

# Estimating Lost Secondary Childcare in Wrongful Death Cases Using Data From the American Time Use Survey (ATUS)

Mark W. Erwin, M.A., J.D.

## INTRODUCTION

When a parent dies, the childcare that they would have provided had they lived is lost to their surviving family members. In wrongful death cases, survivors may seek the cost of replacing lost childcare as part of their overall claim of economic loss. To calculate this cost, one must first estimate the hours of childcare that the decedent would have provided had they lived.

Such estimates can be calculated using data from the *American Time Use Survey* (ATUS), a continuous survey of time-use in the United States. ATUS has been conducted jointly by the U.S. Department of Labor's Bureau of Labor Statistics (BLS) and the U.S. Census Bureau since 2003. Currently, ATUS time-use data span five years (through 2007) and detail the activities of over 72,000 respondents. Since ATUS respondents are a subset of respondents to the U.S. Census Bureau's more extensive *Current Population Survey* (CPS), researchers can combine ATUS time-use data with socioeconomic data from the CPS to investigate how time-use varies among populations based on detailed demographics.

ATUS divides time-use into over 400 primary activity categories. These include childcare activities reported as the respondents' primary activity (i.e. *primary* childcare). In addition, ATUS tracks childcare reported as a secondary activity during primary activities other than child care (i.e. *secondary* childcare). In this paper, I consider whether secondary childcare variables, as defined by ATUS, are valid for estimating lost childcare in wrongful death cases. In addition, I present a methodology for deriving more valid estimates of lost secondary childcare from ATUS data and present these estimates for decedents with varying demographics.

## SECONDARY CHILDCARE, AS DEFINED BY ATUS

ATUS defines secondary childcare as follows:

***Secondary Childcare.** Secondary childcare is care for children under age 13 that is done while doing something else as a primary activity, such as cooking dinner. Secondary childcare estimates are derived by summing the durations of activities during which respondents had at least one child under age 13 in their care while doing other things. The time individuals spend providing secondary childcare is further restricted to the time between when the first child under age 13 woke up and the last child under age 13 went to bed. It is also restricted to the time the*

*respondent was awake. If respondents report providing both primary and secondary childcare at the same time, the time is attributed to primary care only.*<sup>1</sup>

Secondary childcare, as defined by ATUS, is inherently more passive than primary childcare. If a respondent reports that they had at least one child under age 13 “in their care” while engaged in a primary activity other than childcare, the time spent doing the non-childcare primary activity is also counted as time spent doing secondary childcare. Each ATUS respondent determines for himself or herself what it means to have a child “in their care”. Nevertheless, an affirmative response need not imply that a child was *exclusively* “in their care” during the activity. In two-parent households or households with older siblings present, a child under age 13 may be “in the care” of the other parent or older siblings as well as the respondent. In wrongful death cases, the time that younger children would have been concurrently “in the care” of surviving family members and the decedent need not be replaced. Only secondary childcare where younger children would have been *exclusively* “in the care” of the decedent is lost to the surviving family.

## **SECONDARY CHILDCARE VARIABLES IN ATUS**

Each year’s ATUS data are divided into multiple files. Of particular relevance for this analysis are the following:

- **Respondent File** – This file contains secondary childcare data (and other socioeconomic data) for each ATUS respondent (identified by variable TUCASEID). It also contains the final weight given to each ATUS respondent for estimating population statistics (identified by variable TUFINLWGT in 2006 and 2007 or variable TU06FWGT in 2003, 2004 and 2005). When combining multiple years of survey data, TU06FWGT should be used in survey years 2003, 2004 and 2005 instead of TUFINLWGT, since these revised final weights are consistent with the final weighting methodology used in 2006 and 2007.
- **Activity File** – This file contains secondary childcare data for each ATUS respondent (identified by variable TUCASEID) by time-use diary entry (identified by variable TUACTIONITY\_N). There is one time-use diary entry for each distinct primary activity done by an ATUS respondent.
- **Who File** – This file contains data on each person (identified by variables TULINENO and TUWHO\_CODE) who either was in the room with or accompanied the respondent during each distinct primary activity/time-use diary entry (identified by variable TUACTIONITY\_N).
- **Roster File** – This file contains demographic data on each ATUS respondent (identified by variable TUCASEID) and associated persons (identified by

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<sup>1</sup> U.S. Department of Labor, Bureau of Labor Statistics, *American Time Use Survey Users Guide: Understanding ATUS 2003 to 2007*, June 2008, p. 34

variable TULINENO). Of relevance in this analysis are their ages (identified by variable TEAGE).

- **ATUS-CPS File** – This file contains socioeconomic data from the more extensive *Current Population Survey* (CPS) for each ATUS respondent (identified by TUCASEID) and associated persons (identified by TULINENO).
- **Replicate Weights File** – This file contains 160 replicate final weights for each ATUS respondent (identified by variables FWGT001 through FWGT160). These weights are used to estimate the standard errors of ATUS estimates. For survey years 2003, 2004 and 2005, there are two sets of these weights. To combine multiple years of survey data, replicate weights of TU06FWGT (not TUFINLWGT) should be used.

ATUS compiles secondary childcare data by ATUS respondent (in each year’s Respondent File) or by primary activity episode/time-use diary entry (in each year’s Activity File). In either case, the scope of children being cared for varies among three (in 2003) or eight (since 2004) secondary childcare variables, as summarized in *Table 1* below.

Table 1

Secondary Childcare Variables		Children in Respondent's Care				Survey Years	
Respondent File (by TUCASEID)	Activity File (by TUACTIVITY_N)	Household		Non-Household		2003	2004- 2007
		Own	Not Own	Own	Not Own		
TRICCTOT	TRICCTOT_LN						
TRICC	TRICC_LN						
TRTHH	TRTHH_LN						
TRTO	TRTO_LN						
TRTOHH	TRTOHH_LN						
TRTNOHH	TRTNOHH_LN						
TRTONHH	TRTONHH_LN						
TRCOC	TRCOC_LN						

Since 2004, ATUS has provided secondary childcare data for each of four possible categories of children:

- The respondent’s own household children (identified by variables TRTOHH or TRTOHH\_LN)

- Children of someone other than the respondent who are members of the respondent's household (identified by variables TRTNOHH or TRTNOHH\_LN)
- The respondent's own children who are not members of the respondent's household (identified by variables TRTONHH or TRTONHH\_LN)
- Children who are neither the respondent's nor members of the respondent's household (identified by variables TRTCOC or TRTCOC\_LN)

In addition to these four elemental categories of children, ATUS has provided (since 2004) secondary childcare data for the following four aggregations of children:

- All children, irrespective of whether they are the respondent's own or members of the respondent's household (identified by variables TRTCCTOT or TRTCCTOT\_LN)
- All children in the respondent's household, whether or not they are respondent's own (identified by variables TRTHH or TRTHH\_LN)
- All of the respondent's own children, whether or not they are members of the respondent's household (identified by variables TRTO or TRTO\_LN)
- All children in the respondent's household and the respondent's own children who are not members of the respondent's household (identified by variables TRTCC or TRTCC\_LN)

Of these eight secondary childcare variables, the last one (TRTCC or TRTCC\_LN) provides a baseline for estimating the secondary childcare that would be lost to a decedent's surviving family. Post-death, surviving family members continue to provide childcare for all children in the decedent's household and for the decedent's own children, even if they reside in other households. Children who are neither the decedent's nor members of the decedent's household, on the other hand, would not typically be party to a wrongful death claim.

This measure, however, is overly broad, since it includes all times when household or own children were in the respondent's care while the respondent did other (i.e. non-childcare-related) primary activities – even those times when other household members were either in the same room with or accompanying the respondent during an activity. A better measure of lost secondary childcare would include only those times when own or household children were *exclusively* “in the care” of the respondent.

### **ESTIMATING LOST SECONDARY CHILDCARE**

To estimate lost secondary childcare, I first link data in the ATUS Activity and Who Files each year to determine who was present in the same room with (or accompanying) ATUS respondents during each time-use diary record of non-childcare-related primary activity

where the respondent reported having their own or household children “in their care” (TRTCC\_LN > 0). This allows me to identify all secondary childcare episodes where either the respondent’s spouse (TUWHO\_CODE = 20) or own household child (TUWHO\_CODE = 22) were present. By linking these data to data in each year’s Roster File, I then determine whether any own household child present was age 16 or older (TEAGE > 15). I then disaggregate the total time that each ATUS respondent spent providing secondary childcare to their own or household children (TRTCC) into the following three components:

- **SCSPOUSE** – This is the portion of secondary childcare (TRTCC) done when the respondent’s spouse was also present during the activity (either in the same room with or accompanying the respondent).
- **SCTEENO** – This is the portion of secondary childcare (TRTCC) done when the respondent’s spouse was not present but at least one of the respondent’s own household children age 16 or older was present during the activity (either in the same room with or accompanying the respondent).
- **LOSTSC** – This is the portion of secondary childcare (TRTCC) done *exclusively* by the respondent – without the respondent’s spouse or at least one of the respondent’s own household children age 16 or older present during the activity. The surviving family must replace only this portion of the decedent’s total provision of secondary childcare (TRTCC), since it approximates the hours that the decedent’s own or household children would have been in the decedent’s care *exclusively* (i.e. without any alternative household caregiver also present). Note that:

$$\text{LOSTSC} = \text{TRTCC} - \text{SCSPOUSE} - \text{SCTEENO}$$

This method of estimating lost secondary childcare may continue to overstate actual loss, for the following reasons:

- LOSTSC, like TRTCC, includes secondary childcare to non-own household children (such as foster children) who may not necessarily remain in the household following a respondent’s death.
- Concurrent secondary childcare by other household members, as captured by SCSPOUSE and SCTEENO, is limited to times when they were either *in the same room with* or *accompanying* the respondent during an activity. Since a spouse or older teen may provide concurrent secondary childcare without necessarily being in the same room with the respondent, both SCSPOUSE and SCTEENO may understate the hours of concurrent care provided by the respondent’s spouse or own household children age 16 or older.
- SCTEENO excludes concurrent care by own household teens ages 13 to 15, since they are not yet old enough to drive.

- To avoid a double award of loss, any estimate of lost secondary childcare must be reconciled with other elements of economic loss, such as lost household services. For example, lost household services may include the value of food preparation services that a deceased parent would have performed. Since secondary childcare may be concurrent with food preparation as a primary activity, the replacement of food preparation services in the award for lost household services also replaces the lost secondary childcare during this activity. Hence, a full replacement of lost secondary childcare along with lost household services may result in a double count of loss.

### ESTIMATES OF LOST SECONDARY CHILDCARE

In the tables that follow, I present estimates of the mean hours per day of lost secondary childcare (LOSTSC) for various population groups. In addition, I present estimates of total secondary childcare to own or household children (TRTCC) and its other disaggregated components (SCSPOUSE and SCTEENO). I derive these estimates using ATUS survey data from 2003 through 2007. In the column to the right of these estimates, I present their standard errors.

In *Table 2*, I summarize the disaggregation of the latest ATUS secondary childcare estimates published by the Bureau of Labor Statistics (BLS).<sup>2</sup> These BLS estimates are for secondary childcare to own and household children (TRTCC) by men or women in households where the age of the youngest child is less than 13. In addition, the BLS publishes estimates for households where the youngest child is either pre-school age (ages 0-5) or school age (ages 6-12). For both genders, these published estimates significantly overstate lost secondary childcare in wrongful death cases.

Table 2

<b>Estimates of Lost Secondary Childcare</b>										
Published TRTCC Estimates Source: <i>Table 10, American Time Use Survey - 2007 Results</i> (USDL 08-0859)										
Gender	Age of Youngest Child	LOSTSC		SCSPOUSE		SCTEENO		TRTCC		Published TRTCC / LOSTSC
		Lost Due to Death Hrs./Day	Std. Error	w/ Spouse Present Hrs./Day	Std. Error	w/ Own Child > Age 15 Hrs./Day	Std. Error	Household or Own Hrs./Day	Std. Error	
<b>Men</b>	< 13	<b>1.9859</b>	0.0346	2.1047	0.0326	0.0290	0.0046	<b>4.1196</b>	0.0456	<b>2.07</b>
	< 6	<b>1.9845</b>	0.0501	2.2795	0.0439	0.0108	0.0028	<b>4.2749</b>	0.0652	<b>2.15</b>
	6-12	<b>1.9878</b>	0.0470	1.8565	0.0456	0.0548	0.0102	<b>3.8991</b>	0.0676	<b>1.96</b>
<b>Women</b>	< 13	<b>4.3638</b>	0.0410	1.7651	0.0244	0.1542	0.0090	<b>6.2831</b>	0.0447	<b>1.44</b>
	< 6	<b>4.7418</b>	0.0570	1.9083	0.0359	0.0906	0.0082	<b>6.7407</b>	0.0625	<b>1.42</b>
	6-12	<b>3.8357</b>	0.0561	1.5650	0.0313	0.2431	0.0190	<b>5.6437</b>	0.0655	<b>1.47</b>

<sup>2</sup> U.S. Department of Labor, Bureau of Labor Statistics, *American Time Use Survey – 2007 Results* (USDL 08-0859).

On average, men provide 4.12 hours of secondary childcare per day. However, for 2.13 of those hours, either their spouse or own child age 16 or older is with them. Hence, only the remainder (1.99 hours per day) would be lost to surviving family members if they were deceased.

Women generally provide more hours of secondary childcare per day than men (6.28 vs. 4.12 hours per day, on average), but likewise do so with other household caregivers present for nearly two of those hours (1.92 hours per day, to be exact). This leaves only 4.36 hours per day of secondary childcare for surviving family members to replace post-death.

These disaggregated estimates indicate that the level of secondary childcare provided *exclusively* by men does not vary much with the age of their youngest child. On average, they provide 1.98 hours per day if their youngest household child is pre-school age (0-5) and 1.99 hours per day if their youngest household child is school age (6-12). In contrast, the secondary childcare provided *exclusively* by women decreases once their youngest household child reaches school age (from 4.74 to 3.84 hours per day, on average).

Overall, ATUS secondary childcare estimates published by the BLS overstate secondary childcare lost in wrongful death cases by as much as 115% (for men) or 47% (for women). These overstatements are small, however, compared to those for husbands or wives who work full-time with a stay-at-home spouse.

Table 3

<b>Estimates of Lost Secondary Childcare</b>										
<b>Married and Working Full-Time, Spouse Does Not Work, Youngest Child Under Age 13</b>										
Published TRTCC Estimates Source: <i>Tables 3 and 23, The Dollar Value of the Day</i> (Expectancy Data, Inc.)										
Gender	Number of HH Children	LOSTSC		SCSPOUSE		SCTEENO		TRTCC		Published TRTCC / LOSTSC
		Lost Due to Death Hrs./Day	Std. Error	w/ Spouse Present Hrs./Day	Std. Error	w/ Own Child > Age 15 Hrs./Day	Std. Error	Household or Own Hrs./Day	Std. Error	
<b>Men</b>	Any	<b>1.3742</b>	0.0448	2.6704	0.0676	0.0205	0.0066	<b>4.0650</b>	0.0836	<b>2.96</b>
	1	<b>1.0598</b>	0.0803	2.9759	0.1474	0.0079	0.0054	<b>4.0436</b>	0.1694	<b>3.84</b>
	2	<b>1.4343</b>	0.0704	2.5090	0.1031	0.0146	0.0067	<b>3.9579</b>	0.1347	<b>2.83</b>
	3	<b>1.5450</b>	0.0981	2.7555	0.1483	0.0331	0.0233	<b>4.3336</b>	0.1901	<b>2.63</b>
	4	<b>1.3315</b>	0.1444	2.4788	0.2148	0.0520	0.0306	<b>3.8622</b>	0.2795	<b>3.05</b>
	5+	<b>1.7233</b>	0.3016	2.4080	0.3231	0.0245	0.0254	<b>4.1559</b>	0.4937	<b>2.36</b>
<b>Women</b>	Any	<b>2.7723</b>	0.2248	2.4900	0.1799	0.1270	0.0526	<b>5.3893</b>	0.3230	<b>1.94</b>
	1	<b>2.2454</b>	0.3197	2.3552	0.2660	0.0406	0.0285	<b>4.6413</b>	0.3824	<b>2.40</b>
	2	<b>2.9276</b>	0.3059	2.2353	0.2494	0.0499	0.0292	<b>5.2129</b>	0.4000	<b>1.84</b>
	2+	<b>3.0908</b>	0.2590	2.5715	0.2457	0.1792	0.0792	<b>5.8416</b>	0.4089	<b>1.74</b>

In *Table 3*, I summarize the disaggregation of secondary childcare estimates for men and women who work full-time while their spouse stays at home. Published secondary childcare estimates derived from ATUS data for this demographic have thus far been

limited to all households with children younger than age 13.<sup>3</sup> In addition to these published estimates (highlighted in dark gray), I include estimates based on the number of household children (and their disaggregation). For husbands or wives who work full-time with a stay-at-home spouse, these published secondary childcare estimates significantly overstate lost childcare in wrongful death cases.

On average, husbands who work full-time with a stay-at-home wife provide 4.06 hours of secondary childcare per day. However, for 2.69 of those hours, either their spouse or own child age 16 or older is with them. Hence, only the remainder (1.37 hours per day) would be lost to surviving family members if they were deceased. This remainder falls to an average of 1.06 hours per day when there is only one child in the household.

Wives who work full-time with stay-at-home husbands generally provide more hours of secondary childcare per day than men (5.39 vs. 4.06 hours per day, on average), but likewise do so with other household caregivers present for nearly three of those hours (2.62 hours per day, to be exact). This leaves only 2.77 hours per day of secondary childcare for their surviving family members to replace post-death. This figure falls to an average of 2.25 hours per day with one household child.

Overall, currently-published secondary childcare estimates derived from ATUS data for husbands or wives who work full-time with a stay-at-home spouse overstate secondary childcare lost to surviving family members in wrongful death cases by 196% (for husbands) or 94% (for wives) when the number of household children is unspecified. These overstatements increase to 284% (for husbands) or 140% (for wives) when there is only one child in the decedent's household.

Finally, in *Table 4*, I summarize how lost secondary childcare varies with household work patterns. The derivation of estimates for two of these work patterns (husband works full-time/wife does not work and wife works full-time/husband does not work) is detailed in *Table 3*. In addition to these estimates, I include estimates of lost secondary childcare for every other possible household work pattern where populations were sufficient to produce meaningful estimates.<sup>4</sup>

Not surprisingly, both husbands and wives tend to provide more secondary childcare *exclusively* (i.e. without their spouse or own household children age 16 or older present) as either their spouse's hours of employment increase or their own hours of employment decrease. However, wives provide more secondary childcare *exclusively* than husbands in the same circumstance. Secondary childcare lost due to the death of a husband ranges on average from 1.37 hours per day (if he worked full-time and his wife does not work) to 3.76 hours per day (if he was able but did not work and his wife works full-time). In contrast, secondary childcare lost when a wife dies ranges on average from 2.70 hours per day (if she worked full-time but her husband works part-time) to 5.32 hours per day (if she was able but did not work and her husband works full-time).

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<sup>3</sup> Expectancy Data, Inc., *The Dollar Value of the Day*, Tables 3 and 23

<sup>4</sup> According to the BLS, estimates from pooled 2003-2007 ATUS data are suppressed if the weighted population base falls below 240,000.

Table 4

<b>Estimates of Lost Secondary Childcare</b>								
<b>Impact of Household Employment/Work Pattern on LOSTSC</b>								
Gender	Age of Youngest Child	Employment	Spouse Employment					
			Full-time		Part-time		None	
			Hrs./Day	Std. Error	Hrs./Day	Std. Error	Hrs./Day	Std. Error
Men	< 13	Full-time	1.9106	0.0552	1.9263	0.0726	1.3742	0.0448
		Part-time	2.6187	0.2926	**	**	1.5860	0.2546
		None*	3.7641	0.2877	**	**	1.9737	0.2895
Women	< 13	Full-time	3.1430	0.0605	2.7005	0.2932	2.7723	0.2248
		Part-time	4.2598	0.0960	**	**	3.1963	0.3612
		None*	5.3229	0.0905	4.8435	0.3523	3.7197	0.2819

\*Able to work, but not willing (excludes those unable to work)  
 \*\* Insufficient population

Note that these estimates are for all households with children younger than age 13, regardless of the number of household children. Given the depth of ATUS demographic data, more focused estimates may be derived based on specific household demographics, such as the age of the youngest household child and number of household children.

### CONCLUSION

Published estimates of secondary childcare from the *American Time Use Survey* (ATUS) significantly overstate the hours of secondary childcare lost to surviving family members in wrongful death cases. Of the total secondary childcare provided to household or own children (TRTCC), only that portion done *exclusively* by respondents when no other household caregivers were present is lost to surviving family members. This portion (LOSTSC) can be estimated by subtracting from the total (TRTCC) secondary childcare done by respondents when either their spouse (SCSPOUSE) or own household children age 16 or older (SCTEENO) were also present. These components of total secondary childcare (TRTCC) can be estimated by linking primary (and secondary) activity data in each year's Activity File with detailed person data in each year's Who and Roster Files. According to such estimates, up to 74% of total secondary childcare (for husbands) or 53% (for wives) is done *concurrently* with other household caregivers rather than *exclusively* by respondents. This implies that as little as 28% of total secondary childcare (for husbands) or 47% (for wives) would be lost to surviving family members were they to die. Hence, estimates of total secondary childcare may nearly quadruple the actual loss of secondary care to survivors of deceased husbands; or nearly double the actual loss of secondary childcare to survivors of deceased wives.

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