

# The Effects of Automating Welfare Services on Program Enrollment and Well-Being: Evidence from Indiana

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**Project Funding Years:** 2020-2021

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## Background and Objectives

Over the past two decades, states and localities have made major strides in automating their welfare services. As part of these efforts, individuals are increasingly able to apply and recertify for benefits virtually (which can provide greater convenience and flexibility for applicants), and welfare applications are evaluated in a more mechanized and less subjective manner (which can lower administrative costs and improve efficiency for overburdened welfare agencies). However, automation may also lead to more burdens, particularly when managed by entities with differing goals and levels of expertise.

This project seeks to empirically understand the consequences of such an effort on program enrollment and individual well-being. In 2007, Indiana attempted to automate its welfare services – covering the Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), and Medicaid – by outsourcing their management to the IBM Corporation. The system used online and phone platforms to replace face-to-face interactions with caseworkers, leading to a series of administrative burdens like long wait times at overwhelmed call centers, as well as other issues like a lack of personalization in the certification process and a zero-tolerance policy for errors on certification forms (Eubanks 2018).

## Relevant Behavioral Concepts

The perspective from behavioral economics suggests that one's decision regarding whether to enroll in a program may reflect not so much one's preferences but rather the barriers surrounding take-up in a particular context (**hassle factors**). Administrative burdens may therefore interact with individual cognitive biases to have outsized effects (Baicker, Congdon, and Mullainathan 2012; Herd and Moynihan 2018). One such bias that is relevant to this research is **present bias** (O'Donoghue and Rabin 1999; Frederick, Loewenstein, and O'Donoghue 2002). Since administrative burdens associated with program enrollment are borne in the present while the benefits of participation are realized in the future, an individual may delay enrollment even though doing so would be utility-maximizing in the future.

Mullainathan and Shafir (2013) also posit that individuals are less likely to weigh longer-term consequences when challenged or depleted. Under this behavioral science perspective (**scarcity**), administrative burdens (like the ones described above in the Indiana setting) are likely to screen out the neediest individuals. This contrasts sharply with the perspective from neoclassical economics, which suggests that only those who get the most utility from a program would be willing to endure the hassles associated with enrollment (Nichols and Zeckhauser 1982). Under this perspective, administrative burdens screen out less needy individuals who have a higher opportunity cost of time.

## Research Questions

This research specifically seeks to answer the following questions:

- What are the quantitative impacts of the automation effort on the reductions in welfare take-up, and what types of individuals and families were most affected by this policy?
- What longer-term impacts did the automation effort have on incomes and various measures of material well-being (e.g., health, financial solvency, child incomes in adulthood, etc.)?
- What lessons can be learned from this case study to inform the design of automated welfare services – both to reduce cognitive biases on the part of applicants and recertifiers and make these programs most accessible to those needing them the most?

## Hypotheses

I expect that IBM's automated system led to pronounced reductions in welfare take-up, although different programs might see different levels of reductions depending on the composition of recipients. Given the interaction of present bias and scarcity, I hypothesize that needier participants were screened out more than less needy participants. As a result, I expect the automation effort to have led to decreases in material well-being – as measured by financial solvency, health, etc. – for those who lost access to welfare programs (with negligible effects on earnings, given that this occurred during the Great Recession).

## Sample

My sample of analysis consists of all Indiana residents eligible for SNAP, TANF, and Medicaid between 2004 and 2016. This consists of the universe of program recipients (numbering approximately 700,000 SNAP recipients, 70,000 TANF recipients, and 1 million Medicaid recipients in a typical month) drawn from administrative program records as well as a comparison group of non-recipients who are simulated to be eligible using a combination of administrative tax records and Census surveys. These records are made available through a data source called the Comprehensive Income Dataset (CID), which assembles and links survey and administrative income sources with the goals of improving income and poverty measurement (Medalia et al. 2018).

## Methods

IBM's automated system was rolled out to two-thirds of Indiana's counties in a staggered fashion before it was suddenly halted. This natural experiment motivates a difference-in-differences design in which I compare eligible individuals in treated counties to eligible individuals in non-treated counties before and after the automated system was implemented. The identifying assumption is that the observations in treated counties would have had similar trends in outcomes as the observations in untreated counties in the absence of treatment.

Using this quasi-experimental approach, I examine the effects on program take-up, distinguishing between effects on the enrollment of new recipients and the retention of existing ones. I analyze which types of households are most likely to be screened out by the automated system, focusing on characteristics like the level and volatility of past income, education level, family type (e.g., single parenthood, elderly), and disability status. I then examine the broader effects of the automation effort on incomes, focusing on short- and long-run earnings as well as income from other government programs. Changes in earnings and other program income can serve as mediators in helping to understand the additional effects on financial solvency, health, migration patterns, and the incomes of adolescents in adulthood.

## Practice and Policy Implications

As states and localities increasingly turn to automating the administration of welfare services, it is important to understand not only the benefits of these efforts but also the costs (some of which may be unintended). Consequently, this project seeks to provide lessons for policymakers and practitioners for structuring program administration in an age when applications are often processed virtually. I plan on starting and maintaining a dialogue with various government agencies (including the Indiana Family and Social Services Administration and various federal agencies) to update them on my findings and share what lessons can be learned to inform the design of welfare administration.

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