



# EXPANDING ACCESS TO COLLEGE-LEVEL COURSES

Early Findings  
from an  
Experimental  
Study of Multiple  
Measures  
Assessment  
and Placement

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DECEMBER 2019

## EXECUTIVE SUMMARY

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of Multiple Measures Assessment  
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# OVERVIEW

**C**olleges throughout the United States are evaluating the effectiveness of the strategies used to decide whether to place students into college-level or developmental education courses. Developmental, or remedial, courses are designed to develop the reading, writing, or math skills of students deemed underprepared for college-level courses, a determination usually made through standardized placement tests. However, increasing numbers of colleges are using multiple measures to place students, including additional types of placement tests, high school transcripts, and evaluations of student motivation.

There is no single, correct way to design and implement multiple measures assessment (MMA) to improve course placements. Colleges must decide what measures to include, and how to combine them. The current study was developed to add to our understanding about the implementation, cost, and efficacy of an MMA system using locally determined rules. As part of a randomized controlled trial, the study team evaluated MMA programs and interviewed and observed staff at five colleges in Minnesota and Wisconsin; it also wrote a short case study about one Wisconsin college.

## FINDINGS

The five colleges in the random assignment study targeted all students taking placement tests in the months before the fall 2018 semester. In the four colleges included in the current analysis, 5,282 students participated in the study; of these, 3,677 were tested for English, and 4,487 were tested for math. The findings suggest that while implementation (especially automation) was not easy, it was possible; and using the new MMA systems became much easier once they were established.

Regarding the quantitative findings, in the first semester:

- As intended, colleges used MMA to place program group students in their courses, with few exceptions. As a result, more program group students than control group students were referred to college-level gatekeeper courses, by 15 to 17 percentage points.
- Program group students in the full sample also enrolled in more college-level gatekeeper courses than control group students (4.7 percentage points more in English; 3.9 percentage points more in math).
- Students in the “bump up” zone — those eligible for college-level placement based only on MMA results, not a single standardized placement test — who placed into college-level English because they were in the program group were 28 percentage points more likely to have completed the gatekeeper English course by the end of their first college semester than their control group counterparts.
- Students in the “bump up” zone who placed into college-level math were 12 percentage points more likely to have completed the gatekeeper math course by the end of their first college semester than their control group counterparts.

The next and final report will present an analysis of transcript outcomes from three semesters of follow-up and will add two more cohorts to the research sample.

# PREFACE

Students developing the academic and technical skills required in the current labor market often rely on community colleges for their education. However, many of these students, some of whom have been out of school for years, are academically underprepared. Students who place below college-level in English or math are typically placed in developmental courses that offer no college credit. More than half the community college students who place into developmental education do not graduate from a college-level program. Yet recent research suggests that many of these students may already be able to complete courses at the college level. Educators want to know whether relying on a single traditional placement test is making it harder for these students to succeed academically.

To evaluate the predictive validity of single placement tests compared with “multiple measures” — the use of high school grade point averages, psychological assessments, or other appropriate criteria — MDRC teamed up with the Community College Research Center (CCRC), which carried out research in this area. MDRC and CCRC visited the Great Lakes region from 2015 to 2016 to better understand colleges’ interest in using multiple measures for course placements. The study team in 2016 then launched the first phase of the Multiple Measures Assessment Project at 10 Minnesota and Wisconsin community colleges.

An earlier MDRC publication, *Toward Better College Course Placement: A Guide to Launching a Multiple Measures Assessment System*, presents critical information, questions, and lessons gleaned from those efforts, with an emphasis on gauging institutional readiness, the importance of involving the faculty in placement criteria decisions, integrating new measures into school systems, and refining conversations between advisers and students about placement results.

The current phase of the project consists of a large randomized controlled trial of multiple measures assessments in 5 of the 10 pilot colleges in Minnesota and Wisconsin. In addition, MDRC and CCRC researchers, under the federally funded Center for the Analysis of Postsecondary Readiness, are evaluating multiple measures for placement at seven colleges in the State University of New York (SUNY) system. Early findings from the SUNY system came out in September 2018. The combined findings from these projects will provide causal evidence of the effects of using multiple measures placements on students’ completion of college courses.

Virginia Knox  
President, MDRC

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We would like to thank current and recent members of the Multiple Measures Assessment team from MDRC and the Community College Research Center, including Rashida Welbeck, Alyssa Ratledge, Dorota Biedzio, Stanley Dai, and Kevin Thaddeus Brown, Jr. Thanks also to our senior advisers and reviewers — Thomas Brock, Michael Weiss, and Leigh Parise — for their careful reading and thoughtful feedback during the review process. We thank Will Swarts for editing this report and Carolyn Thomas for preparing it for publication.

# EXECUTIVE SUMMARY

Colleges throughout the United States are evaluating the effectiveness of the strategies they use to decide whether to place students into college-level or developmental education courses. Developmental, or remedial, courses are designed to develop the reading, writing, or math skills of students deemed underprepared for college-level courses, a determination usually made through the use of a single placement test in each subject.<sup>1</sup> Almost all colleges have used single placement tests to determine student course levels, but that is changing with the increased use of multiple measures — which may include additional types of placement tests, high school transcripts, evaluations of student motivation, and discussions with advisers — to assess and place students.<sup>2</sup> Research has generated a growing body of evidence demonstrating that single placement tests are highly inaccurate and that correct, academically appropriate placements are more likely when other measures, especially the high school grade point average (GPA), are taken into account.<sup>3</sup>

But how much does this matter? It turns out that accurate placement can meaningfully influence students' experiences and outcomes. Millions of students each year, about 55 percent of those entering community colleges, are placed into developmental education in math and English upon enrollment.<sup>4</sup> These courses are intended to ensure that students acquire the necessary literacy and numeracy skills required for success with college-level courses. However, placing students into these courses delays their entry into credit-bearing coursework and earning a college credential.<sup>5</sup> Further, students who begin their studies in developmental education are less likely to graduate.<sup>6</sup> Thus, students should only take the developmental courses truly necessary to succeed in college coursework. Several studies suggest that existing referral systems based on single tests result in considerable underplacement in developmental courses, as well as some overplacement.<sup>7</sup> Results show that underplaced students in developmental courses could have succeeded in credit-bearing college courses, and overplaced students wound up in courses they were highly unlikely to pass. One study found high rates of “severe” underplacement — 18 percent in developmental math and 25 percent in developmental English. These students were likely to have passed a college-level course with a B or better.<sup>8</sup> The study established that misplacement rates of all kinds could be reduced by employing multiple measures to determine the right course level for each student.

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1. Elizabeth Ganga, Amy Mazzariello, and Nikki Edgecombe, *Developmental Education: An Introduction for Policymakers* (New York: Community College Research Center, Columbia University, 2018).
  2. Elizabeth Zachry Rutschow and Alexander K. Mayer, *Early Findings from a National Survey of Developmental Education Practices* (New York: MDRC, 2018).
  3. Clive Belfield and Peter M. Crosta, “Predicting Success in College: The Importance of Placement Tests and High School Transcripts,” CCRC Working Paper No. 42 (New York: Community College Research Center, Columbia University, 2012); Judith Scott-Clayton, *Do High-Stakes Placement Exams Predict College Success?* CCRC Working Paper No. 41 (New York: Community College Research Center, Columbia University, 2012).
  4. Paul Attewell, David Lavin, Thurston Domina, and Tania Levey, “New Evidence on College Remediation,” *The Journal of Higher Education* 77, no. 5 (2006).
  5. Thomas Bailey, Shanna Smith Jaggars, and Davis Jenkins, *Redesigning America's Community Colleges: A Clearer Path to Student Success* (New York: Community College Research Center, Columbia University, 2015); Shanna Smith Jaggars and Georgia West Stacey, *What We Know About Developmental Education Outcomes* (New York: Community College Research Center, Columbia University, 2014).
  6. Jaggars and Stacey (2014).
  7. Belfield and Crosta (2012); Scott-Clayton (2012).
  8. Scott-Clayton (2012).

There is no single, correct way to design and implement multiple measures assessment (MMA) to improve course placements. Colleges must decide what measures to include, which means factoring in the difficulty of obtaining certain kinds of information about students, as well as how to combine the measures selected. The high school GPA is the most common measure used, along with placement test scores.<sup>9</sup> Other standardized test results, such as SAT and ACT test scores, and other, noncognitive assessments may also be considered.<sup>10</sup> The relative importance of this information, and how it is evaluated to assess academic potential, must then be considered. Options range from a simple waiver system in which one or more criteria are used to allow students to forgo placement tests to using more complex methods, including using predictive models to place students based on their likelihood of success in the first college-level courses in English and math, also known as “gatekeeper” courses.<sup>11</sup>

Limited prior research has examined the extent to which placement systems using multiple measures result in better college outcomes. The Community College Research Center (CCRC) and MDRC are conducting a random assignment evaluation of a predictive analytics assessment and placement system at seven State University of New York (SUNY) community colleges. Early findings indicate that the use of MMA can improve student outcomes in college.<sup>12</sup> Other research by the RP Group in California,<sup>13</sup> by the North Carolina Community College System, and by Ivy Tech Community College in Indiana further suggests that MMA is a promising approach.

The current study was conducted in two midwestern states — Minnesota and Wisconsin — and sought to add to the knowledge base about the implementation, cost, and efficacy of an MMA system that uses a set of locally determined decision rules. The study asks these questions:

1. What processes do colleges use to set up and implement an MMA system?
2. What is the design of the MMA system at each college?
3. What factors support or hinder high-quality implementation of the MMA system in each locale?

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9. Judith Scott-Clayton, Peter M. Crosta, and Clive R. Belfield, “Improving the Targeting of Treatment: Evidence from College Remediation,” NBER Working Paper 18457 (Cambridge, MA: National Bureau of Economic Research, 2012).

10. Noncognitive assessments measure student qualities, characteristics, and attitudes, apart from content knowledge that may influence success in educational endeavors. Since these assessments require cognition, some people prefer other terms such as nonacademic, soft skill, or 21st century skills assessments. Examples include the College Board’s SuccessNavigator, ACT Engage, and the Grit Scale.

11. Elisabeth A. Barnett and Vikash Reddy, *College Placement Strategies: Evolving Considerations and Practices* (New York: Community College Research Center, Columbia University, 2017).

12. Elisabeth A. Barnett, Peter Bergman, Elizabeth Kopko, Vikash Reddy, Clive Belfield, and Susha Roy, *Multiple Measures Placement Using Data Analytics: An Implementation and Early Impacts Report* (New York: Community College Research Center, Columbia University, 2018).

13. Mina Dadgar, Linda Collins, and Kathleen Schaefer, *Placed for Success: How California Community Colleges Can Improve Accuracy of Placement in English and Math Courses, Reduce Remediation Rates, and Improve Student Success* (San Rafael, CA: The RP Group Career Ladders Project, 2015).

4. How does using multiple measures to “bump up”<sup>14</sup> student placements affect the rate of successful outcomes at these colleges?

## Implementation Findings

For colleges considering scaling MMA to large numbers of students, the results drawn from the experiences of the colleges in this study offer some useful lessons.

- **Clear explanations of MMA systems help college stakeholders to understand and support the use of MMA.** Colleges must have consistent messaging focused on how MMA could improve the school’s placement accuracy and student outcomes. This can help to garner support among faculty and the full range of staff involved in implementation.
- **There is a trade-off between more automated placement systems and more personalized processes found in systems that depend on interaction with advisers.** Colleges in the study were moving toward greater automation, something that was encouraged in this project; however, they also were thinking about how to preserve opportunities for meaningful interactions between students and advisers.
- **The amount of staff time required to set up an MMA system is substantial but shrinks as the program is adopted.** It may even result in time savings for staff once greater automation is used in placement decisions.
- **Timely access to high school GPA information remains a primary challenge in creating accurate MMA systems.** In most cases, MMA implementation depends on students bringing transcripts to the college at the time of admission; however, this may not be the norm at some colleges. Some colleges are obtaining transcript data directly from local high schools, facilitating access to student data. It may also make sense to use student self-reports, given increasing evidence that students report their GPAs accurately.
- **Administering more than one test during the placement process can add challenges.** It is important to weigh the added difficulty of using a noncognitive assessment against its added value to the placement process. More information about the contribution of noncognitive assessments to better student placement determinations will be available in the final report.

## Measures Used and Placement Approach

All colleges in the study included the following measures in their MMA systems: placement test scores, high school GPA, noncognitive assessment results, and scores from the ACT and SAT. The specific measures and decision rules used at each college are displayed in Table ES.1.

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14. In the MMA systems set up in this project, students could only be placed higher than they would be using a single measure, usually the placement test. Thus, they can be “bumped up.”

**TABLE ES.1 MMA Approaches at Colleges in the Multiple Measures Assessment Study — Phase II**

| COLLEGE NAME AND STATE                                 | TYPE OF PLACEMENT SYSTEM | MMA APPROACH AND ORDER OF STEPS                                                                             | NONCOGNITIVE ASSESSMENT                                                | COLLEGE-READY HIGH SCHOOL GPA LEVEL                                        |
|--------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Anoka-Ramsey Community College, Minnesota              | Decision rule            | 1. Exemptions (AP/IB, ACT, SAT, MCA scores)<br>2. ACCUPLACER (exemption)<br>3. GPA or LASSI                 | LASSI (motivation): 50th percentile                                    | English/Math: $\geq 3.0$ GPA                                               |
| Century College, Minnesota                             | Decision rule            | 1. Exemptions (AP/IB, ACT, SAT, MCA scores)<br>2. ACCUPLACER (exemption)<br>3. GPA or LASSI                 | LASSI (motivation): 50th percentile                                    | English/Math: $\geq 3.0$ GPA                                               |
| Madison College, Wisconsin                             | Decision band            | 1. Exemption (ACT score)<br>2. ACCUPLACER (decision band)<br>3. GPA or Grit                                 | Grit Scale: 4+                                                         | English/Math: $\geq 2.6$ GPA                                               |
| Minneapolis Community and Technical College, Minnesota | Decision band            | 1. Exemptions (ACT, IB, SAT MCA scores, college credit)<br>2. ACCUPLACER (decision band)<br>3. GPA or LASSI | LASSI (motivation): 75th percentile                                    | English: $\geq 2.3$ GPA<br>Reading: $\geq 2.4$ GPA<br>Math: $\geq 3.0$ GPA |
| Normandale Community College, Minnesota                | Decision rule            | 1. Exemptions (AP, ACT, SAT, MCA scores, college credit)<br>2. LASSI<br>3. GPA or ACCUPLACER (exemption)    | LASSI (motivation): 75th percentile                                    | English/Reading: $\geq 2.5$ GPA<br>Math: $\geq 2.7$ GPA                    |
| Northeast Wisconsin Technical College, Wisconsin       | Decision band            | 1. Exemption (GPA)<br>2. ACT + Grit or ACCUPLACER + Grit (decision band)                                    | Grit Scale (perseverance):<br>3 = 1 pt.;<br>4 = 2 pts.;<br>5+ = 3 pts. | English/Math: $\geq 2.6$ GPA                                               |

NOTE: DECISION RULES are a sequence of rules that compares each selected measure with a threshold in a predetermined order. If the threshold is met, a placement is generated; if not, another rule is applied. DECISION BANDS are decision rules that apply only to students who fall within a certain range on a specified indicator (such as high school grade point average or a placement test score), usually just below the cutoff.

Once the colleges selected their assessment measures, they had to decide how those measures would be combined. This was usually done by developing a set of decision rules in which each measure would be considered in a specific order to determine which classes students were eligible to take. The colleges in the study sought to automate this process as much as possible. The third column in Table ES.1 shows the sequence in which colleges considered these measures. Typically, colleges considered waivers first to identify students who would be exempt from consideration of other measures. Subsequently, the results of the ACCUPLACER placement test,<sup>15</sup> the high school GPA, and the noncognitive assessment would be considered. In some cases, a system of “decision bands,” applicable to students within a particular score range, was used. In these cases, students who earned test scores within a certain range would be evaluated using other measures.

## Identifying, Recruiting, and Randomly Assigning Students

The five colleges participating in the random assignment study targeted all students taking placement tests following their admission to the colleges in the fall 2018 semester. Across the four Minnesota colleges,<sup>16</sup> 5,282 students participated in the study, testing in English, math, or both. Of these, 3,677 were tested for English, and 4,487 were tested in math. Students enrolling in college in spring 2019 and fall 2019 are also participating in the study; however, the current report only includes findings from the first cohort (fall 2018).

## Effects of Multiple Measures Assessment

This section presents the estimated impacts of the program at the end of the first semester for the first cohort of study students. These analyses seek to ascertain whether the students offered college-level course placement because of MMA are taking steps toward completion of a college-level course in math or English. The analyses in this interim report do not gauge the effectiveness of the changes in the placement system on the primary outcomes of interest (course completion and credit accumulation after three semesters), but they do provide insights into whether the short-term outcomes indicate that students are on track for success in later semesters.

### Summary of Findings

In the first semester:

- As intended, colleges used MMA to place program group students in their courses, with few exceptions. As a result, more program group students than control group students were referred to college-level gatekeeper courses, by 15 to 17 percentage points.

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15. ACCUPLACER is an assessment exam developed by the College Board to assess student skills in reading, math, and writing. It is widely used by U.S. two- and four-year colleges.

16. The fifth college in the randomized controlled trial, from Wisconsin, randomized a large number of students, but because of implementation bottlenecks associated with a lack of automation in its placement process, a very small number of students were given the opportunity to be placed using multiple measures in the first program semester. Changes were made to improve this for the fall 2019 cohort, which will be included in the final report's analysis, but for now, the fifth college is not included in the analysis.

- Program group students in the full sample were more likely to enroll in college (take one or more classes at the college where they tested) than control group students (2.5 percentage points more).
- Program group students in the full sample also enrolled in more college-level gatekeeper courses than control group students (4.7 percentage points more in English; 3.9 percentage points more in math).
- Students in the “bump up” zone who placed into college-level English were 28 percentage points more likely to have completed the gatekeeper English course by the end of their first college semester than their control group counterparts (Table ES.2).
- Students in the “bump up” zone who placed into college-level math were 12 percentage points more likely to have completed the gatekeeper math course by the end of their first college semester than their control group counterparts (Table ES.3).

**TABLE ES.2** First-Semester College Transcript Outcomes  
Among Students in the English "Bump Up" Zone,  
Multiple Measures Assessment Study — Phase II

| OUTCOME (%)                                  | PROGRAM GROUP | CONTROL GROUP | DIFFERENCE | P-VALUE |
|----------------------------------------------|---------------|---------------|------------|---------|
| English                                      |               |               |            |         |
| Placed in gatekeeper course                  | 100.0         | 0.0           | 100.0 ***  | 0.000   |
| Enrolled in gatekeeper course                | 54.8          | 9.8           | 45.0 ***   | 0.000   |
| Completed gatekeeper course (C or higher)    | 34.5          | 6.7           | 27.8 ***   | 0.000   |
| Failed gatekeeper course                     | 12.7          | 1.1           | 11.7 ***   | 0.000   |
| Withdrew from gatekeeper course              | 3.2           | 1.7           | 1.6        | 0.223   |
| Placed in developmental course               | 0.0           | 100.0         | -100.0 *** | 0.000   |
| Enrolled in developmental course             | 5.3           | 36.8          | -31.5 ***  | 0.000   |
| Completed developmental course (C or higher) | 4.3           | 29.4          | -25.1 ***  | 0.000   |
| Failed developmental course                  | 0.3           | 2.8           | -2.5 ***   | 0.006   |
| Withdrew from developmental course           | 0.5           | 2.2           | -1.7 *     | 0.051   |
| Enrolled in any course                       | 83.0          | 75.2          | 7.7**      | 0.018   |
| Sample size (total = 624)                    | 363           | 261           |            |         |

SOURCE: Transcript data provided by Anoka-Ramsey Community, Century, Madison Area Technical, Minneapolis Community and Technical, and Normandale colleges.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Distributions may not add to 100 percent because categories are not mutually exclusive.

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

The p-value indicates the likelihood that the estimated impact (or larger) would have been generated by an intervention with zero true effect.

**TABLE ES.3** First-Semester College Transcript Outcomes  
Among Students in the Math "Bump Up" Zone,  
Multiple Measures Assessment Study — Phase II

| OUTCOME (%)                                  | PROGRAM GROUP | CONTROL GROUP | DIFFERENCE | P-VALUE |
|----------------------------------------------|---------------|---------------|------------|---------|
| Math                                         |               |               |            |         |
| Placed in gatekeeper course                  | 100.0         | 0.0           | 100.0 ***  | 0.000   |
| Enrolled in gatekeeper course                | 26.6          | 2.9           | 23.7 ***   | 0.000   |
| Completed gatekeeper course (C or higher)    | 13.1          | 1.6           | 11.5 ***   | 0.000   |
| Failed gatekeeper course                     | 3.7           | 0.4           | 3.3 ***    | 0.003   |
| Withdrew from gatekeeper course              | 6.6           | 0.8           | 5.8 ***    | 0.000   |
| Placed in developmental course               | 0.0           | 100.0         | -100.0 *** | 0.000   |
| Enrolled in developmental course             | 4.1           | 27.4          | -23.3 ***  | 0.000   |
| Completed developmental course (C or higher) | 2.5           | 20.5          | -17.9 ***  | 0.000   |
| Failed developmental course                  | 1.2           | 4.8           | -3.6 ***   | 0.004   |
| Withdrew from developmental course           | 0.2           | 1.4           | -1.2 *     | 0.075   |
| Enrolled in any course                       | 86.1          | 82.8          | 3.3        | 0.228   |
| Sample size (total = 703)                    | 358           | 345           |            |         |

SOURCE: Transcript data provided by Anoka-Ramsey Community, Century, Madison Area Technical, Minneapolis Community and Technical, and Normandale colleges.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Distributions may not add to 100 percent because categories are not mutually exclusive.

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

The p-value indicates the likelihood that the estimated impact (or larger) would have been generated by an intervention with zero true effect.

## Effects on Educational Outcomes After the First Semester

The next and final report will present an analysis of transcript outcomes from three semesters of follow-up and will add two more cohorts to the research sample. That follow-up will enable comparisons between groups after students who placed into developmental courses have had a chance to complete them and enroll in college-level courses. That report should offer more robust evidence about the type of placement systems that help students make better progress through their first three semesters of college.<sup>17</sup>

17. The findings presented in this report are preliminary (and not “confirmatory”). The prespecified confirmatory outcomes on which the effectiveness of the program will be judged will be measured after three semesters, including two additional cohorts, and will be presented in the final report in 2021. These outcomes will include completion of the first college-level course (student completes the course with a grade of C or higher) within three semesters, by subject, and cumulative college-level credit accumulation within three semesters.



# ABOUT MDRC

**MDRC IS A NONPROFIT, NONPARTISAN SOCIAL AND EDUCATION POLICY RESEARCH ORGANIZATION DEDICATED TO** learning what works to improve the well-being of low-income people. Through its research and the active communication of its findings, MDRC seeks to enhance the effectiveness of social and education policies and programs.

Founded in 1974 and located in New York; Oakland, California; Washington, DC; and Los Angeles, MDRC is best known for mounting rigorous, large-scale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff members bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

Over the years, MDRC has brought its unique approach to an ever-growing range of policy areas and target populations. Once known primarily for evaluations of state welfare-to-work programs, today MDRC is also studying public school reforms, employment programs for ex-prisoners, and programs to help low-income students succeed in college. MDRC's projects are organized into five areas:

- Promoting Family Well-Being and Children's Development
- Improving Public Education
- Raising Academic Achievement and Persistence in College
- Supporting Low-Wage Workers and Communities
- Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.