

*Executive Summary*

# Laying the Foundations

Early Findings from the  
New Mathways Project

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John Diamond

April 2015



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**with**

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## Overview

National studies reveal that 50 percent to 70 percent of community college students are required to take developmental, or remedial, math courses upon enrollment, and only 20 percent of developmental math students ever successfully complete a college-level math course. Recent reforms have sought to improve students' success rate by revising developmental math *course structure* and *sequence* into compressed instructional modules or multiweek (rather than semester-long) courses, or by placing developmental students into college-level classes with added supports. Though these initiatives have shown some promise, they have seldom addressed the *math content* of developmental and college-level math courses, which emphasize algebra rather than the quantitative literacy and statistics skills required in most of today's professions.

Taking up the challenge in all three areas is the New Mathways Project (NMP), developed by the Charles A. Dana Center at the University of Texas at Austin in partnership with the Texas Association of Community Colleges. This new initiative aims to change the standard pathways to and through colleges' traditional math sequences. Key to the work is the implementation of differentiated math course sequences that are closely aligned with the requirements of different academic and eventual career paths: a *Statistical Reasoning* pathway, appropriate for students in social sciences careers, such as allied health, government, or psychology; a *Quantitative Reasoning* pathway for students in humanities or general liberal arts fields; and a *Science, Technology, Engineering, and Mathematics (STEM-Prep)* pathway for students pursuing careers that require strong algebraic skills, such as chemistry, computer science, or engineering. The Dana Center is supporting implementation at the institutional level through tools, resources, and services focused on planning, staff training, curricula, and instruction. And because these reforms have important consequences for students' ability to transfer credits to four-year colleges and universities, the Dana Center is working at the state level to identify and address key policy obstacles such as the course requirements for different majors in four-year institutions.

This report analyzes the development of the NMP from spring 2012 through its first year of rollout at nine colleges in Texas in 2013-2014, as well as student outcomes at the colleges before and during the first year. Overall, this study found that the Dana Center made significant progress in laying the groundwork for the implementation of multiple math pathways in Texas, helping foment change in how two-year and four-year colleges view students' math requirements. To be sure, the Dana Center has work to do to reach its ambitious goals to scale up the initiative, as colleges met with obstacles around student recruitment, faculty reservations about course content, and the applicability of the pathways for students transferring to four-year colleges. Yet as of fall 2014, 20 Texas community college systems were offering at least one NMP course,<sup>1</sup> and descriptive outcome data reveal promising results in NMP students' developmental and college-level course completion, with 30 percent of students completing both courses in the first year.

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<sup>1</sup>In multi-institution systems, generally only one or two campuses were implementing an NMP pathway.



## Preface

Math remains a significant stumbling block to many college students' success, particularly among those who arrive with lower-level skills. More than half our nation's community college students are assessed as needing at least one developmental, or remedial, math course, and these students often have to take two or more semesters of preparatory courses before being allowed entry into a college-level math class. Sadly, few ever succeed in achieving this goal: It is estimated that only 20 percent of students in need of two or more developmental courses complete a college-level course within three years.

As these students continue to stumble, there has been a growing awareness that the types of math skills required in many of today's professions differ from those taught in traditional college math courses. Most college math courses are focused on discrete algebra skills — for example, factoring and polynomial equations — which provide good preparation for higher-level mathematics courses, such as calculus. However, employers in fields as varied as criminal justice, nursing, and journalism are more often seeking candidates who have strong quantitative reasoning and statistical skills. Indeed, recent research has shown that only about 5 percent of today's professions use the higher-level skills taught in most college algebra courses.

Reforms such as the New Mathways Project (NMP), which attempt to revise the content of college math courses to align with the needs of today's marketplace, represent a promising step forward in the nation's efforts to improve the odds of community college students' success. By increasing the relevance of math content within both developmental and college-level courses, the NMP seeks to better engage students in their math learning — while also accelerating their progress through developmental courses. And with its focus on implementation at all 50 community college systems in Texas and detailed attention given to the state-level and cross-institution policies that can support this change, the NMP represents an ambitious departure from the more isolated reforms being undertaken by individual community colleges.

Given its ambition, it is not surprising that the NMP has met with some substantial challenges in implementation, including the coordination of math requirements across two-year and four-year institutions and math faculty members' reluctance to move away from algebra-based content. The field can learn much from these efforts to push developmental education reform beyond the realm of single institutions to a larger state and national playing field — as well as from the efforts to improve community college students' achievement.

Gordon L. Berlin  
President, MDRC





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We are also thankful to the many individuals who read and reviewed this report. In particular, we are grateful to those who gave us excellent written and oral feedback, including Gordon Berlin, Robert Ivry, Alexander Mayer, Lashawn Richburg-Hayes, Susan Scrivener, Alice Tufel, and Evan Weissman of MDRC, and Jenna Cullinane, Jennifer Dorsey, Amy Getz, Monette McIver, and Simon Tidd at the Charles A. Dana Center at the University of Texas at Austin. Finally, we would like to thank the publications staff at MDRC, including Jennie Kaufman, who edited the report, and Stephanie Cowell, who prepared it for publication.

The Authors



## Executive Summary

*When I started back to school last semester for the first time in a long time, I had [to take] five math classes [to complete the requirements for my major], and ... I was stuck in 0308 [remedial algebra]. ... I failed it the third time with a 62. So every time it was improving — [but] it just wasn't getting me anywhere. — Jenny, Spring 2014, student at a college implementing the New Mathways Project courses*

Recent research on developmental education has shown that students like Jenny are the norm at community colleges. National studies reveal that 50 percent to 70 percent of community college students enter school each year unprepared for college-level math and must take a series of developmental, or remedial, courses to build their skills before they can enroll in a college-level math course.<sup>1</sup> Sadly, most of these students also experience Jenny's failure: Only one-third of the students referred to these remedial courses ever complete them, and just one-fifth enter and successfully complete a college-level math course within three years.<sup>2</sup> The past few years have seen some efforts to reform this system, primarily by shortening the developmental math *course structure* and *sequence* by compressing instruction into modules or multiweek courses, or by placing developmental students into college-level classes with added supports.<sup>3</sup> Though these initiatives have shown some promise for improving students' progress through developmental education,<sup>4</sup> they have generally not addressed another issue that some have argued is critical for

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<sup>1</sup>Thomas Bailey, Dong Wook Jeong, and Sung-Woo Cho, "Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges," *Achieving the Dream: Community Colleges Count Initiative Paper* (Community College Research Center, 2009); Radha Roy Biswas, "Accelerating Remedial Math Education: How Institutional Innovation and State Policy Interact," *Achieving the Dream Policy Brief* (Boston: Jobs for the Future, 2007); Texas Higher Education Coordinating Board, "Developmental Education Accountability Measures Data," accessed January 30, 2015, [http://www.txhighereddata.org/reports/performance/deved/inst.cfm?inst=778888&report\\_type=2&report\\_yr=2013](http://www.txhighereddata.org/reports/performance/deved/inst.cfm?inst=778888&report_type=2&report_yr=2013).

<sup>2</sup>Bailey, Jeong, and Cho (2009); Elizabeth Zachry Rutschow and Emily Schneider, *Unlocking the Gate: What We Know About Improving Developmental Education* (New York: MDRC, 2011).

<sup>3</sup>Kelley Fong and Mary Visser, *Fast Forward: A Case Study of Two Community College Programs Designed to Accelerate Students Through Developmental Math* (New York: MDRC, 2013); Peter Adams, Sarah Gearhart, Robert Miller, and Anne Roberts, "The Accelerated Learning Program: Throwing Open the Gates," *Journal of Basic Writing (CUNY)* 28, 2 (2009): 50-69; Shanna S. Jaggars, Nikki Edgecombe, and Georgia W. Stacey, *What We Know About Accelerated Developmental Education* (New York: Community College Research Center, Teachers College, Columbia University, 2014); Zachry Rutschow and Schneider (2011); Paul Fain, "How to End Remediation," *Inside Higher Ed* (April 4, 2012), <http://www.insidehighered.com>; Paul Fain, "Remediation If You Want It," *Inside Higher Ed* (June 5, 2013), <https://www.insidehighered.com>; Elisabeth A. Barnett, Rachel Hare Bork, Alexander K. Mayer, Joshua Pretlow, Heather D. Wathington, and Madeline Joy Weiss, *Bridging the Gap: An Impact Study of Eight Developmental Summer Bridge Programs in Texas* (New York: National Center for Postsecondary Research, 2012).

<sup>4</sup>Zachry Rutschow and Schneider (2011); Fong and Visser (2013).

students' success: the type of *math content* taught in developmental and college-level math courses. Recent research has shown that few professions (5 percent) require the higher-level algebra and calculus skills that most college algebra courses teach. Instead, most professions tend to rely on basic quantitative literacy and statistics skills, such as the ability to manipulate fractions and percentages, solve multistep word problems, and comprehend written statistical charts and graphs.<sup>5</sup>

Galvanized by this information, Uri Treisman and the Charles A. Dana Center at the University of Texas at Austin, an organization focused on mathematics and science reform in both K-12 and postsecondary institutions, concentrated on rethinking this math challenge. Building on their alliance with the Carnegie Foundation for the Advancement of Teaching (2009-2011) in creating Statway and Quantway,<sup>6</sup> the Dana Center launched the New Mathways Project (NMP) in collaboration with the Texas Association of Community Colleges in spring 2012. The NMP is a new initiative aimed at changing the standard pathways to and through colleges' traditional math sequences. Key to the work is the implementation of accelerated, non-algebra-intensive math pathways that are more aligned with the needs of social sciences, health, and liberal arts professions, as well as the development of a revised model for the algebra pathway for students in science, technology, engineering, and math (STEM) careers. The Dana Center also works at the state level to leverage the collective power of the Texas community colleges to identify and address policy obstacles.

This report analyzes the development of the New Mathways Project from spring 2012 through its first year of implementation at nine colleges in Texas in 2013-2014, as well as student outcomes at the colleges before and during NMP implementation. Overall, this study found that the Dana Center made significant progress in laying the groundwork for the implementation of multiple math pathways in Texas, helping foment a change in how two-year and four-year colleges viewed students' math requirements. Faculty, staff, and administrators were supportive of the move toward multiple math pathways, and students consistently noted improvements in their ability to understand and do math. Colleges did meet obstacles, particularly around student recruitment, faculty reservations with the curricular materials, and the alignment of two-year

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<sup>5</sup>Michael J. Handel, "What Do People Do At Work? A Profile of U.S. Jobs from the Survey of Workplace Skills, Technology, and Management Practices (STAMP)" (unpublished paper, Northeastern University, Boston, 2010); John Philip Smith, "Tracking the Mathematics of Automobile Production: Are Schools Failing to Prepare Students for Work?" *American Education Research Journal* 34, 4 (1999): 835-878; Celia Hoyles, Richard Noss, and Stefano Pozzi, "Proportional Reasoning in Nursing Practice," *Journal for Research in Mathematics Education* 32, 1 (2001): 4-27.

<sup>6</sup>Statway and Quantway are two alternative, yearlong developmental and college-level math pathways based on statistics and quantitative reasoning. They are now part of the Carnegie Foundation for the Advancement of Teaching's Pathways Improvement Communities and have been or are currently being implemented by 49 institutions across the country.

and four-year colleges' course policies during the 2013-2014 academic year. But five of the first colleges to participate expanded their NMP offerings in spring and fall 2014, and as of fall 2014, 20 Texas community college systems were offering at least one NMP course. Descriptive outcome data revealed promising results in the NMP students' developmental and college-level course completion, with 30 percent of NMP students completing a college-level math course in the first year, in contrast to only 8.3 percent of students enrolled in traditional developmental education classes during the same period.<sup>7</sup>

## The New Mathways Project Design

In 2012, the Dana Center became focused on creating and implementing a set of math pathways that would revise the *structure*, *sequencing*, and *content* of developmental and college-level math courses in Texas. The NMP model aims to help colleges adopt four key principles:<sup>8</sup>

1. **Multiple math pathways with relevant and challenging content aligned to specific fields of study.** Colleges should offer at least two math pathways, beginning at the developmental level, for students to complete their program-specific, college-level math requirements. At least one math pathway should be non-algebra intensive and focused on the statistical and quantitative reasoning skills needed in many current professions.
2. **Acceleration that allows students to complete a college-level math course more quickly than they would in the traditional developmental and college-level math sequence.** The NMP focuses on shortening the developmental math course trajectory to allow students to reach and complete a college-credit math course in one year or less.
3. **Intentional use of strategies to help students develop skills as learners.** Colleges should integrate learning theory and skills within math courses and link these skills with a student success course and related activities and services.<sup>9</sup>

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<sup>7</sup>Students in traditional developmental education courses include students who require one, two, or three developmental math courses, while NMP courses are targeted to students in need of one or two developmental courses.

<sup>8</sup>Charles A. Dana Center, *The New Mathways Project Implementation Guide*, in collaboration with the Texas Association of Community Colleges (Austin: The University of Texas at Austin, 2014), website: <http://www.utdanacenter.org>.

<sup>9</sup>Charles A. Dana Center, "Frameworks for Mathematics and Collegiate Learning," version 2.0 (Austin: The University of Texas at Austin, 2014), <http://www.utdanacenter.org>.

4. **Curricular design and pedagogy based on proven practice.** Math curricula and pedagogy should center on evidence-based instructional and content practices and be continuously improved as new evidence becomes available.

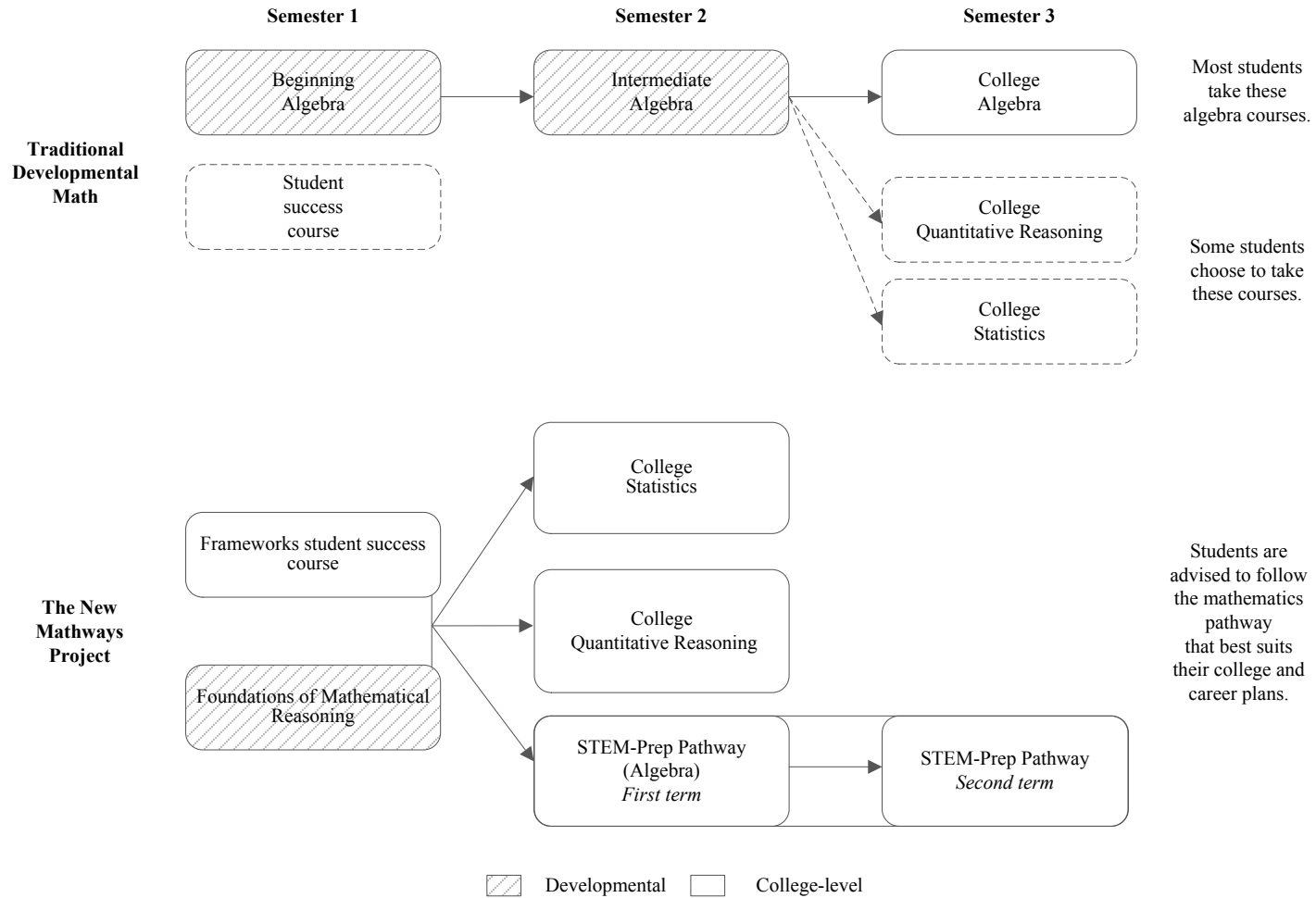
In order to provide a concrete model for the NMP, the Dana Center focused a good portion of its work on the development and implementation of courses for three distinct math pathways.<sup>10</sup> As shown in Figure ES.1, these are (1) a *Statistical Reasoning* pathway, appropriate for students in social sciences careers, such as allied health, government, or psychology; (2) a *Quantitative Reasoning* pathway for students in humanities or general liberal arts fields; and (3) a *Science, Technology, Engineering, and Mathematics (STEM-Prep)* pathway for students pursuing careers that require strong algebraic skills, such as chemistry, computer science, or engineering. Each of the three pathways begins with a common, one-semester developmental math course, *Foundations of Mathematical Reasoning*, which focuses on developing students' quantitative literacy and statistical and algebraic skills. The Dana Center also recommends that colleges pair Foundations with a college-level student success course, *Frameworks for Mathematical and Collegiate Learning*, which focuses on engaging students in the learning theory behind the growth of intelligence, knowledge development, motivation, and self-regulation. After successfully completing these courses, students would enter a college-level math course in one of the three pathways described above. The Dana Center is developing curricular models for each of the three pathways, but it envisions the NMP as an inclusive initiative, with colleges having the flexibility to bring in their own curricular models and structures that align with the NMP's four principles.

These curricular models, and the faculty training associated with them, are one part of the Dana Center's three-pronged strategy for changing colleges' developmental and college-level math pathways. The curricular and instructional supports were developed to support *classroom-level change*, and are meant to aid faculty and staff in revising the math course content. The second prong of the NMP work involves a suite of tools aimed at supporting the *institutional change* that must accompany these efforts, including such resources as an implementation guide, data tools, and advising materials to assist colleges in scaling up multiple math pathways within their colleges. And in the third prong of this effort, the Dana Center is focusing on *cross-institutional reform* through outreach to four-year institutions, documentation on state and national math policies and cross-college transfer requirements, and collaboration with state policy agencies. To facilitate this strategy, they developed a tiered system for the Texas colleges' engagement with the NMP. An initial cohort of *codevelopment colleges* would work closely in developing, piloting, and providing feedback on the NMP courses and other implementation

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<sup>10</sup>Charles A. Dana Center, "The New Mathways Project Curricular Materials" (Austin: The University of Texas at Austin, 2014), <http://www.utdanacenter.org>.

**The New Mathways Project**  
**Figure ES.1**  
**A Comparison of Mathematics Offerings**  
**for Students with Two Levels of Developmental Need**



tools; *active learning sites* would prepare for NMP implementation in one to two years; and *capacity building sites* would implement the NMP on a slower timeline of three to four years. The Dana Center thus aimed to build a cross-college network and policy environment that would support the integration of multiple math pathways into the fabric of colleges' work.

## Research on the NMP

MDRC has been collaborating with the Dana Center since summer 2012 to study the development and implementation of the NMP initiative. MDRC researchers conducted site visits, classroom observations, focus groups, and interviews to analyze the NMP implementation at all nine codevelopment colleges over three semesters (spring 2013, fall 2013, and spring 2014). MDRC also collected quantitative data on outcomes among developmental education students at the codevelopment colleges from fall 2010 through spring 2014, both within and outside of the NMP courses.<sup>11</sup> MDRC used these data to summarize students' developmental and college-level course enrollment, persistence, and success in NMP and non-NMP courses.

## Key Lessons from the Field

- **With the NMP, the Dana Center developed a highly ambitious initiative that reached above and beyond the goals of traditional developmental education reforms.** In contrast to reforms that have focused on the structure and sequencing of courses, this effort sought to fundamentally alter both the content taught in math courses and students' math trajectories by developing new statistics and quantitative reasoning math pathways. Anticipating that this large-scale revision of course content would have far-reaching policy implications, the Dana Center developed an institutional model and supports for the NMP that sought the input and collaboration of faculty, staff, and administrators at all levels of the institution. Center staff members also sought to foster relationships and agreements with key national, state, and mathematics organizations that would support the adoption of the NMP and the revision of policies that might hinder its spread. The goals for scaling up the NMP within Texas were ambitious: specifically, that 75 percent to 100 percent of the community colleges would have at least two NMP pathways in place within five years, and at least 25 percent to 50 percent of developmental mathematics students within each institution would be in an NMP pathway.

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<sup>11</sup>For this student-level analysis, copies of reports provided to the Texas Higher Education Coordinating Board were obtained from eight codevelopment schools. Student-level data were not available for one community college.



- **The Dana Center made impressive progress in establishing the NMP within Texas during its first two years of development.** Through its partnership with the Texas Association of Community Colleges, the center developed a statewide NMP implementation plan that all 50 Texas community college systems agreed to execute and financially support for 10 years. By the end of 2012, 47 of 50 community college districts were enrolled and engaged with the NMP project, with nine colleges leading the way as codevelopment partners. Additionally, state-level policy work with such organizations as the Texas Higher Education Coordinating Board (THECB) and a committee of 23 colleges and universities across the state helped foster essential changes around developmental education placement and testing.<sup>12</sup> The Dana Center also promoted relationships with Texas four-year institutions and collaborations between two-year and four-year colleges that resulted in 17 four-year colleges signing on to the NMP Transfer Champions Initiative, which aims to address issues of course alignment between schools. As of fall 2014, over one-third (20) of the 50 Texas community college systems were implementing at least one NMP course or pathway,<sup>13</sup> and over 75 percent of public four-year colleges and universities in Texas accepted either statistics, quantitative reasoning, or both as fulfilling their core math requirements for certain majors.
- **Most faculty, staff, and administrators at the codevelopment colleges supported implementing multiple math pathways within their colleges, but they had concerns.** Faculty and staff at over two-thirds of the colleges were strongly supportive of the Dana Center’s design of the NMP model and its key components, particularly the accelerated developmental math course and movement toward statistical and quantitative reasoning math pathways. However, faculty, staff, and administrators at virtually all the codevelopment colleges raised serious concerns about the transfer and applicability of the NMP math courses at four-year colleges and universities. In addition, faculty and staff noted potential conflicts the NMP might have with other initiatives they were undertaking and the high workload associated with implementing the new courses. Finally, a few math faculty members expressed anxiety over the lack of algebra in the NMP courses.
- **Colleges faced notable obstacles in recruiting students for the NMP, especially over the question of course transferability.** Fearing that four-year

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<sup>12</sup>Texas Higher Education Coordinating Board, “Negotiated Rulemaking Committee on Texas Success Initiative,” July 2014, <http://www.thecb.state.tx.us>.

<sup>13</sup>In multi-institution systems, generally only one or two campuses were implementing an NMP pathway.

schools would require students to take the developmental and college-level algebra courses, most of the colleges limited the number of students targeted for the NMP courses and instituted complicated enrollment processes in an attempt to ensure that the right students were placed into the courses. Given this targeting, it is perhaps not surprising that nearly all the colleges had difficulty recruiting students into the NMP Foundations and Frameworks sections, with most colleges having only one or two sections of these courses. Three co-development colleges have continued to struggle with enrolling students, and two of these canceled or restructured their classes in fall 2014. A number of recruitment issues also resulted from challenges with coenrolling students in the Foundations and Frameworks classes, as many students had already taken a success course (and thus were considered ineligible for Frameworks) or did not want to take one when it was not required for their degree.

- **Despite some reservations over course content, faculty implemented the NMP courses with a high level of fidelity to the Dana Center design and saw positive differences in students' math learning and engagement in the classes. Classroom observations confirmed that teaching and learning in the NMP courses looked qualitatively different from traditional math courses.** In interviews, most faculty emphasized that they were closely following the Foundations and Frameworks course curricula, despite some concerns that curricula did not contain enough algebra or “math content.” Faculty teaching Foundations and Statistical Reasoning courses at most colleges felt that students seemed engaged with the math course content and that students were holding each other accountable for both their work and their attendance. Observations of the NMP courses confirmed a high level of fidelity to the course design, with students in Foundations and Statistical Reasoning split into small groups, interactively working on multistep math problems focused on real-world content. These interactions were in sharp contrast to most non-NMP developmental math and statistics courses, which were centered on the teachers' lectures, the memorization of formulas or principles, and repeated individual practice of a new concept.
- **The majority of students were positive about the NMP courses, particularly the revised content and acceleration that the courses provided.** In focus groups, students commonly remarked on the relevance of the course materials to their lives and expressed excitement over the acceleration that the pathway offered for completing their math requirements. Students at most schools also generally liked the Frameworks course and the opportunities it provided to expand their understanding of their own learning, study

skills, and the services the college provided. By the end of the year, students in the NMP classes at most colleges said they would recommend the NMP courses to a friend, emphasizing the relevance of the courses over other math classes they had taken.

- **Descriptive data on outcomes for students enrolled in NMP courses are promising, revealing that 30 percent of these students completed both the NMP developmental math course and the college-level statistics course in the first year.** Out of 233 students enrolled in the NMP Foundations course in the fall 2013 semester, almost 65 percent passed the course with a “C” or higher, thereby fulfilling their developmental math requirements. As shown in Table ES.1, by the end of the spring 2014 semester, 46 percent of the NMP students had enrolled in Statistical Reasoning or another college-level statistics course, and 30 percent of the original students had passed the college-level course. Among students enrolled in non-NMP traditional math sequences at these colleges during the same time, only 25.3 percent completed their developmental math requirements and 8.3 percent completed a college-level math class, on average.<sup>14</sup> Though these differences in outcomes for students enrolled in NMP and traditional developmental math courses cannot be interpreted causally as estimates of the NMP program effects, they suggest the NMP may help students achieve developmental and college-level math milestones.

## Summary

The Dana Center has made strong progress in building the NMP in Texas at both the institutional and state levels, and the initiative is showing promising results in helping students complete their math requirements more quickly. But the Dana Center and their partners still have much work to do in meeting their ambitious hopes to scale up the NMP. They are working diligently to overcome the NMP course transfer and recruitment concerns through outreach to four-year colleges and more explicit efforts to educate college faculty and staff at two-year colleges about the extent to which courses do align with these schools’ requirements. These efforts are already bearing fruit, as shown by the NMP expansion at five codevelopment colleges; yet other schools still face difficulties with enrollment. These stubborn issues underscore the monumental

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<sup>14</sup>These averages include students in need of three developmental math courses before entering a college-level class, while NMP courses were designed for students in need of one or two developmental courses. NMP outcomes could not be disaggregated based on developmental need. See Chapter 4 of the full report for additional discussion of outcomes among students enrolled in traditional developmental math courses.

## The New Mathways Project

Table ES.1

### Math Outcomes Among Students Enrolled in NMP Foundations at Codevelopment Colleges, Fall 2013 Through Spring 2014

Outcome	All Colleges Offering Foundations
Number of codevelopment colleges	7
Students enrolled in Foundations in fall 2013	233
Among students enrolled in fall 2013 Foundations, by spring 2014 (%)	
Passed Foundations with “C” or higher	64.8
Enrolled in Statistical Reasoning or other college-level statistics course	45.5
Passed Statistical Reasoning or other college-level statistics course with “C” or higher	30.0

SOURCE: MDRC calculations using college transcript data.

NOTE: Of the eight codevelopment colleges that provided student-level data to MDRC, one did not offer Foundations in fall 2013.

task that the Dana Center is undertaking in changing the standard math pathways in two-year and four-year colleges.

Despite the challenges, the importance of the NMP should not be diminished. Previously published THECB data suggest that more than 80 percent of students who enter college with some level of remedial math need may never complete a college math course with a grade of a “C” or better.<sup>15</sup> While the small proportion of Texas developmental math students who accomplish this goal may have to figure out which of their community college classes will transfer to a four-year college or university, such a problem might seem like a luxury to the tens of thousands of others who are unable to complete a college-level math class. These statistics reveal the predicament facing developmental students such as Jenny: Far too few are succeeding in mastering math content that is often not needed in today’s careers. Developing new courses that better align with the math skills that are needed, and helping students understand the practical value of these skills, may be an important step toward improving their chances of success — both in college and beyond.

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<sup>15</sup>THECB accountability system data, as reported in January 2014, for the most recent cohort at the time of writing.

## 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 City and Oakland, California, 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 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 proactively 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-offenders and people with disabilities, 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.