQ=transition readiness assessment questionnaire, scale range 1 to 5 with higher numbers indicating better transition readiness; SD=Standard deviation; differences by HSU assessed using T-test; statistical significance $p < .05$

Differences in Transition Readiness Scores among Transitional Age Foster Youth Grouped According to Usual Source of Care. A one-way between subjects ANOVA was conducted to compare the differences in mean TRAQ scores between TAFY grouped according to their usual source of care. Thirty-one percent of the TAFY participants reported the ED as their usual source of care while 57% reporting going to a doctor's office or clinic. There was a statistically significant difference found in mean TRAQ scores between the TAFY groups (*p* <.001). Youth who reported their usual source of care as being the doctor's office or clinic had higher mean TRAQ scores than youth who reported their usual source of care as the ED (Figure 5-2).

Figure 5-2

Mean Transition Readiness Scores among Transitional Age Foster Youth Grouped According to Usual Source of Care (n=91)



Hypotheses.

Hypothesis 2a: Transition readiness scores will be higher among TAFY who report having a primary care provider compared to TAFY who report not having a primary care provider.

Hypothesis 2b: Transition readiness scores will be lower among TAFY who report the ED use as their usual source of care compared to TAFY who report either the clinic or doctor's office as their usual source of care.

Hypotheses Results.

For Hypothesis 2a, TRAQ mean scores were significantly higher in TAFY participants who reported having a primary care provider. This finding supports the hypothesis.

For hypothesis 2b, the TRAQ mean scores were significantly lower in TAFY participants that used the ED as their usual source of medical care compared to TAFY who reported going to a doctor's officer or clinic. This finding supports the hypothesis.

Specific Aim 3

Aim 3. To explore differences in self-perception of health and HSU outcomes in TAFY.

Chi square analyses were conducted to determine if there were differences in HSU outcomes when TAFY were grouped according to whether or not their health was perceived as being fair / poor or excellent / good.

Self-perception of Health on Health Services Utilization. Self-perception of health among TAFY grouped according to health services outcomes are listed in Table 5-7. Statistically significant differences were found between the TAFY groups (fair/poor and excellent / good) and all HSU outcome measures. Of interest, 58% of TAFY who rated their health as fair / poor also reported using ED services within the last 12 months while the other 42% reported not using ED services. Furthermore, 80% percent of TAFY that reported their health as excellent or good visited a doctor's office as their usual source of care.

Hypotheses.

Hypothesis 3a: Self-perception of health will be higher in TAFY who report their usual source of care as being either a clinic or doctor's office.

Hypothesis 3b: Self-perception of health will be lower in TAFY who report using the ED within the last 12 months.

Hypotheses Results.

For Hypothesis 2a, youth grouped according to usual source of care demonstrated significant differences in perceived health. Of the TAFY who cited the ED as their usual source of care, a higher percentage perceived their health as poor or fair compared to TAFY who reported the doctor's office or clinic as their usual source of care. This finding supports the hypothesis.

For hypothesis 2b, TAFY grouped according to ED use demonstrated significant differences in perceived health. Of the TAFY who reported using ED services within the last year, a higher percentage perceived their health as poor or fair compared to TAFY who did not use ED services within the last year.

Thematic Analysis

Youth with a history of foster care were asked to respond in writing to three open-ended questions to describe TAFY preparation for independent living, future goals and aspirations. The three questions are listed below:

1. What do you think could have been done to better prepare you to manage your health independently during your transition into adulthood?

2. Where do you see yourself in five years?

3. What do you look forward to most in life?

Table 5-7

Self-perception of Health among Transitional Age Foster Youth Grouped According to Health Services Outcomes (n=103)

	Self-Perception of Health		
	Fair/Poor	**Excellent /Good**	
Health Services Outcomes	**n (%)**	**n (%)**	***P* Value**
Visited the ED Within the Last 12 months	26 (58)	16 (28)	**.05**
Did not Visit the ED Within the Last 12 Months	19 (42)	42 (72)	
ED as Usual Source of Care	15 (45)	10 (20)	**.001**
Doctor's Office or Clinic as Usual Source of Care	18 (55)	41 (80)	
Does not Have a Primary Care Provider	26 (58)	13 (22)	**.002**
Has a Primary Care Provider	19 (42)	45 (78)	
Last Checkup > 12 Months Ago	18 (41)	14 (24)	**.05**
Last Checkup < 1 Year Ago	26 (59)	45 (76)	
Uninsured Within the Last 12 Months	24 (53)	15 (26)	**.006**
No Lapse in Coverage	21(47)	43 (74)	

Group differences were assessed using Chi-square analysis; statistical significance $p < .05$

The responses were transcribed and reviewed to increase the researcher's familiarity with the data. Next, the data were systematically coded. This process entailed first labeling (coding) the data and then grouping similar data together to allow for synthesis and analysis. Three key themes emerged from the data: 1) *Need for Support* during the transition process, 2) *Foreseeing Success*, and 3) *Desiring Family*. Each theme will be discussed in detail below. Selected comments from each theme can be found on Table 5- 8.

Need for Support

The need for support during the transition to adulthood was identified by many of the youth in the study and quickly emerged as the first theme in the analysis. This theme included comments that identified a need for help or assistance to get training, guidance, information, and/or resources. When TAFY were asked what could have been done to better prepare them to manage their health independently during their transition to adulthood, the majority identified a need for guidance and support. Many also specified their need for training on life skills related to topics such as health management, how to apply for health insurance, how to keep track of medications, and stress management.

Foreseeing Success

Foreseeing success in the future was another common theme derived from various statements. When asked to write down where they saw themselves in five years, many responses focused specifically on having money such as, *"being wealthy,"* or *"having money."* Youth perceived financial success as being an integral part of their independence. Participants described looking forward to things such as *"having control over my own life,"* and *"making a home for myself, a place that is fully furnished and decorated by me."* Several youth specified that they expected to be employed and have a career which they saw as indicators of success. However, a few had negative expectations, such as one youth who used the negative one-word response to express that they expected to be *"dead"*.

Desiring Family

The last theme that was derived from the data was the desire to be in or have a family. When asked what they looked forward to most in life, many participants gave answers that

Table 5-8. Theme, Subthemes, and Selected Comments from Thematic Analysis

	N (%)
Theme: Need for Support	**71 (69)**
Subtheme: Where? Who? What?	**44 (43)**
"I had a lack of knowledge. If I knew where to go or who to ask or even what to ask, that would have been great."	
Teaching me basic skills about my body and taking care of it would have helped."	
Subtheme: Insurance and Benefits	**27 (26)**
"How to get insurance"	
"Having an ILP [Independent Living Program] coordinator tell me everything about health and insurance"	
Theme: Foreseeing Success	**97 (93)**
Subtheme: Having Money	**21 (20)**
"being wealthy"	
"having money"	
Subtheme: Being Employed or in School	**52 (50)**
"As a cop or in school to be a forensic scientist"	
"Being a nurse"	
Being Autonomous	**24 (23)**
"having control over my own life"	
"Running my own show so to speak"	
Theme: Desiring Family	**40 (39)**
"Getting married to someone who loves me the most"	
"Family because it's something I never had"	
"Watching my baby grow"	
Other	**36(35)**
Satisfied with Transition Preparation	**21(20)**
"Nothing. It was fine, my foster parents helped me	
"Good. Nothing more"	
Did not Feel They Needed Assistance	**11(11)**
"I am healthy, don't need help"	
"I was ready to leave foster care so I did not care"	
Negative Outlook	**4(4)**
"Dead"	
"In Jail"	

included comments on family such as: *"in my own home with my own happy family,"* or *"having a family and married."* The desire to have a family was sometimes expressed in relation to their past experiences, both the negative and the positive. A few youth responded that they looked forward to: *"raising my child better than how I was raised"* or *"not being a bad parent like my dad."* The lack of a stable family life for TAFY resonated in their written words as they reflected on their future goals and aspirations. Overall, TAFY expressed a strong desire to be a part of or have their own family.

Chapter Summary

This chapter presented the findings for this study. Hypotheses were tested using independent sample *t* – tests, ANOVA, and Chi square analyses with transition readiness as an independent variable and five dependent variables associated with HSU.

Study Aim 1 sought to compare health services utilization (HSU; primary care provider [PCP], preventative care, ED use, hospitalizations, Medi-Cal, and insurance status), self-reported health, and adult functioning outcomes (housing status, attainment of high school diploma, income, and parenting status) among young adults ages 18-26 with and without a history of foster care. Hypothesis 1 was supported that youth without a history of foster demonstrated lower ED and Medi-Cal use, higher self-reported health, and better adult functioning outcomes compared to youth with a history of foster care. These results suggest that youth without a history of foster care demonstrated more favorable health related outcomes.

Study Aim 2 sought to explore the differences between transition readiness scores and HSU outcomes among TAFY. Hypothesis 2a was supported by the TRAQ mean scores were significantly higher in TAFY participants that use a primary care provider as their usual source

of care compared to not having a primary care provider. Hypothesis 2b was also supported by the TRAQ mean scores were significantly lower in TAFY participants that used the ED as their usual source of medical care compared to not using the ED.

Study Aim 3 sought to explore the difference between self-perception of health and HSU outcomes among TAFY. Hypothesis 3 was supported that negative self-perceptions of health would be significantly associated with less favorable HSU outcomes among TAFY. Youth who perceived their health as excellent or very good were more likely to demonstrate favorable HSU behaviors then TAFY who perceived their health as being poor.

Lastly, TAFY were asked to write responses to three of open-ended questions regarding their transition experience or preparation for independent living, future goals and aspirations. Thematic analysis revealed three major themes from the responses: 1) *Support* needed in the transition process, 2) the desire for *Success or financial wealth*, and 3) to be part of a *Family or to have their own*.

Discussion Chapter 6

This study is the first of its kind to examine health services utilization (HSU), self-perception of health and transition readiness among transitional age foster youth (TAFY) compared to age, gender, and ethnicity matched youth without a history of foster care. The main findings identified that TAFY with higher transition readiness and self-perception of health utilize health services in a more favorable manner than TAFY who display less readiness and lower perceived health. Furthermore, TAFY had worse health-related outcomes when compared to youth without a history of foster care.

This chapter is organized into six discussion sections: 1) TAFY sample characteristics compared to California Health Interview Survey (CHIS) youth without a history of foster care; 2) HSU; 3) self-perception of health; 4) transition readiness in the TAFY group; 5) physical/ mental health and health beliefs; and 6) foster youth written narratives. Of note, these finding should be viewed in light of two important legislative changes prior to this study: The Affordable Care Act, which allows foster youth to remain on Medi-cal until their 26th birthday (2010); and Assembly Bill 12, which offers youth the option to extend foster care until their 21st birthday (2012). Lastly, this chapter culminates with the study limitations, clinical implications, and future research.

Transitional Age Foster Youth in Los Angeles

The TAFY participants in this study were predominately African-American or Hispanic, with a high school or general education degree (GED). These findings were expected as there is typically an overrepresentation of African-Americans in foster care. While African-American children comprise only 15% of the general population, they make up nearly a quarter of the

foster care population (Summers, 2015). Other large scale TAFY studies have also found high rates of African-American TAFY from low socioeconomic backgrounds. (Courtney et al., 2011; Courtney et al., 2016; Pecora et al., 2005). There was also a large cohort of Hispanics in the current study; however, this is likely due to the demographic makeup of Los Angeles County, which is approximately 50% Hispanic (United States [US] Census Bureau, 2014).

Furthermore, the participants in the current study were found to be mostly unemployed with an income of less than $15,000 per year, similar to TAFY from other studies (Courtney et al., 2011; Courtney et al., 2016). In terms of housing, many of the participants in this study reported living in unstable or state provided housing. This was expected, as difficulty establishing housing after emancipation is a common problem in this population (Bender, Yang, Ferguson, & Thompson, 2015). Data suggest that many TAFY experience periods of homelessness and often have to "couch surf" to survive (Dworsky, Napolitano, & Courtney, 2013). Some TAFY also live in state provided transitional living housing until they are able to afford to live independently (Curry & Abrams, 2105). In this study, the high number of youth who reported living in state provided housing is likely due to one of the recruitment sites being a residential center provided by the state.

This study had a higher than expected number of females. This was expected as one of the recruitment sites, St. Anne's, houses pregnant and parenting female TAFY. Recruitment of TAFY is difficult as they are a transient population who rarely frequent one particular establishment (Courtney et al., 2016). While many of the sentinel TAFY studies have identified participants using case records (Courtney et al., 2011; Courtney et al., 2016; Pecora et al., 2005), sites that cater exclusively to transitional parenting females have seldom been used. The

participants in this study were also better educated than samples reported in the three largest TAFY studies to date. They demonstrated higher rates of o college education than has been previously noted in other large TAFY studies (Courtney et al., 2011; Courtney et al., 2016; Pecora et al., 2005). This could be related to the three recruitment sites which provide transition support and mentorship to help youth meet educational goals. By contrast, recruitment sites for studies conducted by Courtney et al., 2011, Courtney et al., 2016, and Pecora et al., 2005 were mostly foster care agencies that identified eligible youth through their foster care case files.

Compared to the general population of young adults in the United States, the TAFY in this study were less educated, had lower incomes, and were more likely to be an ethnic minority. Additionally, nearly 60% of young adults in the US report being employed at least part time while only 40% of the TAFY reported working (US Census Bureau, 2014). These findings support the notion that TAFY have difficulty securing employment after emancipation (Okpych & Courtney, 2014). Additionally, TAFY differ greatly from the general population of young adults in terms of housing. Half of young adults in the US live with their parents (US Census Bureau, 2014), while only 10% of TAFY in the study reported the same.

Foster Care Characteristics

The TAFY participants reported having had an average of four different placements while in foster care. These findings are consistent with data that suggest 67% of youth in foster care for 24 months or longer experience three or more placements (U.S. Department of Health and Human Services [HHS], 2012). Another study found that the number of placements in foster care among TAFY was almost seven (Pecora et al., 2005). Factors associated with placement instability are multifactorial and include behavioral problems (Jones & Wells, 2008), mental

health problems (Koh, Rolock, Cross, & Manning, 2014), poor academic performance (Pecora & Huston, 2008), and placement type (Preston, Yates, & Moss, 2012).

Duration in foster care was also found to be consistent with previous data. For example, the majority of TAFY in this study reported having spent seven or more years in foster care; similarly, two other TAFY studies identified mean length of time spent in foster care between five to seven years (Pecora et al., 2005; Rock, Michelson, Thomson, & Day, 2013). Although half of all children who are placed into foster care are reunited with their family of origin within two years and another 20% are adopted, one out of ten remain in foster care until old enough to emancipate (HHS, 2015). These findings highlight the difficulties that youth experience while in foster care. More research is needed to explore the effects of prolonged foster care, placement instability, and how this impacts transition readiness and HSU in this population.

Health Services Utilization

When participants in the study were grouped according to foster care history, TAFY demonstrated worse HSU outcomes than the control group. Foster youth had higher emergency department (ED) service use and were more likely to use the ED as their source for primary care. A few studies have demonstrated poor HSU patterns in TAFY compared to controls (Courtney et al., 2011; Courtney et al., 2016; Pecora et al, 2005). One study investigated ED use in youth still in foster care and found increased use among adolescent foster youth compared to their Medicaid-eligible peers, with nearly double the rate of ED visits in the adolescent age group (Rubin, Allessandrini, Feudtner, Localio, and Hadley, 2004). The authors found that a large portion of foster youth used the ED for ambulatory care services and that there was a direct correlation between foster care placement changes and ED use; most likely a reflection of new

foster parents not yet establishing a PCP for the child (Rubin et al., 2004). However, this research study provides insight into understanding additional aspects to HSU other than ED use (e.g., usual source of care, primary care provider, etc.) in emancipated foster youth.

One possible explanation for increased ED use among TAFY in this study could be that African-Americans from low socioeconomic backgrounds typically have worse health and related outcomes compared to the general population (HHS, 2012). Despite our study matching processes with the control sample in terms of age, gender and ethnicity, youth with a history of foster care still demonstrated worse health service use. These finding suggest that having a history of foster care is associated with worse HSU behaviors. Another possible explanation why TAFY have difficulty utilizing health services appropriately could be due to competing needs such as food and shelter. For example, emancipated foster youth who experience housing instability may have a harder time managing certain aspects of their health due to the desire to obtain stable housing being a more *competing need* or priority. Future studies are needed to determine the impact of competing needs such as housing on the health and related outcomes of TAFY.

Qualitative data suggest there are multiple reasons why TAFY have difficulty using certain health services appropriately including lack of clinics, difficulty obtaining insurance, lack of support, and long wait times (Hudson et al., 2010). Youth in the current study commented mostly about the lack of resources and support as barriers to managing their health independently. This is likely because TAFY were only asked to respond to one open ended question regarding managing their health as opposed to participating in a focus group and being allowed to speak freely. Other studies suggest that discrimination (Hudson et al., 2010) and

provider mistrust (Yen, Hammond, & Kushel, 2009) were important factors contributing to poor HSU in TAFY.

An interesting finding in this study was a significantly higher percentage of TAFY reported receiving a checkup within the last 12 months when compared to young adults without a history of foster care. Using comparison data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health), Courtney et al. (2011) found no significant difference in preventative care between TAFY and young adults in the general population. A more recent study of TAFY in California found that 63% of participants reported having has a physical exam (Courtney et al., 2016), similar to the rates reported in the general population (Khera, Jain, Lodha, & Ramakrishnan, 2014). Our findings suggest that TAFY received preventative care more often than what has been reported among similar foster youth. One possible explanation could be that most TAFY were recruited from organizations which assist youth in managing their health care needs. While it is ultimately the youth's responsibility to get a checkup, case workers and mentors provide reminders and help them navigate the healthcare system. By contrast, the aforementioned studies used case records to identify participants. These youth may or may not have been receiving transition related services, which may explain why they were less likely to receive timely checkups.

An important part of HSU is if the individual has health insurance. In our study, the majority of TAFY were covered by Medi-Cal which could also explain the higher percentage receiving medical checkups. Young adults with a history of foster care are more likely to be covered by Medicaid than young adults in the general population (U.S. Census Bureau, 2014). This is likely due to data that suggest that a higher percentage of young adults without foster care

report having employer provided insurance compared to TAFY (Courtney et al., 2016). Additionally, TAFY are less likely to be covered under their parents' health insurance plan (Courtney et al., 2016; U.S. Census Bureau, 2014). Despite a large percentage of TAFY in our study being covered by Medi-Cal, many had reported periods of lapses in insurance coverage which could be related to competing needs and being unaware of their eligibility (Kruszka, Lindell, Killion, & Criss, 2012).

Self-Perception of Health

This study also examined self-perception of health and its relationship to HSU. Perceived health was found to be higher in TAFY who demonstrated better HSU outcomes. Conversely, TAFY with lower perceived health had higher ED usage and lower rates of preventative care. These findings were as predicted in the Behavioral Model for Vulnerable Populations (Gelberg, Andersen, & Leake, 2000), which was used to guide this study. This model categorizes suggests that perceived need contributes to HSU among vulnerable populations. These findings highlight the importance of evaluating perceived health in TAFY to improve health and related outcomes.

There have been a handful of studies that have compared perceived health in young adults with and without a history of foster care. These studies consistently demonstrate that TAFY are two to three times more likely to perceive their health as poor or fair when compared to a nationally representative sample of young adults without a history of foster care (Courtney et al., 2011; Courtney et al., 2016). Another study reported that adults between the ages of 18 and 65 with a history of foster care have worse perceived health than adults in the same age range without a history of foster care (Zlotnik, Tam, & Soman, 2012). Poor health of children who enter foster care coupled with placement instability and uncoordinated care are speculated

reasons as to why TAFY perceive their health in a more negative manner than young adults without a history of foster care (Zlotnik et al., 2012).

Perceived health is an important predictor of morbidity and mortality in health outcomes research. Individuals who perceive their health as poor have a 2-fold higher mortality risk compared with persons who perceived their health as excellent (DeSalvo, Bloser, Reynolds, He, & Muntner, 2006). Thus, TAFY who perceive their health as poor may be at higher risk for mortality than TAFY who perceive their health otherwise. Furthermore, findings from this study support existing data which suggest that poor perceived health is related to unfavorable HSU in vulnerable populations (DeSalvo et al., 2009; Gulliver, Griffiths, & Christensen, 2010). Perceived health is a subjective appraisal of one's health that can be influenced by outside factors such as ethnicity and socioeconomic status (DeSalvo et al., 2009). The majority of the TAFY in this study were ethnic minorities, living in unstable housing, unemployed, with low yearly income, suggesting that their subjective appraisal of health may be influenced by other factors. Other studies have likewise found that individuals from these backgrounds tend to have lower rates of perceived health compared to the general population (Gulliver et al., 2010).

Transition Readiness and Health Services Utilization

Differences in transition readiness were found when foster youth were grouped according to demographics and foster care history. Higher levels of transition readiness were found among TAFY that emancipated at 21 years of age compared to TAFY who emancipated earlier. These findings suggest that delaying emancipation may have a protective effect on TAFY. Other studies suggest that TAFY who remain in foster care until 21 have better educational outcomes (Courtney et al., 2016), are less likely to become incarcerated (Lee, Courtney, & Tajima, 2014),

and are more likely to receive social support and have stable housing (Courtney et al., 2016) than youth who emancipate earlier. These findings provide support for California Assembly Bill 12 which was passed in 2012 and gave foster youth the option to remain in foster care until their 21st birthday. However, despite this option, the average age of emancipation in the current study was 19 years. This is an interesting finding as current data suggest that the vast majority of youth view extending foster care as a viable option to help meet their educational and housing goals (Courtney et al., 2016). Of note, some of the older participants in the study may have emancipated early because they were either not eligible or unaware of the option to remain in foster care past their 18th birthday. Future research is needed to explore whether delaying emancipation will promote transition readiness and improve health related outcomes in this population. Qualitative data are also needed to further explore foster youth's perceptions of delaying emancipation.

Another important finding in this study was that TAFY with higher levels of transition readiness demonstrated better health services use than TAFY with lower levels of transition readiness. Furthermore, the lowest mean transition readiness scores were identified in the subscales of *Managing Medications* and *Talking with Providers*. This could be related to foster youth not having enough opportunity to practice in these areas with a consistent health care provider before emancipation (Greenen & Powers, 2007).

This study is also the first to assess transition readiness in TAFY utilizing the Transition Readiness Assessment Questionnaire (TRAQ). Despite different instruments used to measure transition readiness, similar findings that poor readiness contributes to worse health outcomes have been reported in young adults with chronic medical conditions such as type 1 diabetes

(Hilliard et al., 2014; Lotstein et al., 2013), sickle cell disease (Jordan, Swerdlow, & Coates, 2013), congenital heart disease (Heery, Sheehan, While, & Coyne, 2015), and cystic fibrosis (Chaudhry, Keaton, & Nasr, 2013). Some studies reported TAFY to have worse physical and mental health outcomes and higher rates of asthma, obesity, epilepsy, and hypertension than the general population of young adults (Courtney et al., 2011; Zlotnik, Tam, & Soman, 2012). Though some of the TAFY in this study had physical and mental health concerns (e.g. anxiety, depression, asthma, hypertension), the results uniquely identify how an individual's life circumstances or demographics (e.g. unstable housing, low income) can affect HSU and transition to adulthood instead of a chronic illness.

Transition Readiness and Organizations

Participants demonstrated various degrees of transition readiness based on associated organizations (recruitment sites) that assist foster youth. Youth recruited from ILP classes were found to have the highest transition readiness scores compared to youth recruited from the other sites. Previous data exploring the benefits of ILP classes in TAFY are conflicting. Some studies found that youth who took ILP classes demonstrated higher rates of employment (Lorentzen, Lemley, & Bymes, 2008) and improved goal setting (Lemon, Hines, & Merdinger, 2005) compared to youth who did not take ILP classes. Other studies found no difference in employment (Naccarato & Park, 2009) or social skills ability (Greeson et al., 2015). Low attendance rates have also been reported (Greeson et al., 2015). The majority of the studies lack randomization and are limited by self-reported attendance. In our study, despite TAFY being recruitment from three organizations that provide mentorship and support to foster youth, transition readiness was still low which may reflect self-report or ILP programs lacking standard

curriculum with measurable outcomes. Future research is needed to identify the benefits of ILP classes and to justify continued funding of these programs.

The word of mouth (WOM) youth had the lowest transition readiness scores across all subscales. These TAFY were referred by previous participants and were not affiliated with any of the other three recruitment sites. A possible explanation for this finding is that the other three recruitment sites provide mentorship and guidance; a lack of guidance and support, therefore, may result in lower transition readiness. A person's level of connectedness has been found to be an important part of having a successful transition to adulthood (Jones, 2014). When compared to non-mentored TAFY, mentored TAFY report higher levels of perceived health and self-esteem (Ahrens, DuBois, Richardson, Fan, & Lozano, 2008; Williams, 2011). The WOM youth may be less connected to formal and informal mentorship or may choose not to be connected in an attempt to distance themselves from the foster care system. Some foster youth desire not to be known as a *foster child* and dislike the mandatory meetings and follow-up by social services (Greenen & Powers, 2007). Future research is needed to address the benefits of formal connections and explore reasons why TAFY decide not to remain connected.

Physical and Mental Health and Health Beliefs

Our study findings confirm previous reports that a higher percentage of TAFY having a medical condition and taking medications than youth without a history of foster care (Courtney et al., 2011; Courtney et al., 2016). These findings may provide a possible explanation as to why TAFY have more frequent contact with the health care system than youth without a history of foster care. Youth in this study reported high rates of asthma and hypertension when asked to list their chronic health conditions. Likewise, other studies have reported that the most common

physical health problems among TAFY are obesity, asthma, diabetes, and hypertension (Courtney et al., 2011; Courtney et al., 2016). These medical conditions can be impacted by lifestyle factors (Hall, do Carmo, da Silva, Wang, & Hall, 2015), suggesting that foster youth may demonstrate more high risk health behaviors than nonfoster youth.

In terms of mental health, over half of the TAFY in the study reported feelings of depression in the last 30 days and one out of five TAFY reported taking antidepressants. Though this was not a formal assessment of depression, these numbers were significantly higher than reported by the control group. The high rates of depression and antidepressant use among TAFY have been well documented in the literature (Courtney et al., 2016; Havlivek, Garcia, & Smith, 2013). Foster youth experience significant stressors during their childhood, including poverty, neglect and abuse (HHS, 2012). Consequently, the rate of post-traumatic stress disorder (PTSD) is higher among TAFY than American war veterans (HHS, 2012; Pecora et al., 2005). Placement instability and lack of social support also contribute to the mental health problems of youth with a history of foster care (Jones, 2014). Future research should explore whether differences in HSU and transition readiness exist when TAFY are grouped according to their mental health status.

Some health beliefs were significantly different between TAFY and controls. The TAFY group did not feel listened to by the provider and were less likely to attempt to get a doctor's appointment. There is a lack of research exploring the health beliefs of current and former foster youth. Limited studies have identified perceived discrimination and mistrust of providers as potential barriers to care in TAFY (Hudson et al., 2010; Yen et al., 2009); however, more data are needed to confirm these findings and how they impact service use. Additionally, future

research should explore whether feelings of being ignored by primary care providers contributes to inappropriate health services use in this population.

Youth's Perspectives

Despite their circumstances, the majority of TAFY in the study expressed a positive outlook on their future. Youth spoke about their plans to pursue educational goals and secure future employment. The expressed sentiment to be successful could be driven by their underlying desire to be autonomous. While in foster care, youth have little input into decisions that affect their lives. Well-meaning caseworkers and foster parents responsible for their safety and well-being often have the final decision in where foster children live, who they can visit, when they can eat, whether or not they can work, and what extracurricular activities they can pursue (Cunningham & Diversi, 2012). This could explain why the majority of the TAFY in the study emphasized the importance of having their *own* job, house, and family. Likewise, TAFY in other qualitative studies have expressed a strong desire to emancipate in order to have control over their lives (Scannapieco, Connell-Carrick, & Painter, 2007; Greenen & Powers, 2007). Furthermore, youth have described not wanting to "depend on anyone" and the need to be "self-reliant" once leaving foster care (Cunningham & Diversi, 2012, p. 114).

Despite their desire to be autonomous, many TAFY in the study recognized the need for support during their transition to adulthood. Youth spoke about having a lack of resources and guidance to help them meet their health needs. Many expressed the need for specific training on concrete areas such as how to obtain health insurance and when to go to the doctor. There is a dearth of literature describing the perspectives of TAFY and their health needs. Most of the qualitative studies have allowed youth to speak freely about their transition-related experiences.

While mental health concerns were often examined, managing physical health and navigating the healthcare system mostly went undiscussed (Cunningham & Diversi, 2012; Greenen & Powers, 2007; Scannapieco et al., 2007). It is possible that youth may not recognize health needs as being a priority in their lives. In addition, much of the research on TAFY comes from disciplines in the social sciences; little has been conducted by healthcare researchers. This may explain why many studies in this area focus on education, housing, and mental health needs.

Clinical Implications

This study identified decreased transition readiness among TAFY. Most clinics that service pediatrics have a process of "transferring" youth both with and without chronic medical conditions to adult health care providers. Unfortunately, these clinics often lack a "transition" program to prepare youth. Nursing can be instrumental in providing education to youth in a formalized transition programs to ensure a planned and coordinated transfer. Heightened awareness is needed to identify youth not ready for transition. The use of a validated instrument such as the TRAQ to assess transition readiness is warranted and can easily be implemented into primary care clinic transition programs. Furthermore, a stronger emphasis is needed on health management in ILP class curriculum with practice simulation to identify youth with deficits in independent living skills.

Foster youth in the study experienced worse physical and mental health outcomes than young adults without a history of foster care. These findings warrant health care professionals to provide frequent screening for depression, self-perception of health close surveillance for medical conditions in this high risk population. Early referral and access to mental health services and TAFY education on medication self-management is imperative to optimize health

outcomes. Despite TAFY receiving medical check-ups, the ED is still treating a high percentage of foster youth. Emergency care providers must provide extra guidance to TAFY on appropriate use of the ED and how to follow up with their primary care provider.

Lastly, many of the TAFY had difficulty securing housing and finding employment. Therefore, health care providers must work collaboratively with child welfare professionals to ensure that the basic needs of TAFY are met (AAP, 2012). This includes being aware of community resources and informing youth of their eligibility to received Medi-cal and remain in foster care. Social workers must begin working with foster youth in early adolescence to ensure that they have a transition plan and the skills needed to meet their basic needs. Health care providers and social workers must take an active role in advocating for legislative changes to improve the health and overall well-being of transitioning foster youth.

Limitations

The results of this study should be viewed in light of some limitations. The convenience sample is subject to selection bias. Many of participants in the study may have demonstrated a higher level of transition readiness than the general foster care population as most of the youth were seeking mentoring assistance from agencies that provide transition related services and support. Furthermore, the sample had a higher than expected number of African-American participants which may not be generalizable to all foster care populations but represents the ethnically diverse city of Los Angeles.

Participants provided self-report which is highly subjective to bias (Short et al., 2009). Participants verbalized their responses to most of the questions; therefore, it is possible that some youth were not completely truthful creating respondent intentional bias. This happens when the

respondent does not to take the effort to think about the question or may give an answer that pleases the interviewer. In addition, participants' estimation of their foster care history (e.g. placements, duration in care, ILP attendance, etc.) was not validated by case records. The accuracy of these estimates remains unknown. The California Health Interview Survey (CHIS) dataset which was used for matching controls was obtained via telephone interviews and is subject to the same respondent intentional bias. There is also the possibility that some CHIS participant may have had a history of foster care as this is estimated to be around 4% in the current adult population (Zlotnik et al., 2012). However, most of the CHIS sample reported stable housing with only 3% unstable which appears representative of a control sample.

From a methodologic standpoint, some of the variables in the conceptual framework were not evaluated by instruments that measure the concept specifically such as health beliefs, HSU, and physical and mental health. This study did not explore other factors that could be associated with HSU, such as socioeconomic background (Andersen, 2008; Quan et al., 2006), perceived discrimination (Hudson et al., 2010; Lee, Ayers, Jacobs, & Kronenfeld, 2009), and knowledge (Cho, Lee, Arozullah, & Crittenden, 2008). Furthermore, this study did not explore other variables associated with transition readiness such as mentorship, engagement in transition readiness programs, and participant motivation or self-efficacy. The thematic analysis was coded only by the PI. Last, this was a comparative, cross sectional design and cannot established relationships or causation.

Conclusion

This study identified that TAFY living in Los Angeles showed decreased transition readiness and self-perceived health, and increased physical and mental health conditions and

HSU related to ED use compared to youth without a history of foster care. Routine screening for depression and early referral to mental health care is warranted. Furthermore, the assessment of transition readiness with the use of validated instruments is needed to recognition deficits in independent living skills as part of transitional educational programs. This study supports the need for continued funding for formal transition readiness programs and other resources to assist foster youth. Health care professionals, foster parents, and child welfare advocates must work collaboratively to ensure that foster youth's health and other basic needs are met. Youth viewed their independent living, future goals and aspirations as mostly positive related to the need for *support* in the transition process, desire for *success or financial wealth*, and to be part of a *family* or have their own family. Future research should examine barriers and facilitators to health service use and transition readiness in this high risk vulnerable population.

Gender (circle one): **Male** **Female** **Other: please specify**	**DOB:** **Age:**

Ethnicity: (check one)

- ☐ **Asian/Pacific Islander**
- ☐ **White/Caucasian**
- ☐ **Hispanic/Latino**
- ☐ **Black/African-American**
- ☐ **Native American/American Indian**
- ☐ **Other (please specify):**

Address:	
Email address:	**Alternate email:**
Phone:	**Alternate phone**

What is the highest degree or level of school you have *COMPLETED?*

- ☐ **8th Grade**
- ☐ **Some high school, no diploma**
- ☐ **High school diploma**
- ☐ **GED**
- ☐ **Some college**
- ☐ **Certificate/technical/vocational school training**
- ☐ **Associate degree**
- ☐ **Bachelor's degree**
- ☐ **Master's degree**
- ☐ **Professional degree**
- ☐ **Doctorate degree**
- ☐ **Other (please specify):**

What is your employment status (select the response that *BEST* describes your status):

- ☐ **Employed part-time (1- 39 hours per week)**
- ☐ **Employed full-time (40 or more hours per week)**
- ☐ **Out of work and looking for work**
- ☐ **Out of work and not looking for work**
- ☐ **Homemaker**
- ☐ **Student**
- ☐ **Military**
- ☐ **Disabled, unable to work**

What is your best estimate of your total yearly income?

- ☐ **Less than $5,000**
- ☐ **$5,000-$9,999**
- ☐ **$10,000-$14,999**
- ☐ **$15,000-$19,999**

☐ **$20,000-$24,999**
☐ **$25,000-$29,000**
☐ **$30,000-$34,999**
☐ **$35,000-$39,000**

☐ **$40,000-$49,999**
☐ **$50,000-$59,000**
☐ **$60,000-$69,000**
☐ **More than $70,000 (please specify)_____**

What is your marital status?
☐ **Single, never married**
☐ **Married or domestic partnership**
☐ **Widowed**
☐ **Divorced**
☐ **Separated**
☐ **Other (please specify):**

Housing status (select the response that *BEST* describes your status):
☐ **Homeless**
☐ **College dorms**
☐ **Living with roommate/friends (s) (not on college campus)**
☐ **Living with biological family**
☐ **Renting a home or apartment**
☐ **Owning a home or apartment**
☐ **"Couch surfing"**
☐ **Other (please specify):**

Do you have children? _____

If so, how many? _____

How old were you when you had your first child? _____

Total years in foster care:
☐ **1-2 years**
☐ **2-3 years**
☐ **3-4 years**
☐ **5-7 years**
☐ **7-10 years**
☐ **10+ years**

By your best estimate, how many different placements did you have while in foster care?
☐ **1-2**
☐ **2-3**
☐

QA13_B1: Would you say in general that your health is excellent, very good, good, fair, or

- ☐ **3-4**
- ☐ **5-7**
- ☐ **7-10**
- ☐ **10+**

What age did you emancipate out of the foster care system?

- ☐ **17 or younger**
- ☐ **18**
- ☐ **19**
- ☐ **20**
- ☐ **21**

Did you attend Independent Living Skills classes (ILP classes)?

- ☐ **No, was not interested**
- ☐ **No, was not offered to me**
- ☐ **No, other reason *(please specify):***
- ☐ **Yes, 1-2 classes**
- ☐ **Yes, 2-3 classes**
- ☐ **Yes, 4 or more classes**

Do you have any medical conditions? (select all that apply)

- ☐ **Asthma**
- ☐ **Epilepsy**
- ☐ **Diabetes**
- ☐ **High blood pressure**
- ☐ **Depression**
- ☐ **Bipolar disorder**
- ☐ **Anxiety**
- ☐ **Other (please specify)**

QA13_D10: Do you have a physical or mental impairment that has kept you working for at least a year?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

Please list any medication(s) you are taking including over the counter medications, herbal supplements, vitamins etc:

poor?

- ☐ **Excellent**
- ☐ **Very good**
- ☐ **Good**
- ☐ **Fair**
- ☐ **Poor**
- ☐ **Refused**
- ☐ **I don't know**

QA13_H1: Is there a place that you usually go to when you are sick or need advice about your health?

- ☐ **Yes**
- ☐ **No (skip the next question)**
- ☐ **I don't know**

QA13-H2: What kind of place do you go to most often when you are sick or need advice?

- ☐ **Doctor's office**
- ☐ **Clinic**
- ☐ **Emergency room**
- ☐ **Other (please specify)**
- ☐ **I don't know**

QA13_H3: During the past 12 months, did you visit a hospital emergency department for your own health?

- ☐ **Yes (Number of times _____)**
- ☐ **No**
- ☐ **I don't know**

QA13_H101: During the past 12 months, were you admitted to the hospital overnight or longer for your asthma?

- ☐ **Yes (Number of times _____)**
- ☐ **No**
- ☐ **I don't know**

QA13_J1: During the past 12 months, how many times have you seen a medical doctor?
Number of times_____

QA13_J2: About how long has it been since you last saw a doctor about your own health?

- ☐ **One year ago or less**
- ☐ **More than up to 1 up to 2 years ago**
- ☐ **More than 2 up to 5 years ago**
- ☐ **More than 5 years ago**
- ☐ **More than 2 years ago**
- ☐ **Never**
- ☐ **I don't know**

QA13_J3: About how long has it been since you last saw a doctor or medical provider for a routine checkup?

- ☐ **One year ago or less**
- ☐ **More than up to 1 up to 2 years ago**
- ☐ **More than 2 up to 5 years ago**
- ☐ **More than 5 years ago**
- ☐ **More than 2 years ago**
- ☐ **Never**
- ☐ **I don't know**

QA13_J4: Do you have a personal doctor or medical provider who is your main provider?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

QA13-H15 Are you covered by Medi-Cal?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

QA13_H74: During the past 12 months, was there any time when you had no health insurance at all?

- ☐ **Yes**
- ☐ **No (Skip the next question)**
- ☐ **I don't know**

QA13_H78: What is the ONE MAIN reason why you did not have any health insurance?

- ☐ **Can't afford/too expensive**
- ☐ **Not eligible due to employment status (eg. Changed employer or lost job)**
- ☐ **Not eligible due to health problems**
- ☐ **Not eligible due to citizenship/immigration status**
- ☐ **Family situation changed**
- ☐ **Don't believe in insurance**
- ☐ **Switched insurance companies and had a delay**
- ☐ **Can get health care for free**
- ☐ **Other (please specify):**
- ☐ **I don't know**

QA13_J5: During the past 12 months, did you phone or email the doctor's office with a medical question?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

QA13_J6: (If yes), How often did you get an answer as soon as you needed it?

- ☐ **Never**
- ☐ **Sometimes**
- ☐ **Usually**
- ☐ **Always**
- ☐ **I don't know**

QA13_J7: How often does your doctor or medical provider listen carefully to you?

- ☐ **Never**
- ☐ **Sometimes**
- ☐ **Usually**
- ☐ **Always**
- ☐ **I don't know**

QA13_78: How often does your doctor or medical provider explain clearly what you need to do to take care of your health?

- ☐ **Never**
- ☐ **Sometimes**
- ☐ **Usually**
- ☐ **Always**
- ☐ **I don't know**

QA13_J9: In the past 12 months, did you try to get an appointment to see your doctor or medical provider within two days because you were sick or injured?
(Do not include urgent care or emergency care visits)

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

QA13_J10: (If yes), How often were you able to get an appointment within two days?

- ☐ **Never**
- ☐ **Sometimes**
- ☐ **Usually**
- ☐ **Always**
- ☐ **I don't know**

QA13_J12: The last time you saw a doctor, did you have a hard time understanding the doctor?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

***The next few questions are about how you have been feeling during the past 30 days*.**

QA13_F1: About how often during the past 30 days did you feel nervous?

- ☐ **All of the time**
- ☐ **Most of the time**

☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F2: During the past 30 days, about how often did you feel hopeless?
☐ **All of the time**
☐ **Most of the time**
☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F3: During the past 30 days, about how often did you feel restless or fidgety?
☐ **All of the time**
☐ **Most of the time**
☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F4: How often did you feel so depressed that nothing could cheer you up?
☐ **All of the time**
☐ **Most of the time**
☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F5: During the past 30 days, about how often did you feel that everything was an effort?
☐ **All of the time**
☐ **Most of the time**
☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F6: During the past 30 days, about how often did you feel worthless?
☐ **All of the time**
☐ **Most of the time**
☐ **Some of the time**
☐ **A little of the time**
☐ **None of the time**
☐ **I don't know**

QA13_F20: Does your insurance cover treatment for mental health problems, such as visits to a psychologist of psychiatrist

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't have insurance**
- ☐ **I don't know**

QA13_F22: In the past 12 months have you seen any professionals, such as counselor, psychiatrist, social worker, physician, etc for problems with your mental health, emotions, nerves, or use of alcohol or drugs?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

QA13_F28: During the past 12 months, did you take any prescription medications, such as an antidepressant or sedative, almost daily for two weeks or more, for an emotional or personal problem?

- ☐ **Yes**
- ☐ **No**
- ☐ **I don't know**

Social Support

QA03_107: How often is someone available to help with daily chores if you are sick?

- ☐ **None of the time**
- ☐ **A little of the time**
- ☐ **Some of the time**
- ☐ **Most of the time**
- ☐ **All of the time**
- ☐ **I don't know**

QA03_109: How often is someone available to get together for relaxation?

- ☐ **None of the time**
- ☐ **A little of the time**
- ☐ **Some of the time**
- ☐ **Most of the time**
- ☐ **All of the time**
- ☐ **I don't know**

QA03_110: How often is someone available to understand your problems?

- ☐ **None of the time**
- ☐ **A little of the time**
- ☐ **Some of the time**

☐ **Most of the time**
☐ **All of the time**
☐ **I don't know**

Transition Readiness Assessment Questionnaire (TRAQ)

	No, I do not know how	No, but I want to learn	No, but I am learning to do this	Yes, I have started doing this	Yes, I always do this when I need to
Managing Medications					
1. Do you fill a prescription if you need to?					
2. Do you know what to do if you are having a bad reaction to your medications?					
3. Do you take medications correctly and on your own?					
4. Do you reorder medications before they run out?					
Appointment Keeping					
5. Do you call the doctor's office to make an appointment?					
6. Do you follow-up on any referral for tests, check-ups or labs?					
7. Do you arrange for your ride to medical appointments?					
8. Do you call the doctor about unusual changes in your health (For example: Allergic reactions)?					
9. Do you apply for health insurance if you lose your current coverage?					
10. Do you know what your health insurance covers?					
11. Do you manage your money & budget household expenses (For example: use checking/debit card)?					
Tracking Health Issues					
12. Do you fill out the medical history form, including a list of your allergies?					
13. Do you keep a calendar or list of medical and other appointments?					
14. Do you make a list of questions before the doctor's visit?					
15. Do you get financial help with school or work?					
Talking with Providers					
16. Do you tell the doctor or nurse what you are feeling?					

17. Do you answer questions that are asked by the doctor, nurse, or clinic staff?					
Managing Daily Activities					
18. Do you help plan or prepare meals/food?					
19. Do you keep home/room clean or clean-up after meals?					
20. Do you use neighborhood stores and services (For example: Grocery stores and pharmacy stores)?					

Transition Readiness in Former Foster Youth Study

ARE YOU A FORMER FOSTER YOUTH?

ARE YOU BETWEEN THE AGES OF 18-26?

IF YOU ANSWERED YES TO THESE QUESTIONS, YOU MAY BE ELIGIBLE TO PARTICPATE IN A RESEARCH STUDY

Who can participate?

You can participate in this study if you are a former foster youth between the ages of 18-26 who was in foster care for at least one consecutive year.

What to expect

You will be asked to complete a questionnaire about your ability to perform tasks related to transitioning into adulthood and assuming responsibility for your health care. The questionnaire will take approximately 30 to 45 mins. You will receive $20 for your participation.

Risks and benefits

This questionnaire may cause some mild anxiety and discomfort as it requires you to rate your ability to perform certain tasks.
This study can potentially benefit you by providing you with an assessment of your transition readiness which can be used to better prepare you for adulthood.

Appendix C Consent

University of California, Los Angeles

CONSENT TO PARTICIPATE IN RESEARCH

Health services utilization among transitional age foster youth ages 18-26

You are being asked to participate in a research study being conducted by Sharrica Miller, MSN, RN from University of California, Los Angeles, School of Nursing. You were selected as a possible participant in this study because you are a former foster youth between the ages of 18 and 26 years old. Your participation in this research is entirely voluntary and you are free to discontinue or withdraw at any time. You should read the information below, and ask questions about anything you do not understand before deciding whether or not to participate.

PURPOSE OF THE STUDY

The purpose of this study is to measure how and which health services are used by former foster youth. This study will also assess transition readiness into adulthood and how former foster youth perceive their health.

PROCEDURES

If you volunteer to participate in this study, you will be asked to answer a series of questions about your transition readiness. Specifically, you will be asked to described your ability level in various skills using the following scale: 1) No, I do not know how; 2) No, but I want to learn; 3) No, but I am learning to do this; 4) Yes, I have started doing this; and 5) Yes, I always do this

when I need to. You will also be asked questions about which health services you utilize. The process will take between 20 and 30 minutes.

POTENTIAL RISKS AND DISCOMFORTS

There are few risks associated with this study. Completing this questionnaire may cause some mild anxiety and discomfort as it forces you to evaluate your ability to perform certain tasks. This may also cause feelings of worthlessness or low self-esteem. The primary investigator will review your results with you and can refer you to transitional care coordinators who can work with you to improve your transition readiness.

BENEFITS

Participation in this study will yield important information about your transition readiness which can be shared with your transitional coordinator. In addition, results from this study could help impact the type of assistance provided to foster youth when transitioning to adulthood.

PAYMENT FOR PARTICIPATION

You will receive $20 for completion of the questionnaire. You will be paid in cash at the end of the questionnaire. You will need to complete the entire questionnaire in order to receive payment.

PRIVACY AND CONFIDENTIALITY

Your answers will not be shared with anyone. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of

locking all research data in the investigator's research office. All your answers will be confidential and your name will not appear on any of the research data, only your number. This will be done to ensure that there is no possible way to identify you from the data collected.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. Your decision whether or not to participate will not affect any services that you are receiving. If you decide to participate, you are free to withdraw your consent and discontinue without penalty. You may also refuse to answer any questions you don't want to answer and still remain in the study. If you have questions regarding your rights as a research participant, you may contact the Institutional Review Board at University of California, Los Angeles.

IDENTIFICATION OF INVESTIGATOR

If you have any questions or concerns about the research, please feel free to contact: Sharrica Miller at 202.210.9614 or Sharrica.miller@ucla.edu

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

SIGNATURE OF RESEARCH SUBJECT

I have read (or someone has read to me) and understand the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have been given a copy of this form, as well as a copy of the Subject's Bill of Rights.

BY SIGNING THIS FORM, I WILLINGLY AGREE TO PARTICIPATE IN THE RESEARCH IT DESCRIBES.

_____

Name of Participant

_____ _____

Signature of Participant Date

SIGNATURE OF INVESTIGATOR

I have explained the research to the subject, and answered all of her questions. I believe that he/she understands the information described in this document and freely consents to participate.

_____

Name of Investigator

_____ _____

Signature of Investigator Date

Patient Name: _____ Date of Birth: ___/____/____ Today's Date ____/_____/____

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