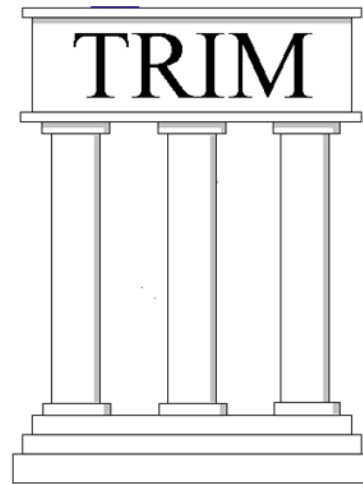# The Transfer Income Model Version 3 (TRIM3)

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TRIM3 Overview

- A comprehensive microsimulation model of programs affecting U.S. households

- Applies program rules to individual (person) records from survey data

- Primary input data are from Current Population Survey Annual Social and Economic Supplement (CPS-ASEC)

- Primary funding from HHS/ASPE for over 30 years

- Presently maintained and developed at the Urban Institute with guidance from ASPE Technical Representatives

- Web-based interface with public use version

Programs Modeled in TRIM3

- Health
  - Medicaid, SCHIP, employer-sponsored insurance
- Cash income
  - SSI, TANF, child support
- Non-cash benefits
  - Subsidized housing, federally-funded child care subsidies (CCDF), food stamps
- Taxes
  - Payroll tax, federal income tax, state income tax, tax credits

Purposes of TRIM3

- Impute eligibility for means-based programs
  - Use eligibility estimates in conjunction with administrative data on enrollment to estimate take-up rates
- Correct for underreporting by imputing participation
  - Adjusted data used for analyses of program participants, family well-being
  - ASEC captures approx. 60% of actual TANF and FSP cases, 75-80% for Medicaid/SCHIP and FSP
- Compare annual baselines with "what if" simulations of alternative policies

TRIM3 Quality Review

- Urban Institute experts outside TRIM3 team review all deliverables except technical assistance

- Outside reviews of model
  - Most recent
    - By John L. Czajka, Edwin Hustead, and Daniel Sherman for ASPE in 2005
    - Focused on Medicaid and SCHIP modeling

  - Most comprehensive
    - NAS/CNSTAT Panel, "Improving Information for Social Policy Decisions: the Uses of Microsimulation Modeling", 1991

Medicaid/SCHIP Model: Simulating Eligibility

- Eligibility modeled for each person in the household

- Month-by-month modeling

- Detailed state-specific rules, for each type of eligibility
  - Section 1931
  - Percent of poverty
  - Medically Needy
  - 1115 waiver
  - SCHIP Medicaid Expansion
  - SCHIP Separate State Program

Medicaid/SCHIP Eligibility, 2003, Average Monthly and Annual (millions)

	Eligible in avg. month	Eligible in any month
Children	28.7	31.2
Adults	9.5	12.9
Disabled (<65)	7.8	7.9
Elderly	6.9	7.0
Total	53.0	59.0

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Medicaid/SCHIP Annual Eligibility, 2003, by Main Reason (millions)

	Mandatory due to SSI	Other Mandatory	Optional & SCHIP	Medically Needy	Total
Children	0	18.6	11.3	1.3	31.2
Adults	0	6.3	5.8	0.8	12.9
Disabled (<65)	4.7	0.3	1.7	1.3	7.9
Elderly	1.8	0.0	2.0	3.2	7.0
Total	6.5	25.2	20.8	6.6	59.0

Medicaid/SCHIP Model: Simulating Enrollment

- Subset of eligible non-reporters included in caseload

- Simulated caseload matches size and composition of actual caseload according to administrative data

- Medicaid targets:
  - Start from MSIS microdata
  - Remove institutionalized, SCHIP, and restricted benefits
  - Adjust for cross-state duplication
  - Compute average monthly and annual targets

- SCHIP targets
  - From SEDS tabulations
  - Average monthly and annual targets

Uses of Medicaid/SCHIP "Baseline" Results

- Estimate takeup rates
  - Enrollment as % of eligibles
- Examine characteristics of eligible individuals
  - Can decompose changes from prior year
- Estimates of uninsured, eligible uninsured
- Alternative poverty analyses that incorporate insurance coverage

Examples of Medicaid/SCHIP Alternative Policy Simulations

- Change one or more specific eligibility rules in all states or a subset of states, for example:
  - Modify SCHIP income limits
  - Modify restrictions on legal immigrants
  - Modify disregards for work expenses and child care
- Change rules in all states to match rules currently used in one state

- Apply a prior year's rules to the current data

- Leave eligibility unchanged, modify take-up

- See impact on Medicaid of a change in SSI rules

Employer-Sponsored Insurance: What the model does

- Imputes premiums, worker and employer contributions for workers reporting coverage
  - Kaiser/HRET Employer Health Benefits Survey
  - FEHBP data from OPM
  - Imputes plan types (HMO, PPO, POS, high deductible with savings option)
- For workers not reporting coverage, imputes employer offers and worker eligibility for offer
  - Offer imputations based on data from CPS Contingent Worker Supplement
- Produces annual and average monthly estimates of access to ESI through own or dependent coverage

Uses of TRIM3's ESI Module

- Analysis of insurance status combined with whether insurance offered, accepted

- Can model "what if" more individuals accepted offers

- Imputed premiums available for modeling tax credits

1990s Health Reform Analysis

Additional capabilities added to TRIM for early 1990s Health Reform analysis; *not currently maintained*:

- Changes in employer provision of ESI

- Employee decision between public and private coverage, when both are available

- Full range of health spending

Ongoing and Planned Work

- Examining CPS-MSIS matched data to compare simulated eligibility & enrollment with actual enrollment, guide refinements

- Completing 2006 baselines

- Other planned tasks:
  - Improve Medicaid spend-down modeling
  - Develop long-term care module (FY 2010)

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Selected ASPE Uses of TRIM3

- Estimates to inform the Clinton administration's health care proposals -- used to support major Presidential Initiatives since the late 1960s.

- Effects of a nongroup health insurance tax credit

- Baseline analysis:
  - Medicaid/SCHIP eligibility by AGI level and immigrant status
  - Characteristics of individuals dually eligible for Medicare and Medicaid
  - Characteristics of the uninsured

Selected Non-ASPE Uses

- 1994-2004 Medicaid/SCHIP eligibility and enrollment flags (CBO)

- Impact of Medicaid/SCHIP restrictions on benefits to noncitizen children (CRS)

- Impact of asset limits on Medicaid eligibility (AARP)

- Eligibility for Medicaid or SCHIP among children receiving food stamps (Robert Wood Johnson)

- Medicaid and SCHIP enrollment status used in determining alternative poverty status (projects for state funders)

More Information About TRIM3

- http://trim.urban.org

- Full documentation available

- Once you register as a data user, you can:
  - View complete data dictionary
  - Browse database of rules of simulated programs
  - View and extract baseline microdata

- If you request simulation access, you can:
  - Perform alternative simulations
  - See full tabular results of your simulations
  - Extract microdata from your simulations

ADDITIONAL INFORMATION

- Strengths of TRIM3

- Monthly allocation

- Immigrant status imputations

- General simulation steps

- Example Medicaid simulation

- Selected screen shots

Strengths of TRIM3

- Detailed, state-specific eligibility modeling

- Captures cross-program interactions

- Uses appropriate "filing unit" for each program

- Large ASEC file allows state-level and subgroup analysis

- Baseline simulations run & validated annually, available back to 1980s (back to 1993 on-line)

- Development tasks part of each year's contract

- Month-by-month modeling of benefit programs

- Detailed imputations of immigrant status

Simulation of Monthly Income

- CPS-ASEC collects information on annual income

- Monthly data needed to simulate administrative eligibility determinations and family participation decisions

- Use CPS-ASEC information on weeks of full-time and part-time work, number of spells of unemployment, reason not working to simulate weeks of full-time, part-time, and no work in each month

- Totals aligned to BLS data on unemployment and employment in each month

- Assume monthly earnings proportional to hours worked

- Other methods for allocation of unearned income

Immigrant Imputations

- Classify persons born outside the U.S. as naturalized citizens, legal aliens, refugees, temporary immigrants, or undocumented

- Estimate number of citizens and non-citizens from CPS-ASEC

- Exclude students and temporary workers

- Deduct number of refugees and other legal residents

- Remainder = number of unauthorized immigrants

- Assign legal status to individuals in CPS data using key variables (reported citizenship, country of birth, year of entry, school enrollment, occupation, employment)

General Simulation Steps

● Define "filing unit" for the program or tax (household, family, person, couple)

● Apply rules of the benefit program or tax
  – Rules updated each year
  – Detailed state-specific rules are modeled, may include:
    ● Categorical eligibility
    ● Income limits
    ● Asset limits
    ● Age restrictions
    ● Restrictions on benefits for noncitizens
    ● Work requirements

● For benefit programs: Simulate participation decision

Example Medicaid Simulation: All SSI Recips. Are Eligible

- Question: What would happen if SSI recipients were automatically eligible in the 11 "209b" states?

- Results from TRIM3
  - Average monthly eligibility up by 28,400
  - Annual eligibility up by 30,500
  - Average monthly enrollment up by 26,300
  - Annual enrollment up by 28,500
  - Number of people uninsured for entire year down by 15,369
  - Most SSI recipients in 209b states are already enrolled under other Medicaid eligibility categories

Medicaid Documentation (On-line)
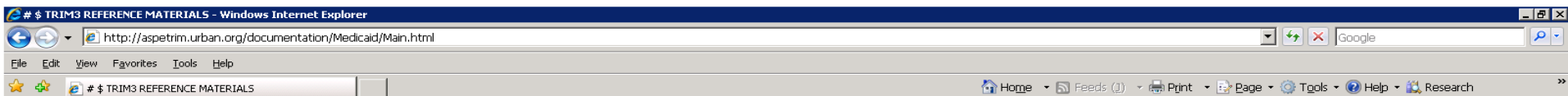
Medicaid version 56.4
The Urban Institute TRIM3 Reference Contact Us Version History Dictionary

Medicaid provides health insurance to low-income individuals. The groups primarily served are the elderly, the disabled, and families with children, although other adults may also be covered. States may extend additional coverage to children and adults via SCHIP.

TRIM3's Medicaid/SCHIP module simulates eligibility for Medicaid and State Children's Health Insurance Programs (SCHIP), identifies which eligible individuals are actually enrolled in the program, and assigns the insurance value of Medicaid eligibility. Eligibility is simulated on a monthly basis -- each person is checked for eligibility in each month of the simulation year. A person might be found eligible for Medicaid or SCHIP in some months of the year but not the entire year. The eligibility rules are simulated in great detail, including the variations in eligibility rules across states. The module is able to simulate both the rules that were in effect prior to the passage of the Personal Responsibility and Work Opportunity Act of 1996 (PRWORA) and the rules in place after PRWORA, including the post-PRWORA "Section 1931" eligibility rules. Like all TRIM3 modules, the Medicaid and SCHIP module can also simulate hypothetical Medicaid and SCHIP rules.

There are some features of the Medicaid and SCHIP programs that TRIM3 does not model. TRIM3 does not simulate eligibility for the institutionalized since they are not in the CPS universe. Further, children under age 15 **generally** cannot be simulated as eligible by disability, since they do not report their income and labor force information necessary to identify disability. However, the SSI module uses a special imputation process to identify certain children under 15 as receiving SSI. Only these children can be simulated by Medicaid as eligible by disability. The module does not simulate transitional Medicaid benefits for those families no longer receiving cash Temporary Assistance to Needy Families (TANF) benefits due to increased income, increased employment, time limits, or other reasons.

This document describes the operation of the Medicaid and SCHIP module in detail. Note that the discussion refers to the many different "program rules" that control the operation of each TRIM3 Medicaid/SCHIP simulation. Details on each program rule and its potential values can be obtained from the TRIM3 Data Dictionary. The discussion is organized as follows:

- **Filing Unit**

- **Eligibility -- Overview**
  - **Monthly and Annual Eligibility**
  - **Non-Citizen Eligibility**
  - **Assets**
  - **Income**
  - **Unrelated Children**

- **Eligibility -- Mandatory**
  - **TANF/AFDC Cash Eligibility**
  - **SSI Cash Eligibility**
  - **Section 1931 Mandatory Eligibility**
  - **TANF/AFDC Near-Cash Eligibility**
  - **Percent of Poverty Eligibility**

- **Eligibility -- State Optional**
  - **Section 1931 Optional Eligibility**
  - **TANF/AFDC Child-only Eligibility**
  - **SSI Cash Supplements Eligibility**
  - **TANF/AFDC non-cash Eligibility**
  - **SSI non-cash Eligibility**
  - **TANF/AFDC non-UP Eligibility**
  - **Percent-of-Poverty Eligibility**
  - **Ribicoff Eligibility**
  - **1115 Waiver Eligibility**

- **Eligibility -- SCHIP**
  - **SCHIP and Other Coverage**
  - **Child Eligibility**
  - **Adult Eligibility**

- **Eligibility -- Medically Needy**

- **Benefits**

- **Enrollment**
  - **Monthly Enrollment**
  - **Continuous Enrollment**
  - **Annual Enrollment**

- **Additional Information**
  - **Post-PRWORA rule settings**
  - **Information from the SSI and TANF/AFDC Modules**
  - **Setting up an Alternative Simulation**
  - **Determining Reporter Status**

Looking at a Household