

Online Appendix 1. DATA SOURCES

A. Data on Recipients of Aid to Families with Dependent Children

The data on the characteristics of AFDC recipients come from two sources. The race share of adult and child recipients were entered from two printed reports: “Characteristics and Financial Circumstances of Families Receiving Aid to Dependent Children, Late 1958” (Mugge 1960), and “Characteristics of Families Receiving Aid to Families with Dependent Children, November-December 1961” (DHEW 1963). Biennial microdata on recipients comes from the National Archives Surveys of Recipients of Aid to Families with Dependent Children 1967-1979 (DHEW 2000; 2011). Except for the 1967 file, the data are at the AFDC unit level.

The race shares for women are the sample-weighted means among household heads. The race shares for children are the means weighted by product of the sample weight and the number of recipient children in the household (this assumes that the race of the children is the same as the race of the AFDC payee). In some years, the race code for Latina recipients is missing or varies strongly between years (from “other” to “white”). In these cases I assign Latina recipients the average value of the binary race code observed among all other Latina recipients. I linearly interpolate the race shares for missing years between 1958 and 1979. To construct race-specific recipient counts I multiply the estimated race shares by state-level counts of AFDC cases or children (available from HHS). Note that, for women, the count of cases is a more accurate number than the count of adults because nearly all AFDC cases contained one mother, but some contained more than one adult. To calculate race-specific recipient rates, I divide by the state population of women ages 15-54 or the population of children ages 0-19 (Haines and ICPSR 2010; SEER 2013).

The resulting measures are point-in-time AFDC participation rates. Because of turnover in the AFDC/Medicaid caseload (Berger and Black 1998), the share of women with *any* eligibility throughout the year is higher. In the extreme (and unrealistic) case of independent participation probabilities across months, a 10 percent monthly probability yields a 72 percent annual probability $(1-(1-0.10)^{12})$. An ideal measure of categorical eligibility would thus be higher than $AFDC_s^*$, and yield smaller coefficients for both the reduced-form and first-stage.

B. Data on State Public Insurance Use

Data on public insurance were collected from a series of reports on the numbers of recipients and amount of payments to medical “vendors” on behalf of public assistance recipients (DHEW Various Years). The reports contain separate tables for recipients and expenditures and for each reason for eligibility (blind, disabled, elderly, membership in a single parent family, or other). The rows of each table are states and the columns are the type of medical service received and a total (unduplicated for recipients). This paper uses the tables that refer to child recipients eligible by virtue of their status as a “dependent child” in a qualifying family (i.e., one parent). Table A1.1 contains the time periods of the primary source documents, the numbers of states reporting under pre-Medicaid “Medical Vendor Payment” programs or under Medicaid (Title XIX) programs, and variables describing whether states reported the number of *families* who had a public insurance payment, separate data on the number of adults and children, or whether they made no vendor payments or did not report.

To construct a state-by-year dataset of public insurance rates from the source data that are at the fiscal year, calendar year, or half-calendar year level, I first convert the dataset into half-year probabilities of receiving public insurance. For annual data, I divide the child recipient count by

the child population to obtain an annual probability p^A and I infer the corresponding *half-year* probability (p^H) using: $p^A = 1 - (1 - p^H)^2$. This assumes that p^H is constant over the year. For half-year data, I calculate p^H directly. This leads to a dataset of public insurance probabilities at the half-year level. (Before 1976, the US fiscal year ran from July 1 to June 30, so the half year probabilities calculated from fiscal year y data are for the second half of calendar year $y-1$ and the first half of calendar year y .) I linearly interpolate p^H for missing half years (for example, the second half of CY 1963 and the first half of CY 1964) and use these probabilities to reconstruct a dataset of public insurance probabilities at the calendar year level. These are used in figures 3 and 5 and in table 2.

Because these reports give unduplicated counts of the number of children who received medical vendor payments, the resulting probabilities cover the whole year. The AFDC data yield point-in-time measures of participation. This is one reason why the first-stage effects in table 2 and figure 5 cannot be interpreted as take-up rates.

C. Data on Mortality

The count of child deaths by age, race, state and cause are taken from the Vital Statistics Multiple Cause of Death (MCD) files starting in 1959 (United States Department of Health and Human Services 2009), and were hand entered from printed volumes of Vital Statistics of the United States (Department of Health 1953b; a; 1954-1964b; a) for 1950-1958. In 1972 the MCD files contain 50% sample, so I use the Mortality Detail file (United States Department of Health and Human Services 2010), a different release of that year's death certificate data with less detail on causes of death (although it still contains the underlying cause which I use to construct internal/external and treatable/untreatable mortality rates).

Table 7 reports results for internal and external causes of death and treatable and untreatable causes within the internal-cause group (measurable only in the microdata from 1959 forward). The distinction between internal and external causes is part of the International Classification of Disease (ICD) system: codes 800 and greater are “external causes” and all other deaths are “internal causes”. This breakdown is available in the VSUS tables. The distinction between treatable and untreatable causes follows Beeson (1980) who reviews changes in the effectiveness of treatments in a series of editions of medical textbooks (Cecil-Loeb Textbook of Medicine) between 1927 and 1975. This breakdown cannot be calculated from the VSUS tables, which only list deaths by cause groups. Conditions are scored according to the following ratings (Beeson 1980, pp. 80) in both years:

Rating	Description
1	Recommended treatment now regarded as valueless.
2	No effective treatment available.
3	Treatment only marginally helpful, at best.
4	Measures for relief of symptoms.
5	Effective treatment, in limited circumstances.
6	Effective preventive measures, in limited circumstances.
7	Treatment suppresses or controls disease, but must be maintained indefinitely.
8	Treatment of manifestations substantially improved or diversified.
9	Effective treatment, in most circumstances.
10	Effective preventive treatment.

I assume all internal-causes of death are treatable unless they receive a 6 or below. Tables A1.2 and A1.3 list the ICD codes that make up treatable and untreatable conditions. The mortality data use ICD Revision 7 from 1959-1967, ICD Revision 8 from 1968-1978, and ICD Revision 9 in 1979. Entries with an asterisk note places where some conditions in a group were moved from treatable to untreatable. Multiple sclerosis (ICD7 code 345), for example, is untreatable but meningitis and encephalitis, the other conditions in the group “Inflammatory

diseases of the central nervous system”, are treatable. Note that HIV is included as “treatable” in the one study year when it is separately identified (1979). This is to maintain consistency with the years before HIV had a separate ICD code and also makes essentially no difference to the results since few children died of HIV/AIDS.

**Appendix Table A1.1 – Structure of Public Insurance Data for
Families with Dependent Children**

Time Period	Program	States Reporting for Families	States Reporting Children/Adults	States without Vendor Payments	States with No Data
FY 1963	Medical Vendor Program	27	14	13	
FY 1965	Medical Vendor Program	25	17	11	1
2nd Half CY 1965	Medical Vendor Program	26	16	9	3
1st Half CY 1966	Medical Vendor Program	19	15	8	3
	Title XIX (Medicaid)	6	3	0	0
2nd Half CY 1966	Medical Vendor Program	13	8	3	3
	Title XIX (Medicaid)	9	15	0	3
2nd Half CY 1967	Medical Vendor Program	0	9	0	5
	Title XIX (Medicaid)	0	33	0	7
CY 1968	Medical Vendor Program	0	8	3	1
	Title XIX (Medicaid)	0	41	0	1
1st Half CY 1969	Medical Vendor Program	0	7	2	2
	Title XIX (Medicaid)	0	36	0	7
CY 1969	Medical Vendor Program	0	7	1	1
	Title XIX (Medicaid)	0	43	0	2
CY 1970	Medical Vendor Program	0	0	0	2
	Title XIX (Medicaid)	0	50	0	2
CY 1972	Medical Vendor Program	0	0	2	0
	Title XIX (Medicaid)	0	49	0	3
FY 1973	Medical Vendor Program	0	0	0	1
	Title XIX (Medicaid)	0	48	0	5
FY 1974	Medical Vendor Program	0	0	0	1
	Title XIX (Medicaid)	0	48	0	5
FY 1975	Medical Vendor Program	0	0	0	1
	Title XIX (Medicaid)	0	48	0	5
FY 1976	Medical Vendor Program	0	0	0	1
	Title XIX (Medicaid)	0	46	0	7

Notes: The source data include Guam, Puerto Rico and the Virgin Islands, so the total number of states is 54.

Appendix Table A1.2. Treatable Causes of Child Deaths

ICD 7	ICD 7 Category	ICD8	ICD 8 Category	ICD 9	ICD 9 Category
001-008	Tuberculosis of respiratory system	000-009	Intestinal infectious diseases	001-009	Intestinal infectious diseases
010-019	Tuberculosis, other forms	010-019	Tuberculosis	010-018	Tuberculosis
020-029	Syphilis and its sequelae	020-027	Zoonotic bacterial diseases	020-027	Zoonotic bacterial diseases
030-039	Gonococcal infection and other venereal diseases	030-039	Other bacterial diseases	030-041	Other bacterial diseases
040-049	Infectious diseases commonly arising in intestinal tract	040-046	Poliomyelitis and other enterovirus diseases of central nervous system	042-042	Human immunodeficiency virus [HIV] infection
050-064	Other bacterial diseases	050-057	Viral diseases accompanied by exanthem	045-049	Poliomyelitis and other non-arthropod-borne viral diseases of central nervous system
070-074	Spirochaetal diseases, except syphilis	060-068	Arthropod-borne viral diseases	050-057	Viral diseases accompanied by exanthem
080-096	Diseases attributable to viruses	070-079	Other viral diseases	060-066	Arthropod-borne viral diseases
100-108	Typhus and other rickettsial diseases	080-089	Rickettsioses and other arthropod-borne diseases	070-079	Other diseases due to viruses and Chlamydiae
110-117	Malaria	090-099	Syphilis and other venereal diseases	080-088	Rickettsioses and other arthropod-borne diseases
120-138	Other infective and parasitic diseases	100-104	Other spirochaetal diseases	090-099	Syphilis and other venereal diseases
340-344*	Inflammatory diseases of central nervous system	110-117	Mycoses	100-104	Other spirochaetal diseases
400-402	Rheumatic fever	120-129	Helminthiases	110-118	Mycoses
480-483	Influenza	130-136	Other infective and parasitic diseases	120-129	Helminthiases
490-493	Pneumonia	320-324	Inflammatory diseases of central nervous system	130-136	Other infectious and parasitic diseases
500-502	Bronchitis	390-392	Acute rheumatic fever	137-139	Late effects of infectious and parasitic diseases
510-527	Other diseases of respiratory system	470-474	Influenza	320-326	Inflammatory diseases of the central nervous system
543*	Gastritis and duodenitis	480-486	Pneumonia	390-392	Acute rheumatic fever
570-578	Other diseases of intestines and peritoneum	490-493	Bronchitis, emphysema and asthma	460-466	Acute respiratory infections
		500-508	Other diseases of upper respiratory tract	470-478	Other diseases of upper respiratory tract
		510-519	Other diseases of respiratory system	480-487	Pneumonia and influenza
		535*	Gastritis and duodenitis	490-496	Chronic obstructive pulmonary disease and allied conditions
		561*	Gastro-enteritis and colitis, except ulcerative, of noninfectious origin	500-508	Pneumoconioses and other lung diseases due to external agents
		563*	Chronic enteritis and ulcerative colitis	510-519	Other diseases of respiratory system
				535*	Gastritis and duodenitis
				555-558	Non-infective enteritis and colitis

Appendix Table A1.3. Untreatable Causes of Child Deaths

ICD 7	ICD 7 Category	ICD8	ICD 8 Category	ICD 9	ICD 9 Category
140-148	Malignant neoplasm of buccal cavity and pharynx	140-149	Malignant neoplasm of buccal cavity and pharynx	140-149	Malignant neoplasm of lip, oral cavity and pharynx
150-159	Malignant neoplasm of digestive organs and peritoneum	150-159	Malignant neoplasm of digestive organs and peritoneum	150-159	Malignant neoplasm of digestive organs and peritoneum
160-165	Malignant neoplasm of respiratory system	160-163	Malignant neoplasm of respiratory system	160-165	Malignant neoplasm of respiratory and intrathoracic organs
170-181	Malignant neoplasm of breast and genito-urinary organs	170-174	Malignant neoplasm of bone, connective tissue, skin and breast	170-176	Malignant neoplasm of bone, connective tissue, skin and breast
190-199	Malignant neoplasm of other and unspecified sites	180-189	Malignant neoplasm of genito-urinary organs	179-189	Malignant neoplasm of genito-urinary organs
200-207	Neoplasms of lymphatic and haematopoietic tissues	190-199	Malignant neoplasm of other and unspecified sites	190-199	Malignant neoplasm of other and unspecified sites
210-229	Benign neoplasm	200-209	Neoplasms of lymphatic and haematopoietic tissue	200-208	Malignant neoplasm of lymphatic and haematopoietic tissue
230-239	Neoplasm of unspecified nature	210-228	Benign neoplasms	210-229	Benign neoplasms
240-245	Allergic disorders	230-239	Neoplasm of unspecified nature	230-234	Carcinoma in situ
250-254	Diseases of thyroid gland	240-246	Diseases of thyroid gland	235-238	Neoplasms of uncertain behaviour
260-260	Diabetes mellitus	250-258	Diseases of other endocrine glands	239-239	Neoplasms of unspecified nature
270-277	Diseases of other endocrine glands	260-269	Avitaminoses and other nutritional deficiency	240-246	Disorders of thyroid gland
280-289	Avitaminoses and other metabolic diseases	270-279	Other metabolic diseases	250-259	Diseases of other endocrine glands
290-299	Diseases of blood and blood-forming organs	280-289	Diseases of blood and blood-forming organs	260-269	Nutritional deficiencies
330-334	Vascular lesions affecting central nervous system	330-333	Hereditary and familial diseases of nervous system	270-279	Other metabolic disorders and immunity disorders
345*	Multiple Sclerosis	340-349	Other diseases of central nervous system	280-289	Diseases of blood and blood-forming organs
350-357	Other diseases of central nervous system	350-358	Diseases of nerves and peripheral ganglia	330-337	Hereditary and degenerative diseases of the central nervous system
360-369	Diseases of nerves and peripheral ganglia	360-369	Inflammatory diseases of the eye	340-349	Other disorders of the central nervous system
370-379	Inflammatory diseases of eye	370-379	Other diseases and conditions of eye	350-359	Disorders of the peripheral nervous system
380-389	Other diseases and conditions of eye	380-389	Diseases of the ear and mastoid process	360-379	Disorders of the eye and adnexa
390-398	Diseases of ear and mastoid process	393-398	Chronic rheumatic heart disease	380-389	Diseases of the ear and mastoid process
410-416	Chronic rheumatic heart disease	400-404	Hypertensive disease	393-398	Chronic rheumatic heart disease
420-422	Arteriosclerotic and degenerative heart disease	410-414	Ischaemic heart disease	401-405	Hypertensive disease
430-434	Other diseases of heart	420-429	Other forms of heart disease	410-414	Ischaemic heart disease
440-443	Hypertensive heart disease	430-438	Cerebrovascular disease	415-417	Diseases of pulmonary circulation
444-447	Other hypertensive disease	440-448	Diseases of arteries, arterioles and capillaries	420-429	Other forms of heart disease

450-456	Diseases of arteries	450-458	Diseases of veins and lymphatics, and other diseases of circulatory system	430-438	Cerebrovascular disease
460-468	Diseases of veins and other diseases of circulatory system	460-466	Acute respiratory infections (except influenza	440-448	Diseases of arteries, arterioles and capillaries
470-475	Acute upper respiratory infections	530-534, 536-537	Diseases of oesophagus, stomach and duodenum	451-459	Diseases of veins and lymphatics, and other diseases of circulatory system
540-542, 544-545*	Diseases of stomach and duodenum	540-543	Appendicitis	530-534, 536-537	Diseases of oesophagus, stomach and duodenum
550-553	Appendicitis	560, 562, 564-569	Other diseases of intestine and peritoneum	540-543	Appendicitis
580-587	Diseases of liver, gallbladder, and pancreas	570-577	Diseases of liver, gallbladder and pancreas	560-569	Other diseases of intestines and peritoneum
590-594	Nephritis and nephrosis	580-584	Nephritis and nephrosis	570-579	Other diseases of digestive system
600-609	Other diseases of urinary system	590-599	Other diseases of urinary system	580-589	Nephritis, nephrotic syndrome and nephrosis
610-617	Diseases of male genital organs	600-607	Diseases of male genital organs	590-599	Other diseases of urinary system
620-626	Diseases of breast, ovary, Fallopian tube, and parametrium	610-616	Diseases of breast, ovary, Fallopian tube and parametrium	600-608	Diseases of male genital organs
630-637	Diseases of uterus and other female genital organs	620-629	Diseases of uterus and other female genital organs	610-611	Disorders of breast
750-759	Congenital malformations	740-759	Congenital anomalies	614-616	Inflammatory disease of female pelvic organs
				617-629	Other disorders of female genital tract
				740-759	Congenital anomalies

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