Data Appendix for "The Effect of Safety Net Generosity on Maternal Mental Health And Risky Health Behaviors"

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I. Implementing the Simulated Eligibility Methodology

The simulated eligibility methodology requires a fixed national sample of data with information on demographics and income. We use the Current Population Survey Annual Social and Economic (CPS-ASEC) supplement for years 1997-2013 to create a pooled dataset. (We do not include 2014 onwards due to a revision in the data format.) We take all observations in the dataset of unmarried women with at least one child under 18 in the household, no foreign-born or disabled individuals in the household, and non-missing income data, attaching information about the household, family, and children to the woman. We adjust all dollar amounts to 2016 dollars. Then, we strip the state and year identifiers from the data and replicate the full dataset into each state and year in the 1997-2016 range. The resulting simulated sample thus includes the same nationally representative pooled cross-section of single mothers assigned to every state in every year.

Once the simulated sample is generated, we run it through a multi-program safety net calculator. This calculator incorporates the program eligibility rules and benefit amounts for safety net programs in each state and year in 1997-2016. For the purposes of the simulation, everyone in the household is assumed to fully participate in programs for which they are eligible and earned income and family structure are treated as exogenous to safety net program rules, which is appropriate because the simulated sample is a pooled national cross-section.

To assess tax credit eligibility, we use NBER TAXSIM version 32, which uses information in the data on mother's age, number and age of children, student status of young adult children, and estimated annual earnings extrapolated from monthly earnings. TAXSIM then provides Earned Income Tax Credit (EITC) and Child Tax Credit (CTC) amounts, which we combine into a refundable tax credit variable.

We then use state-level Temporary Assistance to Needy Family (TANF) rules to assess eligibility for and benefit amounts expected through the TANF program. Information from the Urban Institute's Welfare Rules Database is used to construct the TANF unit size for each state for each household and to construct eligibility and benefit amounts. Eligibility is assessed assuming the household is not currently participating in TANF. Benefits are calculated using income disregards and formulas in place at 11 months participation for those who are deemed to be eligible.

Using the simulated TANF amounts, we then calculate eligibility for federal food assistance through the Supplemental Nutrition Assistance Program, since income received from TANF partially reduces SNAP benefit awards. The SNAP parameters determining unit size, eligibility, and benefit amounts come from the US Department of Agriculture Food and Nutrition Service.

Finally, we calculate whether the mother and each of her children are eligible for the public health insurance programs Medicaid and the Children's Health Insurance Program (CHIP—for children only), given the observed level of income in the family and number and ages of children and assuming that the mother is not pregnant. We obtained information on Medicaid and CHIP state income eligibility limits, earned income disregards, and other rules from the Kaiser Family Foundation, the Urban Institute TRIM3 database of program rules, and other sources, including state websites, the Center for Medicare and Medicaid Services, the National Governors' Association, and other researchers. We use the fraction of the family that is eligible for Medicaid/CHIP as the primary health insurance variable of interest. (For example, for a mother with a single child where the child is eligible but the mother is not, the fraction would be 0.5, while if both were eligible the fraction would be 1.)

Once we have eligibility and benefit amounts for each family and each state and year, we divide families into demographic groups. Specifically, we define cells based on educational attainment of the mother in four categories (less than high school, high school exactly, some college, college graduate or more), a binary indicator for having a child under six years old, and a variable indicating number of children in three categories (one, two, or three or more). Finally, we calculate the mean imputed benefit amount and mean fraction Medicaid/CHIP eligible for the simulated sample in each demographic cell, using survey weights.

The resulting dataset is a set of measures of program generosity in real dollars (or mean fraction of the family in the case of Medicaid/CHIP) for each state and year, 1997-2016, for 24 demographic groups. (With 24 demographic groups, 20 years, and 51 states/DC, the resulting dataset has 24,480 observations). Because the generosity measures are determined by the within-cell mean imputed real benefits or mean imputed fraction Medicaid/CHIP eligible for the fixed simulated sample, differences in the generosity measures between states, years, and demographic groups are a function only of differences in policy across states, years, or demographic groups and not of differences in the response to policy or local economic conditions by individuals. As the calculation assumes full take-up of each program, the calculated program generosity can be thought of as a statistic that summarizes in a single number the potential generosity of the state's safety net package for a woman in a in particular demographic cell in a particular year. It is a more nuanced picture of generosity than would be given by, for example, the maximum program benefit available for a given family size.

II. Data Sources for Additional Policy Variables 1998-2016

State unemployment rate: Collected from the Bureau of Labor Statistics Local Area Unemployment Statistics. https://www.bls.gov/lau/staadata.txt

Unemployment Insurance dependent allowance: Maximum dependent allowances in dollars come from the US Department of Labor Employment and Training Administration (https://oui.doleta.gov/unemploy/statelaws.asp). Yearly data reflects the status of state law enacted as of January 1 of that year.

Child support dollars per capita: Total administrative expenditures on child support were collected from HHS Office of Child Support Enforcement Annual Reports to Congress. 2005-2016 values from 2016 Annual Report to Congress, Table 43; 2001-2004 values from 2004 Annual Report to Congress, Table 30. Converted to per capita using population data from the U.S. Census Bureau.

Public housing/voucher units per capita: Data on the number of subsidized housing units by state is available from HUD for years 2000 and 2004-2016. Linear interpolation is used for 2001 through 2003 data years. Converted to per capita using population data from the U.S. Census Bureau.

TANF family cap: Equals 1 if a state had a family cap in place that denied additional benefits or reduced benefit amounts to a family that had additional children while on public assistance. Data through 2005 obtained from Rebecca Blank and Jordan Matsudaira, updated through 2016 with information from the Urban Institute Welfare Rules Database.

TANF asset limits: TANF generous asset limit: Equals 1 if state had an asset limit greater than $3000 or had no asset limit. TANF asset limits in dollars collected from the Urban Institute's Welfare Rules Database.

TANF strict time limits: Equals 1 if a state had a lifetime time limit of less than 60 months. Data through 2007 obtained from Rebecca Blank and Jordan Matsudaira, updated through 2016 with information from the Urban Institute Welfare Rules Database.

State minimum wage: Collected from University of Kentucky Center for Poverty Research National Welfare Data: https://ukcpr.org/resources/national-welfare-data.

Share of TANF dollars spent on basic assistance and child care and work activities: TANF spending by category for all years is available from the US Department of Health and Human Services.

Appendix Tables for "The Effect of Safety Net Generosity on Maternal Mental Health and Risky Health Behaviors"

Appendix Table 1: NHIS Sample Restrictions

	Number of sample adults
Raw data 1998-2016	570,957
After dropping those with missing race or education	564,700
After dropping men	316,000
After dropping those 65 and over	245,783
After dropping those without children	120,329
After dropping those who are married	55,697
After dropping those with a disability	49,997
After dropping non-US born	39,942

Notes: Observation counts from NHIS Sample Adult Files from 1998-2016.

Appendix Table 2: Effects of Safety Net Generosity on Self-Reported Program Participation, NHIS

	(1) Self-Reported Program Participation (mean = 0.357)	(2) TANF (mean=0.056)	(3) SNAP (mean=0.281)	(4) Medicaid + CHIP (mean=0.223)
Panel A: Cash and Food Combined				
Simulated cash and food benefits (1000s)	0.0217**	0.0199**	0.0201**	0.0291**
	(0.005)	(0.003)	(0.006)	(0.004)
Simulated fraction of family Medicaid eligible	0.1783**	0.0673*	-0.0123	0.1730**
	(0.052)	(0.031)	(0.062)	(0.051)
Panel B: Individual Programs				
Simulated tax credits (1000s)	0.0285**	-0.0057	0.0255**	0.0325**
	(0.007)	(0.004)	(0.008)	(0.006)
Simulated TANF benefits (1000s)	0.0142**	0.0276**	0.0108**	0.0293**
	(0.004)	(0.003)	(0.004)	(0.006)
Simulated SNAP benefits (1000s)	0.0592**	-0.0079*	0.0688**	0.0259**
	(0.007)	(0.004)	(0.006)	(0.008)
Simulated fraction of family Medicaid eligible	0.2221**	0.0674+	0.0500	0.1628**
	(0.044)	(0.036)	(0.052)	(0.053)
Observations	39,942	39,825	39,823	39,742

Notes: Dependent variable is an indicator for whether the family reported participation in any of the following safety net programs: TANF, SNAP, Medicaid, or CHIP (column 1) or an indicator for self-reported participation in the program listed (columns 2-4). All simulated benefits are in thousands of real 2016 dollars. Standard errors clustered at the state level are in parentheses. +, *, and ** indicate statistical significance at the 10, 5, and 1 percent levels respectively. All regressions include controls for age of mother, number of children in household and presence of a child under 6, education, race, and interactions between race and all other individual level variables. They also include controls for individual-level urban residence, and state-level measures of the unemployment rate, UI dependent allowance, child support enforcement dollars per capita, and public housing/voucher units per capita, as well as state and year fixed effects.

Appendix Table 3: Effects of Safety Net Generosity on MSPD, Robustness to Different Specifications

	Baseline estimates	No interactions by race	State time trends	Child categories * Urate	Full policy controls
Panel A: Cash and Food Combined					
Simulated cash and food benefits (1000s)	-0.0061+	-0.0070*	-0.0068+	-0.0059	-0.0074*
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)
Simulated fraction of family Medicaid eligible	0.0515	0.0611	0.0529	0.0518	0.0279
	(0.057)	(0.056)	(0.050)	(0.058)	(0.051)
Panel B: Individual Programs					
Simulated tax credits (1000s)	-0.0112+	-0.0099	-0.0102+	-0.0106	-0.0115+
	(0.006)	(0.007)	(0.006)	(0.008)	(0.006)
Simulated TANF benefits (1000s)	-0.0045	-0.0058	-0.0053	-0.0049	-0.0060
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Simulated SNAP benefits (1000s)	-0.0123*	-0.0170*	-0.0122*	-0.0137+	-0.0130**
	(0.005)	(0.007)	(0.005)	(0.007)	(0.005)
Simulated fraction of family Medicaid eligible	0.0507	0.0523	0.0508	0.0485	0.0268
	(0.061)	(0.059)	(0.053)	(0.062)	(0.056)
Demographic controls	YES	YES	YES	YES	YES
Demographic controls with full race interactions	YES	NO	YES	YES	YES
State time trends	YES	YES	YES	NO	NO
# of children categories interacted with state urate	NO	NO	NO	YES	NO
Policy variable controls	Limited	Limited	Limited	Limited	Full
Observations	39,942	39,942	39,942	39,942	39,942

Notes: See notes for Table 5.

Appendix Table 4: Summary Statistics for NHIS Sample 1998-2016, by timing of interview

	Mean (Standard Deviation)	Mean (Standard Deviation)
	Q1&Q2	Q3&Q4
Mother's age	31.06	31.15
	(11.20)	(11.31)
One child	0.512	0.513
Two children	0.294	0.295
Three or more children	0.194	0.191
Child less than 6	0.386	0.396
Non-Hispanic White	0.570	0.572
Non-Hispanic Black	0.274	0.275
Hispanic	0.127	0.125
Asian/Native American/Pacific Islander	0.028	0.028
Less than high school	0.166	0.144
High school (including GED)	0.291	0.312
Some college	0.420	0.421
BA or higher	0.123	0.122
Any welfare	0.358	0.357
TANF	0.059	0.054
SNAP	0.287	0.276
Medicaid/CHIP	0.221	0.226
Severe psychological distress (SPD)	0.040	0.036
Moderate psychological distress (MPD)	0.206	0.201
Current daily smoker	0.222	0.223
Heavy drinker	0.204	0.205
Observations	19,637	20,305

Notes: Sample includes non-immigrant single mothers without disabilities from the NHIS Sample Adult Files from 1998-2016.

Appendix Table 5: Effects of Safety Net Generosity on Severe and Moderate and Severe Psychological Distress, by timing of interview

	(1) SPD Q1&Q2 (mean=0.040)	(2) SPD Q3&Q4 (mean=0.036)	(3) MSPD Q1&Q2 (mean=0.246)	(4) MSPD Q3&Q4 (mean=0.238)
Panel A: Cash and food combined				
Simulated cash and food benefits (1000s)	-0.0050*	-0.0011	-0.0115*	-0.0020
	(0.002)	(0.002)	(0.005)	(0.004)
Simulated fraction of family Medicaid eligible	-0.0325	0.0501+	0.0331	0.0700
	(0.041)	(0.027)	(0.067)	(0.072)
Panel B: Individual Programs				
Simulated tax credits (1000s)	-0.0121*	-0.0028	-0.0320**	0.0081
	(0.005)	(0.006)	(0.008)	(0.011)
Simulated TANF benefits (1000s)	-0.0039	-0.0009	-0.0081	-0.0023
	(0.002)	(0.002)	(0.006)	(0.005)
Simulated SNAP benefits (1000s)	-0.0073	-0.0011	-0.0188*	-0.0057
	(0.006)	(0.004)	(0.009)	(0.006)
Simulated fraction of family Medicaid eligible	-0.0247	0.0528*	0.0545	0.0483
	(0.041)	(0.025)	(0.071)	(0.078)
Observations	19,637	20,305	19,637	20,305

Notes: See notes for Table 4.

Appendix Table 6: Summary Statistics for NHIS Sample 1998-2016, by maternal education

	Less than high school	High school	Some college	College grad
Mother's age	28.54	30.95	30.12	38.10
One child	0.402	0.488	0.542	0.611
Two children	0.290	0.302	0.294	0.288
Three or more children	0.308	0.210	0.164	0.100
Child less than 6	0.491	0.454	0.345	0.267
Non-Hispanic White	0.464	0.553	0.590	0.685
Non-Hispanic Black	0.328	0.296	0.254	0.225
Hispanic	0.179	0.125	0.124	0.068
Asian/Native American/Pacific Islander	0.029	0.026	0.032	0.022
Any welfare	0.587	0.428	0.293	0.114
TANF	0.116	0.064	0.042	0.011
SNAP	0.475	0.338	0.229	0.079
Medicaid/CHIP	0.397	0.269	0.173	0.063
Severe psychological distress (SPD)	0.065	0.043	0.032	0.015
Moderate psychological distress (MPD)	0.228	0.208	0.205	0.155
Current daily smoker	0.326	0.288	0.176	0.090
Heavy drinker	0.150	0.196	0.227	0.214
Observations	6328	11857	16379	5378

Notes: Observation counts from NHIS Sample Adult Files from 1998-2016.

Appendix Table 7a: Effects of Safety Net Generosity on Daily Smoking, Robustness to Different Specifications

	Baseline estimates	No interactions by race	State time trends	Child categories * Unemp. rate	Full policy controls
Panel A: Cash and Food Combined					
Simulated cash and food benefits (1000s)	-0.0027	-0.0059	-0.0041	-0.0028	-0.0040
	(0.003)	(0.006)	(0.003)	(0.003)	(0.003)
Simulated fraction of family Medicaid eligible	-0.0089	0.0381	-0.0414	-0.0097	-0.0372
	(0.034)	(0.033)	(0.039)	(0.034)	(0.033)
Panel B: Individual Programs					
Simulated tax credits (1000s)	-0.0092	-0.0043	-0.0093	-0.0144+	-0.0094
	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)
Simulated TANF benefits (1000s)	-0.0030	-0.0063	-0.0047	-0.0011	-0.0045
	(0.003)	(0.006)	(0.003)	(0.003)	(0.003)
Simulated SNAP benefits (1000s)	0.0026	-0.0050	0.0017	0.0083	0.0017
	(0.005)	(0.007)	(0.005)	(0.008)	(0.005)
Simulated fraction of family Medicaid eligible	0.0092	0.0370	-0.0224	0.0212	-0.0197
	(0.034)	(0.032)	(0.037)	(0.034)	(0.031)
Demographic controls	YES	YES	YES	YES	YES
Demographic controls with full race interactions	YES	NO	YES	YES	YES
State time trends	YES	YES	YES	NO	NO
Number of kids categories interacted with state unemployment rate	NO	NO	NO	YES	NO
Policy variable controls	Limited	Limited	Limited	Limited	Full
Observations	39,777	39,777	39,777	39,777	39,777

Notes: Dependent variable is an indicator for whether the mother answered that she smoked every day. Simulated benefits are in thousands of real 2016 dollars. Standard errors clustered at the state level are in parentheses. +, *, and ** indicate statistical significance at the 10, 5, and 1 percent levels respectively. For additional controls, see notes to Table 4.

Appendix Table 7b: Effects of Safety Net Generosity on Heavy Drinking, Robustness to Different Specifications

	Baseline estimates	No interactions by race	State time trends	Child categories * Unemp. rate	Full policy controls
Panel A: Cash and Food Combined					
Simulated cash and food benefits (1000s)	-0.0018	-0.0034	-0.0022	-0.0042	-0.0029
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Simulated fraction of family Medicaid eligible	0.0470	0.0412	0.0437	0.0495	0.0109
	(0.053)	(0.054)	(0.046)	(0.053)	(0.052)
Panel B: Individual Programs					
Simulated tax credits (1000s)	-0.0180*	-0.0215**	-0.0175*	-0.0238**	-0.0174*
	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)
Simulated TANF benefits (1000s)	-0.0011	-0.0003	-0.0014	-0.0010	-0.0023
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Simulated SNAP benefits (1000s)	0.0038	0.0071	0.0027	0.0026	0.0025
	(0.007)	(0.009)	(0.007)	(0.008)	(0.007)
Simulated fraction of family Medicaid eligible	0.0809	0.0822	0.0804	0.0863	0.0434
	(0.057)	(0.059)	(0.050)	(0.057)	(0.054)
Demographic controls	YES	YES	YES	YES	YES
Demographic controls with full race interactions	YES	NO	YES	YES	YES
State time trends	YES	YES	YES	NO	NO
Number of kids categories interacted with state unemployment rate	NO	NO	NO	YES	NO
Policy variable controls	Limited	Limited	Limited	Limited	Full
Observations	39,599	39,599	39,599	39,599	39,599

Notes: Dependent variable is an indicator for whether the mother reported drinking 4 or more drinks in one day in the past year. Simulated benefits are in thousands of real 2016 dollars. Standard errors clustered at the state level are in parentheses. +, *, and ** indicate statistical significance at the 10, 5, and 1 percent levels respectively. For additional controls, see notes to Table 4.

Appendix Table 8a: Effects of Safety Net Generosity on Daily Smoking by Education Level

	Less than HS (mean=0.326)	High school (mean=0.288)	Some college (mean=0.176)	College grad (mean=0.090)
Panel A: Cash and Food Combined				
Simulated cash and food benefits (1000s)	-0.0082	0.0004	-0.0023	0.0189
	(0.011)	(0.011)	(0.006)	(0.016)
Simulated fraction of family Medicaid eligible	-0.0463	-0.0508	0.0252	0.0370
	(0.141)	(0.071)	(0.076)	(0.080)
Panel B: Individual Programs				
Simulated tax credits (1000s)	-0.0097	-0.0020	0.0113	-0.0108
	(0.024)	(0.021)	(0.014)	(0.046)
Simulated TANF benefits (1000s)	-0.0109	0.0008	-0.0024	0.0000
	(0.014)	(0.011)	(0.014)	(0.025)
Simulated SNAP benefits (1000s)	-0.0140	-0.0058	-0.0068	0.0553+
	(0.028)	(0.017)	(0.011)	(0.028)
Simulated fraction of family Medicaid eligible	-0.0913	0.0553	0.0180	0.0304
	(0.155)	(0.065)	(0.074)	(0.080)
Observations	6,293	11,805	16,320	5,359

Notes: Dependent variable is an indicator for whether the mother answered that she smoked every day. Simulated benefits are in thousands of real 2016 dollars. Standard errors clustered at the state level are in parentheses. +, *, and ** indicate statistical significance at the 10, 5, and 1 percent levels respectively. For additional controls, see notes to Table 4.

Appendix Table 8b: Effects of Safety Net Generosity on Heavy Drinking by Education Level

	Less than HS (mean=0.150)	High school (mean=0.196)	Some college (mean=0.227)	College grad (mean=0.214)
Panel A: Cash and Food Combined				
Simulated cash and food benefits (1000s)	-0.0054	-0.0175+	0.0039	0.0032
	(0.009)	(0.004)	(0.008)	(0.017)
Simulated fraction of family Medicaid eligible	0.1017	-0.0204	0.0681	0.0809
	(0.106)	(0.105)	(0.091)	(0.139)
Panel B: Individual Programs				
Simulated tax credits (1000s)	-0.0028	-0.0203	0.0020	0.0355
	(0.015)	(0.018)	(0.014)	(0.049)
Simulated TANF benefits (1000s)	0.0048	-0.0172+	0.0083	0.0313
	(0.012)	(0.009)	(0.010)	(0.032)
Simulated SNAP benefits (1000s)	0.0474	0.0188	-0.0101	-0.0447
	(0.031)	(0.017)	(0.015)	(0.034)
Simulated fraction of family Medicaid eligible	0.1675	0.0272	0.0576	0.0912
	(0.104)	(0.101)	(0.093)	(0.139)
Observations	6,255	11,751	16,244	5,349

Notes: Dependent variable is an indicator for whether the mother reported drinking 4 or more drinks in one day in the past year. Simulated benefits are in thousands of real 2016 dollars. Standard errors clustered at the state level are in parentheses. +, *, and ** indicate statistical significance at the 10, 5, and 1 percent levels respectively. For additional controls, see notes to Table 4.

Appendix Table 9: Effects of Safety Net Generosity on Smoking and Drinking, by timing of interview

	(1) Smoking Q1&Q2 (mean=0.222)	(2) Smoking Q3&Q4 (mean=0.223)	(3) Drinking Q1&Q2 (mean=0.204)	(4) Drinking Q3&Q4 (mean=0.205)
Panel A: Cash and food combined				
Simulated cash and food benefits (1000s)	-0.0111**	0.0061	-0.0087	0.0054
	(0.004)	(0.006)	(0.005)	(0.007)
Simulated fraction of fam Medicaid elig	-0.0031	-0.0141	0.0757	0.0159
	(0.055)	(0.049)	(0.069)	(0.067)
Panel B: Individual Programs				
Simulated tax credits (1000s)	-0.0182+	0.0004	-0.0252*	-0.0099
	(0.010)	(0.011)	(0.010)	(0.011)
Simulated TANF benefits (1000s)	-0.0106*	0.0050	-0.0087	0.0068
	(0.004)	(0.007)	(0.006)	(0.008)
Simulated SNAP benefits (1000s)	-0.0094	0.0152	0.0017	0.0066
	(0.008)	(0.010)	(0.011)	(0.013)
Simulated fraction of fam Medicaid elig	0.0104	0.0083	0.1166	0.0423
	(0.057)	(0.045)	(0.072)	(0.073)
Observations	19,559	20,218	19,461	20,138

Notes: See notes for Table 7.