

**Task 9:**  
**Updating Estimates of the Costs of Raising Children with a Focus on Medical Support Costs**

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## Report Summary

Federal regulations require each state to perform a mandatory periodic review of child support guidelines. Wisconsin has been a pioneer in the child support arena, and has continuously strived to perfect its procedures to ensure efficiency and fairness. Wisconsin child support policymakers have tried to address the multiple interests of the child, the custodial parent, noncustodial parent, and the State. Wisconsin, like most states, uses the “continuity-of-expenditure” concept to formulate its guidelines. The goal of this concept is to maintain the standard of living that the child has been accustomed to when living within a two-parent family. Children should not be adversely affected economically by the separation of their parents, or by being born into a household where their parents were not cohabitating. This model emphasizes expenditure, which is based on all direct and indirect expenses pertaining to the child, rather than cost that implies the numerical price of items or services provided for a child. This philosophy has its challenges, particularly determining which expenses should be considered and their level of importance in relation to other variables. This is especially difficult when trying to operationalize and quantify indirect costs, such as parenting time and lost opportunity.

This paper is an exploratory literature review to reevaluate the previously identified expenditures that have affected child support calculation, with particular emphasis on the rising cost of health care. The following is a synopsis of the most pertinent points of each section. These points are presented in the same order of the related, full length review. The topics are: reexamination of traditional methods for estimating the direct costs of children; indirect costs of children; children’s health care expenditures; and health care expenditures of special health care needs children. Finally, it concludes by summarizing the research, policy implications in light of this literature, and policy recommendations.

### REVIEW OF THE TECHNICAL LITERATURE

The “continuity of expenditure” theory holds that child support guidelines should allow children residing in single-parent homes to receive the same standard of living as children residing in two-parent homes. The focus is on expenditure that encapsulates direct costs such as the price of food, housing, and services like daycare, *and* indirect costs like the foregone wages of the parent who cares for the child, time spent child rearing, and loss of leisure time. There continues to be methodological challenges in measuring how much children cost. Years of research have yielded three estimators that have become the classic models for estimating expenditures on children, the Engel estimator, the Rothbarth estimator, and the USDA study.

- The Engel Method estimates the cost of children by the total expenditure allocated to the household’s food consumption. As the family size increases, the family’s food expenditure also increases, even when the household’s income remains the same, and this increased expenditure on food can be used to estimate the cost of a child.
- The Rothbarth estimator attempts to gauge a family’s financial well-being based on the amount of additional income needed to restore the family’s expenditures on adult goods after children enter the picture. This expendable income includes income to be spent on items that would only be utilized by adults, such as alcohol, tobacco, savings, and certain forms of entertainment.
- The United States Department of Agriculture conducts a detail study on cohabiting and single-parent families with children from birth to age seventeen by region. The data from the Consumer Expenditure Survey is used to conduct multivariate analysis, followed by in-depth interviews of randomly selected families within each region. Comparisons are made between regions, age differences of children, and husband-wife families and single-parent families.

The Engel and Rothbarth estimators have served as the upper and lower benchmarks for assessing these expenditures. The findings of the USDA model consistently place expenditures on children between the Rothbarth and Engel estimated expenditures, therefore it serves as a portrait of average expenditures on children.

## INDIRECT COSTS OF RAISING CHILDREN

Parents devote considerable amounts of time directly to child care, homemaking, and parenting activities outside the home, in addition to providing for food, shelter, and other basic necessities (Bradbury 2008, p. 305). In addition, parents also forego varying amounts of personal time, wages, education, and personal enrichment opportunities to raise a family. These must also be considered. Indirect costs have significantly higher impact on single-parent families than on intact families because fewer adults are available to share time-and-resource-intensive child care responsibilities. Wisconsin policymakers have attempted to evaluate these indirect costs for the purposes of constructing more equitable child support guidelines.

### Parental Time Expenditures

Parenting is not one dimensional. It is a complex series of multi-layered activities. The first component is discerning primary versus secondary child care activities. Primary child care activities can be defined as duties focusing solely on the child such as feeding, bathing, and playing. Secondary child care requires at minimum a parent's presence and part of their attention, which constrains the parent's choice of their activities (Craig and Bittman 2008, p. 61). Secondary child care activities could also be considered tasks that simultaneously serve the child's needs as well as the parent's, such as time spent food shopping for the family.

An added central aspect for time calculation is the number and age of the children present in the house (Craig and Bittman 2008, p. 61). Younger children require a considerable amount of primary activity time due to the child's greater amount of dependency on others for his or her basic needs. Older children necessitate less time on these tasks, but may require sensitive monitoring of children's independent activities and responsiveness to their emotional states, which according to psychologists is one of the more demanding parts of parenting (Siegel 1999; Shonkoff and Phillips 2000; Thompson 2001).

- Parents still incur indirect costs from their children even when they are not in their company because children receive many services outside of the household that maintain their safety or provide for their needs. The need for and consumption of these services fluctuates according to different stages of childhood, socioeconomic status (SES), and family structure.
- Single parents have a higher burden placed upon personal time, indirect expenditures, and unpaid work, such as shopping, housecleaning, and similar activities. Single parents also face the dual challenge of holding employment to financially support the household while providing ample time to child care activities by themselves.

The idea of foregone wages goes beyond being a stay-at-home parent to care for young children. Often times, particularly among single parents, lost wages can result from temporary reductions in hours spent in the workforce to care for children even among those in the labor force. Even older children enrolled in school might still require parents to give up working hours. If hired supervision is not affordable or family and friends are unavailable then parents will have no other choice but to take time off of work. Additional out-of-pocket expenses such as summer camp or daycare may be incurred when school is not in session.

## Transitions to Adulthood

Currently, children are staying home and requiring support for longer periods of time, and may require substantial financial assistance even upon leaving their parent's home. The transition to self-sufficient adulthood is a period when individuals work towards complete emancipation from their parents. Persons undergoing the transition from the dependent child to the emancipated adult must be classified using a continuum along which young adults must make strategic choices about their own future and move towards independence, rather than be classified as simply dependent or independent.

- Post-majority child support laws have been enacted in several states, but some research suggests that they place unfair extended burdens on noncustodial parents.

Prolonged parental financial support extended to adult children primarily falls into two categories: assistance with higher education costs and assistance with living expenses.

- Single parents living in post-majority child support states do not seem to increase the amount they contribute toward their children's higher education (Turley and Desmond Forthcoming, p. 15). A reevaluation and reconfiguring of post-majority child support awards may be necessary to ensure a sufficient amount of support is allocated toward children's college expenses.

When children are transitioning into adulthood, assistance with living expenses may be required in order to help adult children live on their own. Parents may cover some, most, or all of an adult child's living expenses once he or she moves outside the house for a period of time, or parents may be used as a financial safety net in case of monetary difficulties.

- Single parents were "less likely than parents in intact families to feel that parents should help adult children economically" (Aquilino 2005, p. 161), when controlling for income and savings.

## HEALTH CARE EXPENDITURES AND WELL CHILDREN

Policymaking pertaining to child support, children's welfare, and public health is increasingly affected by fluctuation in health care expenses. A substantial portion of the public health care budget is devoted to children, since children require a larger proportion of preventative care services than adults (Homer, Kleinman, and Goldmann 1998). The discussion below focuses solely on the health care expenditures relating to non-special needs children. Special needs children, who are children that have chronic conditions or illnesses that require prolonged or unique care, have different circumstances and costs, thus will be addressed in the following section.

### Background/Statistics on Child Health Care Coverage, Utilization, and Participation

Families today have more access to public insurance, such as State Children's Health Insurance Program (SCHIP) and Medicaid, than in the past. The SCHIP program has been vitally important in ensuring the health of children living in low-income families.

- Approximately 6.6 million children were enrolled in SCHIP during 2006 (Congressional Budget Office 2007), and this number climbed to 7.4 million children enrolled as of 2008 (Center for Medicaid and State Operations 2008, p. 18).

Privately insured families still account for a large percentage of the population, but their share has been on the decline. Private insurance is mainly provided by employers who offer health insurance as an employment benefit. The rising cost of private insurance is making individual purchase much more

costly, therefore employer provided health insurance remains a cornerstone in private health care coverage. However, the employment based health insurance model has been eroding in recent years.

- Premiums for employee-only coverage increased from \$28 to \$58 per month between 2000 and 2007 (a 107 percent increase), and family coverage premiums increased 102 percent, from \$135 to \$273 per month (Shields, Shapiro, and Fronstin 2008, p. 139).

To compensate, employers are increasingly shifting the proportion of premium expenses to the employee through the offering of high-deductible health plans that are often used in conjunction with a tax-preferred savings account (Shield, Shapiro, and Fronstin 2008). Alternatively, employers may select plans that do not provide comprehensive coverage; such tiered insurance plans have higher deductibles or copayments and offer varying ranges of prescription drug benefits or covered medical services. Some employers may not offer any medical insurance benefit at all.

- Approximately 65 percent of uninsured employees worked for employers that did not offer health insurance coverage (Shields, Shapiro, and Fronstin 2008, p. 137).

The cost of an individual family purchasing health insurance themselves is increasingly difficult due to the high expense. For the working poor family, it is simply not an affordable option. Children, especially those in low-income families, are particularly vulnerable to a lack of private insurance coverage. However, the uninsured child is not strictly a low-income phenomenon. Many uninsured children fall within a gray zone, where their families have too much income to be considered eligible for state assistance, but too low an income to purchase private insurance.

#### Child Support Federal Guidelines Regarding Medical Insurance

The Child Support Federal guidelines have implemented a medical insurance provision when establishing new support orders. Under 45 CFR 303.31, the IV-D agency must petition for health insurance in new and modified support orders (Heller 2003). A parent's income must be above 150 percent of the federal poverty level in order for the child support orders to include medical support (Wisconsin DCF 2010). This makes low-income children particularly vulnerable to neglected health care. Child support agencies are not responsible for enforcing medical orders if they are for unspecified dollar amounts, such as "half" of the medical bills (Wisconsin DCF 2010). A child's potential for receiving appropriate medical care may be hindered due to accruing arrears, high premiums that exceed 10 percent of the parent's net income, and the employer's decision to cease offering a health insurance benefit. When only partial payments are collected, the IV-D agency must apportion the amount collected between the child support and the medical support specified in proportionate shares (Heller 2002).

- In 2007, 56.6 percent of the 4.2 million child support agreements specified which parent was to provide health insurance for the children, and 44.5 percent of those agreements with health insurance provisions stated that the obligor was to provide health care coverage (Grall and U.S. Census Bureau 2009).

The nebulous medical support regulations do not ensure that a child will receive medical insurance coverage and health care services, despite the fact that the State of Wisconsin has provisions for medical support that may require both parents to provide additional payments for health insurance and medical costs (Wisconsin DCF 2010).

## Health Care Expenses

The goal of children's health care is to maximize health, not simply to treat disease (Homer, Kleinman, and Goldmann 1998). To maximize health, preventative care and well-care visits are essential. Well-care can be defined as children's periodic health care visits to health practitioners who conduct medical surveillance, disease screening, and anticipatory guidance to thwart potential injury or illness.

The American Academy of Pediatrics (AAP) suggests that wellness and preventative care begin immediately after birth. Children are screened for health care issues the most often within their first two years of life. The AAP recommends that children under one year of age have wellness and screening examinations at three to fourteen days old, one month, two months, four months, six months, nine months, and at one year old (AAP 2009). After one year of age, children should see their doctor every three months for preventative care, and then start yearly visits by the age of three until they reach the age of twenty-one (AAP 2009).

- Fewer than half of the children and adolescents in the United States are meeting these recommendations, particularly among the population of uninsured children (Chung et al. 2006, p. 509).
- In 2004, 78.5 percent of children under age six had office-based medical provider services, averaging \$160 per child, compared to just 60.9 percent of children between the ages of six and seventeen, which averaged \$127 per child (Ezzati-Rice, Kashihara, and Machlin 2004, p. 4). These percentages remained relatively consistent across time and geographical location (Chevarley et al. 2006).

Many factors can influence the level of health care expenses for a family, including family size, demographic, SES, and health characteristics of different family members. Children from lower income families do not obtain the same level of well-care or medical treatment as children from higher income families (Machlin and Zodet 2005). Approximately 97.0 percent of higher income children had some health care expenses compared to just 92.2 percent of lower-income children (Machlin and Zodet 2005). They tend to also have lower health status levels. Yet, low-income families have considerably lower levels of out-of-pocket expenses when compared to higher income families. While very young children account for higher health care expenditures concerning well-care, older children account for higher costs related to injury-related medical expenses.

- Injuries account for over one-third of emergency doctor visits, and 2.3 percent of those visits resulted in pediatric inpatient stays; these emergency visits accounted for \$17 billion per year in medical care costs as of 2008 (Owens et al. 2008).
- Approximately 84 percent of children under age six had ambulatory expenses, compared to 67 percent of children ages six to seventeen, in 1999 (Cohen et al. 2000, p. 4).
- Spending on hospital services for acute illness was relatively high, averaging approximately \$1,000 per child per year in 2008, but the frequency of these hospital visits remains very low (Hartman et al. 2008). In contrast, spending on physicians and clinic services were more frequent, but cost less at \$753 per child per year (Hartman et al. 2008).

Diagnosis and treatment of a child's acute injury or illness does not only result in direct financial costs, but imposes indirect costs on the family. Often, a parent must take time out of their work day to attend to a child's health care needs. Absences from work may extend over a long period of time if an injury or illness is more serious. Moreover, miscellaneous expenses, such as transportation to and from health care

facilities, medications, special equipment, or food for temporary dietary needs further add to the total cost of care.

### Prescription Drugs and Immunization

Prescription drugs and immunization tend to be among the most costly medical expenses for both the parent and health care system. Children increasingly consume larger shares of pharmaceutical spending.

- As of 2002, pharmaceutical costs reached 14 percent of the total health care costs in the United States and continue to rise (Cheng and Chang 2002, p. 728).
- Prescription drug spending on children accounted for 8 percent of total health care spending for children in 2004 (\$16.3 billion), and during that year Medicaid was the largest payer of children's prescription drugs at 38 percent, compared with 31 percent in 1999 (Hartman et al. 2008, p. w7).

### Dental Health

Tooth decay is one of the most common dental conditions among children in the United States. By age two to four years old, 17 percent of children have already had tooth decay (Brown 2006). Oral health is a vital component of a child's overall holistic health care, and yet dental care is one of the most commonly overlooked preventative services.

- In 2003, only 48.1 percent of children between ages two and eleven and 55.4 percent of children between the ages of twelve and seventeen years old obtained at least one dental service visit (Brown 2006).
- The average dental care expense for a child ages two to seventeen with at least one dental visit was \$501 (Brown 2006).
- Children between ages twelve and seventeen with at least one dental visit had an average dental expense of \$742 while the average annual dental expense was \$327 for children ages two to eleven (Brown 2006, p. 2).

Children under age six were the least likely to have any dental expenses, and their average expenses were significantly less than those for any other age group (Cohen et al. 2000). Children over six years old were more likely have dental expenses. However, disaggregating expenditures between dental well-care, dental treatment, and orthodontia are more difficult. Moreover, considerably more out-of-pocket spending will occur for children's dental care than other types of medical services because insurance for dental services is usually separate from medical insurance. Spending for dental services, including orthodontia, accounted for 12 percent (\$24.8 billion) of children's health spending in 2004 (Hartman et al. 2008, p. w7). Almost \$10 billion of dental spending was paid out of pocket in 2004, which is "more than three times the amount paid out of pocket for hospital services for children, reflecting prevailing insurance coverage" (Hartman et al. 2008, p. w7).

### Mental Health and Vision Care

Mental health is a sector of health care that does not have a prevention component. Most children do not use mental health services unless a mental health issue arises. However, studies show that 9 percent of children and youth, ages zero to twenty-one, had a mental health-related diagnosis (Howell and Teich 2008). In 2008, over half of children diagnosed with mental health issues received psychotropic

medication, and approximately 7 percent were admitted into inpatient psychiatric care (Howell and Teich 2008). Research shows that 7.8 percent of children enrolled in Medicaid were diagnosed with mental health problems, with higher proportions for boys (9.9 percent) than girls (5.8 percent), and significantly more mental health problems were reported as age increased to nineteen years of age (Howell and Teich 2008).

The final component of health care to examine is vision care. Visual impairments and other conditions of the eye are among the 10 most frequent causes of disability in America, affecting about 80 million people per year (about one-third of the U.S. population) (Ganz, Xuan, and Hunter 2007). The cost of treating these conditions was at least \$22.5 billion in direct medical costs and \$16.1 billion in indirect costs per year (National Commission on Vision and Health [NCVH] 2009). It is estimated that approximately 25 per 1,000 children under 18 years old are blind or visually impaired (Centers for Disease Control and Prevention 2002). About 2 percent of children entering first grade, and about 15 percent of children entering high school are nearsighted (Zadnik 1997). Children without vision insurance coverage are about three times more likely than children who are insured for vision care to go without eyeglasses when needed (NCVH 2009, p. 1).

### Estimates of Expected Growth in Health Care Costs

The costs of health care and health insurance have been perpetually increasing at a rate far exceeding that of general inflation. Between 2000 and 2010 the average annual health insurance premium for those with employer provided insurance increased by 114 percent, going from \$6,438 to \$13,770. Moreover, an increasing share of this premium was covered by the worker themselves, with their contribution increasing by 147 percent from \$1,619 in 2000 to \$3,997 in 2010 (Kaiser Family Foundation 2010a). The costs of health care for those who pay out-of-pocket or purchase private non-group health insurance themselves have also increased rapidly. Premiums in the non-group market have risen particularly rapidly of late. Of those families with non-group coverage, 77 percent reported having their premiums increased over the past year at an average rate of 20 percent. With average premiums for family coverage being \$7,102 in 2010, increases averaging 20 percent represent an obvious burden on families and an impediment to continued coverage (Kaiser Family Foundation 2010b).

The recent passage of the Patient Protection and Affordable Care Act has created significant uncertainty about the future growth in the cost of providing health care as it relates to the cost of raising children. Various sections of the law will have significant effects on the costs of employer provided insurance, such as the mandatory coverage of preventative care and the extension of coverage for children up to age twenty-six, while others will impact the cost of non-group insurance, such as the creation of health insurance exchanges and mandatory coverage for all persons. The likely net effect of these laws in the near term is a further increase in the cost of employer provided insurance and a reduction in the cost of non-group insurance. However, the long-term effects on the cost of health care depend on the exact implementation of the law. Regardless, few aspects of the bill address the underlying causes of the long-term growth in health care costs, thus the cost of providing health care to children should be expected to continue to increase at a rate exceeding that of general inflation (CBO, 2010).

### DISABLED CHILDREN VERSUS WELL CHILDREN

It has been evident, thus far, that health care utilization and expenditures among children varies considerably according to SES, age, preventative care versus diagnosis and treatment of illness, and type of service. However, a child's general health status causes the most variation in expenditures. Therefore, particular attention must be paid to special needs children when discussing health care cost analyses.



- Children with special health care needs (SHCN) are children who have an increased risk for a variety of chronic conditions (Lindley and Mark 2010), requiring higher levels of health care services and expenditures than the average child (McPherson et al. 1998). Chronic physical conditions are not the only types of illness categorized as a disability. Children with mental disorders (discussed separately below) are also within this category.

SHCN children are reported to have more hospital stays, emergency room visits, surgical procedures, medical treatments, specialist visits, home health days, medical equipment usage, and prescriptions than non-SHCN children (Boulet et al. 2009; Lindley and Mark 2010; Newacheck et al. 2004). Moreover, parents of SHCN children incur greater indirect costs than parents of non-SHCN children. Loss of wages, missed professional opportunities, and reduced leisure time result from the extra attention and care that parents must give to these children.

#### Cost Difference between SHCN Children and Well Children

Families incur a broad range of expenses associated with a SHCN child's health care. Each circumstance is unique. Researchers and policymakers have isolated some of the most costly chronic conditions according to the family's annual out-of-pocket medical expenses (excluding insurance premiums).

- Autism, muscular dystrophy, cystic fibrosis, heart problems, and emotional problems cost families between \$2,660 to \$69,906 in out-of-pocket expenses compared to \$676 to \$3,181 for families with non-SHCN children (Buescher et al. 2006; Newacheck et al. 2004; Lindsey and Mark 2010, p. 79; Shenkman et al. 2007).

#### Insurance Coverage and SHCN Children

Children with SHCN are more likely to have access to health insurance than their non-SHCN counterparts. Health insurance provides a significant protection against high-cost procedures and treatments, while providing a coordinated network of health care professionals to provide these services. However, health care coverage is not a panacea. Out-of-pocket expenses (discussed below), which are separate from insurance premiums (Medical Expenditure Panel Survey [MEPS] 2006, p. 5), are still a significant expenditure for these families. Low-income families are particularly vulnerable to financial distress resulting from these out-of-pocket expenditures (Newacheck et al. 2004, p. 81).

- Spending on SHCN children consumes about 16 percent of the total Medicaid budget and about 38 percent of the budget for all disabled people of all age groups (Summers, Ghosh, and Rousseau 2005).
- In 2004, health insurance premiums were an additional \$2,058 to \$3,593 annually for families of SHCN, depending on benefit plan type (Davidoff 2004).

SHCN children, more than other children, require services that are not covered under commercial health insurance plans, or are considered out-of-network services that require higher co-payments (Chen and Newacheck 2006, p. 204). This makes public insurance a more attractive coverage option if the family qualifies for it.

#### Impacts on Health Care Cost

According to MEPS (2006), "children with SHCN were more likely than children without SHCN to have ambulatory visits (83.3 percent versus 67.4 percent), emergency department visits (16.3 percent versus

11.1 percent), inpatient hospital stays (6.0 percent versus 2.4 percent), dental visits (50.3 percent versus 44.2 percent), and prescription medicines (78.7 percent versus 45.8 percent)” (p. 2). Parents of special needs children have conflicting views on well-care visits. Some find it particularly time consuming and burdensome to attend additional well-care visits since their children are frequent users of the health care system anyway, while other SHCN children receive preventative health care visits more frequently than non-SHCN children (Schor 2007). Treatment for chronic illness and therapy vary greatly according to type of illness, severity, duration, and a host of other factors. Children with disabilities have almost eight times higher expenses for hospital inpatient care than children without disabilities (Newacheck, Inkelas, and Kim 2004, p. 81).

- Pinpointing exact dollar amounts is extraordinarily difficult. Each case is unique to the child’s circumstances. At best, estimates can be made according to a particular service a child may use for a particular type of condition.
  - ❖ Some of the categories of expenditures that could be considered are durable medical equipment (eyeglasses, hearing aids, wheelchairs, and medical equipment rentals); home health care (private or public nursing services); hospital care (room and board, diagnosis, treatment, inpatient pharmacy); and other professional services (speech and physical therapists, private-duty nurses, optometrists, podiatrists) (CMS 2010).

Many people conceptualize out-of-pocket expenditures as strictly being related to medical costs not covered by insurance. This is not the case. In addition to medical expenses, added costs include electricity, heating, water, special clothing, equipment, food, and transportation to medical appointments, but these expenditures are not readily considered in determining costs (Miedema et al. 2008; Steele and Davis 2006).

- Out-of-pocket expenditures have resulted in approximately 40 percent of families with SHCN children experiencing financial strain due to their child’s health condition (Kuhlthau et al. 2005).

Finally, prescription drug costs were ranked the largest out-of-pocket expenditure, constituting nearly one-third of a family’s reported extra expenses (Newacheck, Inkelas, and Kim 2004, 81). Again, prescription drug costs fluctuate according to condition, severity, and other factors.

- Research has shown that the average expenditures on prescribe medications were five times higher for SHCN children than those without disabilities (Newacheck, Inkelas, Kim 2004, p. 81).

### Dental Costs for SHCN Children

Like dental care for well children, dental care for SHCN children can be divided into two main categories: preventative and nonpreventative. Although SHCN were associated with unmet dental care needs among U.S. children, special needs children used more dental care services in the realm of nonpreventative care than their counterparts (Iida et al. 2010, p. 81). It is possible that parents may put preventative dental care lower on the list of medical priorities, particularly if the child has a condition that warrants ongoing medical treatments. However, lack of priority may not be the sole reason for lack of preventative dental care. Some dentists are not comfortable or qualified to care for a SHCN child, particularly when the child is ventilator-dependent (Iida et al. 2010).

### Mental Health Care Costs for SHCN children

Mental illness is also a category of chronic illness or disability that affects SHCN children. At times, a physical condition may be accompanied by mental illness, or mental illness may be the only or primary condition present.

- The most ubiquitous behavioral disorder was ADHD (4.2 percent), followed by depression (1.4 percent), anxiety (1.1 percent), miscellaneous disorders (0.5 percent), conduct disorder (0.3 percent), affective psychoses (0.2 percent), and oppositional-defiant disorder (0.1 percent) (Guevara et al. 2003, p. e442).
- Children with behavioral disorders incurred over \$1,468 in expenditures compared to \$710 for children without behavioral disorders (Guevara et al. 2003, p. e443).
- Office-based visits and prescription medication costs were also significantly higher among these children compared to their well counterparts (\$425 versus \$171 for office visits and \$235 versus \$61 for prescription drugs) (Guevara et al. 2003, p. e443).
- Children with emotional disorders and affective psychoses had the greatest total expenditures (\$3,237), followed by depression disorder (\$2,555), and anxiety disorder (\$1,824).
  - ❖ This does not necessarily indicate a hierarchical severity of mental illness ranked by expenditures.

Prescription drugs are also costly depending upon the medication required. Psychotropic drugs include antidepressants, anti-psychotics, anti-anxiety, mood-stabilizers, and stimulants (Howell and Teich 2008, p. 221). These drugs may be used alone or in combination with other medications. If a physical illness is present, then medication costs are even higher. Children with behavioral disorders had considerably higher average prescription drug costs than children with physical disorders or well children (\$361 versus \$251 or \$154, respectively) (Guevara 2003, p. e444).

- Studies show that mental illness conditions are just as costly and burdensome as physical conditions.

### Indirect Costs of Disabled Children

Caretakers of SHCN children have even greater demands on their time and personal resources. About 20.1 percent of parents or caretakers of SHCN children reported spending more than five hours per week directly related to arranging and coordinating health-related services (Chen and Newacheck 2006, p. 208). The substantial amounts of time strictly devoted to the SHCN child impact income. Loss in parental income due to missed work, not being able to work consistent hours, the inability to work overtime, and quitting jobs are just some of the labor force challenges that these parents face (Freidman et al. 2005; Miedema et al. 2008; Montes and Halterman 2008).

- Negative impacts on paid work particularly affect mothers of disabled children. Mothers are still considered primary caregivers in American society, and are usually the custodial parent after separation or divorce. Therefore, lost wages and missed employment opportunities are much greater for mothers than for fathers (Phipps and Burton 2009).

Parents of disabled children often report that they need additional income to cover medical expenditures (Miedema et al. 2008, p. 88). In order to compensate for lost income and meet the demands of health care

expenditures, families may sell assets, take out loans or mortgages, or use savings to make up the difference (Emmanuel et al. 2000). At times, bankruptcy may be the only option after all other resources are exhausted (Himmelstein et al. 2005).

Parents also encounter missed professional opportunities in addition to lost wages. They may have to forego work promotions, advanced education, or additional training that makes them competitive in their field because they must devote their time to their sick child. This may lead to decreased levels of employability, particularly when a parent is out of work for long periods of time to care for a SHCN child (Miedema et al. 2008, p. 88).

- Some disabilities are demanding on parent's time. Other disabilities are very expensive, and others are both time consuming and financially draining (Gould 2004).

## CONCLUSION

A previous IRP report (see Rothe, Cassetty, and Boehnen 2001) states that Wisconsin's calculations on the costs of children seem realistic though perhaps erring on the low side. However, accurately estimating family expenditures for children is extremely difficult. There are no ideal data sources. Direct costs, such as food and shelter are often shared in different proportions within the family unit. Indirect costs like parenting time, lost wages, and missed professional opportunities are even more challenging to quantify. Further, children are also relying more on their parents for financial assistance as they transition into adulthood.

Health care expenditures, particularly among children, continue to climb. A parent's access to employment-based insurance coverage has declined in recent years due to company cutbacks in coverage due to rising health care premiums and the shifting of these costs to employees through higher employee premiums. At times, parents must make the difficult decision of whether or not to pay these high costs or forego insurance altogether. This is a particularly hard choice for single parents, who do not have a second income to assist with the costs.

The State of Wisconsin has provisions for medical support that may require both parents to provide additional payments for health insurance and medical costs (Wisconsin DCF 2010). However, a parent's income must be above 150 percent of the federal poverty level in order for the child support orders to include medical support (Wisconsin DCF 2010).

Furthermore, child support agencies are not responsible for enforcing medical orders if they are for unspecified dollar amounts, such as "half" of the medical bills (Wisconsin DCF 2010). This is problematic considering a chronically ill or disabled child may have volatile medical costs throughout childhood. Currently, neither the state nor the federal government has successfully addressed these particular challenges.

- Health insurance and medical cost should be evaluated separately for non-SHCN and SHCN children.
- Wisconsin's current structure of medical support orders may be sufficient for non-SHCN children; however, as costs continue to rise, it may need to be reevaluated. The need to revise may become more urgent if the trend of declining employer provided health care coverage continues.

Determining medical support for children with SHCN is complex:

- Health insurance coverage is particularly crucial for these children.

- SHCN children have fluctuating direct medical expenses, particularly if the condition is degenerative or intermittent. Specifically ordered amounts may be too high or too low in any given time period. Yet, tracking varying medical expenses may not be feasible for the State.
- Out-of-pocket expenditures for these children tend to be extraordinarily high.
- Another challenge is calculating the indirect costs related to caring for SHCN children. Parents spend a significant amount of time on the medical needs of these children, in addition to parenting.
- The state has the added burden of ensuring that all parties involved (custodial parent, noncustodial parent, and especially the child[ren]) are treated equitably.

Constructing new guidelines accounting for the rising health care costs, particularly those for SHCN children, would have to juggle the child's best interest, reasonable payments, and collection challenges, while consistently covering medical costs. The above challenges and considerations are intended to highlight some of the issues that the State of Wisconsin may face as new criteria for support calculation are developed that consider the increasing healthcare costs faced by Wisconsin families. However, any specific policy changes would still need to be carefully evaluated by the State of Wisconsin in light of the ongoing developments in health policy, health insurance, and the healthcare market.

**Task 9:**  
**Updating Estimates of the Costs of Raising Children with a Focus on Medical Support Costs**

I. INTRODUCTION

Child support is the “financial support paid by parents to help support a child or children of whom they do not have custody” (Administration for Children and Families [ACF] 2000). Child support and support enforcement are relatively new concepts, despite their intuitive nature. General, yet persistent, interest in establishing child support guidelines began in the 1950’s, but Congress did not pass effective legislation until the late 1960’s (ACF 2000). Prior to this time, American family laws were based on eighteenth- and nineteenth-century English law, which discouraged, for the child’s sake, marital dissolution, or American family laws established support orders designed to reduce the need for public assistance rather than sufficiently provide for the child’s care (Carbone 2000). During the 1960’s, legislation initiatives were enacted requiring state agencies to begin establishing and collecting child support, as the federal government recognized forcing families to remain together was counterproductive. However, these laws did not have the effectiveness that the government intended. The Social Services Amendments of 1974, signed into law in January 1975, paid special attention to enforcement issues. This established separate child support offices that handled tasks such as locating parents, tracking and enforcing payments, and reviewing state guidelines. However, the most important pieces of enforcement legislation, such as the Child Support Enforcement Amendments of 1984, the Family Support Act of 1988, and the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, were not ratified until much later. Child support guidelines fall within the purview of the states. Federal regulations require that each state perform a mandatory periodic review of these guidelines and costs in order to ensure fairness and efficiency.

Wisconsin has been a pioneer in the child support arena. Wisconsin established guidelines for receiving, tracking, and distributing support payments as early as the 1920’s (Rothe, Cassetty, and Boehnen 2001), and has continuously researched new methods for improving child support collection. Many components of the Wisconsin child support system were created prior to the enactment of national

requirements, and were influential in the development of the federal child support enforcement acts. Wisconsin was the first state to experiment and implement the noncustodial parent's percentage-of-income standard, automatic wage withholding, and universal collection methods, which were later adopted within the federal requirements by Congress.

Among the state's primary concerns is determining reasonable amounts for child support payments, which adequately provide for the child while simultaneously considering the economic situation of the noncustodial parent. Throughout the years, Wisconsin, in conjunction with the Institute for Research on Poverty at the University of Wisconsin–Madison, have researched, designed, and experimented on various calculation formulas and collection methods to comply with the federal regulation for the review of state guideline and to continue providing the fair and balanced child support programs for which Wisconsin is known.

Most states, including Wisconsin, utilize the “continuity-of-expenditures” concept, when preparing child support guidelines. The underlying goal of the continuity of expenditure concept is to maintain the standard of living that the child has been accustomed to when living within a two-parent family. Children should not be adversely affected economically by the separation of their parents, or by being born into a household where their parents were not cohabitating. Conceptually, the baseline for this model is the expenditures on children within two-parent families across various income levels rather than expenditures on children within single-parent households. The income of the custodial parent is not considered when calculating child support orders for the non-custodial parent. Furthermore, the emphasis is on expenditure, as opposed to cost. Cost, theoretically, implies the numerical price of items or services provided for a child, rather than expenditure, which is based on all direct or indirect expenses made in relation to the child. Direct costs would be the price for housing, clothing, and food, for example, while indirect costs would be parental time, loss of wages, and other means used to provide for children that are more complex to monetize.

Researchers have long wrestled with the many challenges involved in accurately assessing how parents utilize their financial and personal resources when raising children. The available data may allow

one to infer some of these expenditures, but researchers face several limitations. Determining which variables should be considered and how they are ranked in order of importance when formulating guidelines is a process subject to debate, and must periodically be re-evaluated. Operationalizing and quantifying indirect costs, such as parental time expenditure on child care or calculating intrinsic value of child rearing, is difficult. Moreover, guidelines must be structured so that they may address multiple concerns among each party involved in the child support process. Advocates for the child, custodial parent, low and high income non-custodial parent, and the state have valid, but sometimes conflicting, interests that must be considered in order to calculate the fairest and most effective guideline possible.

Children's advocates contend that both parents are obligated to provide for their children, despite economic hardship. Considering that children have basic needs that must be met regardless of income level, child advocates posit that non-custodial parents below the poverty level should make small, regular payments in good faith. They also argue that children require economic support beyond the age of majority. Children transitioning into adulthood, discussed more below, still rely on their parents for economic support, especially when they are pursuing higher education. Advocates for children assert that current calculation methods and support orders do not adequately reflect these points.

Advocates for custodial parents argue that current estimates of expenditures fail to fully account for indirect costs of raising children, such as the lost wages of stay-at-home parents or the loss of leisure time. Also, custodial parent supporters claim that fluctuating costs and trends in the economy, such as the rising cost of healthcare (discussed in detail below) or unemployment, lead to underestimates of the costs of supporting children.

Next, advocates for noncustodial parents maintain that child support guidelines based on the continuity of expenditure model cannot adequately ensure that children are receiving optimal support while ensuring a reasonable amount in relation to the noncustodial parent's income level. Many low-income fathers find these percentages excessive in relation to their income, and they are much less likely to comply (Roth 2008). Advocates for the low-income payer reason that such guidelines prevent these payers from sufficiently providing for themselves. High-income payers, on the other hand, find the



continuity-of-expenditure model for estimating payments to yield amounts much higher than the child actual requires. Furthermore, this model may not capture other costs that the non-custodial parent may incur for supporting their children.

Finally, the state must also account for its own fiscal wellbeing by ensuring that children are amply provided for without draining social service resources. A central issue within social policy debate is the extent to which the public should support children in lieu of private support, particularly within low-income families (Neelakantan 2009). In many states, child support payments are retained by states to offset TANF payments made to low-income families. Many argue that allowing families to retain a portion or all of the child support payments would increase compliance and lower the need for public assistance. The 2006 TANF re-authorization bill included a provision that encouraged states to allow children to receive both child support and TANF. Although some states, such as Wisconsin, have allowed low-income parents to receive both forms of support, provided they meet specific requirements, there is still debate over whether public and private support should be substitutes or compliments to one another (Neelakantan 2009, p. 354).

The above arguments and methodological challenges demonstrate the difficulty in estimating the cost of raising children and whether guidelines properly encapsulate a fair order that accounts for all expenditures on children and the considerations of all parties involved. The State of Wisconsin consistently examines its own guidelines and collection procedures to ensure that it applies the most equitable standards for establishing and maintaining orders, in addition to the federal requirement of periodic review. The cost of healthcare is an expenditure that has been consistently rising, particularly in recent years. Healthcare, both preventative care and treatment, have various direct and indirect costs, particularly when addressing the needs of children. In this paper we explore the impact of rising healthcare costs on the overall expenditures necessary to support children.

Section II of the paper briefly reviews the existing literature on traditional methods for estimating the costs of children and discusses the advantages and disadvantages of these models. Section III reviews the literature on alternative, indirect expenditures that impact the cost of raising children, such as time

investment, loss of wages, and transitions from child to adulthood. Section IV examines the cost of providing health care for children. This section reviews some of the methodologies for these calculations, evaluating the costs of preventative care as well as illness treatments, dental, mental health, and prescription expenses. Section V considers the differing cost between healthy children and unwell and/or special needs children. In addition to comparing the impacts on financial costs of preventative healthcare for well children versus special needs children, this section discusses direct and indirect expenditures, such as therapy, special equipment, time investment, and parent's wage loss that are unique within these families. Section VI concludes by summarizing the research and suggests possible policy implications, without making firm recommendations regarding child support policy.

## II. REVIEW OF TECHNICAL LITERATURE

This section reviews the technical literature on estimation models used to calculate child support, and the methodological challenges these models pose. In the previous section, various factors that warranted consideration in the formulation of support guidelines were discussed. These contingencies make it difficult to develop a method for calculating the cost of raising children. For example, general rubrics for housing costs may not reflect the actual mobility of families and their adjustment of housing arrangements in response to new births. Other expenses, such as electricity, phone and transportation may or may not rise depending on the family's circumstances. Moreover, indirect cost estimates, such as parental time expenditure or foregone wages, are often disputed among policymakers and scholars. Below, we will discuss the definition and operationalization of costs versus expenditures and look at three estimators that have been reliable and consistent in calculating expenditures on children.

### Defining and Operationalizing Costs versus Expenditures

The "continuity of expenditure" theory holds that child support guidelines should allow children residing in single-parent homes to receive the same standard of living as children residing in a two-parent home. When parents rear children, they devote considerable time to directly caring for the children,

undertaking home production tasks related to the children, and purchasing goods and services that contribute to the children's well-being (Bradbury 2008, p. 305). Moreover, expenditures versus costs allow children to benefit from increases in their parents' income. Costs imply a fixed amount that would not change with levels of income, but expenditures adjust accordingly. These are the reasons behind examining expenditures rather than costs. The definition of expenditure encapsulates direct costs such as the price of food, housing, and services like daycare *and* indirect cost like the foregone wages of the parent who cares for the child, time spent child rearing, and loss of leisure time. Expenditures are difficult to define, harder to calculate, and hotly contested among vested parties.

At face value, direct costs appear to be straightforward and easy to assess. Housing accounts for the largest share of total child-rearing expenses, comprising 32 to 35 percent of total expenses on a child in a two child, husband-wife family (Lino and Carson 2009, pp. iv and 11). Food and child care/education are the next largest average expenditures across income groups, each varying in percentage depending on their income bracket (Lino and Carson 2009, p. 11). However, direct costs in the form of noncash support are harder to determine. Noncash support such as birthday or holiday gifts, groceries, medical expenses other than health insurance, full or partial payments for summer camps and/or child activities must also be considered (Grall and US Census Bureau 2007, p. 10). As children grow, some of these direct costs may remain constant, increase, or decrease over time. Other expenses, such as college tuition (Lopez-Turley Forthcoming) and financially compensating trade-offs, such as a teenager's employment (Johnson and Lino 2000) must be considered.

Indirect costs reflect the extensive impact that children have upon the allocation of non-monetary resources within the household (Bradbury 2008 p. 305). Time distributions to childrearing, which are discussed further in the next section, are an often hidden expenditure when raising children. Placing a dollar amount on time, particularly as it periodically fluctuates over the course of the day and week, is imprecise. Evaluating foregone wages is not straightforward, especially when considering that working parents may pay for daycare while stay at home parents do not. Balancing these costs to benefits ratios is

a complicated endeavor. However, one thing is certain: Children are VERY expensive (Bradbury 2008, p. 305).

The methodological challenges entailed in measuring expenditures are ever present in the world of child support, which is partly why the federal government mandates that states reexamine the calculations for support orders every four years. Ellman and Ellman (2008) state that the central problem with the existing methodology is its backward focus (p. 160). They argue that “the guidelines are based on estimates of what parents in intact families spend on their children, despite the fact that the guidelines are applied to children who do not live with both of their parents, and often never have” (p. 160). The central problem is further exacerbated by conceptual problems in defining child expenditures, as well as practical problems in implementing their faulty conception (Ellman and Ellman 2008, p. 160). Divided families have different financial compositions than intact families. A two household family cannot maintain the standard of living of a single household with the same income (Estin 2001, p. 509). The resources expended in the intact family are distributed within the same household. Therefore, those resources are used and enjoyed by those making the expenditure. In separate household families, someone inevitably suffers a loss of income that is not made up in the enjoyment of resources (Estin 2001, p. 509). Moreover, the methodologies use the non-custodial parent’s income level to calculate orders, which assume that the custodial parent already has the basic income needed to maintain a household for himself or herself (Estin 2001, p. 509).

Some scholars assert that the solution would be to assess the impact of the support guidelines on both the parent and the children, within their own separate households, at the time support was being calculated (Ellman and Ellman 2008, p. 128). This would evaluate each specific circumstance, taking into account the needs of the child and each parent’s financial situation equally. Estimating the expenditures based on a single-parent household versus co-residing parents demonstrates the difference between the two circumstances. Unlike co-residing households, both the custodial and non-custodial parent have very definitive and often exclusive child-care expenditures and costs that are solely theirs alone, in addition to those that are shared between the two. A study by Lino and Carson (2009) revealed that for single parents,

expenditures that are incurred by the non-custodial parent or other caregivers are not adequately accounted for—transportation, food, entertainment expenses, and maintain larger living space to house the child during visits are overlooked (p. 14). Moreover, the non-custodial parent may contribute to clothing or the lion's share of health care expenses. The custodial parent has a large financial burden associated with being the primary caregiver in a household where children reside. In addition to out-of-pocket costs for providing goods and services for the child, single-parent families are more likely to spend significantly more time providing child care than two parent families (Burton and Phipps 2007, p. 481). The single-parent does not have a partner within the household to share the time burden, and thus foregone wages and loss of personal and leisure time result. This will be discussed in greater detail in the next section. Overall, expenses paid by both parents on a child in a single parent household are likely to be greater than what is estimated. (Lino and Carson 2009 p. 14)

#### Traditional Measures Used for Evaluating Cost of Children and Setting Guidelines

Measures for evaluating the cost of children in order to set child support guidelines need to, above all, be as accurate and consistent as possible. Several methods have been developed throughout the years in attempts to achieve this goal, but have failed to produce reliable results. There are three estimators that have become the classic models for estimating expenditures on children, the Engel estimator, the Rothbarth estimator, and the USDA study.

Ernest Engel developed the Engel Method in 1857. He argued that the cost of children is approximated by the total expenditure allocated to the household's food consumption. According to Engel, as the family size increased, the family's food expenditure also increased, even when the household's income remained the same. However, the percentage of a family's food expenditure decreased when the household's income increased but the size of the family remained constant. Therefore, Engel's findings demonstrate that evaluating the family's expenditure on food was an accurate way to assess the family's standard of living (Bassi and Barnow 1993; Rothe, Cassetty, and Boehnen 2001).

The Engel model is a reliable estimator for comparing the standard of living between different households with varying income levels and family size. However, it has an overarching weakness: this model is based upon separability, which assumes that the relationship between food consumption and all other consumption is the same for adults as it is for children (Rothe, Cassetty, and Boehnen 2001). Consequently, the Engel estimator does not actually provide an estimate on how much is being spent on the individual child as much as the collective family unit. Children's tendency to be "food intensive" coupled with the separability concept overestimates the expenditures for children in a household (Bassi and Barnow 1993; Deaton and Muellbauer 1986; Rothe, Cassetty, and Boehnen 2001). Erwin Rothbarth constructed his method in an attempt to remedy this methodological issue.

Erwin Rothbarth's (1943) alternative estimator for measuring the expenditures of families is based upon his theory that the financial wellbeing of adults in a family can be established by the level of expendable income or "excess income" available to them once the necessities for the family have been procured. This expendable income, as defined by Rothbarth, include income to be spent on items that would only be utilized by adults, such as alcohol, tobacco, savings, and certain forms of entertainment. This method assumes that two families spending the same amount on adult goods would be considered equally well off. (Haynes, 1994; Bassi and Barnow, 1993). The percentage of income spent on adult-only goods is believed to be a reliable gauge for evaluating a family's standard of living because it calculates the amount of money needed to restore the previous expenditure level on these goods once a child enters the household.

The main methodological issue with this estimator is that it may underestimate expenditures for children because it does not consider the possibility that "the presence of children in a household may lead to substitution away from goods that must be shared with children toward goods consumed primarily by adults" (Rothe, Cassetty, and Boehnen 2001). The Rothbarth estimator will show lower levels of supplementary income to restore the level of adult expenditures in the presence of children, if substitutions are present (Deaton and Muelbauer 1986; Haynes 1994; Betson 1990). Furthermore, defining and quantifying what are considered adult goods may vary from policymaker to policymaker.

Other models for calculations exist such as the Barten-Gorman Method (Barten 1964; Gorman 1976), Prais-Houthakker Estimator (Prais and Houthakker 1955), Iso-Prop (Watt 1967), and the Per Capita Method, however these estimators either are extremely difficult to calculate, have gross methodological weaknesses, or make erroneous assumptions that make the estimator susceptible to inaccuracy. The Engel and Rothbarth estimators are the most commonly used methods to calculate parental expenditures due to the consistency of their findings, despite their methodological limitations. These limitations cause the Engels estimator to overestimate expenditure on children and the Rothbarth estimator to underestimate them. Therefore, they are used together to establish upper and lower limits on estimates of expenditures for children (Beston, 1990; Lewin/ICF 1990).

The United States Department of Agriculture conducts a detail study on cohabiting and single-parent families with children from birth to age seventeen by region, in order to maintain the most up-to-date estimates on child expenditures and evaluate the limits set by the Engel and Rothbarth estimators. The data for this analysis comes from the Consumer Expenditure Survey to conduct, used to conduct multivariate analysis, followed up with in-depth interviews of randomly selected families within each region. Comparisons are made between regions, age differences of children, and husband-wife families and single-parent families.

This provides a more contemporary portrait of the expenditures on children within the United States, and serves as a cross-check for the lower and upper limits set by the Rothbarth and Engel estimators. According to the 2009 publication of the USDA findings, annual expenditures on children generally increase with the age of the child, across both cohabiting and single-parent families (Lino and Carson 2009, p. iv). Furthermore, compared with expenditures on each child in a two-child, cohabiting parent family, expenditures by husband-wife households with one child average 25 percent more on the single child and expenditures by households with three or more children average 22 percent less on each child. (Lino and Carson 2009, p. iv). The USDA study consistently places expenditures for children in between the Engel and Rothbarth estimator (Rothe, Cassetty, and Boehnen 2001).

### Section Conclusion

In this section, we examined the estimators used to evaluate the expenditures of children. We know that many methodological challenges are present such as identifying and quantifying variables, utilizing the continuity of expenditure model, and differences between the cohabiting household versus the single-parent household. Scholars continuously debate the effectiveness and propose solutions for these challenges. The Engel and Rothbarth estimators have served as the upper and lower benchmarks for assessing these expenditures. The Engel estimator attempts to ascertain a family's standard of living based the percentage of income allocated to food expenditures when a child is present. The Rothbarth estimator attempts to gauge a family's financial well-being based the amount of additional income needed to restore the family's expenditures on adult goods after children enter the picture. Both of these models have their drawbacks, but considering their straightforward, easily calculated and constant findings, they have been used as the standard for estimating expenditures on children. The USDA study conducts a multivariate analysis using data from the Consumer Expenditures Survey and in-depth interviews to evaluate the cost of children varying by age, household composition, and region. The findings of this study consistently place expenditures on children between the Rothbarth and Engel estimated expenditures, therefore it continues to serve as a portrait of average expenditures on children. In the next section, we will evaluate how indirect costs also affect the cost of children, and how scholars attempt to deal with analyzing and incorporating these costs into the guidelines.

### III. ADDITIONAL CONSIDERATIONS IN CHILD SUPPORT CALCULATIONS

Calculating the cost of raising children goes beyond estimating direct expenses. Parents devote considerable amounts of time directly to child care, homemaking, and parenting activities outside the home, in addition to providing for food, shelter, and other basic necessities (Bradbury 2008, p. 305). Children have a ubiquitous impact upon the distribution of resources within the household, and data shows that parents reallocate time from their own personal and professional activities towards rearing children (Bradbury 2008, p. 305). Parents forego varying amounts of personal time, wages, education and



personal enrichment opportunities to raise a family. Moreover, the time demand from parents has risen steadily over time. Mothers currently spend as much time or more caring for children as they did during the height of the baby boom (Sayer, Bianchi, and Robinson 2004, p. 32), despite the simultaneous rise of women's participation in the labor force. Indirect costs have significantly higher impact on single-parent families than on intact families because fewer adults are available to share time and resource intensive child care responsibilities.

When analyzing the direct costs of raising children, we must take into account the duration, as well as magnitude, of parents' expenditures in time, money and resources. Children often require partial financial assistance as they transition into adulthood. College tuition and adult children's living expenses are the two primary categories where adult children require their parents' financial assistance. This financial assistance varies from household to household, and different interest groups fiercely debate exactly how long child support should continue post majority, how it should be calculated, and who is responsible for providing it.

Policy makers recognize the importance of analyzing the indirect costs of child-rearing, in addition to direct expenditures such as food and shelter, due to their financial impact on the household. The State of Wisconsin has investigated the impact of indirect costs on the magnitude and duration of child rearing in order to evaluate their impact on child support guidelines. In this section, we will examine the policymakers' inquiry into the indirect costs of raising children and their impact on the extent and duration of child support within the family. First, we will review methodological approaches and challenges to measuring the time expenditures and opportunity costs associated with raising children. In particular, we look at how foregone wages, partial or complete withdrawal from the workforce, and utilization of child care services resonate differently within different family structures. Second, we will discuss the financial implications of children's transition to adulthood on parents. In particular, we address how different family structures respond to tuition expenses and adult children's cost of living. Finally, this section reviews the debates on parental fiscal responsibility for newly emancipated children, how financial assistance impacts the child, and the effectiveness of post majority child support laws.

### Parental Time Expenditures

Determining the amount of time parents spend on raising children is extremely challenging. Exactly how is parenting time measured? How much time do parents spend on raising their children? What other indirect costs factor into childrearing? What benefits do parents receive by being a caregiver and can these intrinsic values be considered a form of compensation? The concept of time is neither linear nor one-dimensional in nature. Calculating primary versus secondary care activities (discussed below), determining reallocation of personal adult time, the cost of foregone wages or child care services, and establishing the intrinsic value of raising children are just a few of the variables under consideration by policymakers and scholars.

Researchers have identified a number of components that should enter in to the measurement of time allocation to child care using a variety of data collection methods such as time activity diaries, surveys and in-depth interviews. However, there is a lack of consensus on how to incorporate these components into a generalized time expenditure calculation. The first component is discerning primary versus secondary child care activities. Primary child care activities can be defined as duties focusing solely on the child such as feeding, bathing, and playing. Secondary child care requires at minimum a parent's presence and part of their attention, which constrains the parent's choice of their activities (Craig and Bittman 2008 p. 61). Secondary child care activity could also be considered tasks that simultaneously serve the child's needs as well as the parent, such as time spent food shopping for the family. This distinction is important because secondary activities take up considerable time and may occur concurrently with primary activities or the adult's personal time. Ignoring the moments when child care is briefly a background activity does not acknowledge the depth of responsibility, personal constraint free time, and devotion needed for children (Bryant and Zick 1996; Zick and Bryant 1996; Ironmonger 2004; Folbre et al. 2005; Craig 2006; Craig and Bittman 2008). Evaluating hours spent on concomitant activities still needs to be calculated to fit into a 24-hour time-frame while adjusting for combinations of activities

to avoid double counting (Ironmonger 2004). This is one of the main methodological challenges of determining this type of indirect cost.

An added central aspect for time calculation is the number and age of the children present in the house (Craig and Bittman 2008, p. 61). Younger children require a considerable amount of primary activity time due to the child's greater amount of dependency on others for his or her basic needs. Older children necessitate less time on these tasks, but may require sensitive monitoring of children's independent activities and responsiveness to their emotional states, which according to psychologists is one of the more demanding parts of parenting (Siegel 1999; Shonkoff and Phillips 2000; Thompson 2001). According to Craig and Bittman (2008), women who have children that are not yet in school contribute seventy five percent of the household time to child care activities, with an estimated seven to eight hours of direct child care a day (p. 79). We can assume that parents with older children may spend less time parenting by entering the labor force or devoting time to their own personal activities. Despite these assumptions, studies show that women now spend more, rather than less time with their children, even though women's participation in the work force has increased from 43 to 60 percent since 1970 (Godbey 2006, p. 2369).

Other indirect costs have a varying impact on parental time expenditures for children, such as family composition, out of pocket expenses for child care, reallocation of resources, and foregone wages. Children still incur indirect costs from their parents even when they are not in their company because children receive many services outside of the household that maintain their safety or provide for their needs. The need for and consumption of these services fluctuates according to different stages of childhood, socioeconomic status (SES), and family structure. Input of parent care time may diminish as children get older, but expenditures for services outside the household increase with age (Bradbury 2008, p. 306). Therefore, parents may gain more personal time as children age, but the increase in monetary expenditures on goods and services for the child outside the home may lower the parent's standard of living. The caregiver may need to generate additional income in order to provide these services, or incur additional debt.

Single parents have a higher burden placed upon personal time, indirect expenditures, and unpaid work, such as shopping, housecleaning, and similar activities. Comparisons between intact families and lone parent families illustrate this differential burden. According to Craig and Bittman (2008), a two parent household with no children allocates just over five hours a day to unpaid work; however, introduce children between age zero through two years into a two parent family and the average amount of unpaid work increases to approximately sixteen hours a day (p.74). This is the result of increased housework and direct child care activities. In order to compensate for this time demand, parents must rearrange their schedules and sacrifice personal time. The amount of time expended increases with the addition of further children to the household; albeit in a non-linear way. Single parenting further compounds these time restrictions. Single parents have significantly less adult time when compared to a two parent, two-child family in which each parent works over fifty hours per week (Burton and Phipps 2007, p. 481). Although most single parents are unlikely to work fifty hours per week (Burton and Phipps 2007, p. 481), the second parent's assistance in child care is absent. Therefore, all related primary and secondary child rearing activities are the sole responsibility of the lone parent.

Single parents also face the dual challenge of holding employment to financially support the household while also allowing sufficient time for child care activities by themselves. Single mothers' and lower income families' lack of economic resources limits their capacity to procure goods and services that might free up time for childrearing (Casper and Bianchi; Ellwood and Jencks 2004) (Kendig and Bianchi 2008 p. 1230). For example, high income families may be able to hire babysitters and housekeepers to assist with household activities, or enroll their children in personal enrichment pursuits that can foster quality play and leisure time between parents and children. Lower income families do not have this option available, and find themselves working long paid work hours while maintaining the household full-time. To compensate for time and money shortages, adults will redirect time from personal time toward child care, and divert money used on adult goods, such as restaurant meals or new clothes, to items like baby food or daycare (Craig and Bittman 2008, p. 66). Full-time working parents face extra child costs and require larger incomes than childless adults (Koulovatianos, Schroder, and Schmidt 2009, p. 42). This

may place the parent in a difficult position of deciding whether to pursue employment at the risk of incurring greater expenses in daycare or partial or completely withdrawing from the workforce to save on these costs. Historically, women's time in paid work was often reduced as a result of these decisions (Meissner, Humphreys, Meis, and Scheu 1975).

Working adults have less nonmarket time available for child care and household maintenance than do nonworking adults (Koulovatianos, Schroder, and Schmidt 2009, p. 42). Women have acquired the two-fold role of being earner and children's primary caregiver. Seventy-one percent of women below retirement age participate in the labor force (Burton and Phipps 2007, p. 461). Furthermore, the labor force participation rate among lone mothers is extraordinarily high in the United States (81 percent) compared to other countries (78 percent in Canada, 74 percent in Germany, 58 percent in Sweden and 44 percent in the U.K.) (Burton and Phipps 2007, p. 480). Therefore, single mothers are limited in their choices regarding workforce participation, despite the extraordinary child care time burden placed upon them. There is no option of withdrawing or reducing hours in the work force to care for children without the help of their extended families or having government assistance (Kendig and Bianchi 2008, p. 1239). The idea of foregone wages goes beyond being a stay-at-home parent to care for young children. Often times, particularly among single parents, lost wages can result from temporary reductions in hours spent in the work force to care for children even among those in the labor force. Even older children enrolled in school might still require parents to give up working hours. For example, children who become ill or who are on school holidays may have no other place to go, and necessitate the supervision and direct care of an adult. If hired supervision is not affordable or family and friends are unavailable then parents will have no other choice but to take time off of work. Additional out-of-pocket expenses such as summer camp or daycare may be incurred when school is not in session. However, even including foregone earnings due to time spent out of the formal workforce in financial estimates provides only a partial account of the time demands associated with raising children (Joshi and Davies 1999; Klevmarken and Stafford 1999; Apps and Rees 2000; Folbre 2004; Craig and Bittman 2008) because it fails to capture the effects of children on parents' time spent on self-care and leisure (Bianchi 2005; Craig 2007b; Craig and Bittman 2008 p. 60).

Consequently, this means parents may face additional opportunity costs for resuming work full time or forego income to remain home as caregiver.

There are several interested parties that have debated the extent to which indirect costs should be incorporated into child support guidelines. Increasingly, advocates for children and custodial parents believe that indirect costs are not adequately reflected in child support calculations. They assert that the time shortage placed upon single parents and its negative consequences for the child is not accurately captured by current guidelines. Advocates for non-custodial parents, however, posit that there is an intrinsic value and reward from raising children. They argue non-custodial parents are often required to pay for goods and services, but not benefit from the enjoyment and satisfaction that comes from raising children. Non-custodial parent advocates recognize the indirect costs of children, but believe that the loss of the intrinsic value derived from raising children is underemphasized in current guidelines. Finally, financial burdens may be placed on government budgets when parents cannot adequately compensate for foregone wages or opportunity costs. Insurance coverage, income assistance, and daycare may need to be subsidized by the state if parents are underemployed or unemployed. Therefore, the states, particularly Wisconsin, have made efforts to evaluate these types of indirect costs, in order to make child support guidelines reflect the true costs of childrearing.

### Transitions to Adulthood

Another concern of policymakers is exploring how long children should stay under the financial care of their parent. Currently, children are staying home and requiring support for longer periods of time, and may require substantial financial assistance even upon leaving their parent's home. The transition to self-sufficient adults is a period in early adulthood where individuals work towards complete emancipation from their parents. Arenett (2000) states this transition usually occurs between 18 to 25 years of age. Therefore, persons undergoing the transition from the dependent child to the emancipated adult must be classified using a continuum along which young adults must make strategic choices about their own future and move towards independence, rather than classified as simply dependent or

independent. These choices position youth to explore adult roles “through acquiring the training, resources, and maturity need to succeed in those roles” (Aquilino 2005). Research indicates that parents’ financial support influences their children’s decision regarding residential independence, pursuit of higher education, and relationship formation (Avery, Goldschneider and Speare 1992; Goldschieder and Goldschieder 1993; Aquilino 2005). According to several studies (Cooney and Uhlenberg 1992; Eggebeen 1992; White 1992; Aquilino 2005), divorced parents report less financial support for their adult children. Declines in a parent’s assets following divorce (Aquilino 2005), tighter household budgets, and the widening gap between financial aid and tuition costs (Turley and Desmond Forthcoming) may contribute to their lesser financial support of their young adult children.

Post majority child-support laws have been enacted in several states, but some research suggests that they place unfair extended burdens on non-custodial parents. Turley and Desmond (Forthcoming) suggest that post majority child-support laws may not be effective and should be reevaluated (p. 18). The sense of financial responsibility that parents feel towards adult children varies according to income, marital status, and individual circumstances. Single parent may be reluctant to acknowledge extended financial obligation to their adult children, particularly if this assistance will reduce the non-custodial parent’s responsibility (Aquilino 2005, p. 145). Prolonged parental financial support extended to adult children primarily falls into two categories: assistance with higher education costs and assistance with living expenses.

Many factors influence whether a child attends college: career choice, university standards, level of academic success in secondary schooling, and financial costs among others. Tuition costs have risen substantially over the past few years, particularly in the recent economic recession. There exist many options for students to finance their post-secondary education, such as work-study, assistantships with tuition remission, federal and personal loans, and scholarships. However, with the increasing cost of tuition, these options may or may not entirely cover attendance, supplies, and living expenses. Often times, personal resources may be required to make up the difference. Parents’ willingness and ability to pay for college or vocational training increases their children’s access to higher education (Semyonov and

Lewin-Epstein 2001), but if financial support from parents is limited or nonexistent, many adults may forego additional education to move into the workforce full-time (Aquilino 2005, p. 144). This may limit children's success in procuring better employment opportunities. Divorced or separated parents contribute significantly less toward their children's college tuition than married parents (Turley and Desmond Forthcoming, p. 13). Perhaps this is due to the financial strain of maintaining a household on one income or from lack of marital assets. Scholars have examined the effectiveness of state post-majority child support policies on parental financial contributions to post-secondary education costs. Single parents living in these states do not seem to increase the amount they contribute toward their children's higher education (Turley and Desmond Forthcoming, p. 15). A reevaluation and reconfiguring of post-majority child support awards may be necessary to ensure a sufficient amount of support is allocated toward children's college expenses. However, this may present a challenge, particularly if children are undecided about their given major or commitment to pursuing their degree. Moreover, private versus public university costs, varying costs of different academic programs, and other considerations make it difficult to configure a uniform formula for setting these types of orders.

When children are transitioning into adulthood, assistance with living expenses may be required in order to help adult children live on their own. Parents may cover some, most, or all of an adult child's living expenses once he or she moves outside the house for a period of time, or parents may be used as a financial safety net in case of monetary difficulties. Different variations of family structure can be a factor in determining the extent to which youth can rely on their parents as an economic support system (Aquilino 2005, p. 161). According to Turley and Desmond (Forthcoming), single parents covered a significantly smaller portion of their children's financial needs (42 percent) outside the home, compared to married parents (77 percent) (p 14). Interestingly, this disparity is not merely a function of SES differences between single and married parents. Single parents were "still less likely than parents in intact families to feel that parents should help adult children economically" (Aquilino 2005, p. 161), when controlling for income and savings. Possible explanations for this phenomenon may be the single parent's perception of economic instability due to being the sole earner or fear of susceptibility to financial crisis



brought on by illness, job loss, or reduced child support from the non-custodial parent (Aquilino 2005, p. 162).

Policymakers are attempting to determine whether or not financial support needs to be extended past majority age to assist adult children with transition expenses. Parties with opposing interests debate exactly how much the state should interfere with parents' support decisions once the children reach the age of majority. Although the debate is still ongoing, some states have implemented post-majority child support laws or parents agree to pay beyond dependency age through court ordered divorce decrees. However, there has not been a consensus regard these extensions.

### Section Conclusion

Expenditures in childrearing go beyond direct cost such as the price of food, mortgage, and diapers. Indirect costs include expenditures such as time investments for caretaking, foregone wages, and transitory out of pocket expenses, such as summer camp. Scholars and policymakers have a difficult time operationalizing exactly how the cost of time should be measured. Time is money, but just how much money is debatable. Furthermore, policymakers are interested in exactly how long parents should provide financial support as they transition into adulthood. Adult children are requiring more assistance as they explore their adult roles via living outside the home and/or acquiring education and further training to prepare for the work force. Financial assistance varies among different family structures and SES factors.

The extent and duration of child support are the main considerations that policymakers must examine when discussing indirect cost. To what extent do indirect costs impact expenditures that need to be translated into financial compensation for the custodial parent? Should a parent pay child support after the age of majority to assist adult children with transitioning towards emancipation? If so, for how long should this support continue? These questions are not easily answered, but it is important that they be explored and considered based on the continuity of expenditure model that examines expenditure versus cost.

#### IV. HEALTH CARE COSTS AND CHILD SUPPORT

Access to health care is of increasing concern among American adults, particularly those with families. Medical expenses are rising significantly, making it more costly for parents to obtain high quality treatment and preventative care for their children and themselves. States have also focused their attention on the issue of health care access. Policymaking pertaining to child support, children's welfare, and public health are increasingly affected by fluctuations in health care expenses. Children require a larger proportion of preventative care services than do adults under the age of 65, resulting in significant average health expenditures (Homer, Kleinman, and Goldman 1998). For example, yearly, approximately 90 percent of children under age six and 83 percent of children between the ages of six and seventeen years old incur an expense for health services (Cohen et al. 2000).

How can we begin to evaluate the effects of health care costs on child support policy? Children's health care encompasses a huge sphere; therefore it is essential to assess the individual components that comprise health care separately. This section is the first of two that attempts to tackle this task. This segment will focus solely on the health care expenditures relating to non-Special needs children. Special needs children, who are children that have chronic conditions or illnesses that require prolonged or unique care, have different circumstances and costs than those without these conditions or illnesses, and thus must be examined separately. This section will begin with a brief discussion on general children's health care coverage, utilization, and participation. It will include an overview of the methodological approaches and challenges to estimating health care costs. Next, we will discuss the individual aspects of health care expenditures relating specifically to the concepts of children's preventative care, and the costs of well-care visits; followed by the implications of acute illness or injury diagnoses, treatments, and their direct and indirect costs; expenditures on prescription medications; expenses pertaining to dental wellness and procedures; and other miscellaneous expenditures such as mental health and vision care. Finally, we will conclude with estimates of expected growth in health care costs.

### Background/Statistics on Child Health Care Coverage, Utilization and Participation

We must begin by examining the different types of health care coverage for children in order to discuss their health care costs. For the purposes of this paper, there will be three different categories for health care coverage: (1) *Private insurance*, which includes coverage options through employment or individual purchase; (2) *state coverage* which includes Medicaid/SCHIP; and (3) *no insurance coverage* where health care expenses are borne completely out of pocket by the child's guardian and/or another entity other than private or public insurance. These categories are not necessarily mutually exclusive, as some categories may interact to varying degrees. For example, individuals may have private insurance, but still pay for certain expenses out of pocket because private insurance does not cover them.

Alternatively, families may have a mix of coverage, with some family members covered by a private plan, while other eligible family members are enrolled in public programs, or a family could have both private and public coverage for any or all members, with the public program serving as the payer of last resort. When we refer to individuals as having private insurance coverage, we mean that an overwhelming majority of their health care expenditures are paid for by private insurance. We will specifically state whether a child's miscellaneous expenditures are covered by different means, when appropriate.

Families today have more access to public insurance than in the past. State Children's Health Insurance Program (SCHIP) was established in 1997 by the Balanced Budget Act of 1997, under Title XXI of the Social Security Act. Its purpose was to expand health insurance coverage to uninsured children in families with income levels that were modest, but still too high to qualify for Medicaid (Center for Medicaid and State Operations 2008, p. 3). SCHIP is administered by the states, operating within broad federal guidelines. These broad federal guidelines allow states to exercise one of three options that best facilitates a state's particular SCHIP program. They may choose 1) a Medicaid expansion program, which increases Medicaid coverage to low-income children; 2) create a separate child health program separate from Medicaid, or 3) design a combination program, which blends the Medicaid expansion and separate child health programs (Center for Medicaid and State Operations 2008). SCHIP is financed

jointly by the federal governments and the states. As of 2007, Congress has provided approximately \$40 billion dollars to SCHIP since its inception (Congressional Budget Office 2007).

Approximately 6.6 million children were enrolled in SCHIP during 2006 (Congressional Budget Office 2007), and this number has climbed to 7.4 million enrolled as of 2008 (Center for Medicaid and State Operations 2008, p. 18). In 2007, Congress extended the SCHIP Program until 2009 under Public Law 110-173. It was extended again in February 2009 under the Children's Health Insurance Reauthorization Act of 2009, which extended the program to an additional 4 million people including pregnant women and first time legal immigrants without a waiting period. The SCHIP program has played a vital role in ensuring the coverage and health of children living in low-income families.

Privately insured families still account for a large percentage of the population, but their share has been on the decline of late. Private insurance is mainly provided by employers who offer health insurance as an employment benefit. The rising costs of private insurance is making individual purchase much more costly, therefore employer provided health insurance remains a cornerstone in private health care coverage. However, the employment based health insurance model has been eroding in recent years. According to a study conducted by Shields, Shapiro, and Fronstin (2008), "between 2000 and 2007, the cost of providing health benefits doubled while workers' wages and overall inflation increased by only 25 percent and 21 percent, respectively...These cost increases have contributed to the erosion of employment-based healthcare coverage, with the percentage of persons under 65 with employment-based coverage falling from 68 percent to 62 percent between 2000 and 2006" (p. 37). This has several implications for the employer, the employee, and ultimately, the child.

Employers are confronted with bleak options as health insurance costs rise. Premiums for employee-only coverage increased from \$28 to \$58 per month between 2000 and 2007 (a 107 percent increase), and family coverage premiums increased 102 percent from \$135 to \$273 per month, (Shields, Shapiro, and Fronstin 2008, p. 139). To compensate, employers are increasingly shifting a proportion of premium expenses to the employee by offering high-deductible health plans that are often used in conjunction with a tax-preferred savings account (Shield, Shapiro, and Fronstin 2008). Alternatively,

employers may select plans that do not provide comprehensive coverage, such as tiered insurance plans that have higher deductibles or copayments and offer varying ranges of prescription drug benefits or covered medical services. For example, the percentage of workers in a preferred provider organization (PPO) with a deductible of at least \$500 increased from 14 percent to 38 percent and the percentage of office visit copayments of at least \$20 increased from 39 percent to 53 percent, between 2000 and 2007 (Shields, Shapiro, and Fronstin 2008, p. 139). Finally, employers may not offer any medical insurance benefit at all. Approximately 65 percent of uninsured employees worked for employers that did not offer health insurance coverage (Shields, Shapiro, and Fronstin 2008 p. 137).

The ability of families to obtain health insurance in the individual market is increasingly difficult due to the prohibitive cost of such policies. For the working poor family, it is simply not an option. Children, especially those in low-income families, are particularly vulnerable to the decline in private insurance coverage. Often, parents are forced to cut corners on children's health care, despite the fact that their employer may offer coverage. Even when they do have coverage, children of working poor families are three times more likely to experience disruptions in coverage and far less likely to have a usual source of health care (89.1 percent) than non-poor insured children (96.0 percent) (Shields, Shapiro, and Fronstin 2008, p. 138).

The state has diligently tried to ensure that all uninsured children are covered by public health care programs, but this monumental task does unfortunately result in some children falling through the cracks. Studies have estimated that between 60 and 75 percent of all uninsured children are eligible for either Medicaid or SCHIP (Congressional Budget Office 2007). This leaves approximately 25 to 40 percent of uninsured children without any health coverage option. At one time, a greater proportion of children than adults were without any healthy insurance (Homer, Kleinman, and Goldmann 1998). Yet, this trend has reversed itself over time. The rate of uninsured children are substantially lower than working-aged adults (DeNavas-Walt, Proctor, and Smith 2010). However, there are still children who remain without health insurance. These parents of uninsured children are forced to pay medical expenses

strictly out of pocket, and may consider carefully the decision to seek medical attention for a child's illness, injury, or preventative care.

The uninsured child is not strictly a low-income phenomenon. Many uninsured children fall within a gray zone, where their families have too much income to be considered eligible for state assistance, but too low an income to purchase private insurance. SCHIP has significantly reduced the number of low-income children who are uninsured. The uninsured rate fell from 22.5 percent in 1996 (the year before SCHIP's enactment) to 16.9 percent in 2005; however, the uninsured rate among higher-income children remained relatively stable during that period (Congressional Budget Office 2007). This is due perhaps to the States' considerable flexibility in designing their eligibility requirements and SCHIP policies. The poverty threshold level used varies across states, and most states subtract a portion of the family's earnings and certain expenses to compute a measurement of net income for determining a child's eligibility for SCHIP (Congressional Budget Office 2007). Therefore, as of 2008, Medicaid covered 27 million children while an additional 6 million children who did not qualify for Medicaid were covered by SCHIP (Shields, Shapiro, and Fronstin 2008), but there remain categories of children that fall through the health insurance coverage cracks.

#### Child Support Federal Guidelines Regarding Medical Insurance

As with all child support issues, there are those on both sides of the debate over who should bear the responsibility for the provision of health care to children, and to what extent it should be formalized in child support orders. Advocates of children call for orders that provide adequately for a child's physical, oral, and mental health. They argue that it is the responsibility of parents and the state to ensure that children have access to wellness visits, medical treatment for injuries and illness, immunizations, medications, oral care, vision and mental health practitioners, and wide ranges of services for special needs children. Advocates of custodial parents argue that this burden cannot be solely theirs alone. Noncustodial parent advocates posit that the state must carefully consider new guidelines and policies pertaining to children's health, otherwise noncustodial parents may be subjected to extreme financial

burdens that may affect their ability to provide for themselves and abide by their support orders. Finally, the state must simultaneously balance the issue of prioritizing children's health care, providing children's public health services for the needy, distributing the medical financial burden among interested parties when appropriate, and maintaining fiscal stability. Accommodating these competing interests is difficult.

The Child Support Federal guidelines have implemented a medical insurance provision in the establishment of new child support orders. Under 45 CFR 303.31, the IV-D agency must petition for health insurance in new and modified support orders (Heller 2003). Federal Child Support Guidelines mandate that the obligor must provide for health insurance through their place of employment or union membership, on the condition that the cost does not exceed 10 percent of the obligor's net income (Heller 2003, p. 2). The guidelines illustrate the difference between providing medical insurance versus providing health care expenses. From a policy perspective, requiring the obligor to provide medical insurance is easier than individually calculating the health care expenses which may range significantly from case to case depending on several circumstances, such as child's health, family income level, geographical location, etc. In 2005, 57.6 percent of the 4.5 million child support agreements specified which parent was to provide health insurance for the children, and 45.1 percent of those agreements with health insurance provisions stated that the obligor was to provide health care coverage (Grall and US Census Bureau 2007).

When considering the increasing difficulty of obtaining medical coverage through private insurance, it is evident why the state is unable to adequately establish and enforce a health care component within child support guidelines. For example, the state is not required to seek medical support from the noncustodial parent if the custodial parent is able and willing to provide satisfactory health care coverage (Heller 2002, p. 10). There are cases when the custodial parent is mandated by the state to pay for medical coverage within the support order, but the IV-D statute does not require the state to enforce the requirement.

The nebulous medical support regulations do not ensure that a child will receive medical insurance coverage, and subsequently health care services. Accruing arrearage, high premiums that

exceed 10 percent of the parent's net income, and the employer's decision to cease offering a health insurance benefit may hinder a child's potential for receiving appropriate medical care. When only partial payments are collected, the IV-D agency must apportion the amount collected between the child support and the medical support specified in proportionate shares (Heller 2002). Allocating proportionately equal amounts of partial payments between child support and medical support prevents the custodial parent from receiving the full child support amount that may be needed for living necessities. The state recognizes these inconsistencies that arise from viewing health care costs from an insurance only perspective, and therefore, continues to research how children's health care costs should be incorporated into child support policy. In order to do this, it is important to define what exactly health care costs mean, how are they categorized and measured, and how they vary in relation to different types of medical coverage.

#### The Meaning and Measurement of Health Care Costs

Children's health care utilization and expenditures, health insurance, and health status vary widely between different social, demographic, and economic characteristics within the population. One approach to evaluating health care expenditures is to define health care expenses as the costs of medical and dental services, related to physical and mental health, not covered by insurance; prescription drugs and medical supplies not covered by insurance; and health insurance premiums not paid by an employer or other organization (Lino and Carlson 2009). Another approach is to define total health care expenses as direct payments from individuals, private insurance, Medicare, Medicaid, and miscellaneous other sources, to hospitals, physicians, other health care providers (including dental care), and pharmacies for services (Machlin and Zodet 2005).

The primary data sets to acquire this information come from the Medical Expenditure Panel Survey (MEPS), the Nationwide Inpatient Sample (NIS), and the State Inpatient Databases (SID) from the Healthcare Cost and Utilization Project (HCUP). However, MEPS is the most commonly used dataset. The MEPS is a nationally representative longitudinal survey that estimates expenditures, health services



utilization, insurance coverage, insurance type, and sources of payment for the current US civilian non-institutionalized population. MEPS is conducted every ten years by the Agency for Healthcare Research and Quality. There is a Household Component File (MEPS-HC) that consists of detailed data on approximately 10,000 families and 24,000 individuals across the United States on demographic characteristics, health status, health conditions, use of medical services, charges and payment, income, employment status and health insurance coverage. Data from this survey is used by statisticians and researchers to generalize about various components of health care among US noninstitutionalized civilians, and to conduct research where the family is the unit of analysis (Machlin and Zodet 2005). MEPS-HC Data from 2002–2005 are pooled to increase precision (Kenney, Ruhter, and Selden 2009, p. 1026), and is the only source of information available for estimating the total health care expenses that American families incur each year (Machlin and Zodet 2005). MEPS show the share of household out-of-pocket health care expenses spent on children, for researchers interested in focusing their attention specifically towards youth (Lino and Carlson 2009).

There are many research challenges to evaluating children's health care costs. Many factors can influence the level of health care expenses for a family, including family size, demographic, SES, and health characteristics of different family members. There are also challenges in estimating the baseline on how many health care services are needed among children. The extent of health insurance coverage in families who have insurance can impact both access to care and the average level of family expenditures (Machlin and Zodet 2005, p. 64). Also, special needs children require different levels and types of health care to maintain optimal health. Variation in how the researchers construct these variables can yield substantial variation in their resulting estimates. For example, Shenkman et al. (2007) constructed their health status categories according to conditions: (1) healthy (children who have not used health care services and those without an underlying chronic condition); (2) significant acute conditions (categorized as conditions that could be precursors for developing a chronic disease); (3) minor chronic conditions (which usually could be managed effectively with few complications); (4) moderate chronic conditions that are variable in their severity and progression, can be complicated, and require extensive care; and (5)

major chronic conditions that are serious and often result in progressive deterioration, debility, and death (p. 310). Kenney, Ruhter, and Selden (2009), however, examined spending patterns based on indicators of activity or social limitation, utilization of specialty care, or whether the child met federal conditions to be classified as a special needs child (p. 1027). Based on these spending patterns, children's health status was defined as excellent, very good, good, fair, or poor health (Kenney, Ruhter, and Selden 2009). Lastly, studies such as Lino and Carlson (2009) evaluate children's health care expenditures as part of the family budget, not based exclusively on the health of the child. Each of these studies sheds light on health care costs, but we must consider the limitations within this line of research when drawing definitive conclusions.

### Health Care Expenses

Medical expenditures cover a range of different aspects of health care. To be as accurate as possible the next few pages divides the examination of health care into specialized areas, such as medical care, dental care, mental health care, and vision care. These categories will be subdivided according to wellness visits, acute illness and injury visits, and prescription drug costs. Furthermore, we will discuss the impact of children's medical care on the parent's time and opportunities. We will incorporate discussions on cost variations based on age, SES, and health care coverage as appropriate. Special needs children will be discussed separately in the next section.

The goal of children's healthcare is to maximize health, not simply to treat disease\_(Homer, Kleinman, and Goldmann 1998). To maximize health, preventative care and wellness visits are the key to success. Well-care can be defined as children's periodic health care visits to health practitioners who conduct medical surveillance, disease screening, and anticipatory guidance to thwart potential injury or illness. The American Academy of Pediatrics (AAP) suggests that wellness and preventative care begins immediately after birth. Children are most often screened for health care issues within their first two years of life. The AAP recommends that children under one year of age have wellness and screening examinations at three to fourteen days old, one month, two months, four months, six months, nine

months, and at one year old (AAP 2007). After one year of age, children should see their doctor every three months for preventative care, and then start yearly visits by age of three until they reach the age of twenty-one (AAP 2007). In total, child wellness care requires 31 provider office visits and more than 40 immunizations (26 immunizations are given by the age of two) between birth and age two (AAP 2007).

However, fewer than half of the children and adolescents in the United States are meeting these recommendations, particularly among the population of uninsured children (Chung et al. 2006, p. 509). In 2008, research was conducted to determine the amount of preventative care utilization among children enrolled in Medicaid/SCHIP. Approximately 30 percent of the children who were continuously enrolled in these programs received little or no medical services during a one year period (Kenney, Ruhter, and Selden 2009, p. 1034). Of great concern was the fact that a disproportionate amount of African American children were in the zero spending group (Kenney, Ruhter, and Selden 2009, p. 1034). These children are receiving very little, if any, preventative care, which puts them at risk of undetected health problems that could otherwise be treatable.

Substantial variation in cost occurs across child age groups. Because care is more frequent for younger children, they are more likely to incur more health care expenses than older children. In 2004, 78.5 percent of children under age six had office-based medical provider services, averaging \$160.00 per child, compared to just 60.9 percent of children between the ages of six to seventeen, which averaged \$127.00 per child (Ezzati-Rice, Kashihara, and Machlin 2004, p. 4). These percentages remained relatively consistent across time and geographical location (Chevarley et al. 2006). However, there is some subtle variation among rural and urban population, when ethnicity was held constant. Overall, the mean number of office visit per year for children with doctor's office visits was lower at 3.8 visits in large metro county areas compared to 4.5 visits in small metro county areas (Chevarley et al. 2006, p. 247). However, most hospitals are located in large and small metro areas, while teaching hospitals are mostly likely to be found in large metro areas (Chevarley et al. 2006). Children in nonurban areas do not have as much access to additional testing or treatment following a primary medical screening.

The cost of well-care among children also differs significantly among children with varying health needs. Kenney, Ruhter, and Selden (2009) found that children in the higher medical cost spending group were more than twice as likely to have a chronic condition, 3.6 times more likely to be in fair or poor health, 11 times more likely to have a physical limitation, and three times more likely to have special health care needs that required more well-care visits than among children in intermediate spending groups (pp. 1028–1029). These high spending groups account for a substantial portion of health care expenses reported; although this group is relatively small in size relative to the intermediate and lower spending groups.

Children from lower income families do not obtain the same level of well-care as children from higher income families—approximately 92.2 versus 97.0 percent (Machlin and Zodet 2005). They tend to also have lower health status levels. Yet, low-income families have considerably lower levels of out of pocket expenses when compared to higher income families. For example, in 2002, the average amount of out of pocket medical expenses for a higher income family was \$1,234 to \$1,510, but the median out of pocket expenses among poor or near poor families was \$1,013 (Machlin and Zodet 2005). In 2009, further investigation demonstrated that the spending disparity between income groups had further increased. Children in the highest spending category are much more likely to received SSI, and had Medicaid/SCHIP spending that equated to nearly five times more than their non-SSI peers (\$4,815 versus \$1,005) (Kenney, Ruhter, and Selden 2009, p. 1029). These high costs are incurred by the state.

While very young children account for higher health care expenditures on well-care, older children account for higher expenditures on injury related medical expenses. Children aged 15 to 17 years had that highest rate of emergency doctor visits, while infant children had the lowest (Owens et al. 2008). In addition to age, certain other child characteristics made them more likely to have an injury related emergency doctor visit. Among these high risk groups were boys, children from low-income communities, and children from nonmetropolitan areas (Owens et al 2008). Most injuries were classified as superficial. The most common injuries reported were open wounds, sprains and strains, and fractures, which were mainly caused by falls, being struck by an object, cutting or piercing, and overexertion during

recreational activities (Owens et al. 2008). Serious injuries do occur, but they account for a small fraction of overall reported emergency room visits. Interestingly, although 71.9 percent of the children were covered by private health insurance and 9.1 percent were uninsured, only 53.7 percent and 7.0 percent of injury related visits were billed to private insurance or to Medicaid, respectively (Owens et al. 2008). This phenomenon declined with the child's age, and the proportion of injury related emergency room visits billed to other government insurance or billed as uninsured increased (Owens et al. 2008). Ultimately, injuries account for over one-third of emergency doctor visits, and 2.3 percent of those visits resulted in pediatric inpatient stays; these emergency visits accounted for \$17 billion per year in medical care costs as of 2008 (Owens et al. 2008).

The diagnosis and treatment of acute illness among children is another dimension within children's health care expenditures that must be considered. These expenses reflect minor, short term illnesses among relatively healthy children. The cost of a medical visit for acute illness is compounded by the cost of prescription drugs (discussed later). The most common type of acute diseases among children includes inner-ear infections, allergic rhinitis, mental disorders (including attention deficit disorder), common colds, and asthma (Hartman et al. 2008). Approximately 84 percent of children under age six had ambulatory expenses, compared to 67 percent of children ages six to seventeen, in 1999 (Cohen et al. 2000, p. 4). The increasing cost for hospital and physician/clinic services resulted in them comprising two-thirds of the health care spending for children in 2004 (Hartman et al. 2008). Spending for hospital services for acute illness were relatively high, averaging approximately \$1,000 per child per year in 2008, but the frequency of these hospital visits remains very low (Hartman et al. 2008). In contrast, expenditures on physicians and clinic services were more frequent, but cost less at \$753 per child per year (Hartman et al. 2008).

When emergency hospital visits for injury and acute illness were grouped according to a child's spending category, we find that children in the highest medical spending groups accounted for the largest share of health care service costs. For example, 26.5 percent of all children enrolled in Medicaid/SCHIP, who were in the highest spending group had the highest amount of hospital stays, compared to almost

none in the lowest Medicaid/SCHIP spending group and less than 1 percent in the intermediate spending group (Kenney, Ruhter, and Selden 2009, pp. 1032–1033). Likewise, high spending group children had far more emergency room visits (37.5 percent) compared to 18.1 percent in the intermediate spending group and 1.1 percent in the lowest spending group (Kenney, Ruhter, and Selden 2009). This analysis of spending groups shows that there are highly concentrated categories of children who utilize a large majority of the well-care and acute health crisis visits. The high spending category children ages one to seventeen who were enrolled in Medicaid/SCHIP continuously for twelve months consumed 72 percent of spending within this age group (Kenney, Ruhter, and Selden 2009, p. 1033). Children who occupy these high spending categories were likely to be special needs children, but this is not always the case.

Childhood injuries and illness have a substantial effect on the family's physical, emotional, and financial health, as well as the public healthcare system. Diagnosis and treatment of a child's acute injury or illness does not only result in direct financial costs, but also yields indirect costs to the family. Often, a parent must take time out of their work day to attend to a child's health care needs. Absences from work may extend over a long period of time if an injury or illness is more serious. The Family and Medical Leave Act of 1993 (FMLA) safeguards adults from losing their job when faced with an immediate family member who has become seriously ill or injured, or in the event of the birth of a child. However, it does not protect everyone. The FMLA only applies to public and private-sector employers who employ 50 or more employees in 20 or more workweeks in the current or preceding calendar year, and employees who have worked over 1,250 hours for an eligible employer for at least 12 months (U.S. Department of Labor 2010). Many families are not covered by the FMLA because they have more unique, intermittent, or contractual employment, or work for small businesses. Many parents face a difficult choice between their job and caring for the immediate health of their child. This is particularly difficult for single parents, who do not have the luxury of a potential second income or partner to share the time or financial burden of child care.

Even those who are covered under the FMLA still may experience financial difficulty. The FMLA is for unpaid leave only (U.S. Department of Labor 2010), so the family faces a reduction in

income due to lost wages. If a parent chooses to continue working when their child is in need of care, then out of pocket expenses for caregivers may be incurred. Moreover, miscellaneous expenses such as transportation to and from health care facilities, medications, special equipment, or food for temporary dietary needs will also be added. Parents stand to lose out on missed wages, career opportunities, and other indirect costs as a result of their child's illness or injury. These losses are difficult to calculate because there are no clear pecuniary prices to easily quantify these costs.

Prescription drugs and immunization costs tend to be one of the most costly medical expenses for both the parent and health care system. As of 2002, pharmaceutical costs reached 14 percent of the total health care costs in the United States and continue to rise (Cheng and Chang 2002, p. 728). An increasing share of health care spending for children is on pharmaceuticals. Prescription drug spending on children accounted for 8 percent of total health care spending for children in 2004 (\$16.3 billion), and during that year Medicaid was the largest payer of children's prescription drugs at 38 percent, compared with 31 percent in 1999 (Hartman et al. 2008, p. w7). Private health insurance companies and individual out of pocket payers saw the reverse trend, as their payouts for children's drugs have fallen since 1999. In 1999, private health insurance companies paid 43 percent of all children's drug costs, while in 2004 that share dropped to 36 percent; similarly, out of pocket payers for children's medications fell from 23 percent in 1999 to 16 percent in 2004 (Hartman et al 2008, p. w7). Children who were covered by Medicaid had comparable prescription drug expenditures to children who were covered by private insurance.

However, numerous factors affect prescription drug expenditures on children. According to Cheng and Chang (2002), race/ethnicity, insurance status, and family income level influence prescription drug expenditure on children based on the data from the 1996 MEPS (p. 731). These influences existed even after they controlled for other variables such as health status, medical conditions, and SES. For example, "blacks spent an average of \$4.03 per child in 1996 compared with \$79.12 for whites; poor and low-income children spent an average of \$55.01 and \$46.80, respectively, compared with \$97.16 for the wealthy in 1996; and uninsured children had a predicted average expenditure of \$26.41 compared with \$72.45 for privately insured children" (Cheng and Chang 2002, pp.730–731). It was not surprising to find

that uninsured children, poor and low-income children, and children of color spent less on medication than their counterparts. The categories of children who were reported to have lower usage of prescription drugs were also the same groups of children who were reportedly receiving less preventative and well-care visits. These children are also the most at risk for undetected and untreated illnesses.

### Dental Health

Oral health is a vital component of a child's overall holistic health care, and yet dental care is one of the most commonly overlooked preventative services. Starting oral health care early in life is vital to reducing the risks of tooth decay, gum disease, and related medical conditions that can occur in adult life. Unfortunately, tooth decay is one of the most common infectious conditions among children in the United States. By age two to four years old, 17 percent of children have already had tooth decay (Brown 2006). This percentage increases to 52 percent of children by age eight, then to 78 percent of children by the age of seventeen (AAPD 2010). The American Academy of Pediatric Dentists (AAPD) recommends that children visit a pediatric dentist every six months (AAPD 2010). Tooth decay is largely preventable. Dental well-care visits consist of a checkup, oral cleaning, fluoride treatments, the application of sealants, which protect teeth against cavities, and discussions about diet and oral health care. In comparison to medical health well-care, the recommended number of oral health well-care visits is considerably lower, yet lower percentages of families follow the recommendations. Only 51.1 percent of American children ages two to seventeen obtained at least one dental service visit in 2003; however, younger children were less likely to visit a dentist, with 48.1 percent of children between the ages of two and eleven compared to 55.4 percent of children between the ages of twelve and seventeen having at least one dental service visit (Brown 2006).

During 2003, the average dental care expense for a child ages two to seventeen with at least one dental visit was \$501 (Brown 2006). The annual dental expense for children between ages twelve and seventeen with at least one dental visit was \$742, while average annual dental expense was \$327 for children ages 2–11 (Brown 2006, p. 2). Children under age six were the least likely to have any dental



expenses, and their average expenses were significantly less than those for any other age group (Cohen et al. 2000). Children over six years old were more likely have dental expenses. These differences in dental costs demonstrate the value of preventative dental care by age. A child's location within the country also generated differences in the utilization of dental health care. Micropolitan counties had higher rates of dental visits compared to large metropolitan areas, which remained constant even after controlling for insurance type and gender (Chevarley et al. 2006, p. 247).

Specific expenditures on each of dental well-care, dental treatment, and orthodontia are more difficult to parcel out. This is because many research studies do not tend to exclusively discuss one aspect of children's oral health over another. Furthermore, dollar amounts and number of office visits for individual procedures may not accurately capture the need for dental procedures because factors such as income level and SES affect whether children receive needed care. For example, among those with a dental visit and a dental expense in 2003, those children living in high income families had average dental expenses of \$567. This compares with average expenses of \$365 for children in low/middle income families and \$302 for children living in poor/near poor families (Brown 2006). Clearly, some children are brought to the dentist more often than others or may have access to specialized dental care, such as orthodontic care, for more complex oral problems, while others do not.

Orthodontic care is a significant determinant of the number of dental visits and the cost of dental care, especially among older children between the ages of twelve and seventeen. The higher expenditures on orthodontic care by older children is likely because orthodontic treatments, such as braces and overbite corrective appliances, are not fitted until after all adult teeth have grown in. When orthodontic care was excluded, the number of visits for all children dropped from 2.6 to 1.8, and, for children between twelve and seventeen, the average number of visits dropped from 3.4 to 1.8 (Brown 2006, p. 2). Similarly, when orthodontic care is excluded the average dental expenses for all children dropped from \$501 to \$243, and, for children between twelve and seventeen, the average dental expense dropped from \$742 to \$268 (Brown 2006, p. 2).

Oral health care is an important part of children's health care, but is usually the most likely to be neglected. Furthermore, considerably more out-of-pocket spending will occur in children's dental care than other types of medical services because insurance for dental services is usually separate from medical insurance. Spending for dental services, including orthodontia, accounted for 12 percent (\$24.8 billion) of children's health spending in 2004 (Hartman et al. 2008, p. w7). Almost \$10 billion of dental spending was paid out of pocket in 2004, which is "more than three times the amount paid out of pocket for hospital services for children, reflecting prevailing insurance coverage" (Hartman et al. 2008, p. w7). This might be one of the reasons why we observe a trend towards neglected oral care, particularly among low-income families.

### Mental Health and Vision Care

Mental health is section of health care that does not have a prevention component. Most children do not use mental health services unless a mental health issue arises and necessitates that they do so. However, studies show that 9 percent of children and youth ages zero to twenty-one had a mental health-related diagnosis (Howell and Teich 2008). In 2008, over half of children diagnosed with a mental health condition received psychotropic medication, and approximately 7 percent were admitted into inpatient psychiatric care (Howell and Teich 2008). The type of mental health issue dictates the extent and duration of treatment needed to cure or manage the condition. Children receive mental health care for a large variety of conditions ranging from behavioral conduct issues, to anxiety, to schizophrenia and bipolar disorders. However, among the more common mental health problems that arise are attention deficit disorder (ADHD), autism, depression, eating disorders, and substance abuse.

The American Academy of Child and Adolescent Psychiatry (AACAP) states that ADHD occurs in 3 to 5 percent of school age children before the age of seven and may continue into adulthood (AACAP 2008). ADHD may also be related to childhood depression. About 5 percent of children and adolescents suffer from depression at one point during their childhood (AACAP 2008). Children experiencing high levels of stress, loss, experiences with ADHD, conduct and anxiety disorders are more prone to

depression. These disorders require either psychological therapy, medication, or both to help ease the symptoms. Autistic children, on the other hand, require comprehensive evaluation and specialized behavioral and educational programs throughout their lives. Some, but not all, children with autism benefit from treatment with medication (AACAP 2008).

Research shows that 7.8 percent of children enrolled in Medicaid were diagnosed with mental health problems, with higher proportions for boys (9.9 percent) than girls (5.8 percent), and significantly more mental health problems were reported as age increased to nineteen years of age (Howell and Teich 2008). Girls, however, are reported to have a high rate of diagnosis and treatment for eating disorders. In the United States, as many as 10 in 100 young women suffer from an eating disorder, particularly anorexia nervosa and bulimia, and these are increasing in frequency (AACAP 2008). Mental health services for diagnosis and treatment range significantly in cost, and coverage will vary depending on the type of insurance a child has. However, children with mental health or substance abuse treatment have consistently higher health care expenditures than children without such treatment (Larson et al. 2004).

The final component of health care we examine is vision care. Visual impairment and other conditions of the eye are among the 10 most frequent causes of disability in the United States, with about 80 million people, or one-third of the U.S. population, affected by some form of visual impairment (Ganz, Xuan, and Hunter 2007, 1). The cost of treating these conditions was at least \$22.5 billion in direct medical costs and \$16.1 billion in indirect costs per year in 2008 (U.S Department of Health and Human Services 2010). It is estimated that approximately 25 per 1,000 children under 18 years old are blind or visually impaired (Centers for Disease Control and Prevention 2002). About 2 percent of children entering first grade, and about 15 percent of children entering high school are nearsighted (Zadnik 1997). Recognizing that visual impairment impacts a child's quality of life and level of educational attainment can lead to increased need for special educational, vocational, and social services, (Ganz, Xuan, and Hunter 2007). Children are acutely affected by vision problems, which often go undetected. Children's vision problems are very common, affecting nearly 15 million children, or approximately one in four school-age children, yet nearly 54 percent of all children without health insurance do not receive vision

screening examinations (NCVH 2009, p. 1). Well-care vision screenings are not only to evaluate a child's need for glasses. They are also for eye diseases, anomalies, or infections. In 2006, 6.8 percent of children had some type of diagnosed eye infection and approximately 4.7 percent of children had some type of diagnosed eye condition other than one exclusively related to disorders conjunctivitis(Ganz, Xuan, and Hunter 2007, 2).

Children without vision insurance coverage are about three times more likely than children who are insured for vision care to go without eyeglasses when needed (NCVH 2009, p. 1). Hodges and Berk (1999) reported on the 1994 Robert Wood Johnson Access to Care Survey and found that 2 percent of children had an unmet need for eyeglasses. Like dental insurance, vision insurance tends to be a supplemental option in private medical insurance coverage, aside from emergency eye injury. Vision services are generally classified as an optional benefit in Medicaid and SCHIP (National Commission on Vision 2009, 1).

Uncorrected vision impairment and other untreated eye conditions can adversely impact quality of life. While frequency rates vary between demographic groups, there is an increasing need for eye care among children: “5–10 percent have undetected vision problems; 79 percent have not visited an eye care provider in the past year; 35 percent have never seen an eye care professional; and 40 percent who fail initial vision screening do not receive the appropriate follow up care” (NCVH 2009, p. 1). For children, vision is critical for the acquisition of skills that will be important for their potential in the adult world. Poor vision and eye health in children severely affect their ability to learn and place them at a disadvantage in education and in life (Ganz, Xuan, and Hunter 2007; NCVH 2009, p. 1; Zaba 2009).

Estimating the cost of vision care is more complex than analyzing the costs of mental and dental care. Although the patterns of use and expenditures for adults are relatively well known, less is known about eye-care and vision services for children (Ganz, Xuan, and Hunter 2007, 5). However, we do know that girls are more likely to have corrective lenses, and among Black or Hispanic children, the insured were more likely to have corrective lenses than the uninsured (Ganz, Xuan, and Hunter 2007, 5).

Health care professionals cannot emphasize enough the importance of screening children for vision problems as they progress through their school years. In order to ensure vision well-care for children, leaders in education, government, health, and the non-profit sector must come together to make vision care, including access to affordable prescription eyeglasses for all children, a priority in society (Zaba 2009). Parents must be educated about the importance of children's vision health, and have access to resources that allow them to follow through.

#### Estimates of Expected Growth in Health Care Costs

The costs of health care and health insurance have been perpetually increasing at a rate far exceeding that of general inflation. Between 2000 and 2010 the average annual health insurance premium for those with employer provided insurance increased by 114 percent, going from \$6,438 to \$13,770. Moreover, an increasing share of this premium was covered by the worker themselves, with their contribution increasing by 147 percent from \$1,619 in 2000 to \$3,997 in 2010 (Kaiser Family Foundation, 2010a).

Workers are also paying an increasing portion of their health care costs out-of-pocket through higher deductibles, copayments and co-insurance rates. For example, the average deductible for family insurance increased from \$1,034 in 2006 to \$1,518 in 2010, or by 47 percent. While it is unlikely that health insurance premiums can continue to increase at past rates given the stagnation of wages resulting from the recent recession, and employers desire to cut costs to maintain profitability, the increasing share of premiums paid for by employees, as well as increasing out-of-pocket costs, should result in further increases in health care costs as they relate to the cost of raising children at a rate above that of average inflation.

The costs of health care for those who pay out-of-pocket or purchase private non-group health insurance themselves have also increased rapidly. Premiums in the non-group market have risen particularly rapidly of late. Of those families with non-group coverage, 77 percent reported having their premiums increased over the past year at an average rate of 20 percent. With average premiums for family

coverage being \$7,102 in 2010 increases averaging 20 percent represent an obvious burden on families and an impediment to continued coverage. Moreover, average annual out-of-pocket costs for those with non-group family coverage were \$2,688 in 2010, far higher than for those with employer provided health insurance (Kaiser Family Foundation, 2010b). However, the cost of insurance in the individual market is that most likely to be affected by the recent passage of the Patient Protection and Affordable Care Act, as the Act creates an insurance exchange and heavily subsidizes the purchase of these plans, which should result in substantially lower costs in the non-group insurance market beginning with the exchange's implementation in 2014. Thus projecting the future growth of health care costs as they relate to the cost of raising children for families purchasing insurance through the non-group market is difficult, if not impossible, until health care reform is fully implemented, and the health insurance exchanges have had several years to operate.

Recent passage of the Patient Protection and Affordable Care Act creates significant uncertainty about the future trajectory of health care costs. In the short-term, the Act appears to have resulted in an increase in health insurance costs due to the cost of implementing various provisions of the new law, such as extending coverage to children up to age twenty-six on their parents' health plan and requiring plans to cover the cost of various preventative services. However, the long-term implications of the Act on health care cost growth are unclear, with certain provisions aimed at reducing growth in health care costs, or at least the burden on individuals, such as limiting family deductibles to \$4,000 in the small group market, the creation of insurance exchanges, and no cost sharing for certain preventative services. Mandating that all Americans have health insurance coverage and that insurance companies provide preventative services may decrease costs over time by catching health conditions at an early stage where they can be treated with medication or minor interventions rather than costly surgical procedures. With more Americans having health insurance fewer people are likely to seek care for minor conditions through emergency departments where cost of care is far higher than through a primary care physician.

Added uncertainty about the impact of the Act arises from the recent changes in the composition of Congress that occurred in the November 2010 election. With various members of Congress now

proposing to revisit the current health care legislation, the possibility for modifications to the law that could affect health care costs exists.

As the various stages of the Act are implemented, further research will be needed to identify its effect on the factors described above that could influence health care costs, and thus their impact on the cost of raising children. This research should consider in particular the effect of the legislation on employer provided health care coverage, cost, cost sharing, and out-of-pocket expenditures. It should also evaluate any potential changes in the long-term trajectory of health care cost growth.

### Section Conclusion

In conclusion, there is a wide array of factors that are a part of calculating health care costs. Methodological challenges and research approaches have resulted in varying conclusions. Health care expenditures are covered either through private insurance, public health services programs, or strictly out of pocket. There has been a decline in recent years in families holding private insurance, as the primary source of private insurance—employment—has decreased and unemployment increased. Medicaid/SCHIP has helped reduce the number of uninsured children, particularly among poorer families. However, there are still a substantial number of children who remain uninsured because their family income is within a gray zone, where they are not eligible for public health insurance, but their parents work in jobs that do not provide health insurance and/or have too little income to purchase private health insurance.

Well-care and preventative screening are the best way to head off potential disease, however many children do not receive the appropriate amount of recommended care. These groups of children are primarily lower income children and minority children. Acute injury and illness account for a large portion of spending, particularly among a highly concentrated, although rather small, group of children with high levels of expenditures. Prescription drug costs and immunizations account for increasingly larger portions of insurance budgets and out of pocket expenses. In particular, parents will incur indirect costs such as lost time, wages, and career opportunity resulting from forced absences to care for ill or

injured children. Parents who chose not to miss work may have to pay for other caregivers to provide assistance to ill children at home.

Dental, mental health and vision care are often among the more difficult services for which to calculate expenditures. These services are often offered as supplemental insurance or insurance may limit the amount of services rendered under the plan. Mental health care is among the few dimensions of medical care that doesn't have a preventative element. Dental and vision care have a lower number recommended visits for well-care than does general health, but oral and visual health is among the most neglected. The amount of care received tends to depend on income level because substantial portions of the cost of these types of care are paid out of pocket.

Health care costs for children are likely to continue to grow over the coming years for families on employer provided insurance as employers further shift premium costs to their employees. However, the recent passage of the health reform law has created considerable uncertainty about future changes in health care costs. Various provisions of the act will directly affect the cost of employer provided insurance, with these costs varying depending on exact implementation. Families purchasing non-group coverage are likely to see significant reductions in their health insurance costs as the insurance exchanges are set up, premiums are subsidized, and out-of-pocket expenditures are capped. Again, the exact effect on health care costs to families for their children will depend on the exact implementation of the law.

The state must consider all these aspects of children's health care costs when determining child support guidelines and to what extent child health care costs should be factored into the equation. As emphasized above, the provision of basic health insurance is only one component of the cost of providing child health care, as indirect and out of pocket costs for child health can be substantial. Moreover, this section covers only children who do not have special needs. The next section focuses on special needs children and their unique impact on health care expenditures.



## V. HEALTH CARE AND CHILDREN WITH SPECIAL HEALTH CARE NEEDS

It has been evident, thus far, that health care utilization and expenditures among children varies considerably according to SES, age, preventative care versus diagnosis and treatment of illness, and type of service. However, a child's health status causes the most variation in utilization and expenditure. Therefore, particular attention must be paid to special needs children when discussing health care cost analyses. Children with special health care needs (SHCN) are children who have an increased risk for a variety of chronic conditions (Lindley and Mark 2010), requiring higher levels of health care services and expenditures than the average child (McPherson et al. 1998). In 2006, just 16.2 percent of all children under age eighteen were reported by their parents to have special health care needs (MEPS 2006, p. 2). Yet, this small group of children accounts for the lion's share of reported health care services and costs among private and public insurance. These children are reported to have more hospital stays, emergency room visits, surgical procedures, medical treatments, specialist visits, home health days, medical equipment usage, and prescriptions than non-SHCN children (Boulet et al. 2009; Lindley and Mark 2010; Newacheck et al. 2004). Moreover, parents of SHCN children incur greater indirect costs than parents of non-SHCN children. Loss of wages, missed opportunities, and time shortages result from the extra attention and care that parents must give to these children. Extensive use of services (Boulet et al. 2009; Lindley and Mark 2010; Newacheck and Kim 2005), increased direct and indirect costs of child rearing associated with SHCN children, and elevated out of pocket health care costs create a financial burden for many families.

This section addresses health care costs related to SHCN children. It will begin with a brief discussion on the most costly chronic illnesses and conditions, and the expenditure disparity according to the degree of the disability and other factors. We will also survey differences between SHCN children and types of insurance, followed by their impacts on health care costs. Next, there will be a comparison between aspects of health care expenditures relating to SHCN children and non-SHCN children. We then discuss SHCN children's preventative care and well visits; followed by chronic illness diagnoses and treatments and their direct costs; expenditures on prescription medications; expenses pertaining to dental

wellness and procedures; and mental health disorders and vision care. Finally, we will conclude with the indirect costs in terms of parents' time and opportunities when they are faced with caring for a special needs child.

### Cost Difference between SHCN Children and Well Children

The category of SHCN children is deceptive. Like well children, each child and group of children varies according to numerous factors such as age, sex, SES, etc. Nevertheless, there is an additional layer of distinction among SHCN children depending upon their health care status. Some SHCN children require substantially less direct care or special services than others. Others may require extensive amounts of medical treatment, home health care, special education, and other extraordinary considerations such as restricted diets, medical equipment, or therapy. Therefore, families incur a broad range of expenses associated with a SHCN child's health care. Each circumstance is unique. Researchers and policy makers have isolated some of the most costly chronic conditions, according to the family's annual out of pocket medical expenses (excluding insurance premiums). Autism, muscular dystrophy, cystic fibrosis, heart problems, and emotional problems cost families between \$2,660 to \$69,906 in out-of-pocket expenses compared to \$676–\$3,181 for families with non-SHCN children (Buescher et al. 2006; Newacheck et al. 2004; Lindsey and Mark 2010, 79; Shenkman et al. 2007). Chronic physical conditions are not the only types of illness categorized as a disability. Children with mental disorders (discussed separately below) are also within this category. In 2006, in the United States alone, \$8.9 billion was spent to treat children with mental disorders (Soni 2009). Parents of children with mental disorders face many of the same challenges and expenses face by parents of children with physical conditions.

The range of expenditures for SHCN children depends on the severity of the child's disability. Shenkman et al. (2007) ranked the severity of conditions depending upon the levels of health care utilization required. They are: (1) *Significant acute conditions* such as head injury with coma, prematurity, and meningitis, which could be precursors to or place a child at risk for developing a chronic disease; (2) *minor chronic conditions* which include attention deficit/hyperactive disorder [ADHD] and

hearing loss that can be managed effectively with few complications; (3) *moderate chronic conditions* consist of conditions such as asthma, epilepsy, and major depressive disorders that vary in their severity and progression, can be complicated, and require extensive care; and (4) *major chronic conditions* which encapsulate active malignant conditions, like cancer, cystic fibrosis, spinal bifida, and end-stage renal disease, that are extremely serious and often result in debility, progressive deterioration, and death (Shenkman et al. 2007). In addition to severity, the number of conditions children have is also a consideration when calculating health care expenditures for SHCN children.

SHCN children with different demographic characteristics also influence the level of expenditures and health service use. Younger children were more likely to use health care services at the beginning of their condition (Himmelstein 2006), although the prevalence of having a SHCN is greater among older children (MEPS 2006). For example, in 2006, 20.1 percent of children ages twelve to seventeen were reported to have a special health care need compared to just 10.4 percent of children under the age of six (MEPS 2006). Furthermore, sex and ethnicity affect expenditures. An estimated 19.1 percent of boys and 13.2 percent of girls were reported to have a SHCN by their parents (MEPS 2006), and SHCN were most prevalent in African American children (Shenkman et al. 2007).

#### Insurance Coverage and SHCN Children

The question of health insurance coverage is a major concern for all families, particularly for families of SHCN children. There is an association between SHCN children and insurance coverage. Children with SHCN are more likely to have access to health insurance than their well counterparts. In 2006, approximately 9.3 percent of children without SHCN were uninsured compared to roughly 4.7 percent of children with SHCN (MEPS 2006, p. 2). Health insurance provides a significant protection against high cost procedures and treatments, while providing a coordinated network of health care professionals to provide these services. Without insurance coverage, treatment for many of these chronic illness, especially the more severe conditions, would be financially impossible for most families. However, health insurance is not a panacea. Research has found that, although insurance is an important

financial safeguard for families with SHCN children, insurance coverage alone is often not enough (Chen and Newacheck 2006, p. 205). Out-of-pocket expenses (discussed below), which are separate from insurance premiums (MEPS 2006, p. 5) impose a significant burden upon these family. Even when insured, low-income families are particularly vulnerable to out-of-pocket expenses, as they consume a disproportionate share of their incomes (Newacheck et al. 2004, p. 81).

Families in the United States incur high costs for children's disabilities (Parish et al. 2008), and many of these families qualify for public health insurance or other social service programs such as Medicaid and SHIP. SHCN children who qualify for Medicaid constitute about 16 percent of the total Medicaid budget and about 38 percent of the budget for all disabled people of all age groups (Summers, Ghosh, and Rousseau 2005). Also, children with chronic conditions compose merely 20 percent of the pediatric population; however they incur nearly 80 percent of pediatric health care expenditures (Newacheck and Kim 2005). The US government has considered several reform proposals and attempts to manage these high expenditures. Care management and care-coordination are just two examples of Medicaid reform strategies (Florida Agency for Health Care Administration 2005; National Governors Association 2005; Shenkman et al. 2007). Medicaid HMOs require more stringent prior-authorization procedures and referral systems than the primary care case management programs (PCCM). The child's medical needs may dictate whether a family decides to enroll in Medicaid HMO or PCCM coverage. Parents who have children with chronic conditions may be more likely to transfer their children to a PCCM program than an HMO (Shenkman et al. 2007). This is due to the PCCM programs relative flexibility in health care utilization. Authorization processes are more relaxed and broader networks of health care specialists are available to choose from in PCCM programs. However, there is some evidence to suggest that children in Medicaid HMOs are healthier than those in PCCM (West et al. 1996). Regardless of coverage flexibility, public insurance does not cover all of the SHCN child's related expenses (General Accounting Office 1999, 2000). Types of benefits vary from state to state since each state crafts their own specific program. Some states may have increased benefits for substance abuse

treatment or dental services, while others have increased services for children with special needs (SCHIP Annual Report 2009, p. 8).

Private insurance is becoming increasingly more costly for the employers and parents of SHCN children. As previously discussed, rising health care premiums in general have caused employers to scale back their medical benefits. Parents with SHCN children who are only offered high deductible plans with Health Saving Accounts find it extremely difficult to pay the premiums or deductibles. In 2004, health insurance premiums were an additional \$2058.00 to \$3593.00 annually for families of SHCN, depending on benefit plan type (Davidoff 2004). Moreover, SHCN children, more than other children, require services that are not covered under commercial health insurance plans, or are considered out-of-network services that require higher co-payments (Chen and Newacheck 2006, p. 204). This makes state insurance a more attractive option, particularly if the family qualifies for it. Finally, private health insurance coverage through the employer is contingent upon the employee's ability to work. Coverage interruption may result when parents take extended leaves of absence, fall below a certain number of working hours, or voluntarily resign to care for chronically ill children.

### Impacts on Health Care Cost

How do children with SHCN impact the cost of health care compared to well children? SHCN utilize more health care services in almost every specialty area. In 2000, health care expenditures for children were about \$67 billion, and SHCN children accounted for 41 percent despite making up only 16.2 percent of the pediatric population (MEPS 2006, p. 2). According to MEPS (2006), "children with SHCN were more likely than children without SHCN to have ambulatory visits (83.3 percent versus 67.4 percent), emergency department visits (16.3 percent versus 11.1 percent), inpatient hospital stays (6.0 percent versus 2.4 percent), dental visits (50.3 percent versus 44.2 percent), and prescription medicines (78.7 percent versus 45.8 percent)" (p. 2).

Chronically ill children have higher health care expenditures (Neff et al. 2004; Lozano et al. 1997; Chan, Zahn, and Homer 2002; Shnkmen et al. 2007) and out of pocket expenses (Ganz et al. 2008)

than their healthy counterparts. In 2000, the average medical expense for SHCN children was \$2,497.84 compared to \$803.12 for non-SHCN children (MEP 2006, p. 2) — more than three times the average medical expense. Younger children with SHCN had even larger discrepancies in expenditures from their healthy counterparts: the average annual medical expense for SHCN children under age six years is \$4,306.16, compared to \$663.87 for non-SHNC children of similar age (MEPS 2006, p. 3). Moreover, children with SHCN were also more likely to incur out-of-pocket expenses than other healthy children. Approximately 83 percent of SHCN children had out-of-pocket expenses compared to just 68.0 of non-SHCN children (MEPS 2006, p. 6). SHCN children had a median out-of-pocket expense of \$162.05 per service visit compared to non-SHCN children who had a median out-of-pocket expense of \$72.26 (MEPS 2006, p. 6).

Parents of special needs children have conflicting views on well-care visits. Some find it particularly time consuming and burdensome to attend additional well-care visits since their children are frequent users of the health care system anyway, while other SHCN children have been more likely to have had a preventative health care visit in the previous year than non-SHCN children (Schor 2007). Preventative well care visits and chronically ill children have received little attention in the literature. Perhaps this is due to so much emphasis on treatment and diagnosis analyses. More research in this area needs to be done to yield further insights into the effect of well-care on SHCN child outcomes.

Treatment for chronic illness and therapy vary greatly according to type of illness, severity, duration, and a host of other factors. Children with disabilities have almost eight times higher expenses for hospital inpatient care than children without disabilities (Newacheck, Inkelas, Kim 2004, p. 81). In 2001, families with an average income of \$35,000 to \$44,999 were charged the following amounts daily for their child's inpatient stay: mood disorders (\$1,216), asthma (\$2,638), ADHD and disruptive behavior disorders (\$1,344), diabetes with complications (\$2,921), epilepsy (\$3,650), and maintenance chemotherapy and radiotherapy (\$4,915) (Simpson et al. 2005). These amounts differ slightly for families with higher or lower income levels. The highest spending groups for medical expenses are mainly comprised of SHCN children. Within this group, 37.5 percent had an emergency room visit, compared to

18.1 percent in the intermediate spending group and 1.1 percent in the low spending group (Kenney Ruhter and Selden 2009, p. w1033). Children with behavioral and emotional disorders often incur costly expenditures for office-based visits and emergency care. Among children with behavioral disorders and emotional disorders, expenditures for office-based visits ranged between \$443 and \$542 (Guevara 2003, p. e443).

Pinpointing exact dollar amounts for caring for SHCN children are extraordinary difficult. If a child has cancer, for example, hospital visits, chemotherapy, radiation, surgery, medical equipment, home health services, and ambulatory transportation may be just some of the costs that may be incurred, and these can differ considerably. Each case is unique to the child's circumstances. At best, estimates can be made according to a particular service a child may use for a particular type of condition. Some of the categories that could be considered are durable medical equipment (eyeglasses, hearing aids, wheelchairs, and medical equipment rentals); home health care (private or public nursing services); hospital care (room and board, diagnosis, treatment, inpatient pharmacy); and other professional services (speech and physical therapists, private-duty nurses, optometrists, podiatrists) (Medicaid 2010).

Additional out-of-pocket expenditures are a real concern for families of SHCN children. As previously mentioned, these expenses do not include health care premiums. Many people conceptualize out-of-pocket expenditures as strictly being related to medical costs not covered by insurance. This is not the case. In addition to medical expenses, added costs in electricity, heating, water, special clothing, equipment, food, and transportation to medical appointments are just a few other types of expenditures not readily considered (Miedema et al. 2008; Steele and Davis 2006). For example, extra laundry may be required for children with incontinence, vomiting, or constant drooling problems. Also special wheelchair lifts and vans for transportation can range from \$5,000 to \$30,000 (Steele and Davies 2006). These costs can be especially onerous considering that many parents have inconsistent work hours due to SHCN child care, and thus less income (Freidman et al. 2005; Miedema et al. 2008; Montes and Halterman 2008). Therefore, out-of-pocket expenditures have resulted in approximately 40 percent of families with SHCN children experiencing financial strain due to their child's health condition (Kuhlthau et al. 2005).

Finally, prescription drug costs were ranked as the largest out-of-pocket expenditure, comprising nearly one third of a family's reported extra expenses (Newacheck, Inkelas, and Kim 2004, p. 81). Again, prescription drug costs fluctuate according to condition, severity, and other factors. Furthermore, the drug's method in administration may also require special equipment, such as syringes. It is thus difficult to determine exact amounts of expenditures without detailed information on each specific child's situation. However, research has shown that the average expenditures on prescribe medications were five times higher for SHCN children than those without disabilities (Newacheck, Inkelas, and Kim 2004, p. 81).

### Dental Costs

The previous section discussion on dental services illustrated both the importance of childhood dental care and the inconsistency of dental care utilization among children. Dental care is particularly important for SHCN children because many underlying medical problems may influence their oral health (Iida et al. 2010, p. 79). Yet, the prevalence of inconsistent dental care among children with SHCN is higher than non-SHCN children (Iida et al. 2010, p. 79).

Like dental care for well children, dental care for SHCN children can be divided into two main categories: preventative and non preventative. Preventative dental care visits may include teeth cleaning or polishing, sealant application, x-rays, fluoride treatments, and oral examination. Nonpreventative dental care visits may include crowns, restoration, extractions, abscess or infection treatments, and cavity fillings. Although SHCN were associated with unmet dental care needs among U.S. children, special needs children used more dental care services in the realm of nonpreventative care than their counterparts (Iida et al. 2010, p. 81). According to Iida et al. (2010), a possible explanation for this phenomenon is that families with SHCN children have competing demands in terms of their child's medical and dental care needs, so preventative dental care may not be prioritized or provided in a timely manner (p. 81). This may result in an oral problem going undetected, which may then require dental treatment. However, lack of priority may not be the sole reason for lack of preventative dental care. Some dentists are not comfortable



or qualified to care for a SHCN child, particularly when the child is ventilator-dependent (Iida et al. 2010).

These questions are partially addressed in the expenditure data. Among children who had at least one dental visit in 2005, “the average total dental care expenditures were \$558.18 for [children with] SHCN and \$539.25 for children without SHCN, which was not statistically different” (Iida et al. 2010, p. 83). This may demonstrate that SHCN children only visit a dental care professional when absolutely necessary; considering that they utilize more nonpreventative dental services, and do not have a higher total average dental care expenditures. Perhaps if parents of SHCN children conducted frequent preventative dental care with specially trained dentists, we would see the same type of expenditure difference between SHCN and non-SHCN children that we see in medical care.

### Mental Health Care Costs

Mental illness is also a category of chronic illness or disability that affects SHCN children. At times, a physical condition may be accompanied by mental illness, or mental illness may be the only or primary condition present. There are different categories of mental illness, such as behavioral, emotional, and affective disorders. However, one must be careful when classifying a child as having a psychological disorder versus a behavior disorder. Psychological disorders imply that the child has no agency over his or her behavior, but they do in behavior disorders. All aspects of mental illness are extremely challenging to both the parent and the child, which cannot be remedied with discipline or altered parenting techniques.

Behavioral disorders are increasingly recognized as a chronic disorder that impact academic, social, and family functioning greatly (Guevara et al. 2003, p. e440). These include such conditions as attention deficit/hyperactivity disorder (ADHD) and conduct disorders. Emotional disorders are classified as conditions such as depression and anxiety. Finally, affective disorders were psychoses conditions such as schizophrenia and borderline personality disorder. The most ubiquitous behavioral disorder was ADHD (4.2 percent), followed by depression (1.4 percent), anxiety (1.1 percent), miscellaneous disorders (0.5 percent), conduct disorder (0.3 percent), affective psychoses (0.2 percent), and oppositional-defiant

disorder (0.1 percent) (Guevara et al. 2003 p. e442). Disruptive disorders were more prevalent (4.5 percent versus 2.5 percent) than emotional disorders (Guevara et al. 2003 p. e442). Types of mental illness vary by age. For example, adolescents had the highest percentage of emotional disorders, while children six to twelve years old had the highest proportion of disruptive disorders (Guevara et al. 2003 p. e442).

Behavioral disorders are particularly expensive. Children with behavioral disorders incurred over \$1,468 in expenditures compared to \$710 for well-children expenditures (Guevara et al. 2003 p. e443). Office-based visits and prescription medication costs were also significantly higher among these children compared to their well counterparts (\$425 versus \$171 for office visits and \$235 versus \$61) (Guevara et al. 2003 p. e443). ADHD has been the subject of numerous studies in recent years, therefore our knowledge about diagnosis and treatment costs are significantly better than other mental disorders among children. Some studies have suggested that children with ADHD incur medical cost similar to children with asthma (Chan, Zhan, and Homer 2002; Kelleher, Childs, and Harman 2001) because they have greater ambulatory care and pharmacy costs than other children (Leibson et al. 2001).

However, children with emotional disorders and affective psychoses had the greatest total expenditures (\$3,237), followed by depression disorder (\$2,555), and anxiety disorder (\$1,824) (Guevara et al. 2003, p. e445). This does not necessarily indicate a hierarchical severity of mental illness ranked by expenditures. Some treatments are more expensive than other, which accounts for the variation in total dollar amounts from one mental condition to another. For example, children with affective disorder have higher expenditures for office-based and emergency room visits than children with depression or anxiety disorder, but children with depression had higher costs for inpatient care (\$815 versus \$186) than children with affective disorders (Guevara et al. 2003, p. e446). Prescription drugs can also be quite costly depending upon the medication required. Psychotropic drugs include anti-depressant, anti-psychotics, anti-anxiety, mood-stabilizers, and stimulants are particularly expensive (Howell and Teich 2008, p. 221). These drugs may be used alone or in combination with other medications, which can further add to the cost. If a physical illness is present, then medication costs are even higher. Children with behavioral

disorders had considerably higher average prescription drug costs than children with physical disorders or well children alone (\$361 versus \$251 or \$154, respectively) (Guevara 2003, p. e444).

Mental illness alone or combined with another physical condition presents financial and personal challenges for families of SHCN children. Only in recent years has the general public and the medical community begun to reevaluate their stance on these disorders. In the past, mental conditions were believed to have originated from lack of discipline, familial structure, or other things within the family's control. Now, researchers have begun to examine the biological and physiological causes of mental health conditions. Furthermore, they have begun to disaggregate the societal and financial impacts it has on families. Studies show that mental illness conditions are just as costly and burdensome as physical conditions.

#### Indirect Costs of Disabled Children

Raising children impacts parents' financial and personal resources. Policy makers find it difficult to calculate direct costs of children, such as expenditures on food, clothing, and shelter. It is even more challenging to estimate the amount of time, energy, and other indirect costs that parents incur when rearing a child. Leisure and personal time is significantly reduced when one becomes a parent (Bradbury 2008, p. 321). Caretakers of SHCN children have even greater demands on their time and personal resources. About 20.1 percent of parents or caretakers with SHCN children reported spending more than five hours per week directly related to arranging and coordinating health-related services (Chen and Newacheck 2006, p. 208).

The substantial amounts of time strictly devoted to the SHCN child have impacts on income. Loss in parental income due to missed work, not being able to work consistent hours, and the inability to work overtime, and quitting jobs are just some of the labor force challenges that these parents face (Freidman et al. 2005; Miedema et al. 2008; Montes and Halterman 2008). Negative impacts on paid work particularly affect mothers of disabled children. Mothers are still considered primary caregivers in American society, and are usually the custodial parent after separation or divorce. Therefore, lost wages and missed

employment opportunities are much greater for mothers than for fathers (Phipps and Burton 2009). Married mothers of SHCN children have higher likelihoods of reduced work force participation (e.g., Breslau, Salkever, and Staruch 1982; Gould 2004; Kimmel 1998; Powers 2001, 2003; Salkever 1982a, 1982b; Burton and Phipps 2009) as well as lower paying positions (Gould 2004; Powers 2003; Salkever 1982b). This appears to affect lower-income mothers more than higher-income mothers (Breslau, Salkever, and Staruch 1982; Salkever 1982b). Higher-income mothers may hire additional assistance or specialized child care, so that they can participate in the workforce, but this option is unavailable to lower-income mothers. Mother's paid work will also vary according to the nature, severity, and number of disabilities present within the household (e.g., Powers 2003; Salkever 1982b).

According to Parish and Cloud (2006), the current policy environment sees the financial well-being of SHCN children as largely dependent on their parents' employment. Lost income creates a financial burden upon these families. Parents of disabled children often report that they need additional income to cover medical expenditures (Miedema et al. 2008, p. 88). In order to compensate for lost income and meet the demands of health care expenditures, families may sell assets; take out loans or mortgages, or use saving to make up the difference (Emmanuel et al. 2000). At times, bankruptcy may be the only options after all other resources are exhausted (Himmelstein et al. 2005).

Parents also encounter missed opportunities in addition to loss wages. They may have to forego work promotions, advanced education, or additional training that makes them competitive in their field because they must devote their time to their sick child. This may lead to decreased levels of employability, particularly when a parent is out of work for long periods of time to care for a SHCN child (Miedema et al. 2008, p. 88). Some disabilities are demanding on parent's time, other disabilities are very expensive, and others both time consuming and financially draining (Gould 2004).

### Section Conclusion

There are special considerations that need to be given when discussing the costs of health care for SHCN children. Policy makers must pay close attention to differences in direct and indirect costs between

disabled children and well children. SHCN children are children who have (or may potentially have) chronic physical and/or mental conditions that require higher levels of health care services and expenditures than the average child. SHCN children are a small percentage of the pediatric population, but they consume the most health care dollars in both public and private insurance programs. They are reported to have more frequent and costly emergency room visits, surgical procedures, treatments, prescription usage, medical equipment usage, and home health care than other children. Many SHCN are insured either through public social services or through private insurance companies. However, not all expenses are covered by the insurance. Extensive out-of-pocket expenditures have been reported by parents of SHCN children. These out of pocket expenditures, health care service usages and costs depend upon the type of the illness and the severity. In addition to medical services, dental and vision care must also be evaluated. SHCN children were reported to have more oral hygienic and optometry problems than well children, however preventative care seems to be lacking.

Mental illness in recent years has been studied with greater interest in the academic and policy making community. Mental conditions such as behavioral disorders and emotional disorders are just as crippling on a child and parent's life as physical disabilities. Wide ranges of treatments, hospitalization, and medication may be as costly if not more costly than for children with a physical illness.

Finally, indirect costs such as missed opportunities, loss of wages, and diminishing personal times must also be taken into account. Mothers, particularly low-income and single mothers are most affected. There is wide variation in loss of wages by the type of child illness. Children with severe illness may need constant care and monitoring; requiring some parents to leave the workforce entirely. Assets liquidation, mortgage refinancing, borrowing, and bankruptcies may be the family's only option for covering these costs. Ultimately, however, categorizing and estimating very finite ranges of expenditures for SHCN children is going to be an exceedingly difficult task. Each case is unique, each illness is different, and no child is the same.

## VII. CONCLUSION

The State of Wisconsin has continually taken a keen interest to insure that individual child support orders are equitable for families across incomes and circumstances. A previous IRP report (see Rothe, Cassetty and Boehnen 2001) states that Wisconsin's calculations seem realistic; though perhaps erring on the low side. Wisconsin's ongoing use of a continuity-of-expenditures model in child support calculations does not directly incorporate an estimate the income of the resident parent when determining the amount of the child support owed by the noncustodial parent. However, accurately estimating family expenditures for children is extremely difficult. There are no ideal data sources. Direct costs, such as food and shelter are often shared in different proportions within the family unit. Indirect costs like parenting time, lost wages, and missed opportunities are even more challenging to quantify. Further, children are also relying more on their parents for financial assistance as they transition into adulthood. Ultimately, there is no unanimous answer for the child support policy question "how much for how long?" This question has become even more complicated when considering the rising cost of health care in the United States.

Health care expenditures, particularly among children, continue to climb. Parents' access to employment-based insurance coverage has declined in recent years due to unemployment, reduced employer coverage due to rising costs, and the increasing premiums born by the employee. Further, parents are faced with increasingly higher rates, deductibles, and out-of-pocket expenses despite having access to coverage. At times, parents must make the difficult decision of whether or not to pay these high costs or forgo insurance altogether. This is a particularly hard choice for single parents, who do not have the benefit of a second income. The State of Wisconsin has provisions for medical support that may require both parents to provide additional payments for health insurance and medical costs (Wisconsin DCF 2010). However, a parent's income must be above 150 percent of the federal poverty level in order for the child support orders to include medical support (Wisconsin DCF 2010). This makes low-income children particularly vulnerable to neglected health care. As previously stated in the last two sections, low-income children are the most at risk for lack of well-care. These children also have a prevalence of

chronic illness or disability. Furthermore, child support agencies are not responsible for enforcing medical orders if they are for unspecified dollar amounts, such as “half” of the medical bills (Wisconsin DCF 2010). This is problematic considering a chronically ill or disabled child may have volatile medical costs throughout childhood. Currently, neither the state nor the federal government has successfully rectified these particular challenges.

Health insurance and medical cost should be evaluated in terms of non-SHCN and SHCN children. Wisconsin’s current structure of medical support orders may be sufficient for non-SHCN children; although as costs continue to rise, it may need to be reevaluated. The need to revise may be more urgent if the trend of declining health care coverage from employers continues. Addressing the question of children with SHCN and medical support is far more complex. First, health insurance coverage is particularly crucial for these children. Parents employed by companies that do not offer insurance or require the employee to pay a higher premium may be unable to afford insurance without specific support for these costs. Moreover, parents who must leave the workforce to care for a SHCN child or children do not have access to employer-provided insurance or sufficient income to obtain even minimal individual coverage on the open market. They must therefore rely on public medical programs for coverage. Second, SHCN children have fluctuating direct medical expenses, particularly if the condition is degenerative or intermittent. Specifically ordered amounts may be too high or too low in any given time period. Yet, tracking varying medical expenses may not be feasible for the state. Third, out-of-pocket expenditures for these children tend to be extraordinarily high. Medical equipment and supplies not covered by insurance, transportation, higher utility expenses within the household, and other miscellaneous expenses can be too wide-ranging, difficult to calculate, or disaggregate from other members in the custodial household. Another challenge is calculating the indirect costs related to caring for SHCN children. Parents spend a significant amount of time on the medical needs of these children, in addition to parenting. Lost wages and loss of employment or professional opportunity are hard to quantify. Further, noncustodial parents who remain an active part of their child(ren)’s lives also incur these indirect costs. Financial considerations for their indirect costs must be considered in the same

manner as for the custodial parents. Finally, the state has the added burden of ensuring that all parties involved (custodial parent, noncustodial parent, and especially the child[ren]) are treated equitably. Constructing new guidelines accounting for the rising health care costs, particularly those for SHCN children would have to juggle the child's best interest, reasonable payments, and collection challenges, while consistently covering medical costs. The continuity of expenditure model may need to be reevaluated.

The above challenges and considerations are intended to highlight some of the issues that the State of Wisconsin may face as new criteria for support calculation are developed that consider the increasing healthcare costs faced by Wisconsin families. However, any specific policy changes would still need to be carefully evaluated by the State of Wisconsin in light of the ongoing developments in health policy, health insurance, and the healthcare market. The advantages and disadvantages of one model over another, and the impact on the family and the state that potential changes would have, go beyond the scope of this paper.



### Work Cited

- American Academy of Child and Adolescent Psychiatry. 2008. "Children Who Can't Pay Attention/ADHD." Facts for Families, No. 6. Washington, DC: AACAP. Available from [http://www.aacap.org/galleries/FactsForFamilies/06\\_childrend\\_who\\_cant\\_pay\\_attention\\_adhd.pdf](http://www.aacap.org/galleries/FactsForFamilies/06_childrend_who_cant_pay_attention_adhd.pdf).
- American Academy of Pediatric Dentists. 2010. *Frequently Asked Questions*. The American Academy of Pediatric Dentists 2010 [cited October 1 2010]. Available from <http://www.aapd.org/pediatricinformation/faq.asp>.
- Administration, Agency for Health Care. *FloridaHealth Care Reform: Application 1115 Research and Demonstration Waiver* 2005. Available from [http://www.fdhc.state.fl.us/Medicaid/medicaid\\_reform/waiver/pdfs/medicaid\\_reform\\_waiver\\_final\\_101905.pdf](http://www.fdhc.state.fl.us/Medicaid/medicaid_reform/waiver/pdfs/medicaid_reform_waiver_final_101905.pdf).
- Administration of Children and Family, Office of Child Support Enforcement. 2010. *21 Million Children's Health: Our Shared Responsibility-The Medical Child Support Working Group's Report*. The U.S. Department of Health and Human Services 2000 [cited January 22 2010]. Available from <http://www.acf.hhs.gov/programs/cse/pubs/2000/reports/medrpt/>.
- Apps, Patricia, and Ray Rees. 2000. "Household Production, Full Consumption and the Costs of Children." Institute for the Study of Labor (IZA).
- Aquilino, W. S. 2005. "Impact of Family Structure on Parental Attitudes Toward the Economic Support of Adult Children over the Transition to Adulthood." *Journal of Family Issues* 26(2): 143–167.
- Arnett, J. 2000. "Emerging Adulthood: A Theory of Development from the Late Teens through the Twenties." *American Psychologist* 55: 469–480.
- American Pediatric Association. 2007. "Recommendations for Preventative Pediatric Health Care." In *Policy Statement*, edited by B. F. S. C. Committee on Practice and Ambulatory Medicine: American Pediatric Association.
- Avery, R., F. Goldscheider, and A. Speare, Jr. 1992. "Feathered nest/gilded cage: The effects of parental income on young adults' leaving home." *Demography* 29: 375–388.
- Barten, A.P. 1964. "Family Composition, Prices, and Expenditure Patterns." In *Econometric Analysis for National Economic Planning*, edited by P. E. Hart, G. Mills and A. J. K. Whitaker. London: Butterworths.
- Bassi, L. J., and B. S. Barnow. 1993. "Expenditure on Children and Child Support Guidelines." *Journal of Policy Analysis and Management* 12: 478–497.
- Betson, D. M. 1990. "Alternative Estimates of the Cost of Children from the 1980–1986 Consumer Expenditure Survey." Institute for Research on Poverty, Special Report no. 51, University of Wisconsin–Madison.
- Bianchi, Suzanne. 2005. "What Gives When Mothers Are Employed?" In *The Conference on Time Use and Economic Well-Being*. The Levy Institute, Bard College, New York.

- Boulet, S., C. Boyle, and L. Schieve. 2009. "Health Care Use and Health and Functional Impact of Developmental Disabilities among U.S. Children, 1997–2005." *Archives of Pediatric and Adolescent Medicine* 163: 19–26.
- Bradbury, B. 2008. "Time and the Cost of Children." *Review of Income and Wealth* 54(3): 305–323.
- Breslau, N., D. Salkever, and K. S. Staruch. 1982. "Women's Labor Force Activity and Responsibilities for Disabled Children." *Journal of Health and Social Behavior* 23(2): 169–183.
- Brown, Erwin, Jr. 2006. "Children's Dental Visits and Expenses, United States, 2003." In *Medical Expenditure Panel Survey Statistical Brief #117*. Rockville, MD: Center for Financing, Access, and Cost Trends: Agency for Healthcare Research and Quality.
- Bryant, W. Keith, and Cathleen D. Zick. 1996. "An Examination of Parent-Child Shared Time." *Journal of Marriage and the Family* 58(1): 227–237.
- Buescher, P., S. Brunnsen, J. Whitmire, and C. Kutz-Hile. 2006. "Children Who Are Medically Fragile in North Carolina: Using Medicaid Data to Estimate Prevalence and Medical Care Costs in 2004." *Maternal Child Health* 10: 461–466.
- Burton, P., and S. Phipps. 2007. "Families, Time and Money in Canada, Germany, Sweden, the United Kingdom and the United States." *Review of Income and Wealth* 53(3): 460–483.
- Carbone, J. 2000. "Child Support Comes of Age: An Introduction to the Law of Child Support." In *Child Support: The Next Frontier*, edited by J. T. Oldham and M. S. Melli. Ann Arbor: University of Michigan Press.
- Casper, L. M., and S. M. Bianchi. 2002. *Continuity and Change in the American Family*. Thousand Oaks, CA: Sage.
- Centers for Disease Control and Prevention. 2005. "Visual Impairment and Use of Eye-Care Services and Protective Eyewear among Children—United States, 2002." In *Morbidity and Mortality Weekly Report*.
- Centers for Medicare and Medicaid Services (CMS). 2010. "Category of Definitions for National Health Care Expenditures. Washington, DC: CMS. Available from <http://www.cms.gov/NationalHealthExpendData/downloads/quickref.pdf>
- Chan, E., C. Zahn, and C. Homer. 2002. "Health Care Use and Costs for Children with Attention-Deficit/Hyperactivity Disorder: National Estimates from the Medical Expenditure Panel Survey." *Archives of Pediatrics & Adolescent Medicine* 156: 504–511.
- Chen, A. Y., and P. W. Newacheck. 2006. "Insurance Coverage and Financial Burden for Families of Children with Special Health Care Needs." *Ambulatory Pediatrics* 6(4): 204–209.
- Chen, Alex Y., and Ruey-Kang R. Chang. 2002. "Factors Associated with Prescription Drug Expenditures among Children: An Analysis of the Medical Expenditure Panel Survey." *Pediatrics* 109(5): 728–732.
- Chevarley, F. M., P. L. Owens, M. W. Zodet, L. A. Simpson, M. C. McCormick, and D. Dougherty. 2006. "Health Care for Children and Youth in the United States: Annual Report on Patterns of

- Coverage, Utilization, Quality, and Expenditures by a County Level of Urban Influence.” *Ambulatory Pediatrics* 6(5): 241–264.
- Chung, P. J., T. C. Lee, J. L. Morrison, and M. A. Schuster. 2006. “Preventive Care for Children in the United States: Quality and Barriers.” *Annual Review of Public Health* 27: 491–515.
- Cohen, J. W., S. R. Machlin, S. H. Zuvekas, and et al. 2000. “Health Care Expenses in the United States, 1996.” In *MEPS Research Findings 12*. Rockville, MD.
- Congressional Budget Office (CBO). 2007. “The State Children’s Health Insurance Program.” Washington, DC. Available from <http://www.cbo.gov/ftpdocs/80xx/doc8092/05-10-SCHIP.pdf>
- Congressional Budget Office (CBO). 2010. “An Analysis of Health Insurance Premiums under the Patient Protection and Affordable Care Act.” Available from <http://www.cbo.gov/ftpdocs/107xx/doc10781/11-30-Premiums.pdf>.
- Cooney, T, and P. Uhlenberg. 1992. “Support from Parents over the Life Course: The Adult Child’s Perspective.” *Social Forces* 71: 63–84.
- Craig, L., and M. Bittman. 2008. “The Incremental Time Costs of Children: An Analysis of Children’s Impact on Adult Time Use in Australia.” *Feminist Economics* 14(2): 59–88.
- Craig, Lyn. 2006. “Does Father Care Mean Fathers Share? A Comparison of How Mothers and Fathers in Intact Families Spend Time with Children.” *Gender & Society* 20(2): 259–281.
- Craig, Lyn. 2007. “How Employed Mothers in Australia Find Time for Both Market Work and Childcare.” *Journal of Family and Economic* 28(1): 69–87.
- Deaton, A. S., and J. Muellbauer. 1986. “On Measuring Child Costs: With Applications to Poor Countries.” *Journal of Political Economy* 94(4): 720–744.
- DeNavas, B. Proctor, and J. Smith. 2010. “Income, Poverty, and Health Insurance Coverage in the United States, 2009.” Washington, DC: U.S. Dept. of Commerce, Economics and Statistical Administration, U.S. Census Bureau. [Retrieved January 24, 2011] Available from <http://www.census.gov/prod/2010pubs/p60-238.pdf>.
- Eggebeen, D. 1992. “Family Structure and Intergenerational Exchanges.” *Research on Aging* 14: 427–447.
- Ellman, I. M., and T. O. Ellman. 2008. The Theory of Child Support. *Harvard Journal on Legislation* 45(1): 107–163.
- Ellwood, D. T., and C. Jencks. 2004. The Uneven Spread of Single Parent Families: What Do We Know? Where Do We Look for Answers? In *Social Inequality*, edited by K. M. Neckerman. New York: Russell Sage.
- Emmanuel, E., D. Fairclough, J. Slutsman, and L. Emmanuel. 2000. “Understanding Economic and Other Burdens of Terminal Illness: The Experience of Patients and their Caregivers.” *Annals of Internal Medicine* 132: 451–459.

- Estin, A. L. 2001. "Moving Beyond the Child Support Revolution." *Law and Social Inquiry-Journal of the American Bar Foundation* 26(2): 505–528.
- Ezzati-Rice, T. M., D. Kashihara, and S. R. Machlin. 2004. "Health Care Expenses in the United States, 2000." In *MEPS Research Findings No. 21*. Rockville, MD.
- Folbre, Nancy. 2004. "Valuing Parental Time: New Estimates of Expenditures on Children in the United States in 2000." In *Supporting Children: English-Speaking Countries in an International Context*. New Jersey: Princeton University.
- Folbre, Nancy, Jayoung Yoon, Kade Finnoff, and Allison Sidle Fuligni. 2005. "By What Measure? Family Time Devoted to Children in the United States." *Demography* 42(2): 373–390.
- Freidman, D., J. Hilden, and K. Powaski. 2005. "Issues and Challenges in Palliative Care for Children with Cancer." *Current Pain and Headache Reports* 4: 249–255.
- Ganz, M., Z. Xuan, and D. Hunter. 2007. "Patterns of Eye Care Use and Expenditures among Children with Diagnosed Eye Conditions." *J AAPOS* 11(5): 480–487.
- Godbey, Geoffrey. 2006. "Book Review: The Time Divide: Work, Family and Gender Inequality." *Social Forces* 84(4): 2368–2369.
- Goldscheider, F., and C. Goldscheider. 1993. "Whose Nest? A Two-Generational View of Leaving Home during the 1980s." *Journal of Marriage and the Family* 55: 851–862.
- Gorman, W. M. 1976. "Tricks with Utility Functions." In *Essays in Econometric Analysis*, edited by M. Artis and A. R. Nobay. Cambridge, MA: Cambridge University Press.
- Gould, E. 2004. "Decomposing the Effects of Children's Health on Mother's Labour Supply: Is it Time or Money?" *Health Economics* 13(6): 525–541.
- Grall, Timothy S., and U.S. Census Bureau. 2009. "Custodial Mothers and Fathers and their Child Support, 2007." Washington, DC: U.S. Department of Commerce, Economics and Statistical Administration, U.S. Census Bureau, pp. 10.
- Guevara, James P., David S. Mandell, Anthony L. Rostain, Huaqing Zhao, and Trevor R. Hadley. 2003. "National Estimates of Health Services Expenditures for Children with Behavioral Disorders: An Analysis of the Medical Expenditure Panel Survey." *Pediatrics* 112(6): e440–e446.
- Hartman, Micah, Aaron Catlin, David Lassman, Jonathan Cylus, and Stephen Heffler. 2008. "Health Spending by Age, Selected Years through 2004." *Health Affairs* 27(1): w1–w12.
- Haynes, M. C., ed. 1994. *Child Support Guidelines: The Next Generation*. April ed. Washington, DC: Department of Health and Human Services, Administration for Children and Families, Office of Child Support Enforcement.
- Heller, Sherri Z. 2002. *Medical Support Enforcement Policy Clarifications*. Policy Interpretation Questions, PIQ-02-03, edited by Office of Child Support Enforcement. Washington, DC: Office of Child Support Enforcement.

- Heller, Sherri Z. 2003. *Medical Support in Child Support Orders - Definition of Reasonable Cost*. Policy Interpretation Questions, PIQ-03-08 edited by Office of Child Support Enforcement. Washington, DC: Office of Child Support Enforcement.
- Himmelstein, B. P. 2006. "Palliative Care for Infants, Children, Adolescents, and their Families." *Journal of Palliative Medicine* 9: 163–181.
- Himmelstein, D. U., E. Warren, D. Thorne, and S. Woolhandler. 2005. "Illness and Injury as Contributors to Bankruptcy." *Health Affairs, Supply Web Exclusives* 7: W65-63–W65-73.
- Hodges, L. E., and M. L. Berk. 1999. "Unmet Need for Eyeglasses: Results from the 1994 Robert Wood Johnson Access to Care Survey." *J Am Optom Assoc* 70(4): 261–265.
- Homer, C. J., L. C. Kleinman, and D. A. Goldmann. 1998. "Improving the Quality of Care for Children in Health Systems." *Health Services Research* 33(4): 1091–1109.
- Howell, E. M., and J. Teich. 2008. "Variations in Medicaid Mental Health Service Use and Cost for Children." *Administration and Policy in Mental Health and Mental Health Services Research* 35(3): 220–228.
- Iida, Hiroko, Charlotte Lewis, Chuan Zhou, Louise Novak, and David Grembowski. 2010. "Dental Care Needs, Use and Expenditures among U.S. Children With and Without Special Health Care Needs." *Journal of American Dental Association* 141(1): 79–88.
- Ironmonger, Duncan S. 2004. "Bringing Up Betty and Bobby: The Inputs and Outputs of Childcare Time." In *Family Time: The Social Organization of Care*, edited by Nancy Folbre and Michael Bittman. London: Routledge.
- Johnson, D. S., and M. Lino. 2000. "Teenagers: Employment and Contributions to Family Spending." *Monthly Labor Review* 123(9): 15–25.
- Joshi, Heather, and Hugh Davies. 1999. "Measuring the Cost of Children: Estimates for Britain." In *The Annual Meeting of the International Association for Feminist Economics*. New York, NY.
- Kendig, S. M., and S. M. Bianchi. 2008. "Single, Cohabiting, and Married Mothers' Time With Children." *Journal of Marriage and the Family* 70(5): 1228–1240.
- Kenney, G. M., J. Ruhter, and T. M. Selden. 2009. "Containing Costs and Improving Care For Children in Medicaid and CHIP." *Health Affairs* 28(6): W1025–W1036.
- Kimmel, J. 1998. "Child Care Costs as a Barrier to Employment for Single and Married Mothers." *Review of Economics and Statistics* 80(2): 287–299.
- Klevmarken, N. Anders, and Frank P. Stafford. 1999. "Time Diary Measures of Investment in Young Children." In *Health: Innovations in Measurement in Social Sciences*, edited by James P. Smith and Robert J. Willis. Ann Arbor: University of Michigan Press.
- Koulovatianos, C., C. Schroder, and U. Schmidt. 2009. "Nonmarket Household Time and the Cost of Children." *Journal of Business & Economic Statistics* 27(1): 42–51.

- Kuhlthau, K., K. Hill, R. Yucel, and J. Perrin. 2005. "Financial Burden for Families of Children with Special Health Care Needs." *Maternal and Child Health Journal* 9: 207–218.
- Larson, M. J., K. Miller, S. Shyamal, and R. Manderscheid. 2004. "Children's Mental Health Services in Fee-for-Service Medicaid." *Health Care Financing Review* 26: 5–22.
- Leibson, C. L., S. K. Katusic, W. J. Barbaresi, J. Ransom, and P. C. O'Brien. 2001. "Use and Costs of Medical Care for Children and Adolescents With and Without Attention-Deficit/Hyperactivity Disorder." *Journal of the American Medical Association* 285(1): 60–66.
- Lewin/ICF. 1990. "Estimates of Expenditures on Children and Child Support Guidelines." In *Report submitted to the U.S. Department of Health and Human Services*. Washington, DC: Department of Health and Human Services.
- Lindley, L. C., and B. A. Mark. 2010. "Children with Special Health Care Needs: Impact of Health Care Expenditures on Family Financial Burden." *Journal of Child and Family Studies* 19(1): 79–89.
- Lino, M., and Andrea Carlson. 2009. "Expenditures on Children by Families, 2008." *U.S. Department of Agriculture, Center for Nutrition Policy and Promotion*. Available from <http://www.cnpp.usda.gov/Publications/CRC/crc2008.pdf>.
- Lozano, P., P. Fishman, M. VonKorff, and J. Hecht. 1997. "Health Care Utilization and Cost among Children with Asthma Who Were Enrolled in a Health Maintenance Organization." *Pediatrics* 99: 757–764.
- Machlin, S., and M. Zodet. 2005. "Family Health Care Expenses, by Income Level 2002." In *Medical Expenditure Panel Survey, Statistical Brief #64*. Rockville, MD: Agency for Health Care and Quality Research.
- McPherson, M., P. Arango, H. Fox, C. Lauver, M. McManus, and P. Newacheck. 1998. "A New Definition of Children with Special Health Care Needs." *Pediatrics* 102: 137–139.
- Meissner, Martin, Elizabeth W. Humphreys, Scott M. Meis, and William J. Scheu. 1975. "No Exit for Wives: Sexual Division of Labour and the Cumulation of Household Demands." *Canadian Review of Sociology/Revue canadienne de sociologie* 12(4): 424–439.
- MEPS. 2006. "Utilization and Expenditures for Children with Special Health Care Needs." *Research Findings #24*. Washington, DC: Agency for Healthcare Research and Quality, U.S. Department of Health & Human Services.
- Miedema, B., J. Easley, P. Fortin, R. Hamilton, and M. Mathews. 2008. "The Economic Impact on Families When a Child is Diagnosed with Cancer." *Current Oncology* 15(4): 173–178.
- Miedema, M., J. Easley, P. Fortin, R. Hamilton, and M. Mathews. 2008. "The Economic Impact on Families When a Child Is Diagnosed with Cancer." *Current Oncology* 15: 173–178.
- Montes, G, and J. Halterman. 2008. "Association of Childhood Autism Spectrum Disorders and Loss of Family Income." *Pediatrics* 121: e821–e826.
- National Commission on Vision and Health. 2009. "Access to Comprehensive Vision Care Services under SCHIP." Washington, DC: National Commission on Vision and Health.

- National Governors Association. 2005. Medicaid Reform: A Preliminary Report. Available from <http://finance.senate.gov/imo/media/doc/mwhtestrpt601505.pdf>
- Neelakantan, U. 2009. "The Impact of Changes in Child Support Policy." *Journal of Population Economics* 22(3): 641–663.
- Neff, J. M., V. L. Sharp, J. Muldoon, J. Graham, and K. Myers. 2004. "Profile of Medical Charges for Children by Health Status Group and Severity Level in a Washington State Health Plan." *Health Services Research* 39: 73–89.
- Newacheck, P., M. Inkelas, and S. Kim. 2004. "Health Services and Health Care Expenditures for Children with Disabilities." *Pediatrics* 114: 79–85.
- Newacheck, P., and S. Kim. 2005. "A National Profile of Health Utilization and Expenditures for Children with Special Health Care Needs." *Archives of Pediatric and Adolescent Medicine* 84: 10–17.
- Owens, P. L., M. W. Zodet, T. Berdahl, D. Dougherty, M. C. McCormick, and L. A. Simpson. 2008. "Annual Report on Health Care for Children and Youth in the United States: Focus on Injury-Related Emergency Department Utilization and Expenditures." *Ambulatory Pediatrics* 8(4): 219–240.
- Parish, S. L., R. A. Rose, M. Grinstein-Weiss, E. L. Richman, and M. E. Andrews. 2008. "Material Hardship in US Families Raising Children with Disabilities." *Exceptional Children* 75(1): 71–92.
- Powers, E. T. 2001. "New Estimates of the Impact of Child Disability on Maternal Employment." *American Economic Review Papers and Proceedings* 91(2): 135–139.
- Powers, E. T. 2003. "Children's Health and Maternal Work Activity: Estimates under Alternative Disability Definitions." *Journal of Human Resources* 38(3): 522–556.
- Prais, S. J., and H. S. Houthakker. 1955. *The Analysis of Family Budgets*. Cambridge, MA: Cambridge University Press.
- Rothbarth, E. 1943. "Note on a Method of Determining Equivalent Income from Families of Different Composition." In *War Time Pattern of Saving and Spending*, edited by C. Madge. Cambridge, MA: Cambridge University Press.
- Rothe, I., and M. Hu. 2001. "Use of Wisconsin's Child Support Guidelines: A Preliminary Report." *Report prepared for the Wisconsin Department of Workforce Development: Institute for Research on Poverty, University of Wisconsin–Madison*.
- Rothe, I., J. Cassetty, and E. Boehnen. 2001. "Estimates of Family Expenditures for Children: A Review of the Literature." *Report prepared for the Wisconsin Department of Workforce Development: Institute of Research on Poverty, University of Wisconsin–Madison*.
- Rothe, Ingrid, and Lawrence M. Berger. 2007. "Estimating the Costs of Children: Theoretical Considerations Related to Transitions to Adulthood and the Valuation of Parental Time for Developing Child Support Guidelines." *Report prepared for the Wisconsin Department of Workforce Development: Institute of Research on Poverty, University of Wisconsin–Madison*.

- Salkever, D. 1982. "Children's Health Problems and Maternal Work Status." *Journal of Human Resources* 17(1): 94–109.
- Salkever, D. 1982. "Children's Health Problems: Implications for Parental Labor Supply and Earnings." In *Economic Aspects of Health*, edited by V. Fuchs. Chicago: University of Chicago Press.
- Sayer, L. C., S. M. Bianchi, and J. P. Robinson. 2004. "Are Parents Investing Less in Children? Trends in Mothers' and Fathers' Time with Children." *American Journal of Sociology* 110(1): 1–43.
- Schor, E. 2007. "Should Children with Special Health Care Needs Have Separative Preventative Care Visits?" *Archives of Pediatric and Adolescence* 161(12).
- Semyonov, M., and N. Lewin-Epstein. 2001. "The Impact of Parental Transfers on Living Standards of Married Children." *Social Indicators Research* 54: 115–137.
- Shenkman, E., C. Knapp, D. Sappington, B. Vogel, and D. Schatz. 2007. "Persistence Of High Health Care Expenditures among Children in Medicaid." *Medical Care Research and Review* 64(3): 304–330.
- Shields, A. E., M. McGinn-Shapiro, and P. Fronstin. 2008. "Trends in Private Insurance, Medicaid/State Children's Health Insurance Program, and the Healthcare Safety Net - Implications for Vulnerable Populations and Health Disparities." In *Reducing the Impact of Poverty on Health and Human Development: Scientific Approaches*. Oxford: Blackwell Publishing.
- Shonkoff, Jack P., and Deborah A. Phillips, eds. 2000. *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, DC: National Academy Press.
- Siegel, Daniel J. 1999. *The Developing Mind: Toward a Neurology of Interpersonal Experience*. New York: The Guilford Press.
- Simpson, L., P. L. Owens, M. W. Zodet, F. M. Chevarley, D. Dougherty, A. Elixhauser, and M. C. McCormick. 2005. "Health Care for Children and Youth in the United States: Annual Report on Patterns of Coverage, Utilization, Quality, and Expenditures by Income." *Ambulatory Pediatrics* 5(1): 6–44.
- Soni, A. 2009. "The Five Most Costly Children's Conditions, 2006: Estimates for the U.S. Civilian Noninstitutionalized Children, Ages 0–17." In *Statistical Brief*. Washington, DC: Agency for Healthcare Research and Quality.
- Steele, R., and B. Davies. 2006. "Impact on Parents when a Child has a Progressive, Life-Threatening Illness." *Palliative Nursing* 12: 576–585.
- Summers, A., A. Ghosh, and D. Rousseau. 2005. "Medicaid Enrollment and Spending by Mandatory and Optional Eligibility and Benefit Categories." The Kaiser Commission on Medicaid and the Uninsured. Available from <http://www.kff.org/medicaid/upload/Medicaid-Enrollment-and-Spending-by-Mandatory-and-Optional-Eligibility-and-Benefit-Categories-Report.pdf>
- Thompson, Ross A. 2001. "Sensitive Periods in Attachment." In *Critical Thinking about Critical Periods*, edited by J. T. B. Donald B. Bailey, Frank J. Symons, and Jeff W. Lichtman. Baltimore, MD: Paul H. Brookes.



- Turley-Lopez, R., and M. Desmond. Forthcoming. "Contributions to College Costs by Married, Divorced, and Remarried Parents." *Journal of Family Issues*.
- U.S. Department of Health and Human Services. 2010. *Healthy People 2010: Understanding and Improving Health*. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Labor. 2010. *Family and Medical Leave Act 2010* [cited October 12 2010]. Available from <http://www.dol.gov/whd/fmla/index.htm>.
- U.S. General Accounting Office. 1999. "SSI Children: Multiple Factors Affect Families' Costs of Disability-Related Services." Washington, DC: GAO.
- U.S. General Accounting Office. 2000. "Medicaid Managed Care: Challenges in Implementing Safeguards for Children with Special Needs." Washington, DC: GAO.
- Watts, H. W. 1967. "The Iso-Prop Index: An Approach to the Determination of Differential Poverty Income Thresholds." *Journal of Human Resources* 2: 3–18.
- West, D. W., M. E. Stuart, A. K. Duggan, and C. D. DeAngelis. 1996. "Evidence for Selective Health Maintenance Organization Enrollment among Children and Adolescents Covered by Medicaid." *Archives of Pediatric and Adolescent Medicine* 150: 503–507.
- White, L. 1992. "The Effect of Parental Divorce and Remarriage on Parental Support for Adult Children." *Journal of Family Issues* 13: 234–250.
- Wisconsin Legislative Council. 2002. *Child Support Law in Wisconsin*. Madison, WI: Wisconsin Legislative Council [cited February 2, 2010].
- Zaba, Joel N., MA, OD. 2009. "Ability to See Well Positively Affects Education, Literacy, the Workplace, and Society." *Optometry Times*.
- Zick, Cathleen D., and W. Keith Bryant. 1996. "A New Look at Parents' Time Spent in Child Care: Primary and Secondary Time Use." *Social Science Research* 25(3): 260–280.