

**A Preliminary Look at
Early Educational Results of the
Opportunity NYC – Family Rewards Program**

A Research Note for Funders

Cynthia Miller
James Riccio
Jared Smith



June 26, 2009

Introduction

This research note provides an update to the funders of the Opportunity NYC demonstration of preliminary results from the evaluation of the Family Rewards program. Targeted toward very low-income families living in six high-poverty New York City communities, Family Rewards offers cash rewards tied to efforts and achievements in the areas of children’s education, family preventive health care practices, and parents’ employment. The program is a special research demonstration project sponsored by the New York City Center for Economic Opportunity (CEO), which is a unit within the Office of the Mayor, and it is being carefully evaluated over several years using a random assignment research design. The program and the evaluation are privately funded and are part of a portfolio of three incentive-based demonstration projects that together are known as Opportunity NYC.¹

Family Rewards was designed in a partnership involving CEO, MDRC (a national nonprofit, nonpartisan social policy research organization), and Seedco (a national workforce and social services intermediary organization). Seedco is also the main agency responsible for operating the program, in cooperation with six community-based organizations, referred to as Neighborhood Partner Organizations (NPOs).² MDRC is conducting the evaluation, which will include impact, implementation, and benefit-cost assessments of the program over a five-year follow-up period.

What follows in this research note is a brief review of the design of the Family Rewards program, its first-year rollout, the evaluation framework for measuring its impacts, participants’ receipt of rewards, and preliminary estimates of the program’s impacts on selected educational outcomes during the first year. In illustrating its approach to the impact analysis, the paper focuses on educational results, because school records are the only data available on program outcomes so far. Thus, this document is not meant to serve as a basis for assessing the overall effectiveness of the Family Rewards program, even at an early stage. Most of the data required for that assessment are still being collected and processed, including a full second year of school administrative records data. A report that will present a comprehensive analysis of the program’s implementation and early impacts — including its effects on additional education outcomes, employment and health outcomes, income, poverty, and a variety of quality-of-life outcomes — is in preparation and is scheduled for completion by the end of the year.

¹The other two are the Work Rewards program, which offers financial work incentives for adult members of households receiving Section 8 Housing Choice Vouchers, and the Spark program, a school-based educational incentives program for fourth- and seventh-graders. Funds for Opportunity NYC are provided by Bloomberg Philanthropies, the Rockefeller Foundation, the Starr Foundation, American International Group (AIG), the Robin Hood Foundation, the Open Society Institute, the Broad Foundation, New York Community Trust, the John D. and Catherine T. MacArthur Foundation, the Annie E. Casey Foundation, and the Tiger Foundation.

²The six NPOs and the Community Districts (CDs) they serve are the Brownsville Multi-Service Family Health Center (Brooklyn CD 16), Catholic Charities Community Services (Manhattan CD 10), Citizens Advice Bureau (Bronx CD 5), Groundwork, Inc. (Brooklyn CD 5), Union Settlement Association (Manhattan CD 11), and Urban Health Plan (Bronx CD 6).

What Is Opportunity NYC – Family Rewards?

Family Rewards is a conditional cash transfer (CCT) program intended to help families break the cycle of intergenerational poverty. It is structured in a way that allows families to gain extra resources to reduce their immediate financial hardship while also helping them build their human capital to reduce their chances of longer-term and second-generation poverty. The program offers incentives to families conditional on efforts and accomplishments in three areas: children’s education, family preventive health care practices, and parents’ employment. The education-based conditions include children’s superior attendance in school, children’s proficient achievement or improved performance on standardized tests, and parental engagement with their children’s teachers. Health-based conditions include maintaining health insurance coverage for all children and adults in the family as well as getting age-appropriate preventive medical and dental check-ups for each family member. Rewards in the workforce area are offered to parents who sustain full-time employment and to those who participate in approved education or job training while working either part time or full time. (See Appendix Table 1 for the full list of incentives.)

Families can receive reward payments every two months for meeting the conditions specified by the program. Once Seedco verifies families’ compliance with those conditions, the money earned is electronically deposited into bank accounts that the families opened and registered with the program. Compliance is established in one of two ways. For school-based activities and accomplishments, such as attendance and test scores, Seedco obtains and reviews administrative records through a data transfer from the New York City Department of Education (DOE). Because families do not have to take any further steps to show that they have met the required conditions, those incentives are referred to as “automatically verified” rewards. In contrast, families have direct responsibility for proving that they have earned other types of rewards. For example, they are required to complete and submit to Seedco forms from a specially prepared “coupon book,” along with supporting paper documentation, to show that they had attended parent-teacher conferences and other activities that cannot be automatically verified (such as annual physicals, dental visits, and full-time work).

Education Rewards

The education incentives are listed in the chart below.³ Some portion of the rewards for high school students, ranging from 50 percent to 100 percent, is paid directly to the student.

³An additional reward for parents to discuss interim low-stakes standardized test results with teachers was dropped during the second year of the program.

Attendance (95% or more of scheduled days)	\$25 per month for elementary/middle school students \$50 for high school students
Annual English Language Arts (ELA) and math standardized tests	For scoring at proficiency levels or improving at least 1 level over prior year score: \$300 for each test for elementary students \$350 for each test for middle school students
Regents exams	\$600 for each test passed by high school students, up to 5 tests
PSAT	\$50 once for taking the test
Credit accumulation	\$600 for accumulating 11 high school credits per year
High school graduation	\$400 once
Parent-teacher conferences	\$25 per conference, twice per year (all grades)
Parent meetings with teachers to discuss annual ELA and math test results	\$25 once per year for elementary/middle school students
Library card	\$50 once during the program (all grades)

Target Group and Random Assignment

Family Rewards was targeted to families living in one of six high-poverty community districts in New York City⁴ — two in upper Manhattan, two in the Bronx, and two in Brooklyn — and whose family income was at or below 130 percent of the federal poverty line. In addition, eligible families had to have at least one child set to enter one of three “target” grades — fourth, seventh, or ninth grade — in September 2007. These grades were chosen because they represent the start of critical transition periods in education and also ensure a wide distribution of grade levels for the full sample. Once a family was enrolled, all of the children in the family became eligible for the incentives.

Eligible families were identified from DOE records. DOE sent MDRC a file of all children living in the selected community districts who were set to enter either the fourth, seventh, or ninth grade for the 2007-08 school year and who, in the prior year, were either enrolled in the federal free school lunch program (which is available for families with incomes at or below 130 percent of the poverty line) or attended a universal feeding school (where most of the children are from low-

⁴These community districts encompass a variety of neighborhoods, including the following: Central and East Harlem in Manhattan; Brownsville and East New York in Brooklyn; and Morris Heights/Mount Hope and East Tremont/Belmont in the Bronx.

income families). Contact information from these centralized school records, supplemented by other information, was then used for recruiting families.

A total of 4,778 families (with 11,500 children less than a year old through age 18, and 9,212 school-age children) eventually enrolled in the study (the goal had been 5,100 families). Half of all enrollees were assigned randomly to Family Rewards and half were assigned to the control group. With random assignment beginning in July 2007, and program operations starting just a few months later, in September 2007, the program staff faced an extraordinarily tight timetable for enrolling the sample.

Recruitment turned out to be very challenging, particularly because of outdated contact information on the DOE records. Many families were no longer living at the addresses recorded on the central DOE database. As a result, intake took longer than had been hoped, with some families enrolling late in the first semester of the new school year. The chart below shows, by month of random assignment, the build-up of the sample of children used in the impact analysis reported on in this paper. As can be seen, 70 percent of the children had enrolled by the end of September 2007, but the remaining 30 percent came in after that.

Most of the school outcomes analyzed for this paper cover the entire 2007-08 school year, but the annual standardized ELA and math tests were administered in January and March 2008, respectively. This schedule left only a few months (and much less than that in some cases) between the time that families enrolled in the study and the time that elementary and middle school students had to take the ELA and math tests.

Enrollment month	Count	Percentage	Cumulative Percentage
July 2007	1,688	18.32	18.32
Aug 2007	2,986	32.40	50.72
Sept 2007	1,798	19.51	70.23
Oct 2007	1,486	16.12	86.35
Nov 2007	684	7.42	93.77
Dec 2007	521	5.65	99.42
Jan 2008	51	0.55	99.98
Mar 2008	2	0.02	100.00

Research Samples

The children included in the analysis are spread throughout the grade distribution, from kindergarten through grade 12, but, as intended, are represented most heavily in the target grades (fourth, seventh, and ninth grades).

Grade	Count	Percentage
K	270	2.9
1	364	4.0
2	446	4.8
3	427	4.6
4	1,726	18.7
5	459	5.0
<i>Total elementary school</i>	3,692	40.0
6	474	5.1
7	1,672	18.2
8	442	4.8
<i>Total middle school</i>	2,588	28.1
9	1,956	21.2
10	482	5.2
11	277	3.0
12	217	2.4
<i>Total high school</i>	2,932	31.8
Total (all grades)	9,212	100.0

For the analysis, the children have been grouped into elementary (K-5), middle school (6-8), and high school (9-12) grade levels. These three groups are different developmentally and also faced a different incentive structure (especially high school students versus students in lower grades). Effects will also be presented for each of the target grades, particularly in future reports as students are followed through key school transition stages.

Receipt of Reward Payments

This section presents summary data on family members' receipt of rewards during the first program year. Table 1 shows that almost all families (99 percent) earned rewards, both in the education domain (95 percent) and in the health domain (94 percent). Fewer (41 percent) earned workforce rewards. The average family was substantially engaged in the program, earning 25 rewards across the three domains over the year and earning a total of \$2,974.⁵ About 43 percent of families earned \$3,000 or more. In addition, while nearly all families (97 percent) earned automatically verified rewards (which, from the families' standpoint, is a passive process), most (83 percent) also earned coupon-book rewards, which required active engagement with the program in order to claim a payment. (A more detailed analysis of the patterns of reward receipt, including receipt of the health care and employment rewards, will be presented in the full evaluation report due later this year).

⁵About 6.5 percent of families who had earned rewards during Year 1 did not receive any payments because they did not have bank accounts, had problems with or changes in their bank accounts, or faced other administrative problems that were not resolved within the period for which data are available for this paper. The average amount paid to families is thus somewhat lower (\$2,841) than the average amount earned (\$2,974), meaning that payments were about 96 percent of earnings.

Table 2 presents findings on the receipt of education rewards by school level. Most students earned rewards (84 percent to 93 percent). High school students were not more likely to earn rewards than younger students, but they earned higher average cash amounts (\$1,320 versus \$818 and \$684). This difference reflects the fact that, by design, more rewards were offered for high school students, and for larger amount of money.

Overall, the most common reward earned for education was for high attendance, with 72 percent and 74 percent of elementary and middle school students (respectively) and 58 percent of high school students earning at least one reward of this type. Rewards for parents attending parent-teacher conferences and for students obtaining library cards were also common, although reward rates for these activities were higher among elementary and middle school students than among high school students.

Data and Methods for the Impact Analysis

The impact estimates reported in this paper are based on data obtained from New York City DOE administrative records for the following measures:⁶

- Attendance for each month of the 2007-08 school year,
- Test scores for the annual ELA exam, taken in January 2008,
- Test scores for the annual math exam, taken in March 2008,
- Credits attempted and earned (2007-08 school year), and
- Regents exams taken and passed (2007-08 school year).

To obtain school outcomes data from DOE for each child in the study, one would ideally use the child's school ID, which is unique to each student in the system. Because children in the target grades were identified using DOE records at the time of recruitment, school IDs were obtained for most of these students. The more difficult case was for nontarget children (siblings of the target children), for whom there was no prior DOE data. Parents were not required to provide student IDs for their children when they enrolled in the study, as few were likely to have known them. Therefore, for nontarget children, and a few target children, MDRC matched to DOE records using student name, date of birth, and other information. Match rates were very high for all grades: above 95 percent for students in the target grades and above 90 percent for students in all other grades.

Estimating Impacts

Impacts were estimated using a random assignment research design in which average outcomes for the program group were compared with average outcomes for the control group. To improve the precision of the impact estimates, the analysis used a regression model in which the outcome of interest is regressed on a variable indicating the random assignment treatment status (that is, in the Family Rewards program versus in the control group), plus the following variables:

⁶Data are also being collected on discharges (September 2007 through December 2008), promotions (September 2007 through December 2008), special education status (2007-08 school year), and suspensions (2007-08 school year), and impacts on these outcomes will be reported in the comprehensive evaluation report schedule to be completed by the end of the year.

student's grade level, prior year test scores (math and ELA), community district, gender, race, special education status, English language learner, number of children in the household, two-parent family, mother's education level, and mother's work status. The current models also include one "school environment" measure, average class size, obtained from the DOE school report card data. Standard errors are adjusted for clustering at the family level.⁷

Subgroup Analysis

For the first comprehensive impact report due later this year, effects will be estimated for selected subgroups of the full sample. All subgroups are pre-specified, meaning that they are selected based on theoretical and prior empirical grounds, before any subgroup impact findings from the current study are calculated. In what are called "confirmatory" analyses, program effects will be examined across two or three subgroups. As the name suggests, confirmatory subgroup analyses are designed to test well-defined theories about how the effects of Family Rewards might vary across particular subgroup categories. If no theory predicting a clear direction of effects exists, confirmatory analyses will test whether subgroup differences found in other studies are also observed for Family Rewards. These analyses are considered core elements of the study, and the results will be subject to fairly rigorous statistical testing.

Effects will also be examined across a range of other subgroups, in what are called "exploratory" analyses. For these subgroups, there is often no strong theory about why the effects might vary across subgroup categories or no compelling evidence of subgroup differences from earlier studies. The results of exploratory analyses are not considered as robust or certain, but may point to areas of interest for further research and possible confirmation.

The need to treat subgroup analysis so carefully arises from the statistical reality that the more subgroups that are analyzed, the more likely it is that some effects will be found to be statistically significant simply by chance. As a result, the evaluation plans to follow existing standards and limit the number of confirmatory subgroups that are analyzed to two or three and place caution around the interpretation of the exploratory subgroup analyses.

For the education outcomes, confirmatory analysis will be conducted for subgroups defined by the following factors:

- 1. Prior year's performance on annual standardized tests (ELA and math).** There is reason to expect varying effects by prior-year performance, although many studies do not find significant differences. In the case of incentives, some experts have raised the possibility that lower-performing students will suffer reduced intrinsic motivation and greater discouragement because they do not earn the payments, thus harming their performance even more (Deci, Koestner, and Ryan, 2001). It may also be that even if lower-performing students do no worse when offered incentives, they may simply not benefit from incentives because they face educational impediments that incentives alone

⁷Although students were assigned to the program randomly, it is possible that the two research groups are distributed differently across schools. To account for this possibility, impacts were also estimated using models that include school "fixed effects," comparing outcomes for program and control groups within each school. The results were very similar to those presented here.

cannot address. Consequently, another concern is that the rewards, particularly those for high test scores, will go largely to more advantaged and capable students, perhaps increasing *their* performance but not helping to reduce the educational achievement gap between more advantaged and less advantaged students. Kremer, Miguel, and Thornton (2008) examined this issue for an incentives program in Kenya and found that awards for high test scores increased performance throughout the test score distribution, or even among students who had little chance of receiving the award.⁸ Effects by prior performance have been examined in MDRC studies of educational interventions that do not involve the use of financial incentives, but differences have typically not been found (Rebeck-Black et al., 2008). Nonetheless, the strong theoretical basis for expecting that lower-performing and higher-performing students may respond differently to financial incentives makes this type of subgroup analysis an important one for the Family Rewards evaluation.

2. **School environment, likely to be measured by test scores of earlier cohorts.** Although various measures of school quality have not always been found to affect student achievement, it seems reasonable to expect that a student's (or parent's) ability to respond to the educational incentives offered by Family Rewards will depend on their school environment. Large class sizes and disruptive or low-performing peers, for example, may inhibit a student's ability to learn more and perform better. Alternatively, students in such schools who are offered incentives may make more effort to take advantage of whatever opportunities exist, and thus perform better than they would without the incentives. In better schools, students may have more opportunity to learn, and the incentives may induce them to take fuller advantage of those opportunities; or, the incentives may have a more marginal influence on their efforts and achievement levels relative to the influence of the school environment itself. Krueger and Whitmore (2002) provide evidence that other types of educational interventions have been more effective in certain types of school environments. In particular, they find evidence that the effects of class size reductions vary according to school quality (this also seems to explain the differences in effects by race). Students attending lower-performing schools benefited more from class size reductions than those in higher-performing schools. The authors argued that teachers have an easier time teaching in large classes with higher-performing students, so that the added benefit from reducing class size in these schools was not large.
3. **Parent's education level.** Parent's education level has a strong effect on children's school performance, but may also affect a parent's ability to respond to the incentives. For example, more-educated parents may understand the rewards better and be more capable of helping their children improve their school performance in response to the incentives. Alternatively, they may already be more highly engaged with their children's education, and perhaps the program will make more of a difference for the children of less-educated parents.

Exploratory subgroup analyses will likely be conducted for groups defined by the following baseline characteristics:

⁸Leuven, Oosterbeek, and van der Klaauw (2003) find some evidence of discouragement effects for lower-performing students in an incentive program for college freshman, but they have very small sample sizes.

- Race/ethnicity (black versus Hispanic versus white),
- Gender (girls versus boys),
- Subsidized housing status (Section 8 voucher, public housing, private housing),
- Area (across six community districts or three boroughs),
- TANF versus non-TANF recipients,
- Family income (very low income versus other).

To date, effects have been able to be estimated for subgroups defined by prior academic performance. In this case, students are grouped according to whether they scored at the proficient level or higher (i.e., at least a level 3 on a 4-level scale) on the math test in the year prior to entering the study.

Why the Preliminary Impact Findings Should Be Viewed Cautiously

The impact findings available at this time are based on data from the New York City DOE. They offer only a very preliminary assessment of Family Rewards for several reasons. First, the program was designed and put into operation quickly — within about nine months. Thus, the first year was very much a “start-up” year, and the organizations administering the program experienced a steep learning curve with respect to how best to educate families about the incentives and how to engage them in the program. There were also delays in providing families with materials that explained the program and with the forms they would need in order to claim certain rewards. Second, some school outcomes were measured quite soon after the launch of the program in September 2007. In particular, the first ELA exam was administered in January 2008 (only about four months later), and the math exam was given in March 2008. One would not expect effects on these outcomes after such a short period of enrollment, especially since nearly 30 percent of participating families enrolled in the study after October 1, 2007. Third, given the comprehensiveness and complexity of the set of incentives offered by Family Rewards, it is reasonable to expect that many families would require more time to understand the incentives and how to respond to them. For example, in the education domain, it might take parents a fair amount of time to become engaged in their children’s education in new ways, for children to modify their study habits, and/or for families to identify and obtain additional assistance (for example, after-school programs, tutoring, homework help) that might improve their children’s school performance. In fact, the program’s designers expected that some families would not begin to respond appreciably to the incentives offer until well past the first year, and this was an important consideration in proposing a three-year incentives program in the original design of the Family Rewards model. Finally, school administrative records capture only a small set of the outcome measures that will be examined as part of the overall impact evaluation. Data from a one-year follow-up survey, which, at the time of this writing, is still being administered to families, will provide a fuller picture of how families responded to the educational incentives by measuring such outcomes as parents’ involvement with their children’s schooling and children’s use of tutoring help and participation in other school activities. In addition, that survey, along with extensive administrative records data from a variety of sources, will be used to assess the program’s early effects on outcomes in all three program areas — education, health care, and parents’ employment. These results will be included in the evaluation’s first comprehensive report on Family Rewards, which is scheduled for completion by the end of 2009.

Summary of Preliminary Impact Findings

The preliminary impact findings available at this time, which are described more fully in the sections that follow, show positive first-year effects on a number of educational outcome measures for high school students, but not among elementary or middle school students. High school students in the Family Rewards program were somewhat more likely than their control group counterparts to meet a very high attendance standard, to attempt the annual minimum number of credits required for staying on track for an on-time graduation, and to attempt and pass at least one Regents exam during the year. The impacts were substantially larger for ninth-graders who, prior to entering the study, had performed at a level deemed “proficient” on the annual standardized math exam in eighth grade, which is one measure of academic achievement and preparation for high school, compared with the impacts among students who scored at lower levels on that test.

Results for Elementary and Middle School Students

Attendance

Table 3 presents impacts of Family Rewards on attendance rates for elementary and middle school students. It should be noted that average attendance rates among students in the control group exceeded 90 percent during the first year of the program, which is considerably higher than the rate observed for high school students. Although only 41 percent and 40 percent of the elementary and middle school controls (respectively) met the 95 percent attendance standard, those who fell short nonetheless had quite high average attendance (given the overall average). Family Rewards produced no changes on these measures of attendance.

ELA and Math Test Scores

Table 4 presents the first-year findings on annual ELA and math test scores for elementary and middle school students. (As noted above, these tests were administered very soon after sample members began the first school year covered by the Family Rewards program.) The left columns show the scale scores and the right columns show the fraction of students scoring at a proficient level. The data show the familiar pattern of disadvantaged students falling further behind as they age. Proficiency rates in math, in particular, fall significantly from the early to the later grades. The program had no effect on average test scores or proficiency levels. (Less than 5 percent of students were missing data or did not take the exams, and this fraction did not differ between the research groups).

Subgroup Results

Table 5 presents subgroup findings, comparing the program’s effects on students who differed in terms of their scores on the annual standardized math and ELA exams in the year prior to entering the study. As was the case with the full sample, Family Rewards produced no impacts for either subgroup on the available educational outcome measures.

Results for High School Students

Attendance

Table 6 presents impacts on attendance among high school students. The top panel presents results for all students in grades 9 through 12, while the bottom panel focuses only on the ninth-grade target group. The table shows that the program had no effects on average attendance rates, but it did increase the fraction of high school students with an attendance rate of 95 percent or higher. As shown in the top panel, only 28.0 percent of high school students in the control group met this benchmark, compared with 31.4 percent of those in the Family Rewards group, for a statistically significant impact of 3.4 percentage points. This represents an increase of 12 percent over the control group rate.

Credits

Table 7 presents estimates of impacts on credits attempted and earned, for high school students. “Credits attempted” refers to the number of credits students hope to earn through the courses they formally enrolled in, while “credits earned” are based on passing the course. Thus, credits attempted may signify a form of effort, while credits earned signifies a form of achievement.

Family Rewards increased the percentage of students attempting at least 11 credits (the minimum number necessary for staying on track for an on-time graduation). For example, among the ninth- to twelfth-grade sample (top panel of Table 7), 84.3 percent of the Family Rewards group attempted 11 credits, compared with 81.8 percent of the control group, for a statistically significant increase of 2.5 percentage points (or a 3 percent gain over the control group). The program had no effect on the percentage of students earning 11 credits.

Regents Exams

Table 8 presents estimates of the program’s impacts on high school students’ Regents exam results. It shows that the program increased the percentage of students taking at least one Regents exam and also increased the percentage that had passed at least one exam during the 2007-08 school year. For example, 42 percent of high school students in the Family Rewards group passed a Regents exam, compared with 38.5 percent rate of those in the control group, yielding a statistically significant difference of 3.5 percentage points. This impact represents a gain of 9.1 percent over the control group rate.

Effects for Subgroups

Table 9 presents findings from one of the planned subgroup analyses. It shows the program’s impacts separately for ninth-grade students who were more academically prepared for high school when they entered the study versus those who were less academically prepared, at least as measured by their performance on the eighth-grade annual standardized math test. (Those who scored at proficiency levels on that exam, i.e., at level 3 or higher, are considered to be more academically prepared.) As Table 9 shows, Family Rewards had larger positive effects on students in that subgroup (who make up 34 percent of the overall sample of ninth-graders) relative to

students who entered the study less academically prepared for high school (who make up 66 percent of the ninth-grade sample). For example, for the better-prepared subgroup, the program increased the likelihood of attending school at least 95 percent of scheduled days by 8 percentage points (a 17 percent gain over the control group mean for that subgroup), but it had no statistically significant impact on this measure for the less-prepared subgroup. It also increased credits earned by 8.6 percentage points (a 12.5 percent gain over the control group rate) and the likelihood of passing a Regents exam by 7.1 percentage points (a gain of 10.5 percent over the control group rate). In contrast, the program produced no statistically significant impacts on these measures for those who had not scored at a proficiency level on their eighth-grade annual math exam. (However, there was a positive impact for that latter group on attempting 11 credits.) Although the only differences in impacts that were statistically significant across the two subgroups were the impacts on the measures of credits earned (as indicated by the daggers to the right of the impact estimates), the pattern of results across all measures suggests that the impacts of Family Rewards were generally larger overall for the ninth-graders who were more academically prepared for high school when they entered the study.

Conclusion

The first year of Family Rewards, which was very much a “start-up” period of program operations, saw a number of important accomplishments as critical program elements were implemented successfully. These elements included systems for claims processing and verification, systems for making electronic payments into participant bank accounts, and strategies for marketing the program to families and educating them on the incentives offer. Nearly all families earned and were paid at least some rewards, receiving nearly \$3,000, on average. During the second year, which is still under way, attention has focused on improving the functioning of these systems, and, in particular, refining and strengthening the strategies for helping families understand the rewards and how they can improve their opportunities to earn more of them. Further operational improvements are planned for the third year, which will offer a somewhat streamlined schedule of incentives. This modified set of incentives is intended to make it easier to market the program to participants, simplify the procedures for processing and verifying claims, and reduce the cost of the program.

The preliminary impact results presented in this paper reflect an early and very partial look at the effects of Family Rewards on selected educational outcomes. The findings show that the program has produced some encouraging first-year impacts on important educational outcome measures among high school students, particularly among ninth-graders who had entered the program having demonstrated proficiency on their prior-year annual standardized math test. The analysis so far does not show first-year impacts on school performance for younger students. It is important to recognize, however, that, by themselves, the impact findings available for this preliminary analysis are not a basis for assessing the program’s overall effectiveness. MDRC is continuing to collect and analyze data (from administrative records and a detailed survey of program and control group members) on these and other aspects of children’s school performance, as well as on health outcomes, income, poverty, work, quality of life, and a variety of other measures that together will provide a basis for a fuller assessment of the early effects of Family Rewards. The first comprehensive evaluation report, which will include an analysis of program implementation experiences as well as program impacts, is scheduled to be completed by the end of the year.

References

Deci, E., R. Koestner, and R. M. Ryan. 2001. "Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again." *Review of Educational Research* 71, no. 1: 1-27.

Kremer, M., E. Miguel, and R. Thornton. 2008. "Incentives to Learn." Manuscript, Poverty Action Lab. Cambridge: Massachusetts Institute of Technology.

Krueger, A., and D. Whitmore. 2002. "Would Smaller Classes Help Close the Black-White Achievement Gap?" In J. Chubb and T. Loveless (Eds.), *Bridging the Achievement Gap*. Washington, DC: Brookings Institute Press.

Leuven, E., H. Oosterbeek, and B. van der Klaauw. 2003. "The Effect of Financial Rewards on Students' Achievement: Evidence from a Randomized Experiment." Working Paper. University of Amsterdam.

Rebeck-Black, A., F. Doolittle, P. Zhu, R. Unterman, and J. B. Grossman. 2008. *The Evaluation of Enhanced Academic Instruction in After-School Programs: Findings After the First Year of Implementation*. New York: MDRC.

The Opportunity NYC Demonstration: Family Rewards

Tables

The Opportunity NYC Demonstration: Family Rewards

Table 1

Summary of Rewards Earned by Families in the First Program Year

Outcome	
Family earned at least one reward (%)	98.8
Family earned at least one: (%)	
Education reward	94.6
Health care reward	93.9
Workforce reward	41.4
Family earned at least one: (%)	
Automatically verified reward	97.4
Coupon book reward	83.0
Average reward amount earned ^a (\$)	2,974
Distribution of average reward amount earned: ^a (%)	
Less than \$1,000	16.4
\$1,000-\$2,999	40.6
\$3,000-\$4,999	28.0
\$5,000 or more	15.1
Sample size	2,377

SOURCE: MDRC calculations from Seedco's MIS and payment data.

NOTES: The first program year covers September 2007 through August 2008. Payment data updated through December 22, 2008, are included in these tables. Sample size refers to the number of families.

^aReward amounts are calculated only for families who earned any rewards.

The Opportunity NYC Demonstration: Family Rewards

Table 2

Education Rewards Earned in First Program Year, by School Level

Outcome	Elementary School	Middle School	High School
Student earned at least one education reward (%)	88.0	93.3	83.6
Average reward amount earned ^a (\$)	684	818	1,320
Student earned at least one education reward for: (%)			
Attendance	71.7	74.3	58.1
Regent Exam - Math A	NA	NA	21.9
Regent Exam - Global History and Geography	NA	NA	7.2
Regent Exam - US History and Government	NA	NA	9.4
Regent Exam - Comprehensive English	NA	NA	8.0
Regent Exam - Science	NA	NA	23.5
Credit accumulation	NA	NA	44.2
Graduation	NA	NA	7.0
Test scores - ELA	30.0	39.9	NA
Test scores - Math	40.5	52.6	NA
Library card	60.4	62.3	55.8
PSAT	NA	NA	5.1
Percentage of students whose parents earned a parent-teacher conference reward	62.5	59.1	46.3
Sample size	2,141	1,321	1,653

SOURCE: MDRC calculations from Seedco's MIS and payment data.

NOTES: The first program year covers September 2007 through August 2008. Payment data updated through December 22, 2008, are included in these tables. Sample size refers to the number of students.

NA = not applicable.

^aReward amounts are calculated only for families who earned any rewards.

The Opportunity NYC Demonstration: Family Rewards

Table 3

**First-Year Impacts on Attendance:
Elementary and Middle School Students**

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
Kindergarten to 5th-grade students					
Average attendance rate	91.6	91.0	0.5	0.154	0.051
Attendance rate is 95% or higher (%)	43.8	41.0	2.8	0.120	0.056
Sample size	1,889	1,803			
6th- to 8th-grade students					
Average attendance rate	90.5	89.9	0.6	0.194	0.051
Attendance rate is 95% or higher (%)	41.9	39.7	2.2	0.252	0.045
Sample size	1,268	1,320			
<u>Target grades only</u>					
4th-grade students					
Average attendance rate	91.5	90.9	0.5	0.379	0.043
Attendance rate is 95% or higher (%)	43.3	43.2	0.1	0.951	0.003
Sample size	862	864			
7th-grade students					
Average attendance rate	91.1	90.7	0.4	0.442	0.036
Attendance rate is 95% or higher (%)	43.5	43.0	0.5	0.823	0.011
Sample size	823	849			

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

The Opportunity NYC Demonstration: Family Rewards

Table 4

**First-Year Impacts on ELA and Math Standardized Tests:
Elementary and Middle School Students**

Outcome	Scaled Score of Test					Percentage of Students who Scored at Proficiency Levels ^a				
	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
3rd- to 5th-grade students										
Math test	668.5	667.5	1.0	0.361	0.027	73.0	71.2	1.8	0.246	0.039
ELA test	647.6	646.6	0.9	0.363	0.028	49.5	49.9	-0.4	0.821	-0.008
Sample size	1,338	1,274				1,338	1,274			
6th- to 8th-grade students										
Math test	653.1	653.2	-0.1	0.873	-0.004	58.8	56.8	2.0	0.206	0.041
ELA test	644.9	646.0	-1.1	0.176	-0.038	44.7	43.9	0.8	0.617	0.016
Sample size	1,268	1,320				1,268	1,320			
<u>Target grades only</u>										
4th-grade students										
Math test	669.4	668.8	0.5	0.641	0.015	73.4	71.2	2.1	0.238	0.048
ELA test	646.9	647.0	-0.2	0.891	-0.005	50.7	51.0	-0.3	0.883	-0.006
Sample size	862	864				862	864			
7th-grade students										
Math test	653.7	654.4	-0.7	0.517	-0.020	60.4	59.6	0.8	0.669	0.017
ELA test	648.7	649.2	-0.5	0.591	-0.018	50.6	50.7	-0.1	0.973	-0.001
Sample size	823	849				823	849			

(continued)

Table 4 (continued)

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

^aIn New York State, a test score that is at level 3 or above on a 4-level scale is deemed to be a "proficient" level of achievement.

The Opportunity NYC Demonstration: Family Rewards

Table 5

First-Year Impacts on Attendance and Annual Test Scores,
by Prior-Year Standardized Test Scores:
Elementary and Middle School Students

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
Scored at or above proficiency level on annual standardized test^a in prior school year^b					
4th- to 5th-grade students					
Average attendance rate	92.6	91.7	0.9	0.106	0.083
Students with more than 95% attendance (%)	49.3	47.0	2.3	0.367	0.045
Math Scaled Score	679.7	679.1	0.6	0.664	0.020
Students meeting proficiency standard on math test (%)	86.9	86.1	0.8	0.648	0.023
ELA Scaled Score school year	667.9	667.5	0.5	0.768	0.017
Students meeting proficiency standard on ELA (%)	78.0	79.6	-1.6	0.539	-0.038
Sample size	803	749			
6th- to 8th-grade students					
Average attendance rate	92.3	92.3	0.0	0.990	-0.001
Students with more than 95% attendance (%)	51.7	49.9	1.9	0.503	0.037
Math Scaled Score	672.7	673.1	-0.4	0.765	-0.015
Students meeting proficiency standard on math test (%)	84.6	84.6	0.0	0.994	0.000
ELA Scaled Score school year	665.7	665.3	0.5	0.694	0.023
Students meeting proficiency standard on ELA (%)	79.8	78.4	1.4	0.575	0.035
Sample size	663	636			
Scored at or above proficiency level on annual standardized test^a in prior school year^b					
4th- to 5th-grade students					
Average attendance rate	89.5	90.2	-0.7	0.466	-0.061
Students with more than 95% attendance (%)	33.2	33.9	-0.7	0.860	-0.015
Math Scaled Score	633.0	633.9	-1.0	0.671	-0.034
Students meeting proficiency standard on math test (%)	29.1	26.1	3.0	0.450	0.066
ELA Scaled Score school year	632.0	632.5	-0.5	0.721	-0.018
Students meeting proficiency standard on ELA (%)	29.8	29.5	0.3	0.907	0.007
Sample size	264	293			

(continued)

Table 5 (continued)

	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
6th- to 8th-grade students					
Average attendance rate	88.9	88.0	0.9	0.229	0.070
Students with more than 95% attendance (%)	31.8	29.1	2.7	0.331	0.059
Math Scaled Score	631.5	632.1	-0.6	0.715	-0.018
Students meeting proficiency standard on math test (%)	29.7	27.5	2.3	0.383	0.050
ELA Scaled Score school year	634.1	635.5	-1.4	0.213	-0.055
Students meeting proficiency standard on ELA (%)	25.1	25.1	0.0	1.000	0.000
Sample size	565	629			

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Tests for statistical significance on impacts across subgroups will be calculated in the future.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

^aFor subgroup results pertaining to impacts on attendance and the annual math test, sample members were categorized according to their prior-year math test scores. For the subgroup results pertaining to impacts on the ELA test, sample members were categorized according to their prior-year ELA test scores.

^bIn New York State, a test score that is at level 3 or above on a 4-level scale is deemed to be a "proficient" level of achievement.

The Opportunity NYC Demonstration: Family Rewards

Table 6

**First-Year Impacts on Attendance:
High School Students**

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
9th- to 12th-grade students					
Average attendance rate	81.3	80.9	0.4	0.630	0.018
Attendance rate is 95% or higher (%)	31.4	28.0	3.4 **	0.043	0.073
Sample size	1,538	1,539			
<u>Target grades only</u>					
9th-grade students					
Average attendance rate	81.8	81.5	0.3	0.764	0.013
Attendance rate is 95% or higher (%)	34.0	31.6	2.4	0.228	0.052
Sample size	988	991			

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

The Opportunity NYC Demonstration: Family Rewards

Table 7

**First-Year Impacts on Credits Earned:
High School Students**

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
9th- to 12th-grade students					
Attempted at least 11 credits	84.3	81.8	2.5 **	0.046	0.066
Earned at least 11 credits	49.8	49.5	0.3	0.875	0.006
Sample size	1,538	1,539			
<u>Target grades only</u>					
9th-grade students					
Attempted at least 11 credits	87.5	84.2	3.4 **	0.018	0.097
Earned at least 11 credits	49.6	50.1	-0.5	0.815	-0.010
Sample size	988	991			

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

The Opportunity NYC Demonstration: Family Rewards

Table 8

**First-Year Impacts on Regents Tests:
High School Students**

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
9th- to 12th-grade students					
Took at least 1 Regents Exam	70.0	65.0	5.0 ***	0.002	0.107
Took 1 Regents Exam	23.5	22.1	1.4	0.338	0.034
Took 2 Regents Exams	27.2	24.2	3.1 **	0.050	0.070
Took 3+ Regents Exams	19.3	18.8	0.5	0.695	0.013
Took English Regents Exam	16.0	13.0	3.0 ***	0.006	0.086
Passed English Regents Exam	9.0	7.7	1.3	0.144	0.047
Took Math A Regents Exam	18.3	16.0	2.2 *	0.068	0.059
Passed Math A Regents Exam	9.1	8.6	0.4	0.658	0.016
Took US History Regents Exam	18.4	15.7	2.7 **	0.041	0.071
Passed US History Regents Exam	9.7	8.3	1.4	0.153	0.050
Took Global History Regents Exam	18.9	16.9	2.0 *	0.093	0.053
Passed Global History Regents Exam	7.1	7.0	0.2	0.870	0.006
Average number of Regents Exams passed	71.1	66.8	4.3	0.182	0.044
Passed at least 1 Regents Exam	42.0	38.5	3.5 **	0.026	0.072
Sample size	1,538	1,539			
<u>Target grade only</u>					
9th-grade students					
Took at least 1 Regents Exam	66.3	62.3	4.1 **	0.045	0.085
Took 1 Regents Exam	27.7	25.7	2.0	0.318	0.045
Took 2 Regents Exams	28.9	26.6	2.3	0.242	0.052
Took 3+ Regents Exams	9.7	9.9	-0.3	0.852	-0.008
Took English Regents Exam	5.1	3.3	1.8 **	0.050	0.088
Passed English Regents Exam	2.3	1.3	1.0 *	0.096	0.077
Took Math A Regents Exam	8.5	7.2	1.3	0.292	0.047
Passed Math A Regents Exam	4.3	4.3	0.1	0.932	0.004
Took US History Regents Exam	11.2	10.9	0.3	0.850	0.009
Passed US History Regents Exam	4.7	4.8	-0.1	0.951	-0.003
Took Global History Regents Exam	6.6	4.4	2.2 **	0.033	0.095
Passed Global History Regents Exam	2.7	2.5	0.2	0.803	0.011

(continued)

Table 8 (continued)

Outcome	Program Group	Control Group	Difference (Impact)	P-Value	Effect Size
Passed at least 1 Regents Exam	36.8	34.7	2.1	0.246	0.044
Sample size	988	991			

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: The overall outcome measures in this table include the following Regents Exams: English, Math A, Math B, Integrated Algebra, US History, Global History, Biology, Chemistry, Physics, and Earth Science.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

First-year education results cover the 2007-08 school year.

The Opportunity NYC Demonstration: Family Rewards

Table 9

**First-Year Impacts on Attendance and Credits
by Prior-Year (8th-Grade) Math Test Score:
9th-Grade Students**

Outcome	Program Group	Control Group	Difference (Impact)	P-Value
Scored at or above proficiency level on annual math test in prior school year^a				
Average attendance rate	91.6	88.0	3.6 ***	0.008
Students with more than 95% attendance (%)	54.4	46.4	8.0 **	0.045
Average total credits attempted	13.9	13.7	0.2	0.347
Attempted at least 11 credits (%)	95.4	91.9	3.5 *	0.056
Average total credits earned	12.3	11.5	0.8 **	0.015 ††
Earned at least 11 credits (%)	77.5	68.9	8.6 **	0.017 †††
At least 1 Regents Exam taken (%)	86.3	79.7	6.6 **	0.033
At least 1 Regents Exam passed (%)	74.4	67.3	7.1 *	0.056
Sample size	298	286		
Scored below proficiency level on annual math test in prior school year^a				
Average attendance rate	82.1	81.6	0.5	0.675
Students with more than 95% attendance (%)	29.0	26.9	2.1	0.435
Average total credits attempted	13.4	13.3	0.2	0.445
Attempted at least 11 credits (%)	90.3	85.1	5.2 ***	0.005
Average total credits earned	8.7	9.0	-0.3	0.315 ††
Earned at least 11 credits (%)	43.4	47.2	-3.8	0.193 †††
At least 1 Regents Exam taken (%)	61.2	59.2	1.9	0.493
At least 1 Regents Exam passed (%)	22.3	21.8	0.5	0.838
Sample size	565	578		

SOURCE: MDRC calculations from NYC Department of Education administrative records.

NOTES: Tests for statistical significance on impacts across subgroups were only calculated for Grade 9 attendance and credits outcomes. Tests for other outcomes will be calculated in the future.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

First-year education results cover the 2007-08 school year.

^aIn New York State, a test score that is at level 3 or above on a 4-level scale is deemed to be a "proficient" level of achievement.

**The Opportunity NYC Demonstration: Family Rewards
Appendix Table 1**

Schedule of Incentives Payments, by Domain

A. Children’s Educational Efforts and Achievement

Grades 1-8 (Payments made to parents):

- **Attendance**: \$25 per child per month (max: \$250 per year, covering 10 months of school) for satisfactory attendance (95% of scheduled days, with provision for extended illness).
- **Parent-teacher conferences**: \$25 per conference, 2x per year (max: \$50 per year per child) for parent’s attendance at parent-teacher conferences.
- **Library card**: \$50 paid once during program if child gets (or has) a public library card.
- **Reviewing results of low-stakes interim tests**: \$25 for parents to acquire and review on their own their children’s performance on interim standardized tests intended to help teachers diagnose students’ progress (up to 5 times per year; max: \$125 per year per child). (*Dropped in second year of the program.*)
- **Test scores (starting in grade 3)**:
 - For grades 3-5: \$300 per child for scoring at a level 3 (indicating proficiency) or above on standardized ELA test, or (starting in grade 4) for improving by at least 1 level over prior year’s level; same for standardized math test. (Max: \$600 per year per child.)
 - For grades 6-8: \$350 per test for meeting the same conditions. (Max: \$700 per year per child.)
- **Discussing results of annual ELA and math tests with school (starting in grade 3)**: \$25 per test, 1x per year (max: \$50 per year per child) for parents to discuss child’s test results with teachers or principal and get confirmatory signature.

Grades 9-12 (Payments split between parents and students, as indicated below)

- **Attendance**: \$50 per child per month (max: \$500 per year, covering 10 months of school) for satisfactory attendance (95% of scheduled days, with provision for extended illness). (*50% paid to student, 50% paid to parent.*)
- **Parent-teacher conferences**: \$25 per conference, 2x per year (max: \$50 per year per child), for parent’s attendance at parent-teacher conferences. (*100% paid to parent.*)
- **Library card**: \$50 one-time payment if child gets (or has) a public library card. (*100% paid to student.*)
- **Test scores**: \$600 per child for passing (i.e., scoring 65 or above on) each of 5 Regents tests (max: \$3,000 during program) (*100% paid to student.*)
- **Credit accumulation**: \$600 per year per child for accumulating 11 credits during a school year. (*50% paid to student, 50% paid to parent.*)
- **PSAT**: \$50 for taking PSAT test up to 2 times (max: \$100 during program). (*100% paid to student.*)
- **Graduation**: \$400 payment for graduating high school. (*50% paid to student, 50% paid to parent.*)

Continued

Appendix Table 1 (continued)

B. Family Preventive Health Care Practices

Maintaining health insurance:

- \$20 per month (max: \$240 per year) for each parent for maintaining public health insurance (including Medicaid and Family Health Plus coverage) for each parent.
- \$20/month (max: \$240 per year) for maintaining Medicaid or SCHIP coverage for all children (together). *[Not for TANF recipients due to near-automatic Medicaid enrollment.]*
- \$50/month (max: \$600 per year) for each parent for maintaining private/employer health insurance for each parent. \$50 per month (max: \$600 per year) for maintaining private/employer insurance for all children (together).

Nonemergency health screenings and early intervention:

- **For adults and children:** \$200 per family member per year for completing an annual nonemergency medical check-up. Physician must fill out “preventive health care form” indicating that a minimum set of age-appropriate screenings and assessments was conducted and that other health information was reviewed with the patient and/or parent. \$100 per family member per year for completing a physician-advised follow-up visit within a specified timeframe.
- **For young infants and toddlers (children under 30 months of age):** \$200 per child for completing a pediatrician-advised early intervention evaluation.
- **Dental care:** \$100 per family member for cleaning and check-up, 2x per year for ages 6+ and 1x per year for ages 1-5.

C. Adult Workforce Efforts

Sustained full-time employment:

- \$300 for working full time (at least 30 hrs/week for 6 or more weeks in each 2-month payment period — i.e., approximately 75% of the time) (max: \$1,800 per year @\$150/month)

Education and training while employed:

- Payments for completing an approved education or training course while holding a job. Must work at least 10 hrs/week while attending course. \$200 per each course lasting 35-70 hours; \$400 per each course lasting 71 to 140 hours; \$600 for each 141-hour increment of a course lasting at least 141 hours (max: \$3,000 per adult during program). (Training may include ESL, basic skills, and GED prep courses.)