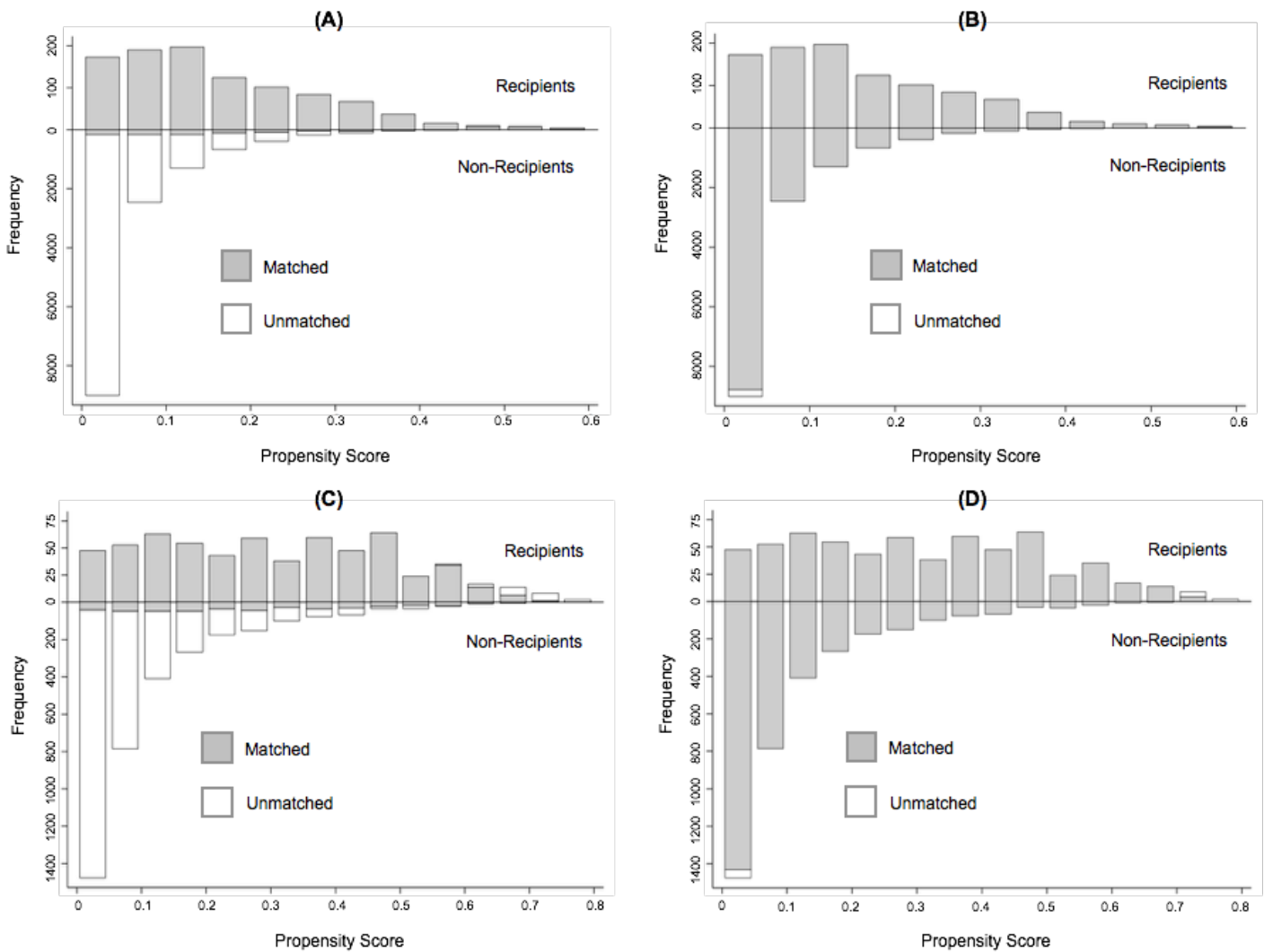


Online Appendix

Supplementary Table 1: Range of the estimated propensity score in the unmatched and matched samples

	Propensity Score Range			
	United States (NHIS 2003-2014)		Canada (CCHS 2003-2014)	
	Employed	Unemployed	Employed	Unemployed
Before Matching	0.0008 - 0.5946	0.0018 - 0.7661	0.0015 - 0.8469	0.0096 - 0.9683
Caliper Matching	0.0024 - 0.5874	0.0055 - 0.7388	0.0023 - 0.8318	0.0656 - 0.9481
Kernel Weighting	0.0024 - 0.5874	0.0055 - 0.7388	0.0023 - 0.8333	0.0663 - 0.9523



Supplementary Figure 1: Distribution of the estimated propensity score among American social assistance recipients and non-recipients. Due to administrative restrictions imposed by Statistics Canada, we are not able to provide a similar description of the estimated propensity score for the Canadian sample. (A) Caliper matching, employed subsample; (B) Kernel weighting, employed subsample; (C) Caliper matching, unemployed sample; (D) Kernel weighting, unemployed sample.

Supplementary Table 2. Average treatment effects on the treated, with risk behaviors included in the pool of confounders: American social assistance recipients (NHIS 2003-2014)

	Employed			Unemployed		
	Prevalence Difference	Standard Error	p-value	Prevalence Difference	Standard Error	p-value
Poor self-rated health						
Caliper Matching ^a	0.027	0.017	0.120	0.034	0.030	0.258
Kernel Weighting	0.028*	0.013	0.028	0.035	0.020	0.072
Hypertension						
Caliper Matching ^a	0.012	0.021	0.558	0.032	0.028	0.250
Kernel Weighting	0.025*	0.013	0.045	0.016	0.019	0.402
Chronic conditions						
Caliper Matching ^a	0.039	0.022	0.081	0.003	0.033	0.920
Kernel Weighting	0.027*	0.014	0.050	0.016	0.024	0.515
Obesity						
Caliper Matching ^a	0.042	0.025	0.088	0.027	0.035	0.634
Kernel Weighting	0.034	0.019	0.073	0.021	0.024	0.384
Sample size						
Unmatched	Recipients = 1026 Control= 14561			Recipients = 609 Control = 3625		
Caliper Matching ^a	Recipients = 993 Control= 861			Recipients = 597 Control = 436		
Kernel Weighting	Recipients = 999 Control= 14098			Recipients = 602 Control = 3592		

Note: * = p<0.05, ** = p<0.01, *** = p<0.001

a: Caliper is set to 0.015; narrower than the 0.2 of the standard deviation of the logit of the propensity score recommended by Austin (2011).

Supplementary Table 3. Average treatment effects on the treated, with risk behaviors included in the pool of confounders: Canadian social assistance recipients (CCHS 2003-2014)

	Employed			Unemployed		
	Prevalence Difference	Standard Error	p-value	Prevalence Difference	Standard Error	p-value
Poor self-rated health						
Caliper Matching ^a	0.041*	0.016	0.010	0.030	0.024	0.212
Kernel Weighting	0.062***	0.012	0.000	0.027	0.024	0.264
Hypertension						
Caliper Matching ^a	0.031*	0.016	0.049	-0.017	0.022	0.433
Kernel Weighting	0.021	0.011	0.056	-0.001	0.016	0.947
Chronic conditions						
Caliper Matching ^a	0.034*	0.017	0.042	0.034	0.029	0.243
Kernel Weighting	0.062***	0.012	0.000	0.053*	0.021	0.011
Obesity						
Caliper Matching ^a	0.067***	0.019	0.000	0.071**	0.023	0.002
Kernel Weighting	0.068***	0.011	0.000	0.061**	0.021	0.004
Sample size						
Unmatched	Recipients = 1746 Non-Recipients = 8279		Recipients = 1556 Non-Recipients = 1021			
Caliper Matching ^a	Recipients = 1730 ^b Non-Recipients = 1130		Recipients = 1460 ^b Non-Recipients = 459			
Kernel Weighting	Recipients = 1740 ^b Non-Recipients = 7690		Recipients = 1550 ^b Non-Recipients = 909			

Note: * = p<0.05, ** = p<0.01, *** = p<0.001

a: Caliper is set to 0.015; narrower than the 0.2 of the standard deviation of the logit of the propensity score recommended by Austin (2011).

b: Due to administrative restrictions placed by Statistics Canada, these values are rounded.

```
*****  
*** EXAMPLE: NHIS PROPENSITY SCORE MATCHING ***  
*****
```

```
***** CODE SOCIAL ASSISTANCE *****
```

```
g persa=(gotwelf==21)  
replace persa=. if inlist(gotwelf, 70, 80, 90)  
la define sa 1 "Yes-SA" 0 "No-SA" , replace  
la values persa sa  
la var persa "Person Received SA"  
egen sa=total(persa==1), by(nhishid fmx)  
replace sa=(sa>0)  
replace sa=. if missing(persa) & sa==0  
la values sa sa  
la var sa "Family Received SA"
```

```
***** CODE EMPLOYMENT STATUS *****
```

```
g int job=1 if inlist(empstat,11,12,20) & ((hourswrk>=35 & hourswrk<96) | usualft==2)  
replace job=2 if inlist(empstat,11,12,20) & ((hourswrk>0 & hourswrk<35) | usualft==1)  
replace job=3 if empstat==30  
replace job=4 if empstat==40  
la define job 1 "Full-Time" 2 "Part-Time" 3 "Unemployed" 4"NLF"  
la values job job  
la var job "Employment Status"  
  
egen group = group(job sa), label  
recode group (1=1)(3=2)(2 4=3)(5=4)(6=5)(7=6)(8=7), gen(finalgroup)  
la def finalgroup 1"FT No" 2"PT No" 3"Working with SA" 4"Unemp No" 5"Unemp SA" 6"NLF  
No" 7"NLF SA"  
la val finalgroup finalgroup
```

```
***** CODE AGE *****
```

```
egen agegroup= cut(age), at(0,18,25,35,45,55,65,86) icodes  
la define agegroup 0 "<18" 1 "18-24" 2 "25-34" 3 "35-44" 4 "45-54" 5 "55-64" 6 "65+"  
la values agegroup agegroup  
la var agegroup "Age Group"
```

```
***** CODE MARITAL STATUS *****
```

```
recode marstcohab (1 2 3 7=1) (4 5 6 =2) (8=3) (9=.), gen(mar)  
la define mar 1 "Married/Living With Partner" 2 "Divorced/Widowed/Separated" 3 "Never  
Married"  
la values mar mar
```

la var mar "Marital Status"

***** CODE HOUSEHOLD TYPE *****

rename famtypefrec type

***** CODE NUMBER OF CHILDREN *****

recode nchild (0=0) (1=1) (2=2) (3 4 5 6 7 8 9 =3), gen(children)
la def children 0 "0 Children" 1"1 Child" 2"2 Children" 3"3+ Children"
la values children children
la var children "Number of Children"

***** CODE SELF-REPORTED RACE/ETHNICITY *****

g int race = floor(racea/100) if hispyn==1
replace race=5 if race==5 | race==6
replace race=6 if hispyn==2
replace race=.m if race==. | race==9
la define race 1 "White (non-Hispanic)" 2 "Black (non-Hispanic)" 3 "Native/Indian" ///
4 "Asian" 5 "Mixed/Other" 6"Hispanic"
la values race race
la var race "Race/Ethnicity"

***** CODE IMMIGRANT STATUS *****

g immig=1 if usborn==20
replace immig=2 if yrsinus==5
replace immig=3 if yrsinus==3 | yrsinus==4
replace immig=3 if yrsinus==1 | yrsinus==2
la define immigrant 1 "Nonimmigrant" 2 "15 yrs or More" 3 "Less than 15 Years"
la values immig immigrant
la var immig "Immigrant Status"

***** CODE EDUCATION *****

rename educ educdetail
recode educdetail (19 20 21 22 =1) (16 17 18 =2) (14 15=3) (0/13 =4) (97/99 =.), gen(educ) //
AA degree is in some college
la define educ 1 "Bachelor's Degree or Higher" 2 "Diploma/Some College" 3 "High
School/GED" 4 "<High School", replace
la values educ educ
la var educ "Education Level"

***** CODE HEALTH INSURANCE COVERAGE *****

```
clonevar coverage=hinotcove
replace coverage=. if hinotcove==9
la define coverage 1 "Has Coverage" 2 "Has No Coverage"
la values coverage coverage
```

```
***** CODE HOME OWNERSHIP *****
```

```
recode ownership (10 11 12=1)(20 30=0) (else=.), gen(owned)
la val owned dummylabel
la var owned "Owns Home"
```

```
***** CODE HOUSEHOLD INCOME *****
```

```
local pov povimp3
recode `pov' (1 2 3 4=5) ( 5 6 7 8=4) ( 9 10 =3) (11 12 13 =2)( 14 =1) (98 = .), gen(quintile)
la define quintile 1 "5 and more: 5th quantile" ///
                2 "3.50-4.99: 4th quantile" ///
                3 "2.50-3.49: 3rd quantile" ///
                4 "1.25-2.49: 2nd quantile" ///
                5 "0-1.24: 1st quantile", replace

la values quintile quintile
tab quintile [w=weight], m
```

```
// lowest decile (10% roughly)
local pov povimp3
gen decile=(`pov'==1 | `pov'==2 )
```

```
***** CODE SELF-RATED HEALTH *****
```

```
recode health (1 2 3=0) (4 5=1) (else=.), gen(phealth)
la values phealth dummy
la var phealth "Poor Self-Rated Health"
```

```
***** CODE CHRONIC CONDITIONS AND HYPERTENSION *****
```

```
foreach bb of varlist hypertenev diabeticev cancerev cheartdiev strokev asthmaev cronbronyr
emphysemev {
recode `bb' (1=0) (2 3 =1) (0 7 8 9 = .), gen(`bb'1)
la values `bb'1 dummylabel
}
```

```
la var diabeticev1 "Diabetes"
la var cancerev1 "Cancer"
la var cheartdiev1 "Coronary Heart Disease"
la var strokev1 "Stroke"
la var asthmaev1 "Asthma"
```

```
la var emphysemev1 "Emphysema"  
la var cronbronyr1 "Chronic Bronchitis"  
la var hypertenev1 "Hypertension"
```

```
rename diabeticev1 diabetes  
rename cancevev1 cancer  
rename cheartdiev1 heartdis  
rename strokev1 stroke  
rename asthmaev1 asthma  
rename emphysemev1 emphys  
rename cronbronyr1 bronch  
rename hypertenev1 hyperten
```

```
g heart=1 if heartdis==1 | stroke==1  
replace heart=0 if heartdis==0 & stroke==0  
la values heart dummy  
la var heart "Heart Disease/Stroke"
```

```
g resp=1 if (asthma==1 | emphys==1 | bronch==1)  
replace resp=0 if (asthma==0 & emphys==0 & bronch==0)  
la values resp dummy  
la var resp "Asthma/Emphysema/Chronic Bronchitis"
```

```
g chronic=1 if (heart==1 | resp==1 | cancer==1 | diabetes==1 )  
replace chronic=0 if (heart==0 & resp==0 & cancer==0 & diabetes==0)  
la values chronic dummy  
la var chronic "Chronic Conditions"
```

```
***** CODE SMOKING *****
```

```
recode smokestatus2 (11=3) (12=3) (20=2) (30=1) (40=3) (else=.), gen(smoke)  
la define smoke 1 "Never Smoked" 2 "Former Smoker" 3"Current Smoker"  
la values smoke smoke  
la var smoke "Smoking Status"
```

```
***** CODE BINGE DRINKING *****
```

```
g alcohol=1 if alcstat==1 | alcstat==2  
replace alcohol =2 if alc5upyr<12  
replace alcohol =3 if alc5upyr>=12 & alc5upyr<900  
la define alcohol 1 ``Lifetime Abstainer/Former Drinker"" 2 ``Current Non-Binge Drinker"" 3  
``Current BInge Drinker"", add  
la values alcohol alcohol  
la var alcohol "Drinking Status"
```

***** CODE OBESITY *****

```
rename bmi bmidetail
g bmi=1 if (bmidetail<18.5)
replace bmi=2 if (bmidetail<25 & bmidetail>=18.5)
replace bmi=3 if (bmidetail<30 & bmidetail>=25)
replace bmi=4 if bmidetail>=30 & bmidetail<=99.90
la define bmi 1 "Underweight" 2 "Normal weight" 3 "Overweight" 4 "Obese", replace
la values bmi bmi
la var bmi "BMI"
```

```
recode bmi (1 2 3=0)(4=1)(else=.), gen(obese)
la values obese dummylabel
la var obese "Obese"
```

***** CODE PHYSICAL ACTIVITY *****

```
foreach ee in mod vig {
    replace `ee'10dmin=. if `ee'10dmin>=997
    replace `ee'10fwk=. if `ee'10fwk>=97
    replace `ee'10fwk=0 if `ee'10fwk==95 | `ee'10fwk==96 // unable and never equals 0 mins
    g `ee'=(`ee'10dmin*`ee'10fwk) //minutes per week
}
```

```
g activity=mod+(vig*2) // 1 min vig = 2 min of moderate
replace activity=mod if missing(vig) & !missing(mod)
replace activity=vig if missing(mod) & !missing(vig)
```

```
replace activity=1 if activity>=150 & !missing(activity)
replace activity=2 if (activity>=10 & activity<=149) | mod10fwk==94 | vig10fwk==94 // 94 for
less than once per week
replace activity=3 if activity==0 | (mod10dmin==0 & vig10dmin==0)
la define activity 1 "Sufficiently Active >=150min/week" 2 "Some Activity 10-149" 3 "Inactive"
la values activity activity
la var activity "Physical Activity"
```

***** GENERATE DUMMY VARIABLES *****

```
tab agegroup, gen(agegroup)
tab sex, gen(sex)
tab type, gen(type)
tab nchlt5, gen(nchlt5)
tab race, gen(race)
tab educ, gen(educ)
tab immig, gen(immig)
tab region, gen(region)
```



```
tab owned, gen(owned)
tab year, gen(year)
tab coverage, gen(coverage)
tab alcohol, gen(alcohol)
tab smoke, gen(smoke)
tab activity, gen(activity)
tab job, gen(job)
gen mental=(fldepres==2)
replace mental=. if fldepres>6
tab mental, gen(mental)
```

```
***** DEFINE TREATMENT STATUS *****
```

```
recode sa (1=1) (0=2), gen(mytreated1)
```

```
***** DESCRIBE AND DROP MISSING *****
```

```
mdesc sa sex age type immig race educ coverage region owned nchlt5 nchild coverage ///
phealth hyperten chronic smoke alcohol bmi activity mental
dropmiss sa sex age type immig race educ coverage region owned nchlt5 nchild ///
phealth hyperten chronic smoke alcohol bmi activity mental, any obs force
```

```
***** RESTRICT TO SAMPLE OF INTEREST *****
```

```
* IF EMPLOYED *
```

```
gen mysample_employed = (poverty>=11 & poverty<=14 & pregnantnow!=2 & gotother!=21 ///
& age>=18 & age<65 & empstat<30 & year>=2003 & year<2015)
```

```
keep if mysample_employed
```

```
* IF UNEMPLOYED *
```

```
gen mysample_unemployed = (poverty>=11 & poverty<=14 & pregnantnow!=2 & gotother!=21
///
& age>=18 & age<65 & empstat==30 & year>=2003 & year<2015)
```

```
keep if mysample_unemployed
```

```
***** SET COVARIATES AND OUTCOMES *****
```

```
* IF EMPLOYED *
```

```
global mycov sex2 age type1-type4 race1-race6 educ1-educ4 immig1-immig4 ///
owned nchlt5 nchild coverage1 mental region1-region4 job2 ///
```

```
global myout phealth hyperten chronic smoke3 alcohol3 activity3 obese
```

```
* IF UNEMPLOYED *
```

```
global mycov sex2 age type1-type4 race1-race6 educ1-educ4 immig1-immig4 ///  
owned nchlt5 nchild coverage1 mental region1-region4 ///
```

```
global myout phealth hyperten chronic smoke3 alcohol3 activity3 obese
```

```
***** ESTIMATE PROPENSITY SCORE *****
```

```
pscore sa $mycov, pscore(mypscore) comsup blockid(myblock) logit
```

```
psgraph, treated(sa) pscore(mypscore) bin(100)
```

```
***** CALIPER MATCH *****
```

```
psmatch2 sa, outcome($myout) pscore(mypscore) common odds caliper(0.015)
```

```
set seed 247
```

```
foreach var in $myout {
```

```
bootstrap r(att_`var'), rep(1000) : psmatch2 sa, outcome(`var') pscore(mypscore) common odds  
caliper(0.015)
```

```
}
```

```
ptest $mycov , label raw treated(sa)
```

```
ptest $mycov , label
```

```
gen matched=0
```

```
replace matched=1 if inrange(_weight,1,5) & comsup==1 & _support==1
```

```
psgraph, treated(sa) pscore(mypscore) support(matched) bin(20)
```

```
***** KERNEL WEIGHT *****
```

```
psmatch2 sa, outcome($myout) pscore(mypscore) common odds kernel bwidth(0.06)
```

```
set seed 247
```

```
foreach var in $myout {
```

```
bootstrap r(att_`var'), rep(1000) : psmatch2 sa, outcome(`var') pscore(mypscore) common odds  
kernel bwidth(0.06)
```

```
}
```

```
ptest $mycov , label raw treated(sa)
```

```
ptest $mycov , label
```

```
gen matched=0
```

```
replace matched=1 if (_weight>0 & comsup==1 & _support==1)
```

```
psgraph, treated(sa) pscore(mypscore) support(matched) bin(20)
```