

The Incidence and Effects of Participating in Multiple Programs: Empirical Evidence from Virginia’s Social Safety Net

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1 Overview

One of the defining features of the U.S. social safety net is its tapestry of cash and in-kind benefit programs, particularly for those with low incomes. Many of the most important means-tested transfers are administered by state agencies, ranging from cash assistance (TANF) and in-kind assistance for food and medical bills (SNAP and Medicaid) to social insurance for changing circumstances in employment or health (UI and SSDI). These programs often have overlapping eligibility criteria, with survey data suggesting over half of all benefit recipients participate in more than one program (Macartney and Ghertner 2023). Consequently, an understanding of the modern-day safety net would be incomplete without considering the interplay between various programs. Yet, we know very little about how many and what types of individuals receive multiple programs, and how many recipients are leaving additional benefits on the table. Moreover, we have very little evidence on the downstream effects of receiving multiple programs, and which combinations of programs yield the greatest benefits for recipients and the greatest fiscal value for the government.

This project seeks to empirically investigate the incidence and consequences of multiple program participation among Virginia’s low-income population. We propose harnessing rich administrative records that are part of the Virginia Longitudinal Data System (VLDS) to accomplish three objectives. First, we aim to produce informative descriptive statistics on the frequency of participation in multiple programs (including SNAP, TANF, Medicaid, UI, SSI, SSDI, child care assistance, and other programs) and the characteristics of these enrollees. These measures will be examined both at a point in time and over time. We will use these program participation rates to better characterize whether benefit cliffs are a prominent feature in the realized marginal tax rate schedule. Second, we propose implementing novel research designs to estimate the causal effects of multiple program participation on downstream outcomes, including contemporaneous and future earnings, the duration of program participation, and criminal justice involvement. Each of our research designs target a specific margin in the participation process: (1) eligibility, (2) application, and (3) receipt. Assessing the impacts of each of these three margins, and the different populations that

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they target, will provide a comprehensive and policy-relevant analysis of multiple program participation. Third, we will use these estimates to rigorously evaluate the efficacy of multiple program participation (relative to a counterfactual of participating in a single program or no program at all) as well as public efforts that promote such participation. One such effort is Virginia’s CommonHelp platform, which was launched in 2012 and helps clients learn about and manage their eligibility and applications for multiple programs. In addition to assessing what combinations of programs have the largest effects on improving the economic well-being of Virginians, we also plan to examine heterogeneous effects across different population subgroups of the population – including those with incomes around benefit cliffs.

To our knowledge, this proposed study is the first to estimate 1) the frequency of multiple program participation using granular, high-quality administrative data and 2) the causal impacts of receiving multiple transfers using credible, quasi-experimental research designs.¹ Prior studies examining the prevalence of enrollment in multiple programs have typically relied on national survey datasets like the Survey of Income and Program Participation (Edelstein et al. 2014; Moffitt 2016). Yet, survey data are limited in their ability to accurately examine these issues, given their well-documented under-reporting of income sources (Meyer et al. 2015) and the associated challenges involved in accurately estimating take-up (Meyer and Wu 2018). Furthermore, much of our knowledge on the impacts of program participation comes from studies of *individual* programs, which often prioritize ensuring that the effects of a studied program are not confounded by the presence of other programs. This has meant that comparisons of effects across programs, sought by policymakers and researchers alike, typically embed large differences in institutional settings (Hendren and Sprung-Keyser 2020). In contrast, this project explores the *coexistence* of multiple programs in a controlled setting using novel sources of empirical identification.

We believe that our project fits squarely within the set of “burning issues” underpinning the research priorities of Virginia’s government agencies. These include examining the short- and long-run effects of social services on those served and Virginia’s broader economy, as well as the return on investment of these important government services. We are eager to communicate our findings with Virginia’s state agencies and be active partners in helping advance their priorities.

2 Objectives and Research Questions

1. **Descriptive statistics.** We start by estimating descriptive (non-causal) statistics on how many individuals enroll in multiple programs, the characteristics of these participants, and the implications of participating in multiple programs.

- What proportion of program recipients participate in multiple programs?

1. Keane and Moffitt (1998) and Flood et al. (2004) use structural, simulation-based methods to study the effects of multiple program participation on labor supply in the U.S. during the 1980s and in Sweden, respectively.

- Which programs are most commonly used together?
- What are the demographic and economic characteristics of households who participate in multiple programs (e.g., race/ethnicity, level of education, family type, income level, etc.), and how do they differ from those who participate in a single program?
- Is participation in multiple programs associated with more robust ties to the safety net – as measured, for example, by greater recertification success, lower churn rates, and increased participation among family members?
- How frequently do program participants leave additional benefits on the table (using information from existing applications to simulate eligibility for additional programs)?
- Are benefit cliffs a significant feature of the realized marginal tax rate schedule (based on earnings) after accounting for multiple program participation?

2. **Causal impacts of multiple program participation on socioeconomic outcomes.**

Next, we conduct analyses of the causal effects of multiple program participation on downstream outcomes. For each analysis, we examine the magnitude of the effect of multiple programs relative to participating in only a single program or not participating at all.

- What is the causal effect of participating in multiple programs on 1) contemporaneous and future earnings and labor supply, 2) the duration of program participation, and 3) involvement with the criminal justice system?
- How do these effects vary at the following stages of program participation: 1) eligibility, 2) application (conditional on being eligible), and 3) receipt (conditional on applying)?
- How does the effect of multiple program participation vary based on the number of programs and the types of programs that a household participates in?
- How do these impacts vary by household characteristics? Specifically, do the effects differ for households with incomes located around potential benefit cliffs?

3. **Evaluating the efficacy of multiple program participation.** Finally, we evaluate the value of multiple program participation and government efforts to promote such participation.

- How do the short- and long-term fiscal impacts of multiple program participation weigh against their monetary costs incurred by the government?
- What are the broader impacts of public efforts that encourage multiple program participation, such as Virginia’s CommonHelp system? Do they successfully target households most in need?

3 Proposed Data and Methodology

3.1 Proposed Data Sources

The datasets that we would like to access are primarily stored in the VLDS. Our main data sponsor will be the **Virginia Department of Social Services** (VDSS), which has been generously guiding us through the processes of proposal development and data access. From VDSS, we would like to access program participation records for all recipients of the Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Medicaid, child care, child support enforcement, foster care, and refugee assistance for all available years and months. We understand that receipt indicators are available for all programs at the annual level between 2003 and 2020, while monthly receipt indicators are available for select years. These data will enable us to track spells of program receipt in order to measure the duration and intensity of participation in each program, especially at periods of recertification. We would also like to request demographic and economic data for each participant – including characteristics like age, citizenship, education level, gender, race/ethnicity, marital status, household size, geography, and income (unearned and unearned) – that may help in determining eligibility for other programs.

To complement these data on means-tested transfers, we would like to request quarterly wage amounts and Unemployment Insurance (UI) benefit amounts from the **Virginia Employment Commission** (VEC) for all individuals with UI-covered wages or receiving UI transfers. We understand that these data are available between 2005 and 2021 in the VLDS. In addition to using benefit amounts to track UI participation, these quarterly wage data would enable us to track changes in employment before and after program participation. The earnings amounts are also the key ingredients used in simulating eligibility for programs with income requirements, permitting us to estimate rates of program take-up. Understanding the intersection between the receipt of UI and that of other programs is critical for addressing VEC’s research priority of understanding the moral hazard of UI benefits, given prior evidence that a large fraction of UI claimants also receive SNAP, Medicaid, and TANF (Leung and O’Leary 2020).

Finally, we would like to request crime records from the **Virginia Criminal Sentencing Commission** (VCSC) and the **Department of Juvenile Justice** (DJJ). We understand that felony records from VCSC are available from FY 1997-2021 and admission records from DJJ are available from FY 2000-2021. These datasets would enable us to further assess the downstream effects of multiple program participation on crimes and offenses among adults and children. Analyzing the impacts on earnings in concert with criminal justice involvement enables a richer understanding of the ways in which multiple program participation affects poverty and well-being.

Our goal would be to link all of these datasets together (and longitudinally across years) using anonymized linkage keys provided by the VLDS. Both PIs (Cholli and Wu) have expertise with linking and analyzing large-scale confidential administrative microdata. At a later point of the

project, we may want to obtain access to additional data that are not currently part of the VLDS but may be added in the future. Examples of such variables may include anonymized caseworker identification numbers and anonymized records for rejected program applicants. We will discuss the feasibility of bringing such data into the VLDS with VDSS in the future. These data would be used to pursue our third research design, which is described in the next section.

3.2 Methodology

To fulfill our research objectives, we plan to carry out our work in two phases. In Phase I, we propose to clean and merge anonymized records of program receipt in order to compute descriptive statistics on multiple program participation, take-up rates, recipient characteristics, and effective marginal tax rate schedules. These will fulfill Objective 1 and advance earlier efforts that relied only on national survey data to characterize multiple program participation.

In Phase II, which represents the bulk of our analyses, we utilize three complementary research designs to identify the causal effects of multiple program participation. Each research design targets a distinct stage in the process of gaining participation. The first two designs are possible through the existing administrative records currently available through the VLDS. The third design remains tentative, as it relies on additional administrative records from VDSS internal records to be brought into the VLDS. If granted data access, we plan to begin working on the first two research designs; concurrently, we hope to work closely with VDSS to assess the viability of including additional variables in our analysis.

Research Design 1: Eligibility. The first research design would employ several natural experiments and policy discontinuities to study exogenous changes in eligibility for one program, holding eligibility for other programs fixed. An example of a natural experiment that we may analyze pertains to the expansion of Medicaid in January 2019 to certain groups in Virginia, including disabled persons with income between 80-138% FPL, parents with income between 33-138% FPL, and childless adults with any income up until 138% FPL. Another policy discontinuity we may exploit is at age 60, where individuals above this threshold no longer face any income tests for SNAP eligibility while those below 60 must have gross incomes below 130% FPL to be eligible for SNAP. Yet another discontinuity is that eligibility for child care subsidies is predicated on incomes being below 85% of local median income. Using a mix of regression discontinuity and difference-in-difference methods, we plan on leveraging quasi-experiments of this kind to assess the impacts of gaining eligibility for a particular program, conditional on receiving certain combinations of other (or no other) programs.

Research Design 2: Applications. The second research design would study the launch of CommonHelp, which streamlined applications for various programs into a single online application portal, as a natural experiment for identifying the causal effects of multiple program participation.

Our understanding is that CommonHelp was rolled out in a staggered fashion, with initial applicants for certain programs being exposed sooner than initial applicants for other programs. Under suitable assumptions (with testable implications), comparing trends in program participation and outcomes between the earlier-exposed and later-exposed groups before and after CommonHelp can identify the causal effects of multiple program participation on socioeconomic outcomes. In addition to this difference-in-difference design, we may also employ a difference-in-discontinuity design that examines differences in the effects of the policy discontinuities from Research Design 1 before and after the implementation of CommonHelp.

Research Design 3: Receipt (*tentative*). The third research design uses instrumental variable (IV) methods that leverage random variation in the likelihood of applicants participating in multiple programs relative to participating in only one or no program. Depending on data availability, two IVs we may use are 1) differences in caseworker stringency of approving applications and 2) state audits of applications and recertifications (e.g., SNAP Quality Control audits). If caseworkers are quasi-randomly assigned to applications and cases are randomly chosen for state audits, then these would serve as credible IVs for causal inference. Recent work by Cook and East (2023) has utilized SNAP caseworker stringency as an IV for identifying the causal effects of SNAP participation on labor supply; our method would extend this approach to multiple programs.² To the best of our knowledge, state audits have not been used as a source of exogenous variation in program participation in prior work and can be pioneering for identifying the effects of program participants *losing receipt* from one or more programs – which may have asymmetric consequences relative to *gaining receipt*. We hope to learn more details about caseworker assignments, state audits, and other institutional details through future conversations with VDSS and other agencies in order to assess the validity of these IV methods.

Summary. These three proposed research designs are highly complementary to each other. The natural experiments and policy discontinuities based on different programs’ eligibility rules (such as different income thresholds for Medicaid, SNAP, and child care) would identify the effect of *gaining eligibility* for a new program whose eligibility requirements may overlap with those of other programs. The CommonHelp natural experiment would identify the effect of *applying* to multiple programs (conditional on being eligible), while the IV methods would identify the effect of *receiving* multiple programs (conditional on applying). Together, these research designs help to provide a comprehensive understanding of the consequences of multiple program participation and public efforts that promote it. The causal effects estimated in Phase II will be directly relevant for addressing Objectives 2 and 3. We additionally hope that estimating the impacts of CommonHelp can

2. Humphries et al. (2023) provides a theoretical framework for how similar IV methods can be applied in cases of multiple “treatments” (in our context, combinations of multiple programs).

provide value to the efforts of Virginia's government agencies to serve the state's most vulnerable populations.

References

- Cook, Jason B., and Chloe N. East. 2023. “The Effect of Means-Tested Transfers on Work: Evidence from Quasi-Randomly Assigned SNAP Caseworkers.” Unpublished manuscript.
- Edelstein, Sara, Michael R. Pergamit, and Caroline Ratcliffe. 2014. “Characteristics of Families Receiving Multiple Public Benefits.” *Washington, DC: Urban Institute*.
- Flood, Lennart, Jörgen Hansen, and Roger Wahlberg. 2004. “Household Labor Supply and Welfare Participation in Sweden.” *Journal of Human Resources* 39 (4): 1008–1032.
- Hendren, Nathaniel, and Benjamin Sprung-Keyser. 2020. “A Unified Welfare Analysis of Government Policies.” *Quarterly Journal of Economics* 135 (3): 1209–1318.
- Humphries, John Eric, Aurelie Ouss, Kamelia Stavreva, Megan T Stevenson, and Winnie van Dijk. 2023. “Conviction, Incarceration, and Recidivism: Understanding the Revolving Door.” Unpublished manuscript.
- Keane, Michael, and Robert Moffitt. 1998. “A Structural Model of Multiple Welfare Program Participation and Labor Supply.” *International Economic Review*, 553–589.
- Leung, Pauline, and Christopher O’Leary. 2020. “Unemployment Insurance and Means-Tested Program Interactions: Evidence from Administrative Data.” *American Economic Journal: Economic Policy* 12 (2): 159–192.
- Macartney, Suzanne, and Robin Ghertner. 2023. *Participation in the U.S. Social Safety Net: Multiple Programs, 2019*. Technical report. Department of Health and Human Services, ASPE Office of Human Services Policy, April.
- Meyer, Bruce D., Wallace K.C. Mok, and James X. Sullivan. 2015. “Household Surveys in Crisis.” *Journal of Economic Perspectives* 29 (4): 199–226.
- Meyer, Bruce D., and Derek Wu. 2018. “The Poverty Reduction of Social Security and Means-Tested Transfers.” *Industrial and Labor Relations Review* 71 (5): 1106–1153.
- Moffitt, Robert. 2016. “Multiple program participation and the SNAP program.” In *SNAP Matters: How Food Stamps Affect Health and Well-Being*, edited by Craig Gundersen, James P. Ziliak, Judith Bartfeld, and Timothy Smeeding. Stanford University Press.