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Universal Accounts at Birth: Results from SEED for Oklahoma Kids

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Child Development Accounts

Child Development Accounts (CDAs) are savings or investment accounts to help people accumulate assets for postsecondary education and other long-term developmental purposes. This research summary presents findings about the implementation and impact of CDAs from a number of studies tied to the SEED for Oklahoma Kids (SEED OK) experiment.¹

Proponents of CDAs envision accounts that would be universal, progressive, and lifelong.²

They would be *universal*—that is, fully inclusive—in that every child would automatically receive an account and initial deposit. Under most proposals, the federal government would automatically open an account for every child when she or he is born. Each account would receive an automatic initial deposit, and parents and others would be encouraged to make additional deposits. The accounts would be *progressive* in that personal savings deposited into the accounts of low- and moderate-income children would be matched by public and private funds. Low-income children might also receive automatic deposits at certain milestones—for example, when they enter kindergarten or graduate from high school. The accounts would be *lifelong* in that CDAs are meant to be held and used for multiple purposes throughout the life course.

The emphasis of early CDAs on postsecondary education is appropriate because educational decisions are often the first major milestone in the transition to adulthood. This emphasis also reflects the fact that the largest CDA programs in the United States—statewide CDA programs in Maine, Nevada, Rhode Island, and Connecticut—are built on state 529 college savings plans.³

The automatic components make the CDA in SEED OK inclusive and reduce asset inequality early in life.

Researchers expect CDAs to increase college attendance and graduation rates. A key supposition is that CDAs raise the educational expectations of youth and their parents, thereby increasing engagement and investment in education.⁴ In general, if CDAs make parents more hopeful about their children's future, the accounts may boost parents' mental health, motivate parents to invest more in their children, and improve parent-child interaction. All of those changes could positively affect child development and eventually improve educational outcomes. The impacts of CDAs are likely to be stronger if children have more assets in their accounts. However, CDAs may have positive effects on attitudes and behaviors, regardless of the amount of money in the account and even if account opening and deposits are automatic.⁵

SEED for Oklahoma Kids

The SEED OK experiment, which began in 2007, is a large-scale policy test of universal, automatic, and progressive CDAs. The CDA in SEED OK consists of an Oklahoma 529 College Savings Plan (OK 529) account automatically opened with an initial deposit of \$1,000.⁶ It also includes an optional individual OK 529 account, a \$100 account-opening incentive, a savings match, and educational materials.

The sampling frame for SEED OK consisted of birth records for all children born in Oklahoma during certain periods in 2007.⁷ Study participants are the primary caregivers—mostly mothers—of the infants identified in the sampling frame.⁸ Mothers and their infants were assigned randomly to the treatment group or control group after the mothers completed a baseline survey (Figure 1). Children in the treatment group received the

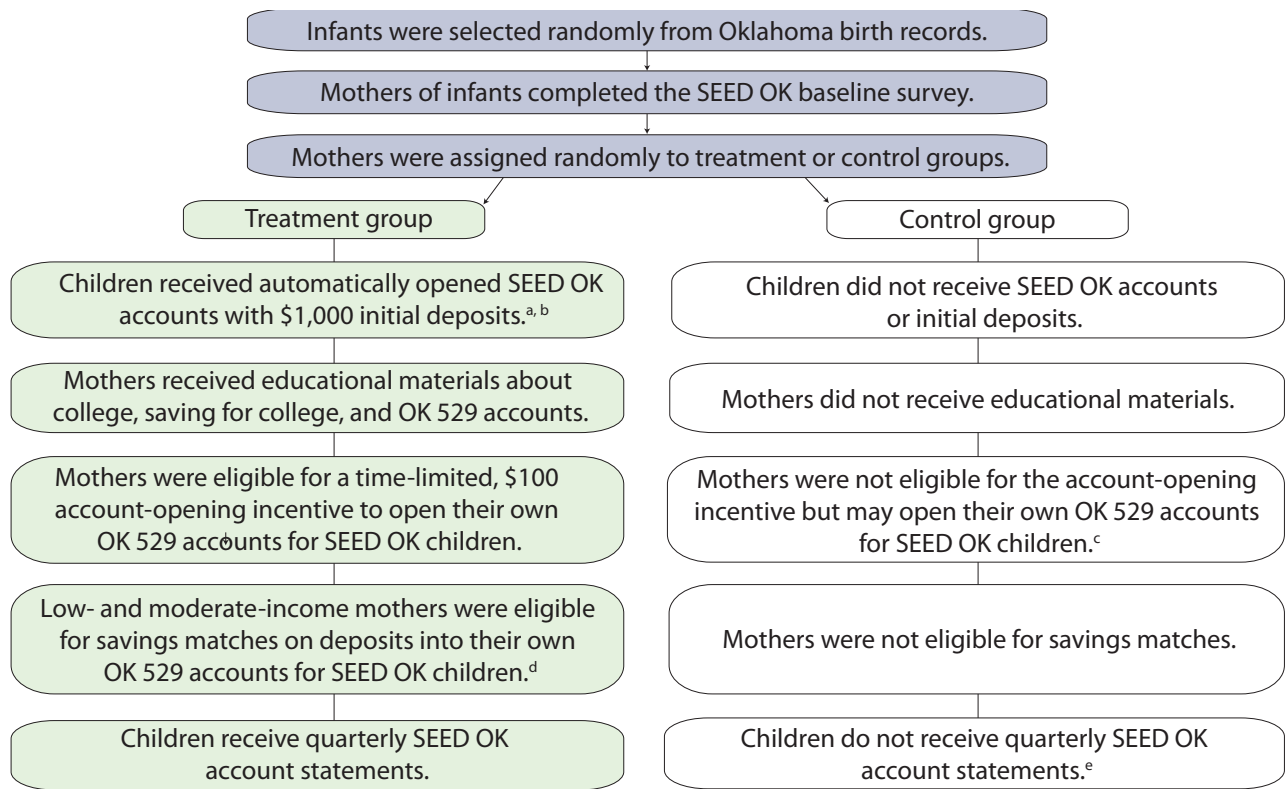


Figure 1. SEED for Oklahoma Kids Experiment.

Adapted from “Testing Universal College Savings Accounts at Birth: Early Research from SEED for Oklahoma Kids,” by S. G. Beverly, M. M. Clancy, and M. Sherraden, 2015, p. 2.

^aOne mother opted out of the account for her child for religious reasons.

^bFunds are restricted for postsecondary use, to be sent directly to educational institutions.

^cAnyone 18 years or older, regardless of their state residency, can open an OK 529 account.

^dSavings matches are held in SEED OK accounts.

^eBecause they did not receive automatically opened accounts, control children do not receive SEED OK account statements, but all owners of individual accounts receive quarterly OK 529 account statements.

CDA ($n = 1,358$), and children in the control group did not ($n = 1,346$). Randomly assigning participants to one of these two conditions allows researchers to attribute differences in outcomes to the CDA in SEED OK rather than to individual characteristics. In other words, it is a rigorous study design for measuring the impacts of the CDA. Like random assignment, sampling from a full state population is uncommon in social research. These characteristics make SEED OK an ideal test for a universal policy.

As we note above, every child in the treatment group received an automatically opened OK 529 account with \$1,000. (One mother opted out, citing religious reasons, and her child’s account was closed.) We call these automatically opened accounts *SEED OK accounts*; they hold deposits provided by SEED OK as part of the CDA.

Full inclusion is not possible without automatic account opening and initial deposits.

These accounts are owned by the state of Oklahoma. When youth enroll in an approved postsecondary program (e.g., in-state and out-of-state 4-year colleges, community colleges, and vocational schools), funds from SEED OK accounts will be sent directly to the educational institutions.

The *individual OK 529 accounts* hold individual savings.⁹ These accounts also hold the \$100 account-opening incentive, which was deposited automatically if a treatment mother opened an account for her SEED OK child by April 15, 2009.¹⁰ The savings match was available for about 4 years. Low- and moderate-income treatment families were eligible to receive 1:1 or 0.5:1 matches on deposits to individual OK 529 accounts. The state determined savings-match eligibility through official records; thus, mothers were not required to submit tax returns or self-certify their adjusted gross income.¹¹

Finally, treatment mothers have received materials that describe the OK 529 accounts and SEED OK financial incentives and encourage families to save for education.¹²

The CDA improves disadvantaged children’s early social-emotional development and does so regardless of parental saving behavior.

Because SEED OK is a randomized experiment, these materials have been provided almost exclusively by mail.¹³ TIAA-CREF, the OK 529 program manager, sends account statements for SEED OK accounts to all treatment children each calendar quarter.

Mothers in the control group have not received any information from SEED OK about OK 529 accounts and have not been offered any SEED OK financial incentives. Their children did not receive the automatic SEED OK account with initial deposit. However, mothers may open an individual OK 529 account, as may anyone not participating in the study.¹⁴ All owners of individual OK 529 accounts receive quarterly account statements.

As we note above, 2,704 mothers completed the SEED OK baseline survey soon after their children were born. Sixty mothers completed extended in-person interviews when their children were between 2 and 3 years of age, and 2,272 mothers completed a follow-up telephone survey when children were about 4 years old. Information on OK 529 accounts has been transmitted electronically from TIAA-CREF at each calendar quarter.

Summary of Early SEED OK Findings

The findings summarized here come from several SEED OK studies. Some of the studies examine the impacts of the CDA on financial outcomes (e.g., OK 529 account holding, asset accumulation, and savings). Others begin to examine whether the CDA in SEED OK affects nonfinancial outcomes such as child development and parental attitudes and behavior. In these studies, the SEED OK children range from 2 to 8 years of age. Future studies will consider the impacts of the CDA on longer term financial, cognitive, and educational outcomes.

Extended Interviews with SEED OK Mothers

The extended face-to-face interviews with SEED OK mothers provide insight into their attitudes about saving and college. Themes from these interviews help to explain results from other SEED OK studies. The following findings have emerged:¹⁵

- Mothers of young children “recognize the value of saving ... and identify short-term goals (e.g., to cover bills, emergencies, children’s needs, and for a ‘rainy day’) as their most common motives for saving.”¹⁶

- Some mothers would like to save for home purchase, their children’s education, and other longer-term goals.
- Almost all mothers express hope that their children will go to college, but many can identify multiple—mostly social—barriers (e.g., negative peer influence, falling in love, and having children).
- Mothers recognize that a college education is expensive. Many seem optimistic that they will “find a way” to pay for it, but few described a specific plan.¹⁷ Some mothers have not yet started to plan because their children are young or because they need to get household finances in order first.
- Almost half of mothers say they will use savings to help pay for college, but very few have begun saving for this.

Almost all mothers in the extended interviews express a desire to save and have high aspirations for their children’s education. Yet, many find saving—especially for the long term—to be difficult.

Design and Implementation of the CDA in SEED OK

The CDA in SEED OK is the first model in the United States of Sherraden’s policy concept of a fully inclusive asset-building program. Under such a policy, *all* children will have accounts and build assets.¹⁸ Implementing the CDA in SEED OK has demonstrated two key points:

- It is possible to provide an automatic CDA with automatic initial deposit to all children.¹⁹
- A centralized savings platform (such as the 529 college savings plan used in SEED OK) facilitates the use of recommended CDA features.²⁰

The SEED OK experiment models an efficient and fully inclusive CDA policy.

OK 529 Accounts, Assets, and Earnings

In this section, we summarize findings related to the holding of any OK 529 account, including the SEED OK accounts opened automatically for treatment children as well as individual OK 529 accounts opened by SEED OK mothers. We also review findings on total OK 529 assets, which include individual savings, investment earnings, and, for treatment children, SEED OK deposits. Account holding and total OK 529 assets may be viewed as the most important SEED OK financial outcomes. For CDAs, account holding is an important measure of *universality*, and the value of total assets accumulated is the main measure of *progressivity*.²¹ Account holding and asset holding are measured as of December 31, 2014, when

Table 1. OK 529 Accounts, Assets, and Earnings (December 31, 2014)

	Treatment	Control
Children with any OK 529 account	99.9%	3.3%
Children with any OK 529 assets	99.9%	3.2%
Average OK 529 assets	\$1,851	\$323
Average earnings on OK 529 assets	\$569	\$109

Note. Data from Beverly, Clancy, Huang, et al. (2015) and Clancy, Beverly, Sherraden, et al. (2016). Accounts include individually opened accounts and, for treatment children, the automatically opened SEED OK accounts. Assets include net deposits made by parents and others, investment earnings, and for treatment children, SEED OK deposits. Assets equal zero for those without accounts.

SEED OK children were 7 to 8 years old. All children are represented in the averages, regardless of whether they have OK 529 assets. Because children were randomly assigned to the treatment or control group before the intervention began, comparing outcomes for these two groups shows the impact of the CDA.

Several noteworthy findings have emerged from SEED OK:

- About 7 years after the SEED OK intervention began, 99.9% of treatment children have college accounts and college assets (Table 1).
- Treatment children are 30 times more likely than control children to have an OK 529 account and some OK 529 assets.
- The average value of OK 529 assets for treatment children (\$1,851) is almost six times higher than for control children (\$323).²²
- A substantial portion of asset accumulation is due to investment growth. Despite the Great Recession, the \$1,000 initial CDA deposit increased by more than 40% over 7 years, to about \$1,400 at the end of 2014 (Figure 2).²³

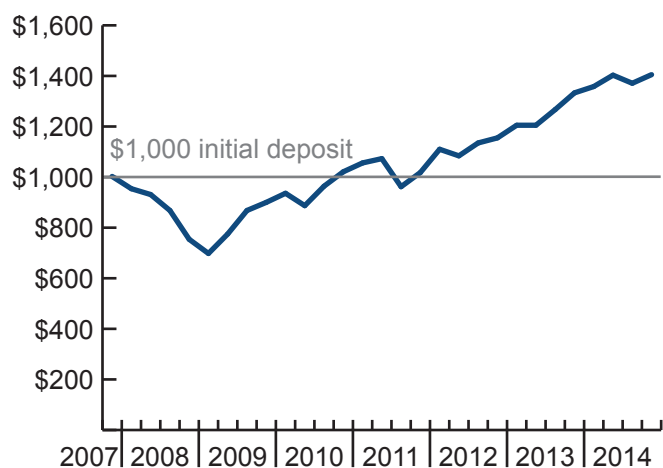


Figure 2. Value of the \$1,000 SEED OK initial deposit, by quarter.

The initial deposit was first invested in the OK 529 Balanced Option on December 27, 2007. From “The SEED for Oklahoma Kids Child Development Account Experiment: Accounts, Assets, Earnings, and Savings,” by S.G. Beverly, M. M. Clancy, J. Huang, and M. Sherraden, 2015, p. 2.

- The average earnings for treatment children are \$569. The median earnings—even for those who received no other deposit than the initial \$1,000 seed—are \$426.
- Across all treatment children, the assets accumulated in OK 529 accounts total \$2,556,873, over six times that of control children (\$403,400).²⁴

The extended face-to-face interviews conducted when children were 2 to 3 years old provide insight into treatment mothers’ early perceptions of SEED OK accounts and initial deposits:²⁵

- Mothers know that they “can’t touch” the SEED OK account while children are young and that funds can be used only for their children’s postsecondary education.
- A number of mothers seem to have hope for their children’s future because of the SEED OK account and deposit. Several expressed having a sense of security, for example, “a little bit of relief that something has begun.”
- The tangible initial deposit symbolizes for some mothers the meaningful notion that *someone outside the family* cares about their children’s future.
- Regular account statements and program materials emphasize the importance of education and help some mothers “see their children as college bound.”

The CDA in SEED OK has large impacts on OK 529 account holding and OK 529 asset holding—effects largely due to automatic account opening and the automatic initial deposit. Investment earnings on the initial deposit also contribute substantially to asset accumulation for treatment children.

Individual OK 529 Accounts and Savings

We now turn to the impact of the CDA on accounts opened by mothers for SEED OK children and on the savings deposited by individuals into these accounts. Encouraging people to save is valuable, yet it is not the most important objective of CDAs.²⁶ As we note above, in addition to an automatic account and initial deposit for each treatment child, SEED OK offered treatment

Table 2. Individual OK 529 Accounts and Savings (December 31, 2014)

	Treatment	Control
Children with an individual OK 529 account	16.8%	1.1%
Children with savings in an individual OK 529 account	8.4%	1.1%
Average individual OK 529 savings	\$261	\$59

Note: Data from Clancy et al. (2016). These individual OK 529 accounts were opened by the child’s mother. (SEED OK accounts opened automatically for treatment children are not included.) Savings in individual OK 529 accounts come from parents and others, *not* from deposits made by SEED OK; investment earnings on individual deposits are included. Savings equal deposits minus withdrawals and are zero for those without mother-opened accounts.

mothers incentives to open and save in individual OK 529 accounts. These SEED OK deposits are *not* included in the measure of individual savings. That measure does include investment earnings in individual accounts, and it represents net savings (i.e., deposits minus withdrawals). Findings from SEED OK show the following about 7 years after the intervention began:

- Treatment children are 15 times more likely than control children to have an OK 529 account opened by their mother (Table 2).
- They are almost eight times more likely to have individual savings in a mother-opened OK 529 account.²⁷
- The average amount of individual OK 529 savings for treatment children (\$261) is over four times greater than the average amount for control children (\$59).²⁸
- The average amount of savings *among treatment children with individual savings* is \$3,112, and the median is \$939.
- The total amount of individual savings accumulated by treatment children in OK 529 accounts (\$365,578) is more than six times that of control children (\$59,487).²⁹
- Only three mothers (1.5%) have withdrawn the \$100 SEED OK account-opening deposit.³⁰
- Also, in results from multivariate analysis accounting for characteristics of the child, parent, household, and environment, the CDA in SEED OK has a moderate effect on the amount of savings held by children. About 15 months after the CDA was opened, the individual OK 529 savings amount for a treatment child was about 40% higher than that for a control child with similar characteristics.³¹

The CDA in SEED OK increases the likelihood that mothers open and save in OK 529 accounts for their children. Still, even in the treatment group, most children do not have individual OK 529 accounts or savings.

The automatic components of the CDA strongly favor disadvantaged children.

Financial Outcomes for Advantaged and Disadvantaged Children

Because the CDA in SEED OK explicitly aims to be inclusive and progressive, it is important to assess the effects of the CDA on account holding, asset holding, and savings for disadvantaged children.³² Findings from SEED OK show the following:

- For two of the most important financial outcomes—having a college savings account and having some assets for college—the CDA in SEED OK eliminates variation by income, race, and other socioeconomic characteristics. Without the CDA, advantaged children are much more likely than disadvantaged children to have OK 529 accounts and assets.
- The CDA has especially strong effects on OK 529 account holding and asset holding among disadvantaged children. Account- and asset-ownership rates in some disadvantaged groups have increased from 0% to 100%.³³ These important positive impacts on account holding and asset holding occur because of the CDA’s automatic features.
- The CDA also increases the likelihood that disadvantaged children have OK 529 accounts opened by family or friends and that family or friends deposit savings into the accounts. That is, the CDA has these effects in all families, not just in advantaged families.³⁴
- Even in the treatment group, however, advantaged children are more likely than disadvantaged children to have OK 529 accounts opened by family or friends and more likely to have OK 529 savings deposited by family or friends. The average value of these savings is higher for advantaged children.³⁵
- Because advantaged children have more OK 529 savings than disadvantaged children have, the value of total OK 529 assets (which includes SEED OK incentives) is also higher for advantaged children. However, variation in asset amounts by socioeconomic characteristics is much smaller among treatment children than among control children. At least in the short term, the automatic initial deposit largely offsets the effects of disadvantage on asset amounts.³⁶

- ▶ Treatment children are 30x more likely than control children to have 529 college savings.
- ▶ The total amount of 529 college savings for treatment children is 6x that for control children.
- ▶ Treatment children are 8x more likely to have 529 college savings from their mother.
- ▶ Despite the Great Recession, the \$1,000 initial CDA deposit increased by more than 40% over 7 years.

Extended interviews with treatment mothers reveal several challenges that deter them from opening and saving in an OK 529 account:³⁷

- Some mothers say that they have no money left after buying day-to-day necessities (e.g., groceries, gasoline, and diapers) and paying bills. Debt payments prevent some from saving.
- Some mothers say that they did not receive or did not read the SEED OK materials sent by mail.
- Some mothers mistakenly believed that they needed to deposit \$100 of their own money to open the account or needed to make regular deposits.
- There is a language barrier for some mothers who are not native English speakers.

College savings initiatives that rely primarily on family resources and individual behavior will disproportionately benefit advantaged children. A lack of surplus income is a substantial barrier preventing some families from opening accounts and saving.

Still, the CDA in SEED OK increases the likelihood that disadvantaged parents open college savings accounts and save for future college expenses. That is, the CDA shapes individual saving behavior in families of all income levels, not just in advantaged families.

The CDA's effects on two of the most important financial outcomes—having a college savings account and having some assets for college—are especially large for disadvantaged children. Again, evidence clearly shows that the automatic components make the CDA in SEED OK inclusive and reduce asset inequality early in life.

Financial Knowledge and Individual Financial Behavior

Two SEED OK studies examine whether mothers' financial knowledge is correlated with individual financial

behavior assessed when children were 2 to 3 years old. Although mothers' financial knowledge is not correlated with financial outcomes linked to automatic components of the CDA, financial knowledge is associated with individual account holding and savings:

- Compared with mothers who had a low level of financial knowledge at baseline, mothers who had a high level of financial knowledge are more likely to have individual OK 529 accounts for their children and have more individual savings in these accounts.
- The association between financial knowledge and individual account holding and the association between financial knowledge and individual savings are stronger for mothers with the CDA than for mothers in the control group.³⁸

These findings may indicate that the CDA has a greater impact on the early financial behavior of those with greater financial knowledge. Or, they may indicate that financial knowledge is more likely to shape behavior when there are institutional supports such as incentives, subsidies, and facilitation.

Parental Expectations for Children's Education

Parents' expectations for their children's educational attainment influence parents'—and eventually children's—education-related behavior in important ways.³⁹ Preserving high expectations and raising low expectations are essential if CDAs are to improve long-term educational outcomes. Findings from SEED OK show the following:

- At baseline, most mothers (93%) expected their children to go to college. But about 13% reported lower expectations in the follow-up survey, when children were about 4 years old.
- Mothers in the treatment group are more likely than mothers in the control group to report that their

The CDA in SEED OK

- ▶ helps mothers maintain or increase expectations for their children's education
- ▶ boosts mothers mental health
- ▶ improves children's social-emotional development

expectations have remained the same or increased, and this difference is present in a variety of socioeconomic subgroups.⁴⁰

The CDA in SEED OK helps mothers maintain or increase their expectations for their children's postsecondary education.

Mothers' Mental Health

Theory and some early evidence indicate that CDAs can change mothers' attitudes about the future. If this is so, then the accounts may also have positive impacts on mothers' mental health. Some evidence from SEED OK supports this hypothesis:

- The SEED OK follow-up survey measured mothers' symptoms of depression about 3 years after the intervention began. Mothers in the treatment group report fewer symptoms of depression than do mothers in the control group.
- The impact of the CDA is greater for several disadvantaged groups than for the sample as a whole. These groups include low-income mothers, mothers with low levels of education, and mothers who have experienced material hardship.⁴¹
- Some evidence suggests that the CDA reduces symptoms of depression, regardless of whether a mother has opened and saved in an individual OK 529 account for her child.⁴²

The CDA in SEED OK reduces symptoms of depression reported by mothers, particularly disadvantaged ones. The impact of the CDA may not depend on individual saving behavior. Simply having a college savings account and assets for the child may bring about this mental health boost.

Children's Social-Emotional Development

Positive changes in parental attitudes may improve parent-child interaction and so influence child development. Three studies demonstrate that the CDA in SEED OK has positive impacts on social-emotional development for children at about 4 years of age, especially for children in some disadvantaged groups:

- At about age 4, disadvantaged treatment children score better than disadvantaged control children on a measure of social-emotional development.
- The CDA in SEED OK has a positive impact on the social-emotional development of children in families that have experienced material hardship and on that of the children of single mothers.
- The CDA also positively affects the social-emotional development of children whose mothers have low education levels, have low incomes, receive welfare benefits, or rent their homes.⁴³
- The effects of the CDA in these groups are similar in size to at least one estimate of the effect of the Head Start program on early social-emotional development.⁴⁴
- Evidence suggests that the CDA's positive effect on children's social-emotional development does not depend upon whether their mothers have opened and saved in an OK 529 account.⁴⁵

The CDA improves disadvantaged children's early social-emotional development and does so regardless of parental saving behavior.

Parenting Behavior and Parenting Stress

Although we expect that the CDA in SEED OK will improve child development in part by improving parent-child interaction, there is so far only weak evidence that the CDA changes the interaction:

- About 3 years after the start of the intervention, mothers in the treatment group scored better than mothers in the control group on a measure of parenting stress and on six measures of parenting practices.
- But the effects of the CDA are statistically significant for only one measure: the number of times the mother screamed at her child in the 3 days before survey.⁴⁶

At this time, the impact of the CDA in SEED OK on parenting practices and the mechanisms by which the CDA improves early child social-emotional development are unclear. These are important topics for future research.

The SEED OK experiment models an efficient and fully inclusive CDA policy.

Influence of SEED OK on State and National Policy

Policymakers have used findings from the SEED OK experiment to inform the development of asset-building policies and to make existing policies more inclusive, effective, and sustainable. Perhaps the most prominent example of such efforts comes from the state of Maine. There, the Harold Alfond College Challenge offers \$500 for future college expenses to every state resident newborn. From 2008 to 2013, parents had to enroll their children in the program by opening an account in the state's 529 college savings plan before the child's first birthday. Under this opt-in structure, about 40% of newborns were enrolled in the program and received the \$500 grant. Citing SEED OK research, the chair of the Harold Alfond Foundation Board of Trustees announced in 2014 that all Maine newborns would be automatically enrolled in the College Challenge and receive the \$500 grant.⁴⁷ Research from SEED OK directly influenced the decision to adopt an opt-out structure, and Maine now has the first universal, statewide, at-birth CDA program in the nation.⁴⁸ It is also noteworthy that, as of 2011, Maine's 529 plan no longer requires savers to submit an annual match application or to self-certify income; all households, regardless of income, are eligible for savings matches. State matching grants—a 50% match up to certain maximums—are deposited automatically into the accounts of all savers.⁴⁹

Research from the Center for Social Development (CSD), including SEED OK research, has also informed the development of statewide CDA programs in Connecticut, Rhode Island, and Nevada. All three of these programs provide initial deposits. Two open accounts when children are born, one enrolls children automatically, and one has streamlined enrollment. The 529 plans in two of these states offer savings matches.⁵⁰

At the federal level, CDAs have been introduced with bipartisan support in several sessions of Congress but have never been enacted.⁵¹ Discussions about a national CDA policy have recently been revived,⁵² and CSD researchers are advising key staff in the congressional committees considering CDAs. Findings from SEED OK will play an important role in federal efforts to make 529 policies more inclusive.

Conclusion

Most parents expect their children to go to college, and many recognize the importance of saving for college, but economic circumstances can make saving for long-term purposes difficult. Many parents of young children do not save for future college expenses because they have little or no surplus income.⁵³ For this reason and others, college savings policies that require parents to open an account and rely mostly on individual saving will inevitably favor advantaged children. Multiple studies from the SEED OK experiment confirm this pattern.⁵⁴

The CDA in SEED OK has characteristics recommended by CDA proponents: automatic account opening for all at birth, automatic initial deposits, and a progressive savings subsidy. The universal, automatic, and progressive CDA policy modeled by SEED OK gives *all* children

College savings policies that ... rely mostly on individual saving will inevitably favor advantaged children.

the opportunity to have accounts and assets for college. In fact, the automatic components of the CDA strongly favor disadvantaged children.

Ensuring that all children have accounts and assets is important because theory and early evidence suggest that having a college savings

account with modest assets may change parental attitudes and behavior, and may influence early child development. These early positive outcomes may improve longer term outcomes, including cognitive and educational outcomes. Receiving an account and assets for college may be especially influential for disadvantaged children, who otherwise might not view themselves—and might not be viewed by others—as college bound.⁵⁵

The conclusion that the CDA in SEED OK has reached every child is the most meaningful policy lesson from SEED OK thus far. Demonstrating full inclusion paves the way for widespread participation in asset building and more equitable distribution of public resources. However, full inclusion is not possible without automatic account opening and initial deposits.⁵⁶ It also is not possible without public subsidies that are at least fair (every child gets the same), though progressive subsidies would be ideal (greater subsidies for the poorest children). In addition, automatic deposits—especially when made early in a child's life—enable all children to benefit from investment earnings. Even at this early stage, insight

Insight from SEED OK is informing the design of CDA programs at state and local levels.

Demonstrating full inclusion paves the way for widespread participation in asset building and more equitable distribution of public resources.

from SEED OK is informing the design of CDA programs at state and local levels.

Although it is too soon to draw conclusions about the long-term impacts of the CDA in SEED OK, the early positive impacts may be followed by longer term ones, perhaps especially for disadvantaged children. In the future, researchers can examine whether the CDA continues to improve child development, motivates parents and children to prepare for college, and later affects high school graduation and college attendance rates. Critical research features of the SEED OK experiment include probability sampling from a full state population, random assignment to treatment and control groups, and the use of multiple research methods to examine the CDA's effects. The wise investments in the SEED OK demonstration and experiment—particularly investments by the Ford Foundation, the Charles Stuart Mott Foundation, and the Lumina Foundation for Education—have created a major policy experiment, very well executed, that will continue to bear valuable knowledge for many years to come.

Notes

This Research Summary is adapted from S. G. Beverly, M. M. Clancy, and M. Sherraden, *Testing Universal College Savings Accounts at Birth: Early Research from SEED for Oklahoma Kids* (2014).

1. A more detailed summary of SEED OK research may be found in Sherraden et al. (2015).
2. For more on the vision for CDAs, see Sherraden (2014). Because CDAs are conceived as universal and lifelong, they differ from Individual Development Accounts, which have been implemented as short-term accounts targeted to low-income adults; however, Sherraden's (1991) original Individual Development Account proposal called for lifelong, universal, and progressive accounts that would be opened for children when they are born (see also Goldberg, 2005).
3. Clancy and Beverly (2016); Clancy, Sherraden, and Beverly (2015).
4. Beverly, Elliott, and Sherraden (2013); Elliott, Choi, Destin, and Kim (2011); Sherraden (2014).
5. Beverly et al. (2013); Sherraden et al. (2015).
6. In 1996, the federal government authorized states to establish college savings plans. Commonly called 529 plans after the relevant section of the Internal Revenue Code, these plans offer a limited selection of funds with a variety of risk and return characteristics. Qualified withdrawals are exempt from federal and state taxes, and most states allow qualified contributions to be deducted from state income taxes. See Lassar, Clancy, and McClure (2010).
7. See Nam et al. (2013). Researchers oversampled African American, American Indian, and Hispanic infants. Except for the study using data from extended interviews (Gray, Clancy, Sherraden, Wagner, and Miller-Cribbs, 2012) and one study on financial outcomes for treatment children (Beverly, Clancy, Huang, and Sherraden, 2015), the studies summarized in this brief use weights to make the sample representative of the population of Oklahoma families with infants born during 2007.
8. All but six of the 2,704 participants are mothers of the infants identified in the sampling frame. For simplicity, we refer to participants as mothers.
9. The SEED OK initial deposit and match money are kept separate from deposits by parents and other individuals because these SEED OK deposits may be withdrawn only for postsecondary education expenses. (Individual deposits may be withdrawn with a penalty for other purposes.) The architects of the SEED OK experiment also wanted to prevent these deposits from jeopardizing families' eligibility for means-tested public assistance and need-based college financial aid. However, subsequent changes in state and federal policy have eliminated these concerns for most low- and moderate-income families (Beverly & Clancy, 2016; Mason et al., 2008). An alternative to having two separate accounts for each child is to invest CDA subsidies and incentives for all children in a restricted portfolio held in a single, omnibus (i.e., umbrella) account. Under such an arrangement, each child could receive a single quarterly statement that reflects public, private, and individual CDA contributions. See Clancy and Sherraden (2014).
10. To open an account, the OK 529 requires a minimum contribution of \$100. The \$100 SEED OK deposit served as the required initial contribution and was designed to eliminate a potential barrier to account opening.
11. The State Treasurer's Office used state tax-return data provided by the Oklahoma Tax Commission. For mothers with no tax records, the state used information from the Oklahoma Department of

- Human Services to determine whether the mothers received public assistance (e.g., from Medicaid, Temporary Assistance for Needy Families, or the Supplemental Nutrition Assistance Program). Mothers without tax or public-assistance records could self-certify their income. See Zager, Kim, Nam, Clancy, and Sherraden (2010).
12. Treatment mothers also have occasionally received small gifts (e.g., storybooks or educational music CDs) for their children. Mailings come from the Oklahoma State Treasurer's Office on behalf of SEED OK researchers. For a summary of SEED OK communications with treatment families, see Appendix A of Gray et al. (2012).
 13. Distributing SEED OK information by mail greatly reduces the chance that mothers in the control group will be exposed to the treatment. But mail distribution alone is not the best strategy to encourage participation in a CDA. For example, treatment mothers who moved may not have received all SEED OK materials, and some mothers may not have read or understood the materials. A universal CDA policy implemented at the state or national level could provide information and encourage participation in multiple ways. See Gray et al. (2012) and Clancy and Sherraden (2014).
 14. An OK 529 account may be opened by U.S. citizens or resident aliens who are at least 18 years old, by Uniform Gifts to Minors Act or Uniform Transfers to Minors Act custodians, and by legal entities such as a trust, corporation, nonprofit organization, or government entity (see <http://www.collegesavings.org>).
 15. Gray et al. (2012) and Sherraden, Peters, Wagner, Guo, and Clancy (2013).
 16. Gray et al. (2012, p. viii).
 17. Gray et al. (2012, p. viii).
 18. Sherraden (1991, 2014). In relation to children's accounts, the word universal is often used to mean theoretically available to all (e.g., current 529 policies, which serve only 3% of the population [Government Accountability Office, 2012]) or available to all children in a particular group (e.g., all children enrolled in public school—a large percentage, but it excludes children in parochial and private schools, children who are home schooled, some children in special needs education, and children who, because of crisis or transition, are not in school). The ultimate vision for CDAs is a truly universal—that is, fully inclusive—policy.
 19. Nam et al. (2013). As we note above, one mother opted out of the SEED OK account. Her child received the account and deposit, but the account was subsequently closed. This opt-out represents less than one-tenth of 1% of children in the treatment group.
 20. Clancy et al. (2015) discuss the benefits of a centralized 529 college savings plan platform in detail.
 21. Sherraden (2014).
 22. Clancy, Beverly, Sherraden, and Huang (2016).
 23. The initial deposit was first invested in the OK 529 Balanced Option on December 27, 2007, before the Great Recession of 2008. The SEED OK initial deposit's value fell to \$698 in the first quarter of 2009 then reached \$1,426 at the end of 2014 (Beverly, Clancy, et al., 2015). Between its inception in July 2006 and July 2015, the OK 529 Balanced Option had an average annual return of about 6% per year (Oklahoma 529 College Savings Plan, n.d.).
 24. Beverly, Clancy, et al. (2015). These totals come from calculations with unweighted data; they are the raw sums of OK 529 assets.
 25. Gray et al. (2012), p. ix.
 26. Sherraden (2014).
 27. Children with accounts but no individual savings either have not received individual deposits or received individual deposits that have been withdrawn.
 28. See Clancy et al. (2016), which also examines the likelihood of having an individual account, the likelihood of having individual savings, and the amount of individual savings if all individual OK 529 accounts are taken into account. That is, Clancy et al. examine how these results are influenced if the analysis includes accounts opened by someone other than the mother. The patterns are consistent: Children in the treatment group are more likely to have accounts and more likely to have savings. They have more savings than children in the control group have, but the difference in the amount of savings is not statistically significant. Perhaps this is due to large standard errors created by a small proportion of children with very high savings.
 29. Beverly, Clancy, et al. (2015). These totals come from calculations with unweighted data.
 30. Beverly, Clancy, et al. (2015). There was no SEED OK penalty for withdrawing the \$100 deposit, but mothers were not explicitly informed that they could do so.
 31. Nam et al. (2013).
 32. In SEED OK research, children are often considered to be disadvantaged if they are African American, American Indian, or Hispanic; if they come from a low-income household; if their parents have low levels of education, are unbanked, rent the family residence, or receive public assistance; if English

is not the primary language in the home; or if their families have recently experienced material hardship. Certainly, not all children in these groups are disadvantaged, but, on average, these children have fewer assets (e.g., Carasso & McKernan, 2008) and are less likely to complete college (e.g., National Center for Education Statistics, 2015).

33. Beverly, Kim, et al. (2014, 2015).
34. Beverly, Kim, et al. (2014, 2015); Huang, Kim, Sherraden, and Clancy (2014a); Nam et al. (2013); Wikoff, Huang, Kim, and Sherraden (2015).
35. Beverly, Kim, et al. (2014, 2015).
36. Beverly, Kim, et al. (2014, 2015).
37. Gray et al. (2012).
38. Huang, Nam, and Sherraden (2013); Huang, Nam, Sherraden, and Clancy (2014).
39. See, e.g., Cohen (1987); Englund, Luckner, Whaley, and Egeland (2004); Fan and Chen (2001); Zhang, Haddad, Torres, and Chen (2011).
40. Kim, Sherraden, Huang, and Clancy (2015).
41. Huang, Kim, Sherraden, and Clancy (2015a); Huang, Sherraden, and Purnell (2014).
42. Huang, Sherraden, and Purnell (2014).
43. Huang, Sherraden, Kim, and Clancy (2014); and Huang, Kim, Sherraden, and Clancy (2014b, 2015b).
44. Huang, Sherraden, Kim, et al. (2014) cite a U.S. Department of Health and Human Services (2010) estimate of the effect of the Head Start program on early social-emotional development.
45. Huang, Sherraden, Kim, et al. (2014).
46. Nam, Wikoff, and Sherraden (2014).
47. Powell (2014).
48. Clancy and Sherraden (2014).
49. Clancy and Sherraden (2014).
50. Clancy and Beverly (2016).
51. The most prominent effort has been the America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act (Cramer & Schreur, 2015).
52. Hunter (2014).
53. Gray et al. (2012).
54. Beverly, Kim, et al. (2014, 2015); Clancy et al. (2016); Huang et al. (2013); Nam et al. (2013); Wikoff et al., (2015).
55. Sherraden et al. (2015).
56. Clancy and Sherraden (2014).

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