

The Hidden Public Cost of Low-Wage Work in Illinois: Data Sources and Calculations

As described in the Data and Methods section of the report, to carry out our analysis we needed to combine the government administrative data on program enrollment and costs with the detailed information available in the Current Population Survey (CPS). This is necessary because the administrative data are a more accurate source of enrollment and cost information than the CPS, since the administrative data are derived from the programs themselves, rather than the self-reported responses of a small sample of households. In addition, the CPS’s self-reported values of cash transfers (such as TANF or Earned Income Tax Credit) and the estimated “fungible” values of non-cash payments (such as Medicaid) are unreliable measures of how much the benefits are costing taxpayers in aggregate. However, they are useful in estimating the relative share of total assistance going to different types of families. We assume that although the CPS may result in an over- or undercount of program participation, this discrepancy is evenly distributed vis-à-vis the CPS’ household and demographic characteristics, resulting in an unbiased sample of households across all the other variables we use in this analysis. The steps involved in rectifying these discrepancies are conveyed below, on a program-by-program basis. Although each program has its nuances, the basic adjustment process is as follows:

1. Compile the administrative data
2. Adjust data to align administrative and CPS survey periods
3. Adjust total CPS enrollment based on administrative enrollment
4. Adjust non-enrollees to reflect population total
5. Adjust for total benefits amount

Summary

The following tables convey the discrepancy between the administrative data and the CPS data for both enrollment and benefits disbursed.

Summary Table – Discrepancy between Administrative and CPS Enrollment Data

Program	Administrative Data	CPS Data	CPS Over- or Undercount
Family-Level Data			

TANF	353,365	303,888	-14.00%
EITC	2,362,250	1,881,640	-20.35%
Food Stamps	2,363,089	1,417,466	-40.02%
Child Care	630,287	178,136	-71.74%
Individual-Level Data			
Medicaid	3,805,295	2,491,298	-34.53%
SCHIP	435,418	469,452	+7.82%

TANF

The first step to adjusting the data is to compile the administrative enrollment data for TANF. This data is publicly available from the US Department of Health and Human Services' (HHS) Administration for Children and Families. This data are shown in Tables 1 and 2, along with the sources.

Table 1 – Administrative Data – Enrollment

Source	Year	Average Monthly Enrolled (families)
http://www.acf.hhs.gov/programs/ofa/caseload/2000/00famieliestanf.htm	FY 2000	83,917
http://www.acf.hhs.gov/programs/ofa/caseload/2001/01famieliestanf.htm	FY 2001	62,030
http://www.acf.hhs.gov/programs/ofa/caseload/2002/02famieliestanf.htm	FY 2002	48,091
http://www.acf.hhs.gov/programs/ofa/caseload/2003/03famieliestanf.htm	FY 2003	37,895
http://www.acf.hhs.gov/programs/ofa/caseload/2004/04families.htm	FY 2004	34,945

FY = Fiscal Year

Table 2 – Administrative Data – Benefits

Source	Year	Annual Benefits Disbursed
http://www.acf.hhs.gov/programs/ofs/data/tableF_2000.html	FY 2000	\$269,391,206
http://www.acf.hhs.gov/programs/ofs/data/tableF_2001.html	FY 2001	\$190,590,551
http://www.acf.hhs.gov/programs/ofs/data/tableF_2002.html	FY 2002	\$146,390,028
http://www.acf.hhs.gov/programs/ofs/data/tableF_2003.html	FY 2003	\$114,556,049
http://www.acf.hhs.gov/programs/ofs/data/2004/tableF_2004.html	FY 2004	\$110,438,560

FY = Fiscal Year

As shown in Table 1, the administrative data for TANF is given in terms of the average monthly number of enrolled families. As the administrative definition of “families” is the same as we use for the CPS data, no adjustment is necessary in this regard. However, the administrative data does not tell us how many families were enrolled over the course of the entire

year, and no additional information on annual enrollment was available from the HHS or the Illinois Department of Human Services.¹ In contrast, the CPS data is available in terms of the unduplicated (i.e., not counting the same family twice) annual number of families enrolled, with no information on month-to-month enrollment.

To overcome this mismatch, we applied a monthly-to-annual conversion factor derived from the Census Bureau’s Survey of Income and Program Participation (SIPP), which has both monthly and annual data.² Based on the SIPP data, the average length of enrollment in TANF is slightly longer than seven months (7.0447). Thus, the ratio of average monthly enrollment to unduplicated annual enrollment is 12 months divided by 7.0447 months, which is 1.7034. By multiplying the administrative data by 1.7034, we are able to create an estimate of annual enrollment in TANF. This process is shown in Table 3.

Table 3 – Conversion from Average Monthly to Unduplicated Annual Enrollment

Year	Average Monthly Enrollment (families)	Unduplicated Annual Enrollment (Monthly * 1.7034) (families)
Fiscal Year 2000	83,917	142,944
Fiscal Year 2001	62,030	105,662
Fiscal Year 2002	48,091	81,918
Fiscal Year 2003	37,895	64,550
Fiscal Year 2004	34,945	59,525

Another adjustment of the enrollment data is necessary to rectify the mismatch in the way the data presented in terms of years. The administrative data for TANF is provided in federal fiscal years, with Fiscal Year 2004 (for example) running from October 2003 through September 2004. The CPS data for TANF enrollment is provided in “CPS Years”, with CPS Year 2004 (for example) starting in April 2003 (one month after the last round of data collection) and ending in March 2004 (with collection of that year’s data). Therefore, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS

¹ It is impossible to infer from the monthly data how many people were enrolled over the course of the entire year. For example, if everyone enrolled in TANF was in the program for an entire year, then there would be no difference between the monthly and annual enrollment figures. However, if everyone’s enrollment in TANF lasted only one month, then the annual enrollment would be 12 times the monthly average.

² This was provided by Heather Boushey at the Center for Economic and Policy Research. She utilized data from the 2001 SIPP. This conversion factor is based on national data, as there is insufficient data to make it specific to Illinois.

year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data.³ This process is shown in Table 4.

Table 4 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Families (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
Fiscal Year 2000	142,944		
Fiscal Year 2001	105,662	2001 (avg. of FY 2000 and FY 2001)	124,303
Fiscal Year 2002	81,918	2002 (avg. of FY 2001 and FY 2002)	93,790
Fiscal Year 2003	64,550	2003 (avg. of FY 2002 and FY 2003)	73,234
Fiscal Year 2004	59,525	2004 (avg. of FY 2003 and FY 2004)	62,038
<i>Total</i>	<i>454,599</i>		<i>353,365</i>

With the completion of the last step, we now have an administrative enrollment data for TANF which is in the same format as the CPS data. As described in the Data and Methods section of this report, we can now be ready to compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for families enrolled in TANF in the CPS (an enrolled family is one which has at least one individual enrolled in TANF, as given in the CPS by the variable PAWYN). This process is shown in Table 5.

Table 5 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (families)	CPS Enrollment (families)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	124,303	89,886	104,521
2002	93,790	84,554	98,321
2003	73,234	70,680	82,188
2004	62,038	58,768	68,336
<i>Sum</i>	<i>353,365</i>	<i>303,888</i>	<i>353,365</i>
Ratio (Administrative Sum/CPS Sum)		1.162814	

Based on the results shown in Table 5, we multiplied the CPS sampling weights of all those in enrolled families by 1.162814, so that the weight of families enrolled equals the administrative enrollment total. However, now we have an interim total population which overestimates the real total population by about 133,000 individuals. Therefore, we also need to

³ For example, for CPS Year 2001 (April 2000 – March 2001), we averaged administrative year 2000 (October 1999 – September 2000) with administrative year 2001 (October 2000 – September 2001).

proportionally adjust downward the weights for members of non-enrolled families. This process is shown in Table 6.

Table 6 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	950,601
Members of Non-recipient Families (using the given weight)	43,243,486
New Population	44,194,087
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	133,118
Ratio (overcount divided by non-recipient population)	0.996922

Based on the results shown in Table 6, we multiplied the weight of all those in non-recipients families by 0.996922. With this adjustment we now have a combined administrative/CPS dataset where we have both the correct amount of enrollees in TANF and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the benefits amount. It is first necessary to adjust all data to \$2004. The adjustment was based on the US Bureau of Labor Statistics’ Inflation Calculator (www.bls.gov). According to this, \$1.00 in 2004 is equivalent to \$1.03 in 2003, \$1.05 in 2002, \$1.07 in 2001, and \$1.10 in 2000. The benefits data was adjusted accordingly, as shown in Table 7.

Table 7 – Converting to \$2004

Administrative Data		BLS Multiplier	Expenditures in \$2004
FY 2000	\$ 269,391,206	1.10	\$ 296,330,327
FY 2001	\$ 190,590,551	1.07	\$ 203,931,890
FY 2002	\$ 146,390,028	1.05	\$ 153,709,529
FY 2003	\$ 114,556,049	1.03	\$ 117,992,730
FY 2004	\$ 110,438,560	1.00	\$ 110,438,560

As with enrollment, we must also align the administrative year with the CPS year. This process is shown in Table 8.

Table 8 – Aligning the Administrative Year and the CPS Year for Disbursement

Data

Fiscal Year	Annual Disbursement	Equivalent CPS Year	Annual Disbursement
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	(Fiscal Year)		(CPS Year)
Fiscal Year 2000	\$ 296,330,327		
Fiscal Year 2001	\$ 203,931,890	2001 (avg. of FY 2000 and FY 2001)	\$ 250,131,108
Fiscal Year 2002	\$ 153,709,529	2002 (avg. of FY 2001 and FY 2002)	\$ 178,820,709
Fiscal Year 2003	\$ 117,992,730	2003 (avg. of FY 2002 and FY 2003)	\$ 135,851,130
Fiscal Year 2004	\$ 110,438,560	2004 (avg. of FY 2003 and FY 2004)	\$ 114,215,645
<i>Total</i>	<i>\$882,403,036</i>		<i>\$ 679,018,593</i>

Now that we've got the administrative and CPS data aligned over time, we can adjust the benefits. Similar to the enrollment process, adjusting the benefits entails creating a ratio between the administrative and CPS data. However, instead of adjusting the weights, we have adjusted the benefits amount claimed by TANF recipients (as given by the variable PAWVAL, adjusted to \$2004). The process is shown in Table 9.

Table 9 – Benefits Adjustment

Year (in CPS Years)	Administrative Benefits	CPS Benefits	Adjusted CPS Benefits (CPS Benefits * Ratio)
2001	\$ 250,131,108	\$ 273,500,584	\$ 189,645,576
2002	\$ 178,820,709	\$ 240,434,818	\$ 166,717,744
2003	\$ 135,851,130	\$ 250,186,511	\$ 173,479,580
2004	\$ 114,215,645	\$ 215,136,440	\$ 149,175,824
<i>Sum</i>	<i>\$ 679,018,593</i>	<i>\$ 979,258,353</i>	<i>\$ 679,018,724</i>
Ratio (Administrative Sum/CPS Sum)		0.693401	

Note: The discrepancy between the administrative benefits and the adjusted CPS benefits are because we only carried the adjustment factor to six decimal places. However, the resulting discrepancy is less than 0.00001%.

Based on the results shown in Table 9, we multiplied the benefit amount of all TANF recipients by 0.693401, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

EITC

The first step to adjusting the data is to compile the administrative data for EITC. Illinois residents were eligible to receive both a Federal and State-level EITC. As such, we collected data for both. This federal data is publicly available from the US Internal Revenue Service, while the state data was procured from staff at the Illinois Department of Revenue. This data is shown in Table 1, along with the sources. At the time of this analysis, federal data is only available through 2002.

Table 1 – Administrative Data

	Source	Year	Number of Returns	Annual Amount Disbursed
Federal EITC	http://www.irs.gov/pub/irs-soi/00in14il.xls	2000	755,305	\$ 1,228,331,000
Federal EITC	http://www.irs.gov/pub/irs-soi/01in14il.xls	2001	769,690	\$ 1,278,557,000
Federal EITC	http://www.irs.gov/pub/irs-soi/02in14il.xls	2002	837,255	\$ 1,437,212,000
State EITC	Personal contact, IL Department of Revenue	2000	542,070	\$ 39,900,000
State EITC	Personal contact, IL Department of Revenue	2001	584,223	\$ 44,100,000
State EITC	Personal contact, IL Department of Revenue	2002	645,973	\$ 50,800,000

As shown in Table 1, the EITC data is given in “number of returns”. As returns are limited to one per nuclear family, the data is ready “Number of Returns” is synonymous with number of families enrolled, and aligns with the way we define “family” for the CPS data. Therefore, no adjustment is necessary in this regard.

While Table 1 shows family recipients of the federal and state EITC programs, it does not tell us the total number of recipients in a given year. It is theoretically possible that there is no overlap between federal and state enrollees. However, it is much more likely that the opposite is true: that the number of state enrollees is a wholly-contained subset of the number of federal enrollees (the direction of this relationship is based on the fact that enrollment standards for the Illinois EITC are the same or stricter than federal EITC enrollment standards). We therefore made the most conservative assumption (in terms of number of recipients) that the federal EITC enrollment reflected the total number of enrolled families in Illinois.

The next step is to rectify the mismatch in the recipient data over time. The administrative data for EITC is provided in calendar years, so that federal enrollment in 2002 represents all those that received EITC in 2003 (based on their income in 2002). The CPS data on EITC reflects activity in the previous calendar year, so that the CPS EITC enrollment data for 2003 reflects those that received EITC in 2003. To rectify this mismatch, we shifted the administrative data one whole year to align with the CPS data. This process is shown in Table 2.

Table 2 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Families (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
Fiscal Year 2000	755,305	2001	755,305
Fiscal Year 2001	769,690	2002	769,690

Fiscal Year 2002	837,255	2003	837,255
<i>Total</i>	<i>2,362,250</i>		<i>2,362,250</i>

As described in the Methodology chapter of this report, we now compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for families enrolled in EITC in the CPS (an enrolled family is one which has at least one individual enrolled in EITC, as given in the CPS by the variable EIT-CRED). This process is shown in Table 3.

Table 3 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (families)	CPS Enrollment (families)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	755,305	630,481	791,519
2002	769,690	613,949	770,764
2003	837,255	637,209	799,966
2004	Not available	438,627	550,662
<i>Sum (2001-2003)</i>	<i>2,362,250</i>	<i>1,881,640</i>	<i>2,362,250</i>
Ratio (Administrative Sum/CPS Sum)		1.255421	
<i>Sum (2001 – 2004)</i>			<i>2,912,911</i>

Based on the results shown in Table 3, we multiplied the weights of all those in recipient families by 1.255421, so that the weight of individuals enrolled from 2001-2003 equals the administrative total. However, now we have an interim total population which overestimates the real total population by about 1.7 million individuals. Therefore, we also need to proportionally adjust downward the weights for members of non-receiving families. This process is shown in Table 4.

Table 4 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	8,196,256
Members of Non-recipient Families (using the given weight)	37,532,282
New Population	45,728,538
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	1,667,569
Ratio (overcount divided by non-recipient population)	0.955570

Based on the results shown in Table 4, we multiplied the weight of all those in non-recipients families by 0.955570. With this adjustment we now have a combined

administrative/CPS dataset where we have both the correct amount of enrollees in EITC and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the amount of tax credit. This amount is the combined federal and state disbursement, since the CPS data is used to impute both. First, we convert all the totals to \$2004. As with enrollment, we also backshift the CPS data by a year to align with the administration data. Both these processes are shown in Table 5.

Table 5 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
2000	\$ 1,268,231,000	1.10	\$ 1,395,054,100	2001	\$ 1,395,054,100
2001	\$ 1,322,657,000	1.07	\$ 1,415,242,990	2002	\$ 1,415,242,990
2002	\$ 1,488,012,000	1.05	\$ 1,562,412,600	2003	\$ 1,562,412,600
<i>Sum</i>	\$ 4,078,900,000		\$ 4,372,709,690		\$ 4,372,709,690

Similar to the enrollment process, adjusting the tax credit entails creating a ratio between the administrative and CPS data. However, instead of adjusting the weights, we have adjusted the tax credit amount claimed by EITC recipients (as given by the variable EIT-CRED, adjusted to \$2004). The process is shown in Table 6.

Table 6 – Benefits Adjustment

Year (in CPS Years)	Administrative Benefits	CPS Benefits	Adjusted CPS Benefits (CPS Benefits * Ratio)
2001	\$ 1,395,054,100	\$ 994,028,243	\$ 1,483,569,252
2002	\$ 1,415,242,990	\$ 911,809,264	\$ 1,360,858,904
2003	\$ 1,562,412,600	\$ 1,023,986,244	\$ 1,528,281,032
2004	Not available	\$ 1,234,324,086	\$ 1,842,206,472
<i>Sum (2001-2003)</i>	\$ 4,372,709,690	\$ 2,929,823,751	\$ 4,372,709,188
Ratio (Administrative Sum/CPS Sum)		1.492482	
<i>Sum (2001-2004)</i>			\$ 6,214,915,660

Note: The discrepancy between the administrative benefits and the adjusted CPS benefits are because we only carried the adjustment factor to six decimal places. However, the resulting discrepancy is less than 0.00001%.

Based on the results shown in Table 6, we multiplied the benefit amount of all EITC recipients by 1.492482, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

Food Stamps

The first step to adjusting the data is to compile the administrative enrollment data for the Food Stamps program. This data is publicly available from the US Department of Agriculture (USDA). This data are shown in Tables 1 and 2, along with the sources.

Table 1 – Administrative Data – Enrollment

Source	Year	Average Monthly Enrolled (families)
http://www.fns.usda.gov/pd/fsfyhh.htm	FY 2000	356,149
http://www.fns.usda.gov/pd/fsfyhh.htm	FY 2001	363,570
http://www.fns.usda.gov/pd/fsfyhh.htm	FY 2002	392,909
http://www.fns.usda.gov/pd/fsfyhh.htm	FY 2003	422,487
http://www.fns.usda.gov/pd/fsfyhh.htm	FY 2004	476,050

FY = Fiscal Year

Table 2 – Administrative Data – Benefits

Source	Year	Annual Disbursement
http://www.fns.usda.gov/pd/fsfybft.htm	FY 2000	\$ 777,031,218
http://www.fns.usda.gov/pd/fsfybft.htm	FY 2001	\$ 810,104,429
http://www.fns.usda.gov/pd/fsfybft.htm	FY 2002	\$ 923,305,728
http://www.fns.usda.gov/pd/fsfybft.htm	FY 2003	\$ 1,052,739,082
http://www.fns.usda.gov/pd/fsfybft.htm	FY 2004	\$ 1,211,361,942

FY = Fiscal Year

As shown in Table 1, the administrative data for the Food Stamps program is given in terms of the average monthly number of enrolled families. As the administrative definition of “families” is the same as we use for the CPS data, no adjustment is necessary in this regard. However, the administrative data does not tell us how many families were enrolled over the course of the entire year, and no additional information on annual enrollment was available from the USDA or the Illinois Department of Human Services.⁴ In contrast, the CPS data is available

⁴ See discussion in TANF for the impossibility of inferring from the monthly data how many people were enrolled over the course of the entire year.

in terms of the unduplicated (i.e., not counting the same family twice) annual number of families enrolled, with no information on month-to-month enrollment.

To overcome this mismatch, we applied a monthly-to-annual conversion factor derived from SIPP, which has both monthly and annual data. Based on the SIPP data, the average length of enrollment in the Food Stamps program is slightly longer than eight months (8.0999). Thus, the ratio of average monthly enrollment to unduplicated annual enrollment is 12 months divided by 8.0999 months, which is 1.4815. By multiplying the administrative data by 1.4815, we are able to create an estimate of annual enrollment in the Food Stamps program. This process is shown in Table 3.

Table 3 – Conversion from Average Monthly to Unduplicated Annual Enrollment

Year	Average Monthly Enrollment (families)	Unduplicated Annual Enrollment (Monthly * 1.4815) (families)
Fiscal Year 2000	356,149	527,635
Fiscal Year 2001	363,570	538,629
Fiscal Year 2002	392,909	582,095
Fiscal Year 2003	422,487	625,914
Fiscal Year 2004	476,050	705,268

Another adjustment of the enrollment data is necessary to rectify the mismatch in the way the data presented in terms of years. The administrative data for Food Stamps is provided in federal fiscal years. The CPS data for Food Stamps enrollment is provided in “CPS Years”. As discussed in the TANF section above, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data. This process is shown in Table 4.

Table 4 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Families (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
Fiscal Year 2000	527,635		
Fiscal Year 2001	538,629	2001 (avg. of FY 2000 and FY 2001)	533,132
Fiscal Year 2002	582,095	2002 (avg. of FY 2001 and FY 2002)	560,362
Fiscal Year 2003	625,914	2003 (avg. of FY 2002 and FY 2003)	604,005
Fiscal Year 2004	705,268	2004 (avg. of FY 2003 and FY 2004)	665,591
<i>Total</i>	<i>2,979,541</i>		<i>2,363,090</i>

With the completion of the last step, we now have an administrative enrollment data for the Food Stamps program which is in the same format as the CPS data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for families enrolled in the Food Stamps program in the CPS (an enrolled family is one which has at least one individual enrolled in the Food Stamps program, as given by the variable HFOODSP). This process is shown in Table 5.

Table 5 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (families)	CPS Enrollment (families)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	533,132	318,981	531,780
2002	560,362	337,849	563,236
2003	604,005	373,159	622,102
2004	665,591	387,478	645,973
<i>Sum</i>	<i>2,363,089</i>	<i>1,417,466</i>	<i>2,363,089</i>
Ratio (Administrative Sum/CPS Sum)		1.667122	

Based on the results shown in Table 5, we multiplied the weights of all those in enrolled families by 1.667122, so that the weight of families enrolled equals the administrative enrollment total. However, now we have an interim total population which overestimates the real total population by about two million individuals. Therefore, we also need to proportionally adjust downward the weights for members of non-enrolled families. This process is shown in Table 6.

Table 6 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	5,072,970
Members of Non-recipient Families (using the given weight)	41,018,039
New Population	46,091,009
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	2,030,040
Ratio (overcount divided by non-recipient population)	0.950509

Based on the results shown in Table 6, we multiplied the weight of all those in non-recipients families by 0.950509. With this adjustment we now have a combined administrative/CPS dataset where we have both the correct amount of enrollees in Food Stamp program and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the benefits amount. First, we convert all the totals to \$2004. As with enrollment, we also must align the administrative year with the CPS year. Both these processes are shown in Table 7.

Table 7 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
2000	\$ 777,031,218	1.10	\$ 854,734,340		
2001	\$ 810,104,429	1.07	\$ 866,811,739	2001	\$ 860,773,039
2002	\$ 923,305,728	1.05	\$ 969,471,014	2002	\$ 918,141,377
2003	\$ 1,052,739,082	1.03	\$ 1,084,321,254	2003	\$ 1,026,896,134
2004	\$ 1,211,361,942	1.00	\$ 1,211,361,942	2004	\$ 1,147,841,598
<i>Sum</i>	<i>\$ 4,774,542,399</i>		<i>\$ 4,986,700,290</i>		<i>\$ 3,953,652,149</i>

After these steps, adjusting the benefits entails creating a ratio between the administrative and CPS data. However, instead of adjusting the weights, we have adjusted the benefits amount claimed by Food Stamps recipients (as given by the variable F-MV-FS, adjusted to \$2004). The process is shown in Table 8.

Table 8 – Benefits Adjustment

Year (in CPS Years)	Administrative Benefits	CPS Benefits	Adjusted CPS Benefits (CPS Benefits * Ratio)
2001	\$ 860,773,039	\$ 853,309,779	\$ 782,679,616
2002	\$ 918,141,377	\$ 896,823,990	\$ 822,592,076
2003	\$ 1,026,896,134	\$ 1,160,466,266	\$ 1,064,412,168
2004	\$ 1,147,841,598	\$ 1,399,833,564	\$ 1,283,966,540
<i>Sum</i>	<i>\$ 3,953,652,149</i>	<i>\$ 4,310,433,599</i>	<i>\$ 3,953,650,400</i>
Ratio (Administrative Sum/CPS Sum)		0.917228	

Note: The discrepancy between the administrative benefits and the adjusted CPS benefits are because we only carried the adjustment factor to six decimal places. However, the resulting discrepancy is less than 0.00001%.

Based on the results shown in Table 8, we multiplied the benefit amount of all Food Stamp recipients by 0.917228, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

Medicaid – Adults

The analysis of Medicaid is divided into an assessment of adult recipients and child recipients. This is because there are very different benefits provided to adults and children. Fortunately, the administrative data is available for an adults-only analysis and a children-only analysis. For purposes of this analysis, we have also removed disabled adults, as it is presumed that their receiving Medicaid benefits for a disability precludes their enrollment in the work force.

The first step to adjusting the data is to compile the administrative data for adults enrolled in Medicaid. For 2000-2002, this data is publicly available from the US Department of Health and Human Services' (HHS) Center for Medicare and Medicaid Studies (CMS). Data for 2003 was obtained via personal contact with HHS staff. At the time of this analysis, no public data was available for 2004. The data is shown in Table 1, along with the sources.

Table 1 – Administrative Data – Enrollment

Source	Year	Number of Adult Enrollees
http://www.cms.hhs.gov/medicaid/msis/00_table09.pdf	2000	363,330
http://www.cms.hhs.gov/medicaid/msis/01_table09.pdf	2001	367,669
http://www.cms.hhs.gov/medicaid/msis/02_table09.pdf	2002	395,940
Personal contact, HHS	2003	316,122

Table 2 – Administrative Data – Benefits

Source	Year	Annual Amount Disbursed
http://www.cms.hhs.gov/medicaid/msis/00_table16.pdf	2000	\$749,631,126
http://www.cms.hhs.gov/medicaid/msis/01_table16.pdf	2001	\$831,905,129
http://www.cms.hhs.gov/medicaid/msis/02_table16.pdf	2002	\$915,276,811
Personal contact, HHS	2003	\$885,340,915

As shown in Table 1, the administrative data is provided in terms of individual recipients. Thus, our adjustment process will align this number with the number of individual recipients identified in the CPS.

The first adjustment of the enrollment data necessary is to rectify the mismatch in the way the data presented in terms of years. The administrative data for Medicaid is provided in

federal fiscal years. The CPS data for Medicaid enrollment is provided in “CPS Years”. As discussed in the TANF section above, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data. This process is shown in Table 3.

Table 3 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Individuals (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Individuals (CPS year)
Fiscal Year 2000	363,330		
Fiscal Year 2001	367,669	2001 (avg. of FY 2000 and FY 2001)	365,500
Fiscal Year 2002	395,940	2002 (avg. of FY 2001 and FY 2002)	381,805
Fiscal Year 2003	316,122	2003 (avg. of FY 2002 and FY 2003)	356,031
Fiscal Year 2004	Not available	2004 (avg. of FY 2003 and FY 2004)	Not available
<i>Total</i>	<i>1,443,061</i>		<i>1,103,335</i>

With the completion of the last step, we now have an administrative enrollment data for adult recipients of Medicaid which is in the same format as the CPS data. As described in the Methodology chapter of this report, we can are now ready to compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for adult Medicaid enrollees in the CPS (as given by the variable MCAID). This process is shown in Table 4.

Table 4 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (individuals)	CPS Enrollment (individuals)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	365,500	236,841	298,035
2002	381,805	301,078	378,870
2003	356,031	338,872	426,429
2004	Not available	331,486	417,134
<i>Sum (2001-2003)</i>	<i>1,103,335</i>	<i>876,792</i>	<i>1,103,335</i>
Ratio (Administrative Sum/CPS Sum)		1.258377	
<i>Sum (2001 – 2004)</i>			<i>1,520,468</i>

Based on the results shown in Table 4, we multiplied the weights of all those in enrolled families (i.e., those families with at least one enrolled family member) by 1.258377, so that the weight of individuals enrolled from 2001-2003 equals the administrative enrollment total.

However, since the analysis in this report is undertaken in terms of families, it is necessary to convert the number of individual enrollees into the number of families. Within the CPS data, this is achieved by counting all families with a least one enrollee.⁵ The total number of enrolled families is shown in Table 5.

Table 5 – Enrolled Families

Year (in CPS Years)	Enrolled Individuals	Enrolled Families
2001	298,035	286,642
2002	378,870	340,662
2003	426,429	390,734
2004	417,134	377,295
<i>Sum</i>	<i>1,520,468</i>	<i>1,395,333</i>

By increasing the weight of enrolled family members, we now have an interim total population which overestimates the real total population by about 650,000 individuals. Therefore, we also need to proportionally adjust downward the weights for members of non-enrolled families. This process is shown in Table 6.

Table 6 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	3,193,387
Members of Non-recipient Families (using the given weight)	41,523,274
New Population	44,716,661
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	655,692
Ratio (overcount divided by non-recipient population)	0.984209

Based on the results shown in Table 6, we multiplied the weight of all those in non-recipients families by 0.984209. With this adjustment we now have a combined administrative/CPS dataset where we have both the correct amount of adult enrollees in Medicaid and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the benefits amount. First, we convert all the totals to \$2004. As with enrollment, we also must align the administrative year with the CPS year. These processes are shown in Table 7.

⁵ Specifically, we assigned a “1” to all individuals in recipient families, and a “0” to all others. We then divided this “1” by the number of people in the family. By summing this new number across the whole data set, while using the newly adjusted weights, we are able to count the total number of enrolled families.

Table 7 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Individuals (CPS year)
2000	\$749,631,126	1.10	\$ 824,594,239		
2001	\$831,905,129	1.07	\$ 890,138,488	2001	\$ 857,366,363
2002	\$915,276,811	1.05	\$ 961,040,652	2002	\$ 925,589,570
2003	\$885,340,915	1.03	\$ 911,901,142	2003	\$ 936,470,897
2004	Not available	1.00	Not available	2004	Not available
<i>Sum</i>	\$ 3,382,153,981		\$ 3,587,674,521		\$ 2,719,426,830

After these steps, adjusting the benefits entails creating a ratio between the administrative and CPS data. However, instead of adjusting the weights, we have adjusted the benefits amount claimed by adult Medicaid recipients (as given by the variable P-MVCAID). The process is shown in Table 8.

Table 8 – Benefits Adjustment

Year (in CPS Years)	Administrative Benefits	CPS Benefits	Adjusted CPS Benefits (CPS Benefits * Ratio)
2001	\$ 857,366,363	\$ 1,081,565,940	\$ 555,250,008
2002	\$ 925,589,570	\$ 1,725,570,654	\$ 885,866,568
2003	\$ 936,470,897	\$ 2,490,003,901	\$ 1,278,308,200
2004	Not available	\$ 1,914,484,517	\$ 983,055,756
<i>Sum (2001-2003)</i>	\$2,719,426,830	\$ 5,297,140,495	\$ 2,719,424,776
Ratio (Administrative Sum/CPS Sum)		0.513376	
<i>Sum (2001-2004)</i>			\$ 3,702,480,532

Note: The discrepancy between the administrative benefits and the adjusted CPS benefits are because we only carried the adjustment factor to six decimal places. However, the resulting discrepancy is less than 0.00001%.

Based on the results shown in Table 8, we multiplied the benefit amount of all adult Medicaid recipients by 0.513376, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

Medicaid – Children

The first step to adjusting the data is to compile the administrative data for children enrolled in Medicaid. Compiling administrative data for children enrolled in Medicaid is more complicated than for other programs, because both the administrative data for Medicaid and the administrative data for SCHIP include those children enrolled in “Medicaid expansion” programs (also known as M-CHIP). To avoid double-counting in our adjustment process, it is necessary to remove the double-counted enrollees from one of the program’s administrative data. In this case, we have chosen to remove these enrollees from the Medicaid data, and to keep them in the SCHIP data.

The administrative data for children enrolled in Medicaid comes from the US Department of Health and Human Services’ (HHS) Center for Medicare and Medicaid Studies (CMS). For 2000-2002, this data is publicly available from CMS. Data for 2003 was obtained via personal contact with HHS staff. At the time of this analysis, no public data was available on Medicaid for 2004.

The administrative data for SCHIP also comes from the CMS. Enrollment data for all years is publicly available from the CMS. Expenditures data for 2000-2001 is publicly available from HHS, while data for 2002-2003 on expenditures was obtained via personal contact with HHS staff. The data are shown in Tables 1 through 4, along with the sources.

Table 1 – Administrative Data – Enrollment (Medicaid Children)

Source	Year	Number of Child Enrollees
http://www.cms.hhs.gov/medicaid/msis/00_table09.pdf	2000	880,812
http://www.cms.hhs.gov/medicaid/msis/01_table09.pdf	2001	952,299
http://www.cms.hhs.gov/medicaid/msis/02_table09.pdf	2002	1,016,068
Personal contact, HHS	2003	935,249

Table 2 – Administrative Data – Enrollment (M-SCHIP portion of SCHIP)

Source	Year	Number of Individual Enrollees
http://www.cms.hhs.gov/schip/enrollment/fy2000.pdf	2000	44,848
http://www.cms.hhs.gov/schip/enrollment/schip01.pdf	2001	68,176
http://www.cms.hhs.gov/schip/enrollment/schip03rev2.pdf	2002	42,992
http://www.cms.hhs.gov/schip/enrollment/schip03rev2.pdf	2003	81,692

Table 3 – Administrative Data – Benefits (Medicaid Children)

Source	Year	Annual Amount Disbursed
http://www.cms.hhs.gov/medicaid/msis/00_table16.pdf	2000	\$ 917,470,511
http://www.cms.hhs.gov/medicaid/msis/01_table16.pdf	2001	\$ 1,098,426,543
http://www.cms.hhs.gov/medicaid/msis/02_table16.pdf	2002	\$ 1,233,104,407
Personal contact, HHS	2003	\$ 1,311,529,372

Table 4 – Administrative Data – Benefits (M-SCHIP portion of SCHIP)

Source	Year	Annual Amount Disbursed
http://www.cms.hhs.gov/medicaid/mbes/sttotal.pdf	2000	\$ 36,579,395
http://www.cms.hhs.gov/medicaid/mbes/sttotal.pdf	2001	\$ 41,901,864
Personal contact, HHS	2002	\$ 37,305,573
Personal contact, HHS	2003	\$ 43,386,825

As shown in Tables 1 and 2, the administrative data is provided in terms of individual recipients. Thus, our adjustment process will align this number with the number of individual recipients identified in the CPS.

The first adjustment of the enrollment data necessary is to subtract the M-SCHIP enrollees from the Medicaid enrollment for children. This process is shown in Table 5.

Table 5 – Calculating the Non-Duplicated Enrollment of Children in Medicaid

Fiscal Year	Administrative Total: Children Enrolled in Medicaid	Administrative Total: Children Enrolled in M-SCHIP	Non-Duplicated Enrollment in Medicaid
Fiscal Year 2000	880,812	44,848	835,964
Fiscal Year 2001	952,299	68,176	884,123
Fiscal Year 2002	1,016,068	42,992	973,076
Fiscal Year 2003	935,249	81,692	853,557
Fiscal Year 2004	Not available		Not available

Next, we must rectify the mismatch in the way the data presented in terms of years. The administrative data for Medicaid is provided in federal fiscal years. The CPS data for Medicaid enrollment is provided in “CPS Years”. As discussed in the TANF section above, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data. This process is shown in Table 6.

Table 6 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Individuals (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Individuals (CPS year)
Fiscal Year 2000	835,964		
Fiscal Year 2001	884,123	2001 (avg. of FY 2000 and FY 2001)	860,044
Fiscal Year 2002	973,076	2002 (avg. of FY 2001 and FY 2002)	928,600
Fiscal Year 2003	853,557	2003 (avg. of FY 2002 and FY 2003)	913,317
Fiscal Year 2004	Not available	2004 (avg. of FY 2003 and FY 2004)	Not available
<i>Total</i>	<i>3,546,720</i>		<i>2,701,960</i>

With the completion of the last step, we now have an administrative enrollment data for child recipients of Medicaid which is in the same format as the CPS data. As described in the Methodology chapter of this report, we can now be ready to compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for child Medicaid enrollees in the CPS (as given by the variable MCAID). However, the CPS data contains a similar double-count issue as the administrative data – some children are listed as being enrolled in both Medicaid and SCHIP.⁶ To avoid double-counting in the CPS, we have removed dual-enrollees from the Medicaid data, and kept them in the SCHIP data. We were then able to adjust the CPS total of children enrolled in Medicaid with the administrative total. This process is shown in Table 7.

Table 7 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (individuals)	CPS Enrollment (individuals)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	860,044	563,581	943,182
2002	928,600	519,546	869,487
2003	913,317	531,379	889,290
2004	Not available	512,626	857,906
<i>Sum (2001-2003)</i>	<i>2,701,960</i>	<i>1,614,506</i>	<i>2,701,960</i>
Ratio (Administrative Sum/CPS Sum)		1.673552	
<i>Sum (2001 – 2004)</i>			<i>3,559,866</i>

Based on the results shown in Table 7, we multiplied the weights of all those in enrolled families (i.e., those families with at least one enrolled family member) by 1.673552, so that the weight of individuals enrolled from 2001-2003 equals the administrative enrollment total.

⁶ Illinois eligibility requirements preclude a child from being enrolled in both SCHIP and Medicaid (<http://www.cms.hhs.gov/schip/factsheets/chpfsil.pdf>).

However, since the analysis in this report is undertaken in terms of families, it is necessary to convert the number of individual enrollees into the number of families. Within the CPS data, this is achieved by counting all families with a least one enrollee.⁷ The total number of enrolled families is shown in Table 8.

Table 8 – Enrolled Families

Year (in CPS Years)	Enrolled Individuals	Enrolled Families
2001	943,182	508,620
2002	869,487	456,913
2003	889,291	469,410
2004	857,906	445,665
<i>Sum</i>	<i>3,559,866</i>	<i>1,880,607</i>

By increasing the weight of enrolled family members, we now have an interim total population which overestimates the real total population by about 2.4 million individuals. Therefore, we also need to proportionally adjust downward the weights for members of non-enrolled families. This process is shown in Table 9.

Table 9 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	5,884,203
Members of Non-recipient Families (using the given weight)	40,544,977
New Population	46,429,180
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	2,368,211
Ratio (overcount divided by non-recipient population)	0.941591

Based on the results shown in Table 9, we multiplied the weight of all those in non-recipients families by 0.941591. With this adjustment we now have a combined administrative/CPS dataset where we have both the correct amount of child enrollees in Medicaid and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the benefits amount. First, we need to subtract M-SCHIP expenditures from the Medicaid expenditures for children. This process is shown in Table 10.

⁷ Specifically, we assigned a “1” to all individuals in recipient families, and a “0” to all others. We then divided this “1” by the number of people in the family. By summing this new number across the whole data set, while using the newly adjusted weights, we are able to count the total number of enrolled families.

Table 10 – Calculating the Non-Duplicated Expenditure on Children in Medicaid

Fiscal Year	Administrative Total: Children Enrolled in Medicaid	Administrative Total: Children Enrolled in M-SCHIP	Non-Duplicated Enrollment in Medicaid
Fiscal Year 2000	\$ 917,470,511	\$ 36,579,395	\$ 880,891,116
Fiscal Year 2001	\$ 1,098,426,543	\$ 41,901,864	\$ 1,056,524,679
Fiscal Year 2002	\$ 1,233,104,407	\$ 37,305,573	\$ 1,195,798,834
Fiscal Year 2003	\$ 1,311,529,372	\$ 43,386,825	\$ 1,268,142,547
Fiscal Year 2004	Not available		Not available

Then we must convert all the totals to \$2004. As with enrollment, we also must align the administrative year with the CPS year. These steps are shown in Table 11.

Table 11 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Individuals (CPS year)
2000	\$ 880,891,116	1.10	\$ 968,980,228		
2001	\$ 1,056,524,679	1.07	\$ 1,130,481,407	2001	\$ 1,049,730,817
2002	\$ 1,195,798,834	1.05	\$ 1,255,588,776	2002	\$ 1,193,035,091
2003	\$ 1,268,142,547	1.03	\$ 1,306,186,823	2003	\$ 1,280,887,800
2004	Not available	1.00	Not available	2004	Not available
<i>Sum</i>	<i>\$ 4,401,357,176</i>		<i>\$ 4,661,237,233</i>		<i>\$ 3,523,653,708</i>

After these steps, adjusting the benefits entails creating a ratio between the administrative and CPS data. However, instead of adjusting the weights, we have adjusted the benefits amount claimed by child Medicaid recipients (as given by the variable P-MVCAID). The process is shown in Table 12.

Table 12 – Benefits Adjustment

Year (in CPS Years)	Administrative Benefits	CPS Benefits	Adjusted CPS Benefits (CPS Benefits * Ratio)
2001	\$ 1,049,730,817	\$ 1,429,061,462	\$ 1,278,126,804
2002	\$ 1,193,035,091	\$ 1,067,331,054	\$ 954,601,672
2003	\$ 1,280,887,800	\$ 1,443,372,351	\$ 1,290,926,220
2004	Not available	\$ 2,712,271,426	\$ 2,425,806,772
<i>Sum (2001-2003)</i>	<i>\$ 3,523,653,708</i>	<i>\$ 3,939,764,867</i>	<i>\$ 3,523,654,696</i>
Ratio (Administrative Sum/CPS Sum)		0.894382	
<i>Sum (2001-2004)</i>			<i>\$ 5,949,461,469</i>

Note: The discrepancy between the administrative benefits and the adjusted CPS benefits are because we only carried the adjustment factor to six decimal places. However, the resulting discrepancy is less than 0.00001%.

Based on the results shown in Table 12, we multiplied the benefit amount of all child Medicaid recipients by 0.894382, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

SCHIP

The first step to adjusting the data is to compile the administrative data for those enrolled in the SCHIP program. Enrollment data for all years is publicly available from the US Department of Health and Human Services’ (HHS) Center for Medicare and Medicaid Studies (CMS). Expenditures data for 2000-2001 is also publicly available from HHS. Data for 2002-2004 was obtained via personal contact with HHS staff. The data are shown in Tables 1 & 2, along with the sources.

Table 1 – Administrative Data - Enrollment

Source	Year	Number of Enrollees
http://www.cms.hhs.gov/schip/enrollment/fy2000.pdf	2000	62,507
http://www.cms.hhs.gov/schip/enrollment/schip01.pdf	2001	83,510
http://www.cms.hhs.gov/schip/enrollment/schip03rev2.pdf	2002	68,032
http://www.cms.hhs.gov/schip/enrollment/schip03rev2.pdf	2003	135,609
http://www.cms.hhs.gov/schip/enrollment/schip04.pdf	2004	234,027

Table 2 – Administrative Data - Benefits

Source	Year	Benefits
http://www.cms.hhs.gov/medicaid/mbes/sttotal.pdf	2000	\$ 50,245,640
http://www.cms.hhs.gov/medicaid/mbes/sttotal.pdf	2001	\$ 60,172,536
Personal contact, HHS	2002	\$ 55,864,061
Personal contact, HHS	2003	\$ 91,318,960
Personal contact, HHS	2004	\$ 476,680,287

As shown in Table 1, the administrative data is provided in terms of individual recipients. Thus, our adjustment process will align this number with the number of individual recipients identified in the CPS. This process is shown in Table 3.

Table 3 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Individuals (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Individuals (CPS year)
Fiscal Year 2000	62,507		
Fiscal Year 2001	83,510	2001 (avg. of FY 2000 and FY 2001)	73,009
Fiscal Year 2002	68,032	2002 (avg. of FY 2001 and FY 2002)	75,771
Fiscal Year 2003	135,609	2003 (avg. of FY 2002 and FY 2003)	101,821
Fiscal Year 2004	234,027	2004 (avg. of FY 2003 and FY 2004)	184,818
<i>Total</i>	<i>583,685</i>		<i>435,418</i>

The first adjustment of the enrollment data necessary is to rectify the mismatch in the way the data presented in terms of years. The administrative data for SCHIP is provided in federal fiscal years. The CPS data for SCHIP enrollment is provided in “CPS Years”. As discussed in the TANF section above, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data.

With the completion of the last step, we now have administrative enrollment data for SCHIP recipients which are in the same format as the CPS data. As described in the Methodology chapter of this report, we can now compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for SCHIP enrollees in the CPS (as given by the variable PCHIP). This process is shown in Table 4.

Table 4 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative Enrollment (individuals)	CPS Enrollment (individuals)	Adjusted CPS Enrollment (CPS Enrollment * Ratio)
2001	73,009	100,273	93,004
2002	75,771	81,127	75,246
2003	101,821	120,545	111,806
2004	184,818	167,507	155,363
<i>Sum</i>	<i>435,418</i>	<i>469,452</i>	<i>435,418</i>

Ratio (Administrative Sum/CPS Sum)		0.927503	
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Based on the results shown in Table 4 we multiplied the weights of all those in enrolled families (i.e., those families with at least one enrolled family member) by 0.927503, so that the weight of individuals enrolled from 2001-2003 equals the administrative enrollment total. However, since the analysis in this report is undertaken in terms of families, it is necessary to convert the number of individual enrollees into the number of families. Within the CPS data, this is achieved by counting all families with a least one enrollee.⁸ The total number of enrolled families is shown in Table 5

Table 5– Enrolled Families

Year (in CPS Years)	Enrolled Individuals	Enrolled Families
2001	93,004	39,401
2002	75,245	51,674
2003	111,805	65,319
2004	155,364	92,232
<i>Sum</i>	<i>435,418</i>	<i>248,627</i>

By increasing the weight of enrolled family members, we now have an interim total population which underestimates the real total population by about 60,000 individuals. Therefore, we also need to proportionally adjust upward the weights for members of non-enrolled families. This process is shown in Table 6.

Table 6 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	761,636
Members of Non-recipient Families (using the given weight)	43,239,816
New Population	44,001,452
Real Population (from CPS)	44,060,969
Undercount (new population minus old population)	59,517
Ratio (undercount divided by non-resident population)	1.001376

Based on the results shown in Table 6, we multiplied the weight of all those in non-recipients families by 1.001376. With this adjustment we now have a combined

⁸ Specifically, we assigned a “1” to all individuals in recipient families, and a “0” to all others. We then divided this “1” by the number of people in the family. By summing this new number across the whole data set, while using the newly adjusted weights, we are able to count the total number of enrolled families.

administrative/CPS dataset where we have both the correct amount of enrollees in SCHIP and the correct overall population.

Using the adjusted enrollment weights, we can now adjust the benefits amount. Unlike the other programs analyzed in this report, the administrative data on program cost for SCHIP include both the benefits disbursed and administrative costs (all other programs report only benefits disbursed). To remove the administrative costs from the data, we relied on programmatic data provided by CMS.⁹ This data reveals the percentage of program costs that go to administration by state. For Illinois, the administrative outlay was 10.6% of total costs. Thus, we reduced the reported administrative benefits by 10.6% for each year. This process is shown in Table 7.

Table 7 – Removal of Administrative Costs from the SCHIP Benefits

Year	Reported Administrative Program Cost	Annual Disbursement (Benefits Minus 10.6% Administrative Costs)
Fiscal Year 2000	\$ 50,245,640	\$ 44,927,483
Fiscal Year 2001	\$ 60,172,536	\$ 53,803,685
Fiscal Year 2002	\$ 55,864,061	\$ 49,951,233
Fiscal Year 2003	\$ 91,318,960	\$ 81,653,474
Fiscal Year 2004	\$ 476,680,287	\$ 426,226,945

Next, we converted all the totals to \$2004. As with enrollment, we must also align the administrative year with the CPS year. These processes are shown in Table 8.

Table 8 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
2000	\$44,927,483	1.10	\$ 49,420,231		
2001	\$53,803,685	1.07	\$ 57,569,943	2001	\$ 53,495,087
2002	\$49,951,233	1.05	\$ 52,448,795	2002	\$ 55,009,369
2003	\$81,653,474	1.03	\$ 84,103,078	2003	\$ 68,275,936
2004	\$426,226,945	1.00	\$ 426,226,945	2004	\$ 255,165,012
<i>Sum</i>	<i>\$656,562,820</i>		<i>\$ 669,768,992</i>		<i>\$ 431,945,404</i>

⁹ This data was obtained from personal communication with the CMS. It is based on 2003 data, which we then applied to all years.

For other programs, here we would also adjust the CPS benefit amount to the administrative total. However, unlike the other programs we have looked at, the CPS does not report the amount of benefits received by SCHIP enrollees. Therefore, there are no benefits to adjust to the administrative levels. Instead, each SCHIP recipient is assigned an amount of benefits such that the sum is equivalent to the administrative total. As we don't have any further information on benefit patterns, we simply assigned each SCHIP recipient an equal amount of benefits. This process is shown in Table 9.

Table 9 – Benefits Assignment

	Adjusted Admin Benefit	Enrolled Children
CPS Year 2001	\$ 53,495,087	93,004
CPS Year 2002	\$ 55,009,369	75,245
CPS Year 2003	\$ 68,275,936	111,805
CPS Year 2004	\$ 255,165,012	155,364
<i>Total</i>	<i>\$ 431,945,404</i>	<i>435,418</i>
Average benefit		\$992.0240

Based on the results shown in Table 9, we assigned each recipient \$992.0240, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

Child Care

The first step to adjusting the data is to compile the administrative data for those enrolled in the Child Care program. Administrative data for all years was obtained via personal contact with Illinois Department of Human Services staff. The data are shown in Table 1, along with the source.

Table 1 – Administrative Data

Source	Year	Number of Families Served	Benefits
Personal contact, Illinois Department of Human Services	2000	139,796	No data provided
Personal contact, Illinois Department of Human Services	2001	156,402	\$ 601,819,684
Personal contact, Illinois Department of Human Services	2002	162,873	\$ 637,501,123
Personal contact, Illinois Department of Human Services	2003	161,726	\$ 653,605,630
Personal contact, Illinois Department of Human Services	2004	158,774	\$ 648,555,217

As shown in Table 1, the administrative data for Child Care is given in terms of the unduplicated annual number of enrolled families. As the administrative definition of “families” is the same as we use for the CPS data, no adjustment is necessary in this regard. Thus, our adjustment process will align this number with the number of families receiving benefits identified in the CPS.

The first adjustment of the enrollment data necessary is to rectify the mismatch in the way the data presented in terms of years. The administrative data for Child Care is provided in federal fiscal years. The CPS data for Child Care enrollment is provided in “CPS Years”. As discussed in the TANF section above, the fiscal year starts six months after the CPS year. To rectify this mismatch, we averaged the fiscal years that is the same as the CPS year with the previous administrative year, thereby ostensibly “shifting” the administrative data to align with the CPS data. This process is shown in Table 2.

Table 2 – Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Unduplicated Annual Enrollment of Families (fiscal year)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS year)
Fiscal Year 2000	139,796		
Fiscal Year 2001	156,402	2001 (avg. of FY 2000 and FY 2001)	148,099
Fiscal Year 2002	162,873	2002 (avg. of FY 2001 and FY 2002)	159,638
Fiscal Year 2003	161,726	2003 (avg. of FY 2002 and FY 2003)	162,300
Fiscal Year 2004	158,774	2004 (avg. of FY 2003 and FY 2004)	160,250
<i>Total</i>	<i>779,571</i>		<i>630,287</i>

With the completion of the last step, we now have an administrative enrollment data for Child Care recipients which are in the same format as the CPS data. As described in the Methodology chapter of this report, we can now be ready to compare the CPS enrollment data with this administrative data. Based on the discrepancy between the more accurate administrative data and the CPS data, we can adjust the weights for families enrolled in the Child Care program in the CPS (an enrolled family is one which has at least one individual enrolled in the Child Care program, as given in the CPS by the variable CCAYN). This process is shown in Table 3.

Table 3 – Creating an Adjustment Factor for the CPS Data for Enrollees

Year (in CPS Years)	Administrative	CPS Enrollment	Adjusted CPS Enrollment
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	Enrollment (families)	(families)	(CPS Enrollment * Ratio)
2001	148,099	49,207	174,106
2002	159,638	44,565	157,681
2003	162,300	41,309	146,161
2004	160,250	43,055	152,338
<i>Sum</i>	<i>630,287</i>	<i>178,136</i>	<i>630,286</i>
Ratio (Administrative Sum/CPS Sum)		3.538229	

Based on the results shown in Table 3, we multiplied the weights of all those in enrolled families by 3.538229, so that the weight of individuals enrolled from 2001-2004 equals the administrative enrollment total. However, now we have an interim total population which overestimates the real total population by about 1.6 million individuals. Therefore, we also need to proportionally adjust downward the weights for members of non-enrolled families. This process is shown in Table 4.

Table 4 – Adjusting the Weight of Non-Enrollees

For 2001-2004	Individuals
Members of Recipients Families (using the new weight)	2,274,460
Members of Non-recipient Families (using the given weight)	43,418,143
New Population	45,692,603
Real Population (from CPS)	44,060,969
Overcount (new population minus old population)	1,631,634
Ratio (overcount divided by non-recipient population)	0.962420

Based on the results shown in Table 4, we multiplied the weight of all those in non-recipients families by 0.962420. With this adjustment we now have a combined administrative/CPS dataset where we have both the correct amount of Child Care enrollees and the correct overall population.

Now that we've got the administrative and CPS data aligned over time, we can adjust the benefits. First, we converted all the totals to \$2004. As with enrollment, we must also align the administrative year with the CPS year. These processes are shown in Table 5.

Table 5 – Conversion to \$2004 and Aligning the Administrative Year and the CPS Year for Enrollment Data

Fiscal Year	Administrative Expenditure	BLS Multiplier	Administrative Expenditure (\$2004)	Equivalent CPS Year	Unduplicated Annual Enrollment of Families (CPS)
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					year)
2000	Not available	1.10	Not available		
2001	\$601,819,684	1.07	\$ 643,947,062	2001	Not available
2002	\$637,501,123	1.05	\$ 669,376,179	2002	\$ 656,661,621
2003	\$653,605,630	1.03	\$ 673,213,799	2003	\$ 671,294,989
2004	\$648,555,217	1.00	\$ 648,555,217	2004	\$ 660,884,508
<i>Sum</i>	<i>\$2,541,481,654</i>		<i>\$2,635,092,257</i>		<i>\$1,988,841,117</i>

Like SCHIP, the CPS does not report the amount of benefits received by Child Care enrollees. Therefore, there are no benefits to adjust to the administrative levels. Instead, each eligible child in a recipient household is assigned an amount of benefits such that the sum is equivalent to the administrative total (available for 2002-2004). As we don't have any further information on benefit patterns, we simply assigned each Child Care recipient an equal amount of benefits. This process is shown in Table 6.

Table 6 – Benefits Assignment

	Adjusted Admin Benefit	Enrolled Children	Final Adjusted Admin Benefit (enrollment * \$1,174.1377)
CPS Year 2001	Not available	316,809	\$ 543,054,421
CPS Year 2002	\$ 656,661,621	401,678	\$ 688,531,059
CPS Year 2003	\$ 671,294,989	393,559	\$ 674,613,460
CPS Year 2004	\$ 660,884,508	365,021	\$ 625,696,599
<i>Total (2002-2004)</i>	<i>\$ 1,988,841,117</i>	<i>1,160,258</i>	
Average benefit		\$1,714.1377	
<i>Total</i>			<i>\$ 2,531,895,538</i>

Based on the results shown in Table 4, we assigned each child in a recipient family \$1,714.1377, thereby ensuring that the amount of benefits received in the combined administrative/CPS dataset would match the benefits disbursed from the administrative data.

Summing Across Programs

For analyzing the total public cost of low-wage work, it is necessary to know both total enrollment and total benefits received. The administrative data is useful for determining the enrollment in an individual program. But it doesn't tell us how many people are enrolled in some program – i.e., who rely on government benefits. For example, in one extreme it could be the same families enrolled in all the programs, and at the other there could be no overlap. Thus, we

need to rely on the CPS data to determine how many families are enrolled in at least one program.

We cannot simply identify families enrolled in at least one program and sum the number to determine the total amount, because this method would not account for the different undercount or overcount for each program in CPS. Therefore, we rely on the adjustments we developed for each program, in which each individual's place in the population is adjusted to ensure that 1) the total program enrollment corresponds with the administrative data, and that 2) the total population is the same. Because these adjustments account for program size and undercount/overcount, it is sufficient to average over the seven adjustments to ascertain an overall weight. The benefit of this approach is that it accounts for each program equally while ensuring that the final population is accurate.

Summing benefit amounts is easier. Since for each program the amount of benefits received has been adjusted to sum to the administrative totals, simply summing these amounts will equal the overall total of administrative benefits distributed.