

Appendix

Web Table 1: Sample sizes across years and states by studied population, from the Behavioral Risk Factor Surveillance System (1993-2012). Survey sample weights are applied to generate estimates correcting for non-response and differential sampling probability, taking into account the survey method, which attempts to produce state- and nationally-representative population samples.

	Year																					
	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	All	
Single mothers																						

AL	98	141	131	146	155	165	130	134	146	139	180	181	174	176	162	209	188	184	218	431	3486
AK	19	17	16	18	20	22	25	22	23	25	24	18	23	24	22	28	23	25	33	49	477
AZ	118	184	119	118	140	110	101	157	192	186	205	239	229	239	215	246	196	250	284	669	4196
AR	66	68	45	66	52	71	78	85	80	90	82	88	75	89	77	81	83	92	128	284	1780
CA	112 2	101 6	499 8	117 0	138 2	136 8	151 5	157 6	160 3	148 6	146 2	170 6	150 2	185 8	176 3	217 2	185 9	189 6	207 9	4136	37666
CO	101	97	91	105	107	101	120	110	160	123	143	120	146	139	158	135	152	161	171	455	2896
CT	78	85	90	87	88	94	73	96	109	91	94	100	98	94	105	103	113	115	126	294	2134
DE	21	24	24	22	21	19	28	24	28	32	27	31	29	29	31	42	30	37	42	89	628
DC	21	27	0	32	28	35	32	29	33	25	30	29	29	32	26	30	27	23	30	65	584
FL	342	399	372	432	515	504	404	526	480	600	573	568	591	649	590	648	669	598	798	1686	11945
GA	250	281	207	206	215	304	250	327	332	339	407	420	401	383	349	372	455	333	495	1059	7385
HI	26	30	32	42	33	42	36	36	39	34	43	0	47	41	52	53	56	53	59	119	874
ID	22	28	26	24	29	27	32	33	30	40	33	38	36	41	45	49	38	55	55	127	809
IL	388	364	366	420	408	321	337	437	456	420	432	463	408	509	441	488	570	391	529	1158	9307
IN	147	167	172	170	182	205	245	195	160	227	208	235	213	231	208	258	248	237	248	527	4483
IA	41	50	64	63	59	60	60	53	64	73	68	68	82	72	81	74	78	96	121	223	1549
KS	41	50	40	49	43	51	49	61	67	67	66	73	70	84	72	68	79	81	116	204	1430
KY	68	96	77	106	100	96	100	91	129	127	124	128	132	131	127	133	126	118	173	281	2464
LA	188	177	163	163	164	181	211	202	208	214	226	198	164	180	171	182	178	198	234	467	4069

ME	31	31	23	27	29	28	35	29	25	34	38	36	37	33	41	37	30	35	44	78	702
M D	165	158	172	137	140	206	192	187	188	194	194	210	203	209	196	230	215	215	262	505	4177
M A	197	152	185	165	155	166	163	187	188	184	189	167	227	206	207	188	189	180	237	533	4066
MI	295	305	302	338	284	366	280	304	367	390	357	391	359	345	311	367	315	397	377	763	7213
M N	90	109	106	111	115	82	119	99	116	140	102	137	128	133	142	141	136	162	186	343	2696
MS	127	123	144	117	127	128	115	132	148	157	139	139	153	152	143	137	148	136	162	350	2976
M O	159	129	164	151	176	176	178	161	166	191	202	201	202	216	204	206	216	243	226	469	4036
MT	19	22	19	22	22	18	18	23	26	26	18	25	23	29	27	24	33	31	32	63	520
NE	33	29	34	36	42	37	38	37	35	45	45	45	53	54	57	50	50	54	78	148	1003
NV	29	39	49	51	42	72	54	75	76	94	98	100	111	99	100	106	97	68	132	270	1764
NH	21	25	21	28	24	28	36	28	36	35	32	36	39	38	34	38	33	29	43	69	671
NJ	174	201	291	198	191	220	240	260	250	266	275	317	306	257	282	270	249	294	365	809	5716
N M	48	49	60	58	69	72	79	72	68	68	79	77	77	85	73	91	93	86	112	227	1643
NY	659	555	439	533	536	683	625	742	778	743	818	814	814	726	908	698	748	654	915	1683	15071
NC	168	213	179	204	212	193	190	211	263	237	267	284	268	269	302	316	325	353	481	797	5731
ND	13	11	12	11	14	9	14	9	14	13	15	12	19	16	18	16	18	15	18	38	303
OH	293	287	278	329	314	355	365	340	322	406	345	327	355	382	416	357	394	390	547	918	7720

OK	62	82	82	80	82	74	94	87	114	105	112	131	129	127	139	128	138	150	162	355	2433
OR	92	77	97	85	90	99	75	107	111	97	102	126	122	125	110	123	85	84	146	279	2230
PA	269	338	334	422	313	348	336	328	401	430	428	432	413	397	420	420	440	370	526	1089	8456
RI	29	0	31	34	23	28	31	36	36	36	38	37	40	41	34	37	42	31	51	82	715
SC	125	143	111	147	107	127	129	138	185	175	185	157	167	152	171	178	160	173	230	452	3411
SD	16	13	16	14	17	16	15	18	17	19	20	17	19	20	18	22	20	27	32	54	412
TN	126	134	129	129	145	150	132	156	173	192	180	198	183	187	224	226	244	183	275	488	3852
TX	487	527	433	753	708	654	748	814	738	964	922	997	926	823	967	108 4	100 9	958	149 4	2993	18999
UT	52	49	42	73	55	71	60	55	61	60	74	65	77	94	89	84	105	94	122	230	1610
VT	9	13	8	17	13	16	14	15	14	14	15	15	16	15	17	16	15	13	19	35	311
VA	158	226	217	193	173	181	233	226	195	233	216	270	198	208	260	184	235	235	295	634	4773
W A	127	139	147	157	143	162	204	183	136	189	177	180	183	181	185	184	197	199	251	425	3748
W V	33	35	41	36	32	32	32	44	48	54	47	41	44	61	38	34	42	46	64	121	925
WI	98	136	143	126	104	123	166	162	146	133	149	137	172	172	127	151	179	147	180	418	3168
W Y	0	8	12	11	10	11	14	12	8	14	13	10	15	13	16	15	13	16	20	26	258
Married mothers																					

AL	243	335	310	305	281	345	291	323	303	340	334	340	273	358	366	352	390	298	287	552	6626
AK	57	62	65	67	53	53	60	58	55	64	58	56	50	51	55	70	64	62	49	110	1221
AZ	327	290	304	332	339	314	402	377	396	423	476	508	487	521	701	609	681	529	458	921	9396
AR	182	201	168	196	183	220	190	189	195	195	208	204	205	220	238	236	261	257	184	377	4309
CA	268 0	271 1	643 3	271 1	248 4	264 0	292 3	269 8	266 9	306 1	310 2	320 1	356 3	309 6	329 3	353 1	358 9	341 7	262 5	5359	65787
CO	296	321	315	331	311	298	338	377	322	386	389	405	420	447	453	472	498	504	364	768	8014
CT	278	308	273	228	246	255	272	250	278	278	293	287	295	287	318	330	298	297	252	481	5803
DE	57	52	52	47	52	51	56	54	59	50	61	56	68	70	65	63	69	68	55	100	1204
DC	21	16	0	17	10	13	5	17	18	19	24	20	18	22	30	24	29	32	19	38	393
FL	896	880	933	108 3	923	107 8	998	944	111 7	953	125 0	127 2	127 9	116 0	133 0	128 2	146 0	136 9	110 9	2008	23325
GA	496	524	610	567	601	562	537	601	611	685	647	722	722	793	866	882	880	932	629	1311	14177
HI	94	101	94	109	97	97	115	100	91	106	94	0	106	107	114	124	103	113	95	200	2057
ID	112	110	110	113	107	116	112	119	116	126	135	132	124	143	154	166	178	168	138	285	2763
IL	866	922	944	100 0	100 8	944	971	986	105 6	106 6	103 0	114 2	109 3	108 8	114 9	104 4	101 2	132 2	932	1572	21147
IN	469	498	462	470	507	470	405	460	494	525	500	494	506	480	535	566	518	593	473	849	10274
IA	244	249	250	243	238	242	251	248	243	235	228	261	273	289	275	290	282	293	223	452	5308
KS	225	226	237	228	193	179	194	202	221	221	215	233	252	242	246	272	264	282	208	400	4740
KY	295	306	282	290	273	287	283	294	299	295	338	322	327	355	370	363	388	398	293	557	6614

LA	319	363	330	307	317	351	327	313	318	307	286	311	291	352	393	336	382	312	261	515	6690
ME	107	97	91	94	102	94	87	97	93	84	88	106	97	104	101	97	97	99	77	161	1972
M D	395	350	426	429	366	359	372	423	398	393	456	454	447	417	490	470	473	441	356	760	8674
M A	426	448	477	438	469	471	483	464	487	516	480	509	523	556	623	508	553	651	424	855	10363
MI	822	751	796	773	875	789	823	866	779	853	796	821	836	823	864	908	904	792	669	1323	16861
M N	403	412	385	465	390	461	473	437	413	425	434	418	399	459	484	509	494	461	409	785	9116
MS	173	193	181	196	197	201	209	186	197	195	188	193	209	224	215	219	224	216	144	296	4057
M O	476	442	430	443	411	510	408	426	467	443	465	442	479	480	478	500	582	482	378	811	9552
MT	76	78	89	78	69	78	68	68	69	67	73	68	80	77	82	85	87	85	79	143	1599
NE	142	145	160	154	144	150	145	154	138	147	153	164	165	171	184	177	192	175	143	278	3282
NV	107	100	136	130	126	123	103	132	128	157	157	187	208	209	220	235	202	232	208	340	3440
NH	99	95	107	102	112	95	96	107	99	106	109	106	111	114	112	117	118	110	86	172	2172
NJ	657	620	660	705	671	671	579	665	662	719	685	710	705	723	845	716	736	702	598	1131	14160
N M	134	135	120	150	153	132	144	144	154	148	147	145	150	144	156	151	158	157	128	244	2994
NY	125 4	125 5	119 2	136 5	122 2	128 7	119 3	138 1	149 4	133 1	144 7	152 5	131 4	141 1	137 0	138 2	143 4	165 4	110 4	2407	28021
NC	431	510	572	539	470	523	529	600	576	584	651	637	634	652	733	717	751	756	571	1148	12584

ND	59	61	59	55	55	55	52	56	53	52	51	56	50	54	57	52	56	58	47	97	1135
OH	941	774	888	903	896	866	936	847	866	817	1015	862	909	981	977	934	977	1118	737	1347	18590
OK	235	271	213	284	283	264	273	236	243	269	266	278	284	288	316	335	334	341	250	465	5728
OR	251	254	250	261	295	237	280	260	255	255	266	264	290	303	329	316	339	347	249	521	5821
PA	973	938	901	913	891	842	908	951	899	924	932	871	892	911	928	884	914	1113	733	1546	18865
RI	65	0	69	69	69	67	72	72	72	74	77	76	77	81	90	79	85	79	57	115	1446
SC	274	272	249	223	235	268	291	299	286	272	278	307	304	322	374	357	357	326	254	494	6042
SD	69	59	55	65	60	63	63	63	61	58	65	67	64	67	67	67	77	72	60	122	1344
TN	336	351	350	295	327	357	393	420	433	404	417	478	420	447	437	514	517	463	347	703	8408
TX	1528	1786	1816	1506	1626	1732	1712	1821	2002	1818	1893	1969	2177	2203	2402	2243	2719	2668	1774	3423	40819
UT	207	192	223	200	217	213	218	220	226	232	257	274	279	291	335	360	336	346	306	586	5518
VT	51	49	51	46	48	44	47	47	46	48	47	52	48	46	48	48	45	48	38	78	974
VA	493	508	532	540	551	588	611	473	511	550	561	585	566	588	711	685	666	643	535	1042	11939
WA	408	425	461	452	440	432	491	434	449	502	498	519	533	544	579	590	570	591	455	1005	10381
WV	122	124	131	126	124	114	119	130	123	127	131	122	118	114	127	122	122	107	97	196	2494
WI	323	446	418	410	428	407	353	364	400	410	422	477	423	486	480	437	438	537	449	725	8834

W Y	0	52	53	44	46	44	40	40	42	40	42	43	41	44	46	43	47	49	44	99	898
Single non-mothers																					

AL	568	463	494	468	499	538	654	636	642	680	650	666	752	742	727	809	786	854	103 8	2277	14944
AK	48	55	58	67	74	71	80	75	87	86	84	90	95	92	97	78	108	100	132	264	1841
AZ	481	544	554	631	707	965	842	584	790	861	770	741	795	871	827	101 8	106 0	965	131 4	2615	17935
AR	228	267	304	241	254	260	309	332	342	370	362	360	387	401	399	403	448	499	561	1249	7975
CA	446 9	442 6	0	446 6	463 8	461 9	477 9	523 0	529 4	565 0	576 1	552 4	570 1	622 9	565 9	561 5	610 7	629 1	792 3	1725 5	11563 6
CO	473	503	501	608	550	652	596	628	688	711	717	702	662	650	701	729	715	807	103 4	2128	14756
CT	383	426	489	512	543	515	548	575	581	591	561	570	594	628	560	619	608	617	832	1684	12435
DE	95	102	104	123	126	135	120	124	138	152	154	153	138	146	150	155	160	162	200	420	3057
DC	239	208	0	188	192	195	222	184	178	209	190	191	190	181	184	183	204	197	262	556	4151
FL	164 4	164 4	168 3	195 6	196 4	219 3	245 3	255 3	266 5	320 9	293 5	280 3	295 5	313 6	327 9	339 7	327 0	343 6	452 3	9480	61177
GA	877	989	103 8	101 9	103 6	106 5	121 2	124 5	130 8	128 4	134 5	133 7	128 2	135 4	138 2	149 7	140 1	141 2	208 9	4585	28756
HI	155	133	168	163	166	187	157	169	187	185	203	0	180	197	192	203	212	226	279	609	3971
ID	85	84	110	114	109	130	141	132	159	167	154	175	177	185	177	185	189	192	263	490	3416
IL	152 6	191 9	156 9	160 0	172 5	187 1	194 1	205 1	196 2	202 0	222 9	185 1	211 7	215 6	213 2	219 2	231 3	219 1	293 1	5888	44185
IN	661	624	682	712	667	842	107 2	834	839	870	925	859	998	938	959	993	102 0	948	133 0	2823	19594

IA	288	306	334	320	332	348	370	370	382	423	432	408	381	405	420	407	431	417	571	1220	8569
KS	279	284	284	332	340	379	345	386	385	402	417	399	395	392	395	374	427	425	554	1186	8381
KY	453	434	468	491	497	484	502	583	640	642	630	697	650	612	614	586	588	663	882	1963	13078
LA	503	481	523	568	584	497	588	640	660	697	678	745	606	728	663	721	771	839	1021	2185	14698
ME	165	175	138	185	189	200	217	186	217	240	233	247	242	257	253	252	250	261	318	619	4843
M D	734	745	719	711	874	818	965	880	959	983	989	946	1027	978	1008	1047	1027	1123	1436	3055	21025
M A	1101	1214	1022	1230	1076	1160	1120	1235	1226	1264	1262	1289	1275	1166	1095	1243	1220	1120	1728	3488	26533
MI	1215	1260	1064	1219	1356	1464	1455	1475	1579	1519	1566	1487	1576	1632	1692	1715	1720	1747	2122	4596	33460
M N	579	593	630	549	591	636	646	679	790	796	746	787	749	786	784	756	821	780	1092	2258	16047
MS	239	260	245	293	301	297	335	339	385	385	411	417	416	423	495	477	480	523	620	1312	8650
M O	548	593	663	665	730	675	777	879	775	876	738	894	850	923	914	934	905	977	1324	2729	18368
MT	77	78	77	89	116	92	116	119	145	134	130	136	130	142	136	143	132	154	203	387	2736
NE	183	200	193	171	203	203	231	221	233	247	230	237	236	226	221	242	230	246	329	689	4973
NV	123	154	169	216	251	266	356	323	363	345	374	360	346	419	419	427	427	440	516	1181	7473
NH	168	172	154	151	170	190	199	206	204	218	209	225	206	208	205	202	226	219	283	586	4402

NJ	955	962	1002	1150	1370	1439	1551	1436	1506	1364	1467	1397	1409	1602	1448	1597	1592	1520	1989	4082	30837
NM	169	170	182	218	186	220	218	257	258	276	272	303	303	318	339	335	343	341	434	935	6078
NY	2924	3728	3254	3251	3548	3151	3305	3336	3599	3903	3548	3527	3851	3993	4000	3982	4026	4179	5205	10378	80690
NC	947	816	881	977	914	1169	1239	1289	1323	1360	1259	1368	1369	1434	1417	1515	1625	1635	2034	4474	29044
ND	63	74	67	74	72	84	90	75	81	88	84	95	81	89	93	95	87	97	139	261	1887
OH	1189	1554	1445	1321	1443	1396	1734	1773	2011	1983	1906	1887	1764	1980	1780	1892	1851	1974	2554	5424	38858
OK	301	345	394	357	386	414	405	499	504	515	483	466	486	521	499	519	551	558	725	1636	10564
OR	383	373	416	442	418	498	433	507	587	611	594	603	585	568	602	604	644	753	857	1861	12338
PA	1637	1587	1738	1599	1778	1933	1865	1859	2047	2034	2113	2268	2140	2142	2132	2256	2380	2216	3042	6132	44895
RI	165	0	172	163	171	176	178	181	190	210	197	216	220	199	198	221	198	228	269	577	4131
SC	353	435	474	505	588	588	570	618	671	673	587	694	650	682	658	685	740	864	1022	2231	14288
SD	74	69	68	78	84	81	82	85	92	102	87	97	101	100	109	105	106	104	160	299	2082
TN	617	667	625	768	763	764	860	815	874	999	917	949	958	1034	971	1000	1078	1173	1455	3141	20429
TX	2192	2026	2348	2498	2240	2433	2628	2545	2711	2867	2953	3014	2829	2748	2873	3251	3296	3172	4783	9851	63259

UT	147	170	190	162	198	205	209	222	236	304	286	278	250	275	285	292	289	348	388	854	5589
VT	86	89	89	91	100	95	102	103	110	106	102	112	110	123	111	125	114	122	153	288	2329
VA	868	758	911	919	942	1036	984	1080	1177	1255	1205	1164	1196	1198	1078	1282	1280	1339	1930	3902	25504
WA	656	677	672	773	818	832	833	896	1014	968	981	1025	994	1047	1056	1048	1078	1191	1526	3284	21369
WV	193	200	247	224	248	265	262	278	257	267	301	283	312	291	320	353	376	362	420	856	6316
WI	730	643	606	675	702	727	948	980	840	865	757	873	838	818	895	928	932	994	1159	2300	18210
WY	0	47	40	48	45	60	54	57	65	68	65	66	67	72	69	73	78	80	99	189	1340
Married non-mothers																					

AL	689	587	662	712	722	656	679	773	754	872	746	804	847	827	896	862	883	104 5	868	1804	16688
AK	69	65	79	76	81	79	82	81	71	78	94	97	98	108	114	117	108	121	106	246	1970
AZ	483	447	561	582	692	622	734	830	802	861	822	841	885	909	916	103 8	102 2	130 1	100 2	2073	17423
AR	309	325	434	403	488	445	446	415	504	513	520	553	566	533	570	593	576	588	558	1119	10459
CA	328 6	361 4	0	402 0	388 4	432 4	371 5	417 0	427 3	443 0	432 6	452 9	476 0	497 3	496 1	524 9	527 7	544 6	498 3	1090 4	91123
CO	435	414	525	511	674	611	617	729	707	730	764	777	791	774	808	855	891	865	878	1837	15194
CT	504	490	448	467	494	497	486	528	538	559	575	566	604	622	629	637	642	629	575	1234	11724
DE	86	90	103	106	116	120	119	125	118	138	124	136	145	150	154	163	158	165	150	369	2835
DC	38	56	0	44	49	32	32	48	57	52	51	60	58	64	70	80	73	80	48	112	1104
FL	189 1	201 5	221 4	213 2	221 5	219 0	263 7	265 6	271 2	286 8	293 1	292 5	288 4	316 4	336 2	354 7	363 5	386 9	324 9	7398	60494
GA	925	873	972	107 5	109 2	111 9	128 1	119 9	137 4	127 9	130 3	130 1	141 1	140 8	147 8	156 1	176 8	186 6	142 3	3139	27847
HI	123	118	167	151	153	176	167	168	169	178	183	0	213	202	215	215	219	230	221	472	3741
ID	120	131	147	177	176	190	199	197	229	217	227	234	251	256	262	262	288	290	269	611	4733
IL	145 4	149 5	165 8	166 1	159 9	189 1	194 7	172 6	186 2	181 9	202 7	198 4	207 4	192 9	213 5	209 0	221 2	210 7	204 7	4499	40217
IN	785	770	873	919	980	944	746	983	111 2	991	107 4	104 9	116 4	110 7	119 3	107 9	116 4	123 9	115 3	2395	21722

IA	417	412	402	434	437	466	478	509	530	554	541	561	574	609	618	631	617	640	609	1192	11231
KS	362	391	376	390	459	499	523	467	469	478	454	491	511	510	535	550	546	536	519	1117	10182
KY	509	557	603	629	694	714	722	693	691	706	710	744	747	818	840	902	946	940	859	1721	15745
LA	551	477	603	527	609	630	637	632	641	677	699	742	646	726	712	748	791	783	741	1492	14063
ME	164	171	227	199	187	204	207	230	237	248	221	242	264	263	287	290	289	290	289	591	5099
M D	612	669	700	784	808	783	744	696	814	820	914	898	867	892	919	966	900	101 2	890	1819	17505
M A	736	841	835	817	841	892	931	899	103 2	962	994	101 9	958	110 5	106 0	113 7	116 0	117 6	101 3	2132	20540
MI	129 1	120 1	149 7	138 2	133 9	141 1	163 4	155 8	155 3	165 7	172 8	168 7	180 0	184 4	183 0	185 4	181 6	186 8	175 4	3730	34435
M N	572	581	684	712	810	848	760	863	853	873	912	915	103 3	985	100 0	993	102 5	109 4	936	2050	18501
MS	298	328	352	354	397	371	416	436	421	476	449	470	471	481	500	534	523	500	490	999	9267
M O	686	700	719	754	771	841	898	887	968	983	946	991	105 6	102 8	113 4	114 7	111 6	106 3	107 9	2335	20103
MT	103	107	127	127	133	154	148	160	153	169	163	181	187	195	209	207	209	211	189	430	3562
NE	215	195	183	254	225	226	265	265	317	295	298	306	316	324	333	328	355	351	334	699	6086
NV	173	170	241	212	231	244	250	308	344	344	337	345	300	377	391	424	453	461	374	758	6738
NH	142	146	169	173	186	175	188	195	216	215	224	219	236	243	272	273	267	280	269	574	4662
NJ	110 2	107 0	111 7	126 0	119 1	126 4	134 8	125 2	131 5	125 6	129 1	128 7	133 3	133 7	135 7	145 6	147 6	156 0	130 8	2803	27381

N M	188	221	229	236	238	228	239	227	261	271	293	300	300	322	353	342	331	364	335	704	5982
NY	246 4	213 8	240 0	258 0	254 7	249 5	274 9	244 2	265 1	267 9	273 1	270 0	291 5	283 7	308 4	298 3	302 8	306 1	270 4	6027	57216
NC	987	104 5	122 4	117 8	132 1	128 2	129 3	131 2	143 7	143 6	142 7	145 2	160 3	163 5	161 3	171 7	168 9	176 6	173 6	3701	30854
ND	77	78	92	90	105	102	104	113	110	117	116	119	127	133	136	136	140	140	136	302	2471
OH	166 3	171 1	175 8	160 2	190 7	183 0	175 5	190 2	177 8	188 9	185 2	214 8	212 0	210 2	208 8	225 8	219 7	210 5	206 8	4271	41002
OK	524	469	575	495	513	639	597	640	602	633	622	638	651	643	679	694	711	715	697	1365	13100
OR	392	412	390	462	474	604	563	550	534	598	598	589	642	709	705	742	769	767	747	1504	12750
PA	157 6	163 8	174 8	183 1	200 3	200 8	190 3	202 9	217 6	209 7	232 5	203 4	226 9	245 0	241 5	251 2	242 8	252 2	239 5	4807	45168
RI	143	0	127	135	146	159	142	146	156	164	162	173	175	192	175	194	182	192	172	350	3284
SC	514	461	578	551	604	597	638	618	623	735	730	689	729	820	784	863	875	935	835	1792	14969
SD	87	101	99	111	113	111	119	125	128	139	126	144	147	150	159	169	165	175	151	352	2870
TN	731	776	929	104 7	100 7	103 6	962	106 9	105 2	102 7	120 5	114 5	116 3	104 7	109 6	111 4	121 1	141 3	127 1	2552	22854
TX	203 9	214 9	254 1	225 4	281 3	270 7	263 1	280 5	309 9	307 3	332 7	322 0	335 5	373 2	352 9	367 5	398 9	398 0	359 7	7935	66450
UT	168	177	192	223	251	262	248	304	305	323	312	337	345	320	357	353	393	414	383	834	6498
VT	77	71	78	85	85	91	94	92	103	115	115	114	125	126	133	132	140	139	126	283	2324

VA	936	919	925	109 9	107 7	111 7	119 0	115 5	117 0	125 0	122 8	129 8	137 4	142 4	145 6	153 9	148 0	151 6	129 3	2962	26406
WA	702	685	772	825	838	852	894	100 3	974	103 2	101 2	101 5	109 3	115 0	116 7	124 4	127 2	125 2	117 5	2439	21395
WV	280	287	285	311	336	355	351	352	361	373	355	390	404	411	412	436	425	434	422	826	7807
WI	690	678	699	739	762	761	745	790	983	968	102 1	995	102 0	109 0	105 9	109 2	115 1	107 5	104 2	2386	19746
WY	0	62	65	71	78	77	77	79	90	98	92	102	108	109	112	113	108	114	104	249	1907

Web Table 2: Timing of PRWORA legislation implementation by state (1). Note that in our model specification, we did not attempt to distinguish between waiver and TANF policies, as prior analyses have noted there is not a consistent strategy for labeling legislative textual variations, although the language of the laws did differ across states in some ways in both waiver and TANF implementation specifications (1–5); careful prior analyses suggested that the major policy changes were sufficiently consistent across both waiver and TANF reforms as to use a single dummy variable across categories, as adopted here (4,6).

State	Date Waiver Implemented (if any)	Date TANF Implemented
AL		Nov-96
AK		Jul-97
AZ	Nov-95	Oct-96
AR	Jul-94	Jul-97
CA	Dec-92	Jan-98
CO		Jul-97
CT	Jan-96	Oct-96
DE	Oct-95	Mar-97
DC		Mar-97
FL		Oct-96
GA	Jan-94	Jan-97
HI	Feb-97	Jul-97
ID		Jul-97
IL	Nov-93	Jul-97
IN	May-95	Oct-96
IA	Oct-93	Jan-97
KS		Oct-96
KY		Oct-96
LA		Jan-97
ME		Nov-96
MD	Mar-96	Dec-96
MA	Nov-95	Sep-96
MI	Oct-92	Sep-96
MN		Jul-97
MS	Oct-95	Jul-97
MO	Jun-95	Feb-97
MT	Feb-96	Feb-97
NE	Oct-95	Dec-96
NV		Dec-96
NH		Oct-96
NJ	Oct-92	Jul-97

NM		Jul-97
NY		Nov-97
NC	Jul-96	Jan-97
ND		Jul-97
OH	Jul-96	Oct-96
OK		Oct-96
OR	Feb-93	Oct-96
PA		Mar-97
RI		Jun-97
SC		Oct-96
SD	Jun-94	Dec-96
TN	Sep-96	Oct-96
TX	Jun-96	Nov-96
UT	Jan-93	Oct-96
VT	Jul-94	Sep-96
VA	Jul-95	Feb-97
WA	Jan-96	Jan-97
WV	Feb-96	Jan-97
WI	Jan-96	Sep-97
WY		Jan-97

Web Table 3: Placebo analysis using synthetic control methods.^a

Health outcome	Weighting of each candidate control group			Difference in estimate between intervention and control groups		
	Married mothers	Single non-mothers	Married non-mothers	Married mothers	Single non-mothers	Married non-mothers
Safe drinking	0	1	0	-11%	-9%	-12%
Not smoking	0	1	0	-10%	-8%	-10%
Days good mntl health	0.496	0.504	0	-5%	-4%	-6%
Medical access	0	1	0	-9%	-12%	-17%
Able to afford doc	1	0	0	-13%	-12%	-16%
Pap screen	0.154	0.846	0	-7%	-5%	-5%
Mammogram	1	0	0	-6%	-16%	-23%

^a The estimate shown is the difference between the health outcome change estimated for the intervention group (single mothers) and the health outcome change estimated if each of the control groups (married mothers, single non-mothers, or married non-mothers) are treated as an intervention group and analyzed using the synthetic control method (a falsification test to examine if spurious correlations occur). The coefficients that are negative reflect that the change among the ‘true’ intervention group is always greater (more negative, a worse health outcome) than among the control group populations. This test suggests that our estimated effects for single mothers are typically unusually large relative to the distribution of the estimate that we obtain when we apply the same analysis to each of the populations that make up the control group. See main text Table 1 for health outcome definitions and summary statistics.

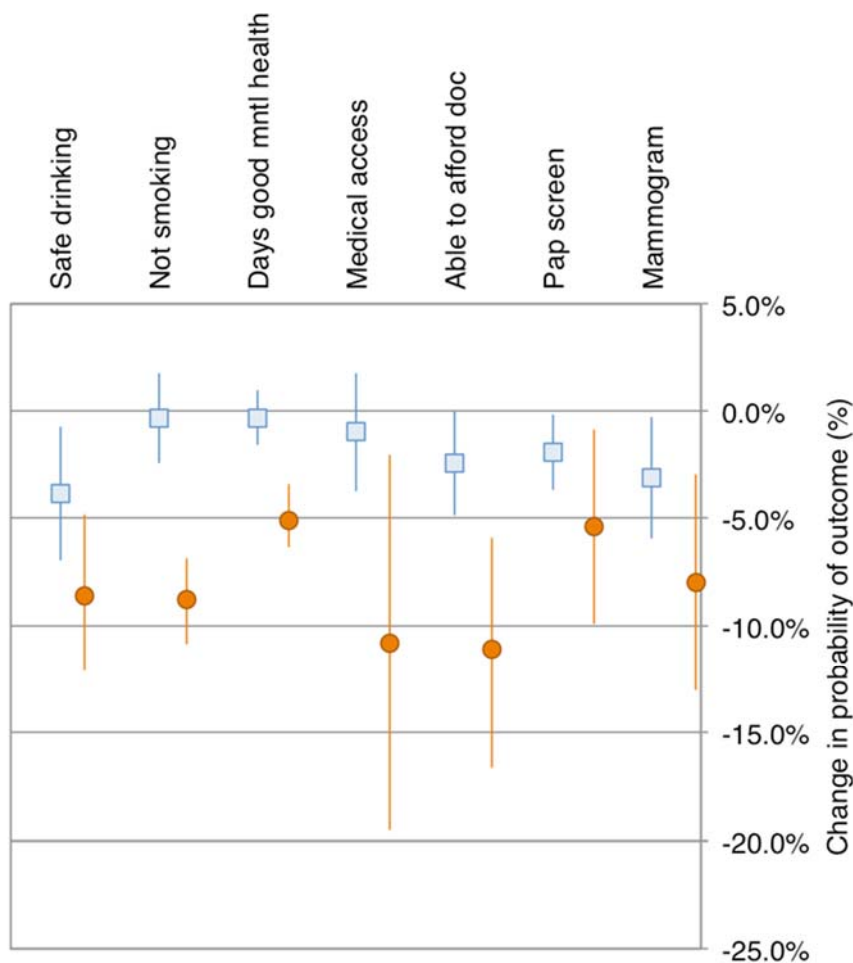
Web Table 4: Welfare reforms and health outcomes among single mothers in the Behavioral Risk Factor Surveillance System (1993-2012). Model coefficients corresponding to main text Figure 1 are provided in the Table below. The coefficients reflect the estimated association between the 1996 welfare reforms and the change in health status of single mothers, using both a difference-in-difference-in-difference model and a synthetic control estimation method. The difference-in-difference-in-differences model expressed in main text equation 1 attempts to correct for pre-existing secular trends in health, and unmeasured time-invariant and time-varying confounders between the single mothers and ‘control’ groups (married mothers, single non-mothers and married non-mothers). The synthetic control method compares single mothers to a control group constructed by weighting members of the less affected groups (married mothers, single non-mothers and married non-mothers) to better match the health characteristics of single mothers prior to welfare reforms, in order to strengthen the quality of inferences when there is no single ideal control group. The coefficients reflect a change in the probability of a health outcome; negative results reflect worsening health, i.e., single mothers experienced a 4.0% lower chance of safe alcohol drinking in association with the welfare reforms, per the difference-in-difference-in-difference model. Outcomes are defined in main text Table 1. 95% confidence intervals are in parentheses.

Outcome	Change in probability of outcome associated with welfare reform, difference-in-difference-in-difference model	Change in probability of outcome associated with welfare reform, synthetic control approach
Safe drinking	-4.0 (-7.0, -0.9)	-8.3 (-12.0, -4.7)
Not smoking	-0.6 (-2.7, 1.5)	-8.8 (-10.8, -6.8)
Days good mntl health	-0.4 (-1.7, 0.9)	-4.9 (-6.5, -3.3)
Medical access	-2.4 (-4.8, 0.1)	-10.7 (-19.5, -1.9)
Able to afford doc	-2.4 (-4.8, 0.0)	-10.8 (-15.8, -5.7)
Pap screen	-0.8 (-2.3, 0.6)	-5.3 (-9.8, -0.8)
Mammogram	-0.8 (-2.8, 1.3)	-7.9 (-12.9, -2.9)

Web Table 5: Welfare reforms and health outcomes among employed (blue squares) and unemployed (orange circles) single mothers in the Behavioral Risk Factor Surveillance System (1993-2012), based on difference-in-difference-in-difference specifications. The coefficients reflect the estimated association between the 1996 welfare reforms and the change in health status of single mothers by employment status, using a difference-in-difference-in-difference model; see main text Figure 2. The difference-in-difference-in-differences model expressed in main text equation 1 attempts to correct for pre-existing secular trends in health, and unmeasured time-invariant and time-varying confounders between the single mothers and ‘control’ groups (married mothers, single non-mothers and married non-mothers). The coefficients reflect a change in the probability of a health outcome; negative results reflect worsening health, i.e., employed single mothers experienced a 3.1% lower chance of safe alcohol drinking in association with the welfare reforms. Outcomes are defined in main text Table 1. 95% confidence intervals are in parentheses.

Outcome	Change in probability of outcome associated with welfare reform, difference-in-difference model among unemployed	Change in probability of outcome associated with welfare reform, difference-in-difference-in-difference model among employed
Safe drinking	-5.9 (-11.6, -0.1)	-3.1 (-6.8, 0.7)
Not smoking	-0.7 (-3.9, 2.5)	-0.2 (-2.9, 2.6)
Days good mntl health	-3.2 (-5.4, -1.0)	-0.7 (-2.3, 0.9)
Medical access	-0.1 (-4.1, 4.0)	-3.7 (-6.7, -0.8)
Able to afford doc	-5.2 (-7.9, -2.5)	-0.4 (-2.7, 2.0)
Pap screen	-1.6 (-4.1, 0.9)	-0.6 (-2.2, 1.0)
Mammogram	-3.7 (-6.7, -0.7)	-2.4 (-5.0 0.2)

Web Figure 1: Given the potential that the Affordable Care Act passed in 2010 could differentially affect the intervention and control groups, we re-ran analyses after censoring the data at 2010. The results were essentially unchanged, as shown below. The figure presents the estimated percentage point change in health status of single mothers associated with the 1996 welfare reforms, using both a difference-in-difference-in-difference model (blue squares) and a synthetic control estimation method (orange circles). The difference-in-difference-in-differences model expressed in equation 1 of the main text corrects for pre-existing secular trends in health, and unmeasured time-invariant and time-varying confounders between the single mothers and ‘control’ groups (married mothers, single non-mothers and married non-mothers). The synthetic control method compares single mothers to a control group constructed by weighting members of the less affected groups (married mothers, single non-mothers and married non-mothers) to better match the health characteristics of single mothers prior to welfare reforms, in order to strengthen the quality of inferences when there is no single ideal control group. The y-axis reflects a change in the probability of a health outcome; negative results reflect worsening health. Outcomes are defined in Table 1. 95% confidence intervals are displayed as error bars.



Appendix References

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