

COUNTING OUR LOSSES

The Hidden Cost to
Marylanders of an Inadequate
Child Care System



MARYLAND
FAMILY
NETWORK



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Maryland Family Network works to ensure that very young children have strong families, quality early learning environments, and a champion for their interests.

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EXECUTIVE SUMMARY

Though the importance of early childhood education (ECE) in the United States has gained attention for its economic, social, emotional, and intellectual benefits to children and society, research tells us little about the impact ECE, specifically child care, has on parents' ability to be productive members of the labor market and economy. Following a recent report from Louisiana that calculates the high cost of child care conflicts (also referred to as breakdowns, problems, or issues in this paper) to employers and the state economy, this report looks at the cost of such breakdowns in Maryland.

With help from the authors of the Louisiana report, the Maryland research team drafted a revised survey that included Maryland-specific questions, the Maryland Child Care Survey. A professional polling company contacted a sample of parents with children age 5 and under who had worked in the past year. Parents answered questions about child care and employment, incidence of child care problems, and how these problems affected their employment. Parents also provided basic demographic information about family composition, income, location, and educational attainment. The researchers, using conventional methods, analyzed the data and calculated the cost of child care breakdowns. The results are startling.



For families, employment and education disruptions related to child care are common.

49.9% of working Maryland parents with children age 5 and under reported a short-term disruption to employment (e.g., a sick child) in the past three months because of issues with child care.

14.7% of working Maryland parents with children age 5 and under reported a long-term disruption (e.g., moving from full-time to part-time work) in the past year because of issues with child care.

24.7% of working Maryland parents with children age 5 and under reported forgoing additional educational opportunities because of child care conflicts.

For employers, the economic impact of disruptions related to child care is large.

In 2016, absence and turnover due to child care issues of working Maryland parents with children age 5 and under cost Maryland employers approximately

**\$2.41
BILLION.**

In 2016, absence and turnover due to child care issues of working Maryland parents with children age 5 and under reduced Maryland's economic output by

**\$1.28
BILLION.**

For Maryland, the tax loss is significant: absence and turnover due to child care problems of working Maryland parents with children age 5 and under reduced Maryland's tax revenue by \$117 million in 2016.

Families, employers, and Maryland lose when working parents of children age 5 and under forgo increasing their educational attainment levels because of child care disruptions: the opportunity cost is approximately \$2.34 billion per year in lower wages, lower spending, and lower tax revenue.

There are policies that can reduce child care related disruptions among the workforce with children 5 and under. A review of these is not part of this report; some approaches are mentioned at the end of this paper.



INTRODUCTION

Research into the importance of early childhood education (ECE) programs in the United States has gained traction because it has shown ECE's significant economic, social, emotional, and intellectual benefits to children and society.¹ Analyses have pointed to the high benefit-to-cost ratio of supporting children early in their lives in terms of their later productivity and integration into the economy and society. For example, an analysis of one high-quality ECE program calculated the overall rate of return to investment at 13.7 % annually and a benefit-to-cost ratio of 7.3.² However, access to high-quality ECE is still far from universal. In Maryland alone, 50% of 3- and 4-year-olds are not enrolled in any kind of educational program such as pre-kindergarten (pre-k), nursery school, or a child care center where educational instruction is an integral part of the program.³

Child care is essential to working parents and parents who are in school or training. Parents are important workers in any economy—in Maryland, 36.6% of workers age 18-64 are parents of children age 18 and under and 21.6% of all Maryland workers are parents of children age 5 and under.⁴

Despite the importance of child care to parents, employers, and the economy, research tells us little about the impact that child care has on parents' ability to be productive, reliable members of the labor market and economy, though we know that child care problems contribute to employment problems for parents. For example, a national survey of U.S. parents with children under age 14 shows that 46% of households report at least one child care related change in employment in the past year; families of children who had chronic health conditions or behavior problems were even more likely to report child care related changes in employment.⁵

A recent report released by the Louisiana State University Public Policy Research Lab can serve as a model for research into the impact of child care problems on a state's economy. The Louisiana survey found that 1 in 6 respondents had quit a job at some point in his or her life because of problems with child care, and that 40% of respondents had missed work in the past three months because of child care issues. These long- and short-term disruptions due to child care issues were expensive:

¹ Center for the Developing Child. 2007. *Early childhood program effectiveness* (InBrief).

² Jorge Luis Garcia, James J. Heckman, Duncan Ermini Leaf, and Maria José Prados. 2016. The life-cycle benefits of an influential early childhood program. The National Bureau of Economic Research.

³ Kids Count Data Center. 2015. Young children not in school: Maryland locations. <http://datacenter.kidscount.org/data/tables/9010-young-children-not-in-school?loc=22&loct=2#detailed/2/any/false/1491,1443,1218,1049,995/any/17975,17976>

⁴ Author's calculations using data from the U.S. Bureau of Labor Statistics. 2017. Current population survey--annual social and economic supplement for the employed population age 18 to 64. See Appendix B for a full description of calculations employed.

⁵ Guillermo Montes and Jill S. Halterman. 2011. The impact of child care problems on employment: findings from a national survey of U.S. parents. *Academic Pediatrics*. 11(1): 80-87.

employee absenteeism and turnover cost Louisiana employers \$816 million a year, resulted in a \$1.1 billion loss annually for Louisiana's economy, and caused the state to lose \$84 million annually in tax revenue.⁶

Counting Our Losses: The Hidden Cost to Marylanders of an Inadequate Child Care System identifies how child care issues affect the working lives of parents with children under the age of 5 in Maryland, and measures the economic impact of disruptions due to child care on employers and the state.



Access to high-quality ECE is still far from universal.

In Maryland alone, 50% of 3- and 4-year-olds are not enrolled in any kind of educational program such as pre-kindergarten (pre-k), nursery school, or a child care center.

⁶ Louisiana Policy Institute for Children. 2017. *Losing ground: how childcare impacts Louisiana's workforce productivity and the state economy.*

OVERVIEW AND METHODOLOGY

With help from the authors of the Louisiana report, the research team drafted a revised protocol that included Maryland-specific questions. A sample of parents with children age 5 and under who had worked in the past year was contacted by a polling company. These parents answered questions over the phone about child care and employment, incidence of child care problems, and how these issues affected their employment. Parents also gave basic demographic information about family composition, income, location, and educational attainment. The Maryland sample is different from the Louisiana study's in that parents who had children age 5 and under were eligible for the Maryland survey; only families of children age 4 and under were eligible for the survey in Louisiana. Our inclusion of families with 5-year-olds aligns with the Maryland Family Network's credo, "The first five years last forever," and allowed us to figure into calculations families who rely in part or exclusively on kindergarten programs for child care, a major difference from the Louisiana survey.

Before analysis, we weighted the data using accepted statistical techniques of raking to make our sample correspond to Maryland census data on the working parent population as a whole. Raking, also known as raking ratio estimation, creates weights for individual responses, allowing a non-random survey sample to resemble the population. Researchers can then make inferences about the larger population from the sample. In particular, the weight adjustments were focused on race, educational attainment level, and marital status. All tabulations and ages in *Counting Our Losses* are weighted. Demographic characteristics of the sample and a further explanation of weighting are in Appendix A.

The results and analysis focus on both short-term and long-term employment disruptions due to child care issues. Short-term breakdowns stem from self-limited situations such as a sick child, closures of child care settings due to weather or holidays, occasional child behavior issues, and so forth. These disruptions were identified by asking about how often *in the past three months* child care issues had caused the respondent to miss work, arrive late to work, or leave work early.

Long-term disruptions refer to making significant, long-term employment changes due to systemic child care issues—difficulties accessing child care or the expense of child care. Long-term disruptions to employment were identified by asking about whether or not *in the past year* child care issues had caused the respondent to quit a job, be terminated from a job, refuse a promotion at a job, decline to go from part-time to full-time employment, or choose to go from a full-time to a part-time position.

To assess the opportunity costs caused by child care issues, a final question asked if the respondent had ever forgone education or training because of child care challenges.

We recognize that families make decisions about finding a "work life balance" that supports their goals, which may not always be to maximize their economic standing. Our survey questions specifically asked about decisions made *because of child care problems* in order to separate child care concerns from the many other factors that go into a working parent's decision about employment.



RESULTS: CHILD CARE BREAKDOWNS IN MARYLAND

Patterns of Child Care in Maryland

CHILD CARE ARRANGEMENTS ARE COMPLICATED, ESPECIALLY FOR FAMILIES WITH MORE THAN ONE CHILD

Our Maryland Child Care Survey differs from previous surveys in several ways, the most important of which is that we asked about not only the child care arrangements of a focal child but also the arrangements of all children age 5 and under in the household. We also allowed parents to list more than one arrangement per child. Results show that working parents with children age 5 and under do not always use only one type of care for all their children, or even for each child. This resulted in a significant portion of parents with multiple children relying on more than one type of child care, what we call a “constellation” of care.

FIGURE 1: Families with One Child

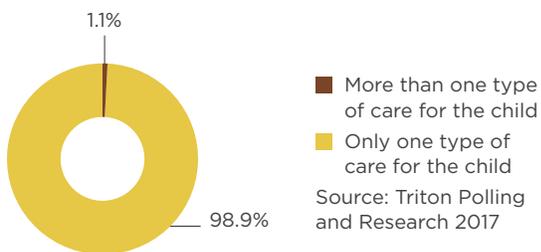
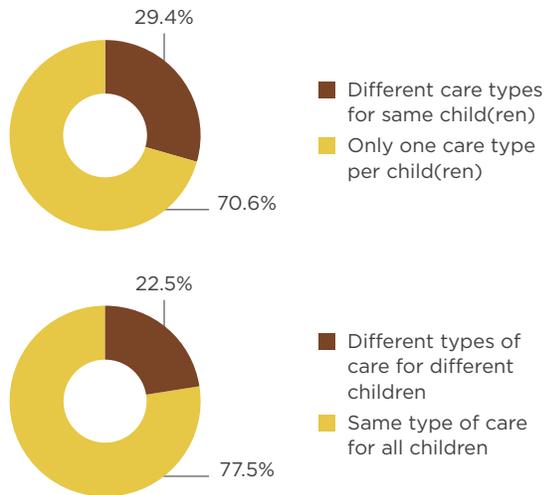


Figure 1 shows that if a family has only one child, parents are unlikely to utilize a constellation of child care for that child during the week. In fact, only 1.1% of survey families with one child indi-

cated that they use more than one type of child care for their single child.

FIGURE 2: Families with Two or More Children



Source: Triton Polling and Research 2017

However, as Figure 2 shows, many families with more than one child rely on child care constellations. Among families with two or more children, 29.4% rely on more than one type of child care for at least one of their children.⁷ This might include children going to a child care program two days

⁷ The same families may be counted in both groups: as a family with different care for the same children, and different care for different children.

a week, and then staying home with a parent the other three days. Additionally, 22.5% of families with two or more children use different types of care for different children. That is, a 2-year-old child may stay with a grandparent during the week while her parents are at work, and her 4-year-old brother may attend a 5-day, full-day pre-k program.

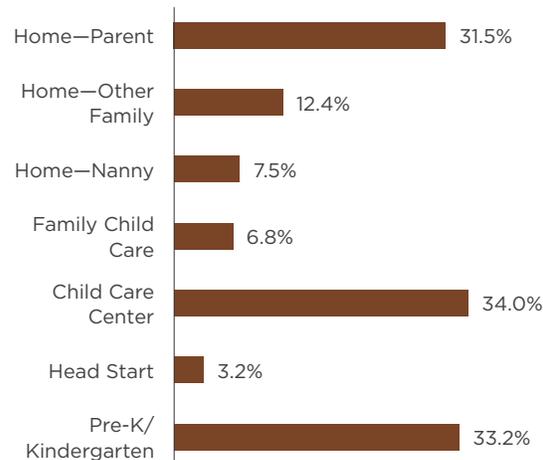
Considering constellations of care instead of considering a single type of care for each family is more complicated in analysis, but it allows us to better

examine the complex reality that a large portion of families with children 5 and under experiences daily. This is consistent with the previous Maryland Family Network finding that approximately 35.9% of children use part-time, as opposed to full-time, care.⁸ These families would most likely have children at home with a parent part of the week and in some other kind of care arrangement for the remainder of the week.

MANY FAMILIES RELY ON INFORMAL FAMILY CARE

This survey looked at all the child care arrangements for all children age 5 and under in the family. In Figure 3, we present the results of types of child care not as parts of the whole, but as percentages of families in the survey who indicate that they use a specific type of care for one or more of their children in the usual course of a work week. In the survey and in Figure 3, “Family Child Care” refers to care given to a child in place of parental care, in a residence other than the child’s residence, and for which the provider is paid. In Maryland, regulations allow a family child care provider to care for as many as eight children at any time.

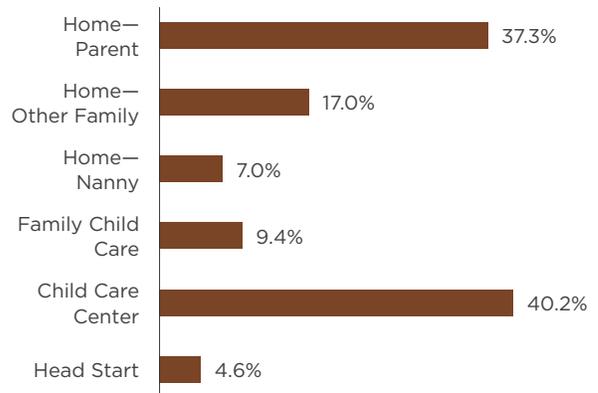
FIGURE 3: Types of Care Used by Families, including Pre-K and Kindergarten



Source: Triton Polling and Research 2017

Among all families surveyed, including those who had at least one child in a pre-k or kindergarten program, the most prominently used types of care were a child care center, pre-k or kindergarten, and care at home with a parent. Almost 20% of families indicated that they used another family member or a nanny to care for one or more of their children at home during the week.

FIGURE 4: Types of Care Used by Families, Pre-K and Kindergarten Excluded



Source: Triton Polling and Research 2017

Taking away the option of kindergarten and pre-k,⁹ percentages of families using different types of care shift slightly, as shown in Figure 4. Whereas the plurality of families use child care centers (40.2%), a higher percentage of families leave their child at home with a parent, other family member, or nanny (61.3%).

⁸ Maryland Child Care Resource Network. 2017. Child care demographics—2017.

⁹ We do this to better align with the Louisiana survey, which did not offer kindergarten as an option, as parents only answered about their arrangements for children 4 and under. We cannot distinguish between kindergarten and pre-k because of phrasing in the questionnaire.

REGIONAL DIFFERENCES ARE PRESENT

In order to understand how child care availability and arrangements might vary by location in Maryland, we also examined regional differences in incidence of certain types of care. We created five geographic regions in Maryland that fall along lines of geopolitical boundaries (Map 1).

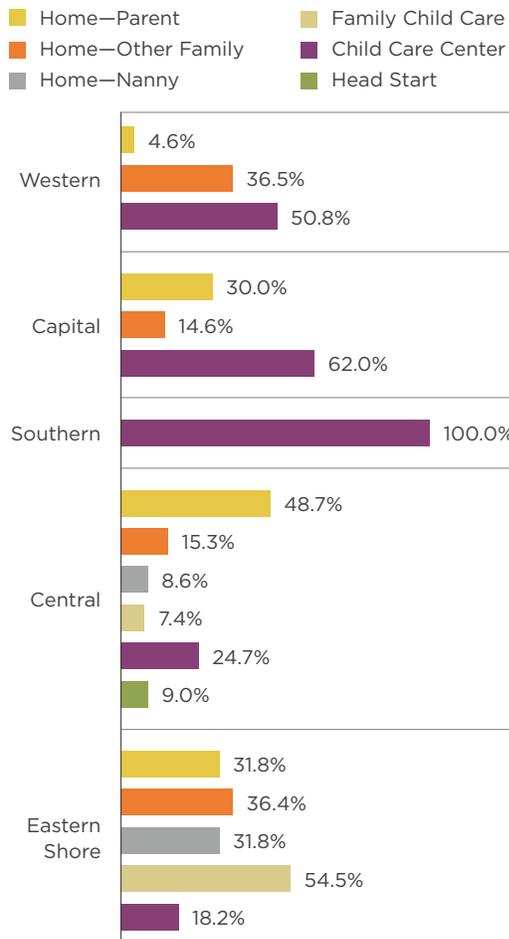
MAP 1: Five Geographic Regions for Maryland



Figure 5 indicates the incidence rate, by family, of child care type in each region, with kindergarten and pre-k excluded.¹⁰ Respondents in Southern Maryland and the Capital Region were most likely to indicate the use of a child care center (100%¹¹ and 62%, respectively). The universal incidence of child care center use in Southern Maryland is surprising and not representative, but due to relatively low numbers sampled in this region (20 respondents). Families from the Western, Central, and Eastern Shore regions indicated use of a center with less but still substantial frequency (50.8%, 24.7%, and 18.2%, respectively).

Families in Western Maryland and the Eastern Shore (36.5% and 36.4%, respectively) tend to rely on a family member other than a parent to care for at least one of their children more often than do families from other regions, possibly due to the more rural geographies of the regions. Families on the Eastern Shore, in Central Maryland, and in the Capital region are more likely than those in other regions (31.8%, 48.7%, and 30.0%, respectively) to have a stay-at-home parent arrangement during the work week.

FIGURE 5: Types of Care Used by Families in Maryland Regions, Excluding Pre-K and Kindergarten



Source: Triton Polling and Research 2017

Note that the percentages in the Eastern Shore add up to more than 100%. This indicates that many of the constellation arrangements in our sample come from these families. Families in the Central Maryland region also frequently indicate more than one type of care. A more fine-grained analysis of the different labor markets, transportation options, and child care choices in these areas is necessary to understand some of these variations.

¹⁰ Because kindergarten policy is a statewide phenomenon, regional differences are more pronounced and informative when this is removed from the analysis. Kindergarten is universally available and compulsory for all Maryland children at age 5.

¹¹ The universal use of a child care center by respondent families in the Southern region is due to the small number of respondents sampled from Southern Maryland. For a complete profile of the demographics of respondents, see Appendix A.

Child Care Issues: Long- and Short-Term Disruptions to Parental Employment

COMPARING MARYLAND TO THE NATION

National surveys rarely delve into the nuances of child care and its effect on American employment decisions and tenures. One survey, the National Survey of Children's Health (NSCH), has included a single question in this area in its two most recent surveys (2011-2012 and 2016). The more recent wording of the question was: "During the past 12 months, did you or anyone in the family have to quit a job, not take a job, or greatly change your job because of problems with child care for this child, age 0-5 years?"

According to 2016 NSCH data, 8.3% of parents nationally with a child 5 or under (of a total of 14,318 surveyed) and 6.9% of comparable parents in Maryland (of a total of 287 surveyed) have had a major job change in the past 11 months—a long-term disruption—because of child care issues.

The Maryland Child Care Survey respondents reported a much higher incidence of long-term disruption due to child care problems: 14.7 % of respondents (of a total of 298 surveyed) indicated that, in the past year, they had made some kind of change or forgone a change to their employment because of child care issues. The disparity might be explained by the fact that Maryland Child Care Survey respondents were more focused on child care, specifically, than were the respondents of the NCHS. Our survey also asked specifically about different types of long-term disruptions to employment, giving respondents examples; this detail was not present in the NCHS survey, which was more generally about children's health.¹²

MANY MARYLAND PARENTS HAVE MADE WORK-RELATED CHANGES IN RESPONSE TO CHILD CARE ISSUES

Child care problems that drive parents to make changes in their employment situation can be understood as the system breaking down: whatever child care a family had in place has failed often enough that parents choose to make a major change in employment. These disruptions might occur because of systemic problems with the accessibility or affordability of child care; they might also result from the additive effect of daily, weekly, or monthly problems with child care.

Figure 6 shows that, in the Maryland study, no workers reported being terminated because of child care issues in the past year, and only a small percentage reported quitting their jobs. But a significant proportion reported other limitations on their employment due to issues with child care. Approximately 1 in 12 Maryland parents with children 5 and under reported having had to reduce the number of hours they worked by going from full time to part time; approximately 1 in 23 of these

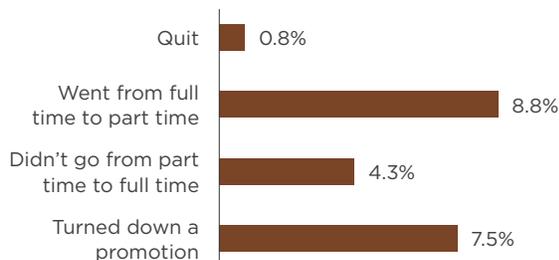
parents did not accept an opportunity to go from part time to full time; and approximately 1 in 13 turned down a promotion. Parents' employment decisions are clearly affected by child care.

Figure 7 shows that both men and women face long-term disruptions, though they play out differently by gender. Men were more likely to report turning down a promotion (that is, they forgo the opportunity but remain in the same position with the same basic responsibilities and hours), and women were more likely to report a significant change in schedule like quitting a job or going from full time to part time. Women were also more likely to stay part time when they had the chance to go full time.

¹² The Louisiana survey also found a higher incidence rate of child care impacting employment decisions than did the NCHS. This might be in part because the Louisiana survey did not specify a timeframe in which the change had to occur. The Maryland Child Care Survey, on the other hand, used the timeframe of "in the past year," the same used by the NCHS.

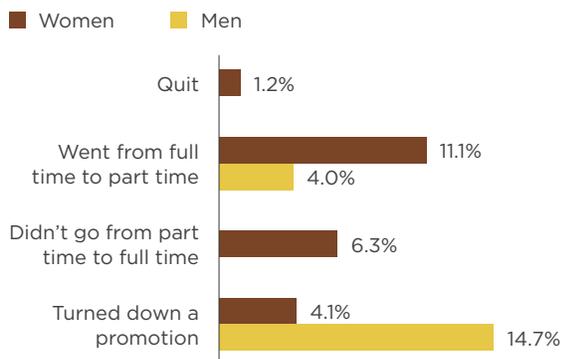
Whatever child care a family had in place has failed often enough that parents choose to make a major change in employment.

FIGURE 6: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under



Source: Triton Polling and Research 2017

FIGURE 7: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, by Gender

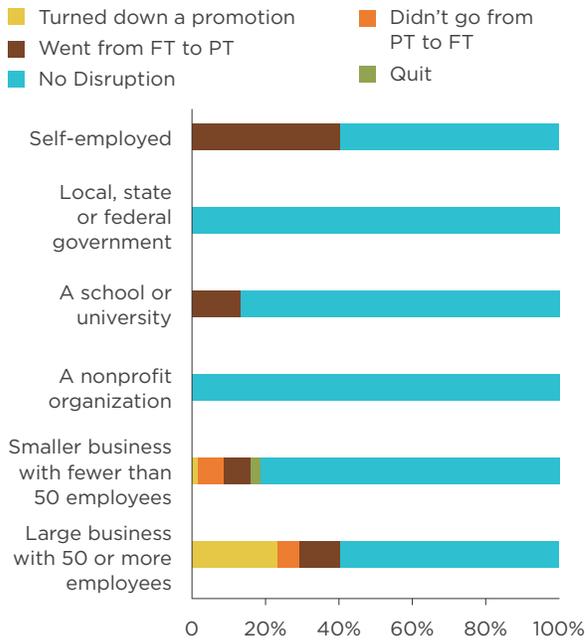


Source: Triton Polling and Research 2017

Figures 8 and 9A through 9D show that the place of employment matters when it comes to long-term, child care related disruptions to employment. Parent workers at businesses with more than 50 employees are more likely to turn down a promotion—23.4 % of these workers did so—than their counterparts at other types of employers. They are also more likely to go from full time to part time because of child care problems than workers in other settings —11.5 % did so.

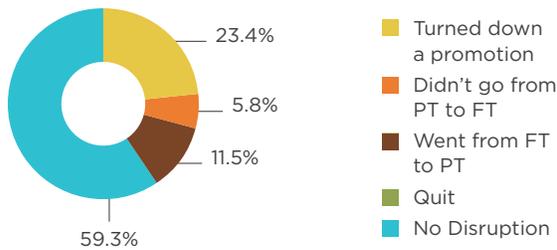
Workers at businesses with fewer than 50 employees are less likely than those in larger companies to accept a promotion (just .9% did) and to go from full time to part time (7.6% did). This might be because smaller companies offer fewer promotions and fewer opportunities to go part time. Of parent workers at schools and universities, 13.3 % went from full time to part time in the past year to handle child care problems, as did 40.4% of self-employed parent workers in our survey. Surprisingly, none of the employees of nonprofit organizations or of local, state, or federal governments reported long-term, child care related disruptions to work.

FIGURE 8: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, by Type of Workplace



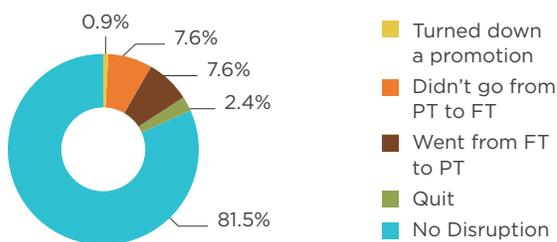
Source: Triton Polling and Research 2017

FIGURE 9A: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, Business with 50 or More Employees



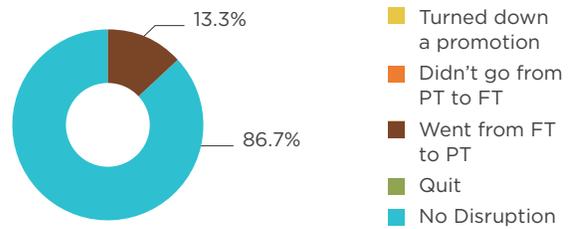
Source: Triton Polling and Research 2017

FIGURE 9B: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, Business with Fewer than 50 Employees



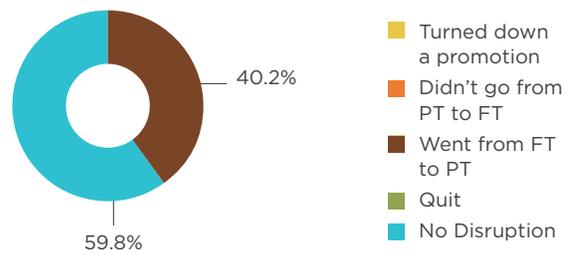
Source: Triton Polling and Research 2017

FIGURE 9C: Incidence of Systemic Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, School or University



Source: Triton Polling and Research 2017

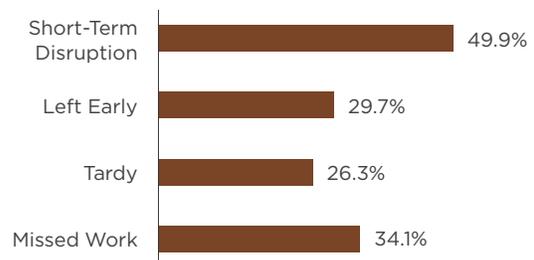
FIGURE 9D: Incidence of Long-Term Disruptions to Employment, Employed Maryland Parents of Children Age 5 and Under, Self-Employed



Source: Triton Polling and Research 2017

Figures 10 and 11 show the incidence rate of short-term disruptions to work due to child care issues. Overall, 49.9%—almost exactly half—of respondents reported at least one short-term disruption to employment in the past three months.

FIGURE 10: Incidence Rates of Short-Term Disruptions to Employment in the Past Three Months, Employed Maryland Parents of Children Age 5 and Under



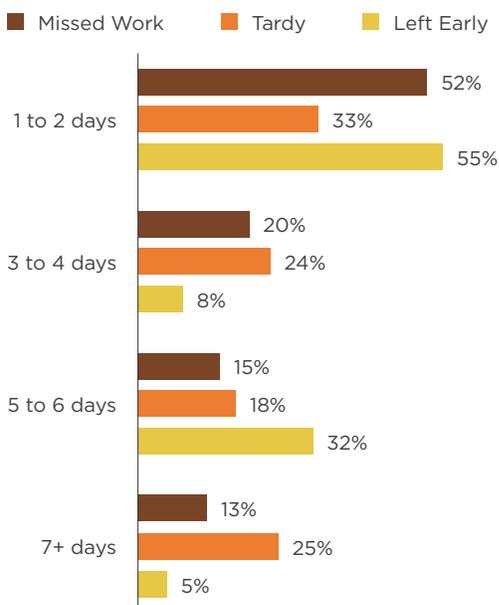
Source: Triton Polling and Research 2017

Of all surveyed parents, 34.1% reported they had missed work, 26.3% that they had been late to work, and 29.7% that they had left work early because of child care problems in the past three months.

Affected workers who reported at least one day of any type of disruption missed an average of 4.23 days, were tardy an average of 4.93 days, and had to leave early an average of 3.43 days in the prior three months. This suggests that, during the course of a year, workers struggling with child care:

- Miss an average of almost 17 days;
- Are late an average of almost 20 days; and
- Leave early an average of almost 14 days.

FIGURE 11: Number of Days Affected by Short-Term Disruptions to Employment for Parents Who Reported at Least One Day of Any Type of Disruption



Source: Triton Polling and Research 2017

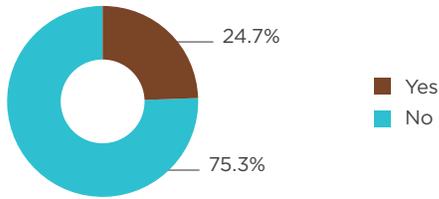
Of all surveyed parents, 34.1% reported they had missed work, 26.3% that they had been late to work, and 29.7% that they had left work early because of child care problems in the past three months.

NEARLY A QUARTER OF MARYLAND PARENTS HAVE FORGONE FURTHER EDUCATION BECAUSE OF CHILD CARE ISSUES

The opportunity costs of child care issues also affect parents of young children and the Maryland economy, as described in the economic analysis below. Respondents were asked the question, “Have you ever forgone further education because of child care issues?” This allowed respondents a more open-ended time frame to consider than the past year and resulted in some important findings. A full 24.7% of respondents—nearly 1 in 4 employed

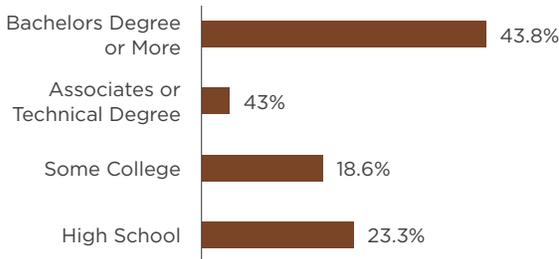
Maryland parents with children age 5 and under—have forgone an opportunity to advance their education attainment level. Respondents with more education were more likely than those with less education to say they had forgone further education because of child care issues—43.8% of respondents with at least a college degree said they had done so, as shown in Figure 12. Figure 13 shows responses by education level.

FIGURE 12: Percentage of Maryland Parents with Children 5 and Under Who Report Forgoing Additional Education Because of Child Care Issues



Source: Triton Polling and Research 2017

FIGURE 13: Percentage of Maryland Parents with Children 5 and Under Who Report Forgoing Additional Education, by Education Already Achieved



Source: Triton Polling and Research 2017

Respondents with more education were more likely than those with less education to say they had forgone further education because of child care issues.

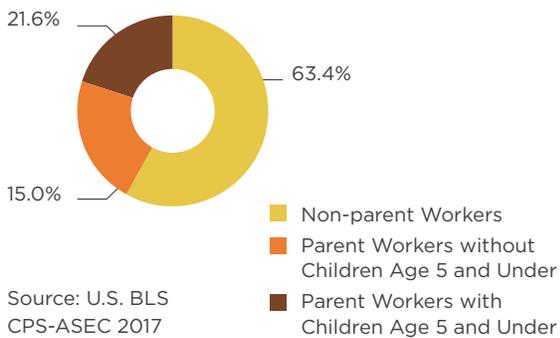


RESULTS: ECONOMIC IMPACT ANALYSIS

Working Parents in Maryland

According to data from the U.S. Bureau of Labor Statistics, in Maryland, there are 555,955 parents with children age 5 and under who are currently employed.¹³ Working parents of children age 5 and under represent 21.6% of the state's nearly 2.6 million workers between the ages of 18 and 64. Research shows that child care issues increase absenteeism and turnover for working parents.¹⁴ Every year, absenteeism and turnover due to child care issues in Maryland cost businesses more than \$2.4 billion, reduce economic activity by nearly \$1.3 billion, and lower state and local tax revenues by over \$117 million.¹⁵

FIGURE 14: Maryland Workforce by Parenting Status: 2016 (Adults age 18 to 64, 2,578,961 total adults)



¹³ Author's calculations using data from the U.S. Bureau of Labor Statistics. 2017. Current population survey--annual social and economic supplement for the employed population age 18 to 64. See Appendix B for a full description of calculations employed.

¹⁴ See Chiung-Ya Tang and Shelly MacDermind Wadsworth. 2010. National study of the changing workforce 2008: Time and workplace flexibility. Families and Work Institute; Guillermo Montesand and Jill S. Halterman. 2011. The impact of child care problems on employment: Findings from a national survey of US parents. *Academic Pediatrics* 11(1): 80-87.

¹⁵ Author's calculations of parents age 18 to 64 working who have at least one child age 5 and under. See Appendix B for a full description of calculations employed.

EMPLOYER COSTS ATTRIBUTABLE TO CHILD CARE ISSUES IN MARYLAND

Using a population profile from the U.S. Bureau of Labor statistics, we calculate that an estimated 189,446 working parents in Maryland with children age 5 and under (34.1% of these parents) experienced absences from work due to child care issues in 2016.¹⁶ An additional 9,328 (1.7%) working parents with children age 5 and under quit their jobs in order to address their child care needs.

Table 1 shows the direct cost to employers in the private sector in Maryland from absenteeism and turnover related to child care issues, estimated at \$2.4 billion in 2016. Employer costs due to worker absenteeism are calculated depending on the status of parent workers—as wage or salary employees—and include how much it costs to replace a worker for a day, as well as the lost profit for employers because of worker absences. (See Appendix B for a full description of methodology used.) On average, working parents are absent from work 16.9 days a year because of child care problems.^{17,18}

Separations of workers from employment (quits and terminations) lead to additional costs for employers, who spend considerable time and resources to hire and train workers. Hiring and training costs come into play when employers must replace workers who permanently leave their jobs in order to address problems with child care. Work-

ers not only leave because of long-term issues —e.g., the expense or inadequate availability of care—but also those issues are likely to keep them out of the labor market for some time. A smaller supply of available workers tightens the labor market and makes future hires more expensive for employers.

TABLE 1: Direct Employer Costs of Absences and Turnover Caused by Child Care Issues in Maryland: 2016

	Total
Absences	-\$2.216 billion
Turnover	-\$.199 billion
Total	-\$2.415 billion

Source: U.S. BLS CPS-ASEC 2017; Triton Polling and Research 2017; Circadian. 2005. *Absenteeism: The bottom-line killer*; Boushey, Heather and Sarah Jane Glynn. 2012. *There are significant business costs to replacing employees*. Center for American Progress.

Reducing absenteeism and turnover enables companies to save money while increasing productivity.¹⁹ Improved access to quality child care options would lower employer costs by reducing the number of workers who miss work or quit their jobs in order to address child care issues.

DIRECT ECONOMIC IMPACT OF CHILD CARE ISSUES IN MARYLAND

We estimate that the Maryland state economy loses over \$1.28 billion in economic activity annually because of child care related absenteeism and turnover.²⁰ This estimate takes into account that worker earnings fuel consumer spending and loss of worker earnings cuts into such spending. When working parents forgo wages or quit their jobs to address child care needs,²¹ the decline in their income impacts businesses and percolates through the state economy. We calculate this decline by

using a multiplier factor supplied by the United States Bureau of Economic Analysis. For every dollar lost by a working parent in salary or wage because of child care issues, we employ a downward multiplier of 1.1294 for the Maryland economy.

¹⁶ Author's calculations. See Appendix B for a full description of calculations employed.

¹⁷ Triton Polling and Research 2017.

¹⁸ 16.9 days of missed work translates to 135 total hours based on 8-hour days.

¹⁹ See Circadian. 2005. *Absenteeism: The bottom-line killer*.

²⁰ Author's calculations. See methodology for a full description of calculations employed.

²¹ It is assumed that salary workers do not incur earnings losses from absences because they likely have paid time off benefits unlike wage earners.

TABLE 2: Direct Economic Impact of Absences and Turnover Caused by Child Care Conflicts in Maryland: 2016

	Total
Absences	-\$.480 billion
Turnover	-\$.801 billion
Total	-\$1.281 billion

Sources: U.S BLS CPS-ASEC 2017; Triton Polling and Research 2017; Boushey, Heather and Sarah Jane Glynn. 2012. *There are significant business costs to replacing employees.* Center for American Progress.

This estimated \$1.28 billion in lost economic activity as a result of child care related absenteeism and turnover costs jobs as well as dollars. Using a downward jobs multiplier of 8.0765 per million dollars lost because of child care problems, we estimate that the Maryland economy loses an estimated 9,159 jobs annually as lower economic activity dampens job creation. (See Appendix B for a detailed explanation of methodology.)

DIRECT TAX REVENUE IMPACT OF CHILD CARE CONFLICTS IN MARYLAND

Child care issues lead to an annual tax revenue loss for Maryland that we estimate at more than \$117 million.²² Similar to declines in economic activity, tax revenue losses are caused by decreases in the earnings of working parents. In our calculation we take into account both the wages lost when hourly workers could not get to work because of child care issues and the income lost by both hourly and salaried workers who left a job because of long-term problems with child care. (We assume a year without employment.) In both instances we multiply the lost income by workers' income-specific tax rates to see what they would have paid if they had not faced child care problems.

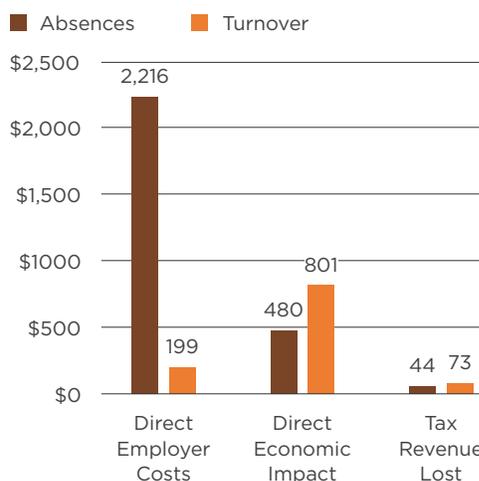
TABLE 3: Direct Tax Revenue Impact of Absences and Turnover Caused by Child Care Conflicts in Maryland: 2016

	Total
Absences	-\$43.9 million
Turnover	-\$73.3 million
Total	-\$117.2 million

Sources: U.S BLS CPS-ASEC 2017; Triton Polling and Research 2017; Boushey, Heather and Sarah Jane Glynn. 2012. *There are significant business costs to replacing employees.* Center for American Progress; Institute on Taxation and Economic Policy. 2015. *Who pays: A distributional analysis of the tax systems in all 50 states.*

State and local governments depend on tax revenues to provide essential public services. Improved access to quality child care options would increase tax revenues by preventing earnings losses caused by child care issues.

FIGURE 15: Direct Employer Costs, Direct Economic Impact, and Tax Revenue Lost Due to Absences and Turnover Caused by Child Care Issues in Maryland: 2016 (In \$millions)



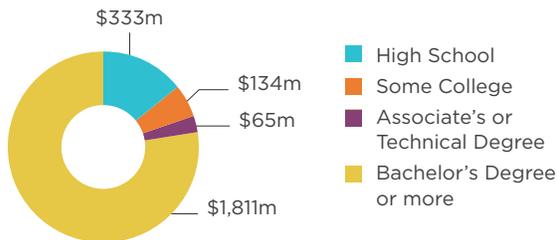
Sources: U.S BLS CPS-ASEC 2017; Triton Polling and Research 2017; Boushey, Heather and Sarah Jane Glynn. 2012. *There are significant business costs to replacing employees.* Center for American Progress; Institute on Taxation and Economic Policy. 2015. *Who pays: A distributional analysis of the tax systems in all 50 states.*

²² Author's calculations. See methodology for a full description of calculations employed.

EDUCATION OPPORTUNITY COST OF CHILD CARE PROBLEMS IN MARYLAND

Employed parents in Maryland forgo additional education because of the persistence of child care breakdowns. The Maryland Child Care Survey data show that 24.7% of all employed parents of children age 5 and under in Maryland have not pursued additional educational credentials because of child care issues. Research shows that higher educational attainment leads to higher earnings.²³ We estimate that the opportunity cost of forgoing greater educational attainment in Maryland is \$2.3 billion.²⁴ This amount reflects the potential wages that Maryland residents could have earned had they achieved higher levels of education. Specifically, we calculated the difference between the typical annual salary a worker would have earned had she attained the next level of education versus the amount she earns with her current educational level.

FIGURE 16: Education Opportunity Cost Caused by Child Care Conflicts by Parent Worker Education Level: 2016 (In \$millions; Total \$2.343 billion)



Source: U.S BLS CPS-ASEC 2017; Triton Polling and Research 2017.



We estimate that the opportunity cost of forgoing greater educational attainment in Maryland is

\$2.3 billion.

²³ Pew Research Center. 2014. The Rising Cost of Not Going to College. *Social & Demographic Trends*.

²⁴ Author's calculations. See methodology for a full description of calculations employed.

CONCLUSION

The Maryland Child Care Survey and Counting Our Losses report represent the first detailed investigation of the economic costs of Maryland's inadequate child care system. The report shows that child care issues affect not only the working lives of Maryland's parents and families but also the Maryland economy. In fact, child care issues cost employers and the economy billions of dollars a

year. Investing in solutions to child care problems that families with young children face will more than pay for their cost. The loss to families, the business community, and the state's economy can be addressed by ensuring that all working families have access to reliable, affordable, quality child care.

Short-Term Disruptions to Work Due to Child Care Breakdowns in Maryland

A variety of policy and programmatic solutions exists for the many kinds of child care problems that parents face. Almost half of parents of young children in the Maryland Child Care Survey—49.9%—report missing work, being late to work, or leaving work early at least one day in the past three months. These disruptions are often in response to the tribulations of parenthood: sick children, child care closures due to weather, child behavior, or other self-limiting conditions. These short-term disruptions to work place unnecessary burdens on families. Employers could provide more resources by investing in ECE settings designed specifically to take care of children who are ill or need a care arrangement other than their usual one. Such programs are equipped to take care of sick or injured children at a cost affordable to many working parents. Similar services include on-call nannies for sick children or on-site, sick-care centers offered by large employers or large sites with multiple employers, and paid emergency care at ECE settings that stay open during inclement weather and

on holidays not recognized by some employers. The state and business community could improve the number of and access to these alternatives by investing in them or subsidizing workers to use them.

Maryland Family Network works closely with employers who are considering supporting their employees by offering or subsidizing child care, and the organization has resources that can help. But running a quality child care program is a challenge because of the economics. The business of child care requires a large market of potential customers, along with expertise most employers don't have. A recent article, *The Corporate Case for Child Care*,²⁵ reports that "... 7 percent of employers offer on-site or near-site child care, according to the 2016 Society for Human Resource Management's National Study of Employers. . . Some big companies, such as Google, Cisco, and Home Depot, offer on-site care, but only at their headquarters. Most don't . . . Only 2 percent of American organizations

²⁵ Brigid Schulte .2018. The Corporate Case for Child Care. <https://slate.com/human-interest/2018/02/the-corporate-case-for-childcare.html>.

help employees pay for the high cost of child care with subsidies or vouchers, SHRM found. And 5 percent offer emergency backup care for when

care arrangements fall apart – reserving a block of subsidized emergency slots at child care centers or reimbursing the cost of an emergency provider.”

Long-Term Disruptions Due to Child Care Breakdowns in Maryland

According to the Maryland Child Care Survey results, a worrisome percentage of working parents with children under age 5 in Maryland—14.7%—made a decision negatively affecting their work trajectories because of child care issues in the past year, either going from full time to part time, foregoing a promotion, not going to full time from part time, or quitting altogether. Some of these long-term disruptions to work may be due to an untenable accumulation of occasional problems and lack of strategies to address them; many long-term disruptions are due to the lack of affordable, accessible, high quality care.

Since its founding in 1945, Maryland Family Network has been the leading child care advocate in the state, driving to ensure that all families have access to affordable, quality child care. Private action and federal, state and local policy have addressed child care issues for decades, though most efforts have not adapted to meet the growing demand, have not been sustained, are not to scale, are not of the highest quality, and are not seamlessly connected to each other and services available through other systems.

The National Academies of Sciences, Engineering, and Medicine recently released a consensus study report, *Transforming the Financing of Early Care and Education*.²⁶ Its conclusion is a stark statement of what it will take: “Reliable, accessible high-quality care and education for young children can be achieved, and there is great urgency in beginning the work to realize such a vision. This should be accomplished through greater harmonization and coordination among multiple financing mechanisms and revenue streams and through greater uniformity in standards to incentivize quality. It will require significant mobilization of financial and other resources shared across the public and private sector, including a more equitable distribution of the share from family contributions and a commitment to major increases in public investment.”

Public policy and private initiatives generally fall into one or more of these categories:

- Extended hours, days, or months of child care available on a long-term basis or as a back-up system for short-term use;
- Affordable child care available through subsidies to families, providers or both; and
- Income supports for parents of very young children through paid leave, tax credits, and tax deductions.

As demonstrated by this abbreviated list of bills related to child care that are making their way through the General Assembly during its 2018 Session, there’s considerable interest in improving the affordability of care for the very young in some of the ways mentioned above:

- HB 430/SB 379 Education—Child Care Subsidies—Mandatory Funding Levels—increases the reimbursement rate for child care providers who accept vouchers from low-income families (and will remove the current waiting list for such vouchers);
- HB 68 Income Tax Credits—Employer Child Care Center and Employer-Provided Child Care Services—offers incentives to certain employers who provide child care for their employees;
- HB 519/SB 422 Income Tax—Credit for Child and Dependent Care Expenses—expands the amount of the credit allowed and puts single parents and parents filing jointly on equal footing;
- HB 547/SB 373 Education—Head Start Program – Annual Appropriation—increases the amount of supplemental funding available to provide a full day of care (longer than 6 hours) and summer care for children whose families are at or below the federal poverty level;
- HB 775/SB 859—State Employees—Parental Leave—creates an entitlement for parents who are state workers to take up to 12 weeks of paid leave for the birth of a new child or an adoption of a baby; and

²⁶ National Academies of Sciences, Engineering, and Medicine. 2018. *Transforming the Financing of Early Care and Education*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24984>

- HB 1415/SB 1092—Education—Commission on Innovation and Excellence in Education—among many provisions, guarantees the continuation of pre-kindergarten funding for 4 year olds from low-income families.

In all, Maryland Family Network is tracking 61 bills during the 2018 Session of the General Assembly that relate to the care of very young children (some are monitored, some are opposed, some are supported).

Information about Maryland efforts to address the state’s inadequate child care system can be found in the public policy section of Maryland Family Network’s website, www.marylandfamilynetwork.org. Look for the *Maryland Family Network Public Policy Handbook, 2017-2018*, for an account of recent early care and education matters that have come before the Governor and legislators in recent years.

At the federal level, there are two pieces of good news for child care. In early February 2018, both the House and Senate passed another Continuing Resolution that included a government spending deal with a \$5.8 billion increase over two years in the line item for the primary source of public funding for child care in the country, the Child Care and Development Block Grant. This is the largest increase in federal child care funding in history. For Maryland, this may mean over \$30 million in additional money for child care quality and affordability.

In September, 2017, The Child Care for Working Families Act was introduced by Senator Patty Murray and Representative Bobby Scott. Considered the “north star” that will lead us to an adequate child care system that provides all families with access to affordable, quality care, the new child care bill would dramatically expand child care access and quality and raise the wages of a severely underpaid child care workforce. A long summary of the bill is available on the website of the Center for Law and Social Policy at https://nwlc.org/wp-content/uploads/2017/06/LongSummary_FINAL.pdf.

For a detailed look at the ways states have started to improve their systems of child care, see *Cradle to Kindergarten*, a 2017 book written by Ajay Chaudry, Taryn Morrissey, Christina Weiland, and Hirokazu Yoshikawa. It served as the blueprint for the Child Care for Working Families Act.





According to the Maryland Child Care Survey results, a worrisome percentage of working parents with children under age 5 in Maryland—14.7%—made a decision negatively affecting their work trajectories because of child care issues in the past year.

APPENDIX A: THE MARYLAND CHILD CARE SURVEY METHODOLOGY FOR COUNTING OUR LOSSES

The Maryland Child Care Survey is based on a sample of residents of Maryland, 18 years or older, who have been employed in the past year and have at least one child age 5 or under living in their home. Data was collected by Triton Polling and Research from September 18, 2017 through October 9, 2017. The total sample includes 298 respondents who met these conditions and were contacted by cell phones and landlines. The survey was carried out by Triton Polling and Research’s proprietary automated telephone survey system. The survey incorporated standard statistical methods to select a representative sample of the target population of adult working parents in Maryland with children age 5 and under living in the household. Triton obtained call lists from various sources, including list vendors and government entities. Random digit dialing was also used. Three attempts per number were made to maximize participation from each contact in the sample. Individuals were selected for the survey through several screening questions

that asked about Maryland residence, if the person were a parent of a child age 5 or under, whether or not the person had worked in the past year, and if the person were 18 years of age or older. Many call attempts—22,330—were made to locate this very specific population; most of those contacted were parents who had older children in the household. Of parents of children age 5 and under who qualified to take part in the survey, 29 refused to complete the survey and 298 completed it.

The live interview surveys were conducted by Triton employees in the Triton call center located in Bend, Oregon. Each interviewer was trained on the Maryland Child Care Survey protocol and selection criteria. Calls were typically placed between 5 p.m. and 9 p.m., Eastern Time during the week, 11 a.m. and 6 p.m. Eastern Time on Saturday, and 1 p.m. and 8 p.m. Eastern Time on Sunday. Interviewers utilized Triton’s custom developed Computer Assisted Telephone Interviewing system built on the Microsoft SQL Server.

Survey Respondent Demographics

RACE	White	African-American	Asian	Other
N= 298	185	77	11	25

SEX	Male	Female
N= 298	78	220

MARITAL STATUS	Married	Single	Divorced	Separated	Widowed
N= 298	208	75	4	7	4

EMPLOYMENT STATUS	Employed Full-time	Employed Part-time	Retired	Unemployed and looking for work	Not employed and not looking for work
N= 298	219	40	1	4	34

EDUCATION	High school diploma	Some college or vocational school, but no degree	A 2-year college degree	A 4-year college degree	Some graduate work	Advanced degree (M.A., M.S., J.D., Ph.D., M.D., etc.)
N= 298	47	72	24	58	20	77

NUMBER OF CHILDREN	1	2	3	4	5	6	7	8	9
N= 298	93	116	65	18	0	3	1	1	1

REGION	Western	Capital	Southern	Central	Eastern Shore
N= 298	21	82	20	146	29

INCOME	\$10,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 - \$199,999	\$200,000 or more	Refused to answer
N= 298	157	6	16	10	0	0	0	0	109

To approximate representativeness of the target population, the sample was weighted, using a statistical procedure that matched characteristics of education, race, household income, gender, age, and marital status to the population profile of adult Maryland residents who are employed and have at least one child age 5 or under living in the household.

This is a non-probability sample: that is, the sample was not randomly selected, but was instead a purposive sample of parents with children age 5 and under found through telephone calls. We thus cannot calculate margin of error using the stan-

dard formula. However, if the standard formula for calculating the margin of error were applied, the margin of error for the overall sample would be +/- 5.7%. Readers should recognize that limitations of this survey include issues with question wording; individuals who refused to answer certain questions (mainly about income); and the fact that this is a non-probability sample of the population in question. However, the phone survey and coverage practices used in this survey are common in survey research to get this kind of specific information from a specific population.

APPENDIX B: ECONOMIC IMPACT METHODOLOGY FOR COUNTING OUR LOSSES

All calculations and estimates were created using demographic and labor force microdata for calendar year 2016 from the U.S. Census Bureau's Annual Social and Economic Supplement of the Current Population Survey (CPS ASEC) and child care conflict baselines for child care related absenteeism and turnover in Maryland during 2017 from Triton Polling and Research. The combination of 2017 data on child care conflicts with 2016 data on demographic and labor force composition is appropriate given that both are the most recently available data and that preliminary labor force data suggest that Maryland did not undergo any substantive changes to its demography or labor force between 2016 and 2017, as would be the case with drastic changes in labor policy or migration patterns.

Survey data from Triton Polling and Research (2017) was weighted using a raking post-stratification procedure to adjust the survey sample to demographic estimates of Maryland's working parent population totals from the CPS ASEC. Raking, also known as raking ratio estimation, enables the analysis of survey samples to make inferences about larger populations by creating weights that allow the survey sample to resemble the population. In particular, the weight adjustments were focused on the characteristics of race, educational attainment level, and marital status.

A midrange baseline rate for child care related absenteeism of 34.1% was used from Triton Polling and Research (2017). This is in contrast to conservative estimates such as 21.4% from Montes and Halterman (2011)²⁷ and more generous estimates such as 45% as presented in Bright Horizons Child (2002).²⁸ The estimate for the average days of missed work due to child care issues, 16.9, is similar to state-specific estimates such as 14 for Louisiana,²⁹ but distinct from more conservative national estimates of 4 days employed by Tang and Wadsworth (2010)³⁰ and 9 days by Bright Horizons (2002). It is very likely that the frequency of absenteeism related to child care issues is greater in Maryland than the national average.

A baseline rate for child care related turnover of 1.7% was obtained from Triton Polling and Research (2017). Montes and Halterman (2011) present evidence that 2.8% of working parents quit their jobs due to child care conflicts and that an additional 9.9% are actively considering quitting and moving to a different employer or out of the workforce altogether. It can be assumed that some share of the workforce considering quits will actually quit in the near future. However, the Triton Polling and Research survey estimate is more conservative than the estimated national average.

²⁷ Guillermo Montes and Jill S. Halterman. 2011. The impact of child care problems on employment: findings from a national survey of U.S. parents. *Academic Pediatrics*. 11(1): 80-87.

²⁸ Bright Horizons. 2002. *Childcare Trends*.

²⁹ Louisiana Policy Institute for Children. 2017. *Losing Ground: How Childcare Impacts Louisiana's Workforce Productivity and the State Economy*.

³⁰ Chiung-Ya Tang and Shelly MacDermind Wadsworth. 2010. *National Study of the Changing Workforce 2008: Time and Workplace Flexibility*. Families and Work Institute

Economic simulations were conducted using deterministic modeling where economic impacts are fully determined by Maryland’s existing labor market conditions and reported parameters on employee absences and turnover. A bootstrapping method was employed, where the economic simulation is run 1,000 times with random sampling replacements, in order to minimize sampling error. Estimates were adjusted to reflect the actual population of working parents in Maryland whenever necessary.

The estimated number of working parents, used in the development of the report’s economic impact estimates, was obtained from the CPS ASEC microdata. Working parents are considered to be employed individuals age 18 to 64 with at least one child in the household age 5 and under residing in Maryland who report annual income from wage and salary greater than \$150 and usually work at least 5 hours per week. The business economic impact estimate is based only on estimates of working parents in the private sector.

The economic impact of absenteeism and turnover related to child care issues is largely dependent on whether workers are paid hourly wages or annual salaries.³¹ In Maryland, the majority of working parents in the private sector with children age 5 and under, 53.7 percent, are wage workers. This means that most working parents may lack paid time off benefits that provide them with compensation when they’re forced to miss work due to child care issues, and therefore absenteeism reduces the incomes of working parents, which leads to lower consumer activity and lower state tax revenues.

Business Economic Impact Estimate

The estimated economic impact of child care breakdowns for business is based on the cost of employee absences and turnover for wage and salary workers. The estimated absence cost for wage earners is based on the worker’s hourly pay rate times the cost of replacement for the 133 estimated work hours missed in a year. A worker’s hourly rate is the quotient of his/her annual income divided by the estimated hours worked in a year. The esti-

TABLE 4: Maryland Parent Workers in Private Sector with Children 5 and Under by Earnings Source: 2016

Parent wage workers	Parent salary workers	Total
226,222	195,060	421,282
53.7%	46.3%	100%

Source: U.S BLS CPS 2016

An estimated 189,446 working parents with children age 5 and under, 34.1 percent, experienced absences from work due to child care issues in 2016.³² An additional 9,328 working parents with children age 5 and under, 1.7 percent, lost their jobs, via quits or fires, in order to address their child care needs. These estimates, and all other estimates provided in this report, are based on bootstrapped economic simulations of labor force and demographic data from the U.S. Bureau of Labor Statistics and survey data from Triton Polling.

TABLE 5: Total Absences and Turnover Caused by Child Care Issues by Parent Worker Type: 2016

	Parent wage workers	Parent salary workers	Total
Absences	87,408	102,039	5,024
Turnover	4,304	5,024	9,328

Source: U.S BLS CPS ASEC 2017; Triton Polling 2017; Boushey, Heather and Sarah Jane Glynn. 2012. *There Are Significant Business Costs to Replacing Employees*. Center for American Progress.

mated absence cost for salary earners is based on the worker’s hourly pay rate plus projected revenue loss, the forgone revenue from leave benefit without replacement, for the 133 estimated work hours missed in a year. Circadian (2005)³³ estimates that the cost of absenteeism from wage workers stems from having to replace workers during their absences at an effective payroll rate of 150%. For salary workers, Circadian (2005) estimates the cost of

³¹ Circadian. 2005. *Absenteeism: The Bottom-Line Killer*.

³² Author’s calculations.

³³ Circadian. 2005. *Absenteeism: The Bottom-Line Killer*.

absenteeism is from employers paying an employee's full salary when the employee is absent, assuming salary workers have paid time off benefits, and experiencing revenue losses because salary workers are typically not replaced by temporary workers when absent. Following Circadian (2005), we apply the estimate that 36% of revenue per employee is salary and benefits cost when calculating the revenue loss from 133 estimated work hours missed in a year by salaried working parents. The estimated cost of turnover is 20.7% of annual salary for wage

earners and 20.7% of annual salary and benefits for salary earners. We employ a conservative estimate for the per worker cost of turnover from child care issues as reported in Boushey and Glynn (2012). This is in contrast to some estimates that argue that the full cost of turnover workers is 1.5 times the annual salary, including benefits, of salaried workers and .75 times the annual salary of hourly workers.³⁴

Maryland Economic Impact Estimates

The estimated economic impact of child care breakdowns for the Maryland economy is based on the lost consumption from child care related absences and turnover for wage and salary workers. Working parents forgo earnings when child care breakdowns lead to turnover and gaps in employment. Similarly, wage-earning working parents forgo earnings when absent from work because they tend to lack paid leave benefits.³⁵ Furthermore, wage earners with paid leave benefits tend to be concentrated in states with state mandated paid leave policies, as is the case with paid sick leave in Arizona, Connecticut, California, Massachusetts, Oregon, Vermont, Washington, and Washington D.C.³⁶ It should be noted that Maryland passed a statewide paid leave policy on January 12, 2018.³⁷ Assuming that wage workers lack access to paid time off, unlike their salary-earning counterparts, we estimate that salary earners do not experience an earnings loss from child care related absenteeism but that wage earners forgo their hourly pay rate for the 135 estimated hours missed in a year. The estimated turnover cost for wage and salary earners is their annual salary, assuming 12 months without reemployment. We assume 12 months without reemployment because of the chronic and long-term nature of child care related turnover.

In order to account for the ripple effect of lost household earnings in the Maryland economy, we employ a downward income multiplier effect of 1.1294 for all estimated declines in household earnings. The multiplier is based on the total dollar change in output that occurs in all industries within Maryland for each additional dollar of output delivered to final demand of households, as calculated by the U.S. Bureau of Economic Analysis' RIMS II input-output model. The downward economic multiplier models the aggregate decline in spending at the state level from a withdrawal of income, as with the decline in earnings caused by child care issues. Similarly, we employ a jobs multiplier of 8.0765, also calculated by the U.S. Bureau of Economic Analysis' RIMS II input-output model, to estimate the total change in number of jobs that occurs in all industries within Maryland for each additional million dollars of output delivered to final demand of households. The downward income and jobs multipliers account for the way that gains or losses in household spending percolate through the Maryland economy.

³⁴ See J. Douglas Phillips. 1990. "The Price Tag on Turnover". *Personnel Journal* 69(12): 58-61.

³⁵ AEI-Brookings Working Group on Paid Family Leave. 2017. *Paid Family and Medical Leave: An Issue Whose Time Has Come*.

³⁶ Ibid.

³⁷ Ovetta Wiggins. 2018. "Maryland flexes progressive Democratic muscle to override two Hogan vetoes." *The Washington Post*.

Tax Economic Impact Estimate

The direct tax revenue impact of child care issues was modeled using estimates for state and local tax burdens without federal offsets by income levels for Maryland from the Institute on Taxation and Economic Policy (2015). This simulation assumes that declines in earnings will lead to a decline in tax contributions from the existing tax burdens of working parents. We employ the following tax rates by income level from the Institute on Taxation and Economic Policy (2015):

TABLE 6: Maryland State and Local Tax Burdens without Federal Offsets by Income Levels (2015)

INCOME LEVEL	TAX RATE
Below \$44,000	9.7%
Between \$44,000 and \$111,000	11%
Between \$111,000 and \$211,000	10.3%
Between \$211,000 and \$481,000	10%
Above \$481,000	8.7%

Education Opportunity Estimate

Lastly, the education opportunity cost of child care issues was based on modeling, and then aggregating, the earnings gap between workers' current salary and that of the median salary for a higher level of educational attainment. All median salary levels were estimated from the U.S. Census Bureau's Annual Social and Economic Supplement of the Current Population Survey (CPS ASEC). The earnings gap for workers with education levels below an Associate's degree was based on their current

We assume no substantial changes to tax rates between 2015 and 2017. Therefore, the tax revenue loss for wage earners' absences is based on their hourly pay rate times their income level specific tax rate for the 135 estimated hours missed in a year. Assuming that salary workers receive paid leave benefits, their absences do not contribute to tax declines. The tax revenue loss for wage and salary turnover is based on workers' annual salary times their income level-specific tax rate, assuming 12 months without reemployment.

salary and the median salary for a worker with an Associate's degree. The earnings gap for workers with an Associate's degree was based on their current salary and the median salary for a worker with a Bachelor's degree. The earnings gap for workers with a Bachelor's degree was based on their current salary and the median salary for a worker with an advanced degree (Master's, professional, or doctorate degrees).





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