Redesigning Advising With the Help of Technology: Early Experiences of Three Institutions

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Inside This Report

A rapidly growing number of higher education institutions nationwide are implementing advising technologies—including education planning, counseling and coaching, and risk targeting technologies— to help students plan their academic paths and stay on track to graduation. Research suggests that these technologies may improve support for students if institutions also adopt advising structures and processes that leverage technology to provide a more intensive and personalized advising experience.

This report describes how three institutions—the University of North Carolina, Charlotte (UNC Charlotte); California State University, Fresno (Fresno State); and Montgomery County Community College (MCCC) in Pennsylvania—are approaching comprehensive, technology-based advising reforms, presenting detailed examples of their new advising practices, outreach methods, and messages to students.

The advising redesigns at UNC Charlotte, Fresno State, and MCCC consisted of two key components: *strategic outreach* and *advising sessions*. All three institutions implemented strategies for making their outreach to students more sustained and strategic and for building student–advisor relationships through advising sessions that incorporate holistic discussions.

In their strategic outreach, each institution crafted plans for proactively communicating with students via email, phone, or text message at regular intervals throughout the semester—including at key decision points, such as the start of the semester and after faculty submit early-alert flags identifying students who may be struggling. Institutions' outreach efforts included informational communication, or messages with standardized content on a particular topic, as well as targeted communication, which is typically personalized and addresses specific issues individual students have encountered, including their academic performance and needs. In developing their strategic outreach plans, all three institutions carefully considered the timing and frequency, mode of communication, and content and tone that would be most effective in their messages to students.

Institutions also designed advising structures intended to enable students to meet with advisors who would engage them in a data-informed discussion about their successes and challenges and how their progress aligns with their academic and career goals. Advisors would also assist students in navigating complex institutional structures and refer them to resources for additional help with both academic and nonacademic issues. To facilitate these sessions, each institution developed a "toolbox" for advisors outlining goals for student learning outcomes, topics for discussion, and guiding questions. All three institutions took a proactive approach to get students the support they needed when they needed it, requiring at least a subset of students to meet individually with an advisor once per semester.

Based on observations of the advising redesigns at UNC Charlotte, Fresno State, and MCCC, the report provides insights and ideas for other institutions seeking to redesign their advising practices around new technologies. Emerging themes include the following:

- **Structural changes are needed to transform how students experience advising.** Advisors at broad-access institutions often have large caseloads and lack the capacity to engage students in holistic discussions during advising appointments. All three institutions in the current study took steps to restructure advising to improve advisors' ability to have meaningful conversations with

their students—for instance, by extending the length of advising time slots—and to encourage students to meet with their advisors.

- **Professional development is necessary to support advisors as they adopt holistic advising practices.** Advisors at UNC Charlotte, Fresno State, and MCCC varied in their ability to create and sustain a meaningful teaching relationship with students—in part due to their limited access to evidence-based guidance on how to provide holistic advising. Advisors need additional resources and professional development opportunities that support their efforts to engage students on topics beyond course registration and short-term academic planning.

- **There are open questions about appropriate ways to use risk information and how to discuss risk data with students.** All three sites utilize data—such as early-alert flags, midterm grades, and predictive analytics scores—to gauge students' risk of falling off track in their programs and prompt targeted outreach. However, institutions and advisors struggled with how to discuss risk data with students in order to motivate them rather than discourage them, and questions emerged about the efficacy of some predictive analytics tools.

- **Engaging multiple stakeholders in transformational advising redesigns is critical yet challenging.** All three institutions included a range of stakeholders in their redesign efforts from the beginning, including those in advising, support services, information technology, and institutional research functions. However, the redesign process revealed that more advisors needed to be involved in both designing and implementing the intervention. Faculty involvement is also crucial for identifying signs that students are struggling.

Introduction

A rapidly growing number of higher education institutions nationwide are implementing advising technologies to help students plan their academic paths and to connect them with the academic and nonacademic resources they need to stay on track to graduation. In a 2016 national survey of over 1,000 colleges and universities, over 70 percent of respondents reported at least moderate use of such technologies, and 44 percent reported a moderate to significant increase in spending on education planning and other advising tools for undergraduate students within the previous three years (Tyton Partners, 2016). Moreover, the number and type of advising technologies available on the market are changing and expanding. There are now over 120 companies that offer at least one advising product (Tyton Partners, 2014).

Many colleges and universities are using advising technologies as a foundation for broader reforms of their advising and student support services. These institutions are looking to transform their advising systems so that they support a more intensive and personalized case-management approach with students (Kalamkarian, 2017; Karp, 2016). Among the main technologies supporting such reforms are education planning technologies, counseling and coaching technologies, and risk targeting and intervention technologies—see the box below for definitions. Institutions use these respective technologies together to provide more efficient and effective planning and advising services, target students who need the most support, and ultimately improve student success (Brooks, 2014; Karp, Kalamkarian, Klempin, & Fletcher, 2016; Tyton Partners, 2016).

While the demand for advising technologies is increasing, there are important unanswered questions about their use in postsecondary institutions. Research suggests that the deployment of advising technologies alone does not substantially improve students' experience of support; institutions also need to structure and deliver advising so that it leverages the capacity of technology to better support students. To do this, institutions need to determine who will help students with education planning, how students should be assigned to advisors, when and how advisors should reach out to students, and how advisors should communicate with students who are determined to be at risk (Karp et al., 2016). Sound, research-based guidance on these and other implementation issues is currently limited.

In this report, we take a detailed look at how three institutions—the University of North Carolina, Charlotte (UNC Charlotte); California State University, Fresno (Fresno State); and Montgomery

Major Types of Advising Technologies

- **Education planning technologies:** Tools for selecting programs and courses, mapping out plans to complete a program, and tracking progress toward credential completion.
- **Counseling and coaching technologies:** Tools for improving students' connections to support services, such as mental health services and academic tutoring.
- **Risk targeting technologies:** Tools such as early-alert systems and predictive analytics dashboards that provide timely information to advisors, students, and other support staff about emerging indications of students' academic struggle or that predict students' probability of graduation— thereby enabling advisors to connect students with appropriate supports.

County Community College (MCCC) in Pennsylvania—are approaching comprehensive, technology-based advising reforms. These institutions are part of a larger technology-based advising reform initiative funded by the Bill & Melinda Gates Foundation and the Leona M. and Harry B. Helmsley Charitable Trust, known as *Integrated Planning and Advising for Student Success*, or iPASS. UNC Charlotte, Fresno State, and MCCC were selected from among the most recent cohort of iPASS grantees to partner with CCRC and MDRC in designing and piloting their advising interventions to allow for a rigorous evaluation of enhanced advising practices. In the current report, we describe how these three institutions are working to improve students' experience of advising and present examples of new or modified advising practices, outreach methods, and messages sent to students. In doing so, we aim to provide insight and ideas for other institutions seeking to redesign their advising practices around new technologies.

In the next section, we describe the study context in greater detail. We then discuss the theoretical basis and research evidence that informed the advising redesigns at the three institutions in the study. Next, we outline the three institutions' standard advising practices and the processes by which they designed their respective reforms. Finally, we describe the key components of the redesigns at each research site and discuss emerging themes. The report concludes by detailing next steps for the study.

Study Context

UNC Charlotte, Fresno State, and MCCC are part of a cohort of 26 institutions that received grants in 2015 to support their deployment of advising technologies in conjunction with transformative advising and student support reforms. In addition to funding from the Bill & Melinda Gates Foundation and the Leona M. and Harry B. Helmsley Charitable Trust, all iPASS grantees receive technical assistance from an EDUCAUSE or Achieving the Dream coach. They also have access to monthly webinars on advising and student support services and attend annual multiday convenings with programming on technology-mediated advising redesign.

CCRC and MDRC selected UNC Charlotte, Fresno State, and MCCC from among the 2015 grantees to partner in designing, implementing, and rigorously evaluating enhancements to advising practices for a subset of students before implementing them at full scale. These three institutions were among the strongest implementers of technology-based advising in their cohort and were interested in assessing the impact of enhancements to their advising practices. In selecting institutions for this study, we strongly considered their advising structures, implementation plans, integration of advising technologies, and contrast between standard advising and planned enhancements. We sought institutions from both the two-year and four-year sectors that were willing to align their implementation plans with the requirements of the evaluation design, such as reaching a desired sample size. The three institutions we selected received additional funding from the Bill & Melinda Gates Foundation to offset study participation costs (e.g., time for research-related activities) and to expand their advising staff capacity if necessary. These institutions also received additional implementation support and

coaching beyond what was available to the entire grantee cohort, and they participated in additional convenings and network-building activities.

CCRC and MDRC's evaluation incorporates a randomized controlled trial, where students who are eligible for the evaluation are randomly assigned to either the program (or "intervention") group or to a control group. Members of the program group receive more intensive, holistic advising that is supported by their institution's advising technologies. Members of the control group have access to these advising technologies but receive their institution's standard advising services. Thus, the randomized controlled trial is designed to measure the impact of intensified advising services.

The intervention targets degree-seeking students in their second or subsequent semester who are identified as at risk of not graduating: those who are not performing well academically, not passing current courses, or have a high likelihood of not persisting to the next semester or completing a credential in their chosen program based on predictive models. Risk indicators differ across the three participating institutions but generally include students' grade point average (GPA) and information on their past and current academic performance, which are accessible to advisors via predictive analytics tools or early-alert systems. The target population does not include students who are on academic probation or academic warning, as there are existing interventions and advising requirements tailored to students in those groups.

The advising interventions were launched at all three institutions in January 2017. The current report focuses on the development of the institutions' holistic advising interventions during the fall 2016 semester and some of the challenges they encountered, which may help inform approaches to advising redesign at other institutions.

The Evidence Base for Holistic Advising

The advising redesign efforts at UNC Charlotte, Fresno State, and MCCC were rooted in an evidence-based perspective suggesting that a holistic approach to advising is most effective for supporting students toward completion of a credential. According to this perspective, effective advising extends beyond disseminating academic information to students and providing transactional assistance on academic tasks, such as course enrollment. Instead, effective advising supports students' personal and academic development, including their ability to make academic and career decisions that align with their long-term goals (Appleby, 2008; Habley, Bloom, & Robbins, 2012; National Academic Advising Association, 2006).

In a holistic advising approach, advisors engage with students in a way that mirrors an active-learning instructional model (Petersen & Gorman, 2014), in which students are active participants in the advising process rather than passive recipients of information. Like instructors using the active-learning model in a classroom, advisors in this advising-as-teaching model engage advisees in a dialogue using broad, open-ended questions. In doing

so, they guide students to reflect on their experiences, interests, and strengths to help them clarify their academic and career goals and develop a plan for meeting those goals (Appleby, 2008; Lowenstein, 2005; Moore, 1993).

In a holistic approach, support for students is ongoing and multifaceted, as described in the *SSIPP model* (Karp & Stacey, 2013); SSIPP stands for sustained, strategic, integrated, proactive, and personalized. Under this model, students do not receive one-time interventions, which have been found to work in the short term but have no evidence of lasting impacts (Rutschow, Cullinan, & Welbeck, 2012; Visher, Weiss, Weissman, Rudd, & Wathington, 2012; Weiss, Brock, Sommo, Rudd, & Turner, 2011). Instead, advising and support are sustained throughout students' tenure at the institution and differentiated for different types of students, ensuring strategic application of resources. Moreover, interventions are personalized and integrated, providing resources and referrals that are specific to students' individual needs and incorporated into students' academic experiences. Acknowledging that students are often uncomfortable seeking help or do not know where to do so, in the SSIPP model, advisors and student support staff are proactive in reaching out to students and getting them the kind of help they need when they need it (Cox, 2009; Karp, O'Gara, & Hughes, 2008).

The advising-as-teaching approach and the SSIPP model of advising are, however, difficult to implement at broad-access colleges[1] that are not staffed with enough advisors to meet with students as frequently as research suggests would be beneficial. At broad-access four-year institutions and community colleges, advising caseloads can exceed 700 students per advisor (Jaggars & Fletcher, 2014; Karp, 2013). What is more, students at broad-access colleges often come from academically and socioeconomically disadvantaged backgrounds; they are often unfamiliar with college procedures and need substantial support making academic decisions, which further stretches college resources and staff time. As a result, advisors may not have the capacity to provide sustained, strategic support; instead, students are typically required to seek out advising, which often focuses on just-in-time transactional tasks, such as helping students enroll in courses for the following semester (Karp, 2013; Karp et al., 2008).

In this context, institutions may use advising technologies to move closer to a SSIPP model of advising. While technology is not a requirement to undertake a SSIPP approach, it can help resolve the capacity and other structural issues that make it difficult to implement. Ideally, advising technologies offer efficient delivery of information, freeing up time for advisors to provide more sustained, holistic support. For example, some advising technologies allow advisors to quickly send messages to students with links for setting up an advising appointment. This provides encouragement for students to come in for an advising session and makes it easier to check in with students over the course of the semester. Moreover, the robust data-analysis functionalities of advising tools may be used to determine which resources would best support particular students, so that advisors can target resources more strategically. Advisors can review early-alert and predictive analytics data and refer students who are struggling to services such as tutoring; some technologies allow the advisor to submit the referral electronically and notify both the student and the service provider.

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Colleges' Standard Advising Structures and Practices

The three participating institutions worked to create advising structures and processes that were more strategic and proactive than their existing advising approaches. This section provides a brief description of their standard advising structures and technologies.

University of North Carolina at Charlotte

Standard advising practices vary across UNC Charlotte's eight colleges (e.g., its colleges of education and business), each of which has its own advising center. Many of the colleges use a split model of advising, in which professional advisors advise incoming and pre-major students and faculty members advise students once they have declared and entered a major. All students are required to see a professional advisor during their freshman year and when declaring a major, but other advising requirements vary across colleges.

Since 2015, the university has been using the Starfish software platform to send early alerts to students who are at risk of not graduating. Starfish allows instructors to identify students deemed at risk due to various factors, such as low grades or poor attendance. Faculty teaching the "top 40" courses (courses that are heavily enrolled in by first- and second-year students and are often predictive of success in a major) enter early alerts into the system during the fourth week of the semester. Students receive an automated message from Starfish via email when faculty submit an early-alert flag or kudos. Advisor interventions in response to flags are limited; typically, there is no follow-up other than the automated message from Starfish. When advisors do meet with students, they use the case-management system within Starfish to record notes, which are accessible to other support staff.

UNC Charlotte also employs EAB's Student Success Collaborative platform, a predictive analytics tool that generates a score indicating students' probability of graduating in their declared major. These scores are updated each semester as new data about students' academic behavior and performance becomes available. Like Starfish, this technology was not used consistently by advisors, either in interventions with high-risk students or during regularly scheduled advising sessions.

California State University, Fresno

Like UNC Charlotte, Fresno State has a decentralized model of advising. A separate advising office serves each of the university's eight colleges, and the University Advising Center supports undeclared and exploratory students. All students are required to meet with a professional advisor during their freshman year and when they reach a 75-unit threshold, but other advising touch points vary by college and major and are typically not required.

Since 2012, the university has used GradesFirst, a student-support software platform. Advisors and other support staff use GradesFirst to document appointments, view notes and reports from past advising interactions, and deploy early-alert surveys to faculty during the seventh week of the semester for a subset of high-impact courses. The surveys allow faculty to raise flags for students experiencing academic or personal difficulty or exhibiting challenging classroom behavior. Notifications are sent to flagged students and advisors; advisors may then reach out to students or refer them to the university's support program, SupportNet, for additional academic and personal assistance. When a referral is made to SupportNet, a case is opened in GradesFirst; the case is closed after a student meets with an advisor or SupportNet staff member to discuss the referral.

With the 2015 iPASS grant, Fresno State launched two additional advising technologies focused on educational planning: U.Achieve and U.Direct. U.Achieve is a degree-audit tool, and U.Direct, referred to locally as *MyDegreePlan*, is an education planning tool that allows students to map the courses they must take to complete their degree.

Montgomery County Community College

At MCCC, professional advisors counsel students based on their program of study, and academic advising and student support services are housed in Student Success Centers located on both of the college's campuses.

Students' advising requirements vary. Degree-seeking students beyond their first semester do not typically have any requirements related to advising or student support—but the college *does* require select subgroups of students to receive more intensive advising. Students who are in their first semester or on academic probation are required to meet with their assigned advisor prior to registering for classes. They are also required to complete additional work outside of their appointments: First-semester students must complete an education plan, and students on probation must attend a workshop on support programs and resources at the college that can help them get back to good academic standing. Additionally, these two groups, along with students with a financial aid appeal,[2] receive a midterm follow-up from their advisor.

The college has adopted various technology platforms to supplement these advising interactions. As part of its previous iPASS work, MCCC introduced Ellucian's student education planning tool and Starfish's Early Alert and Connect tools (the latter of which is a scheduling platform). At present, the college uses Starfish technology to schedule advising appointments, and faculty use Starfish to manually issue early alerts and report midterm grades. Starfish also contains a note-taking tool, which advisors use to store their session notes. The college worked with representatives from the Blackboard learning management system to create a tool that incorporates information from Starfish and from MCCC's student information system to provide students with a snapshot of their academic standing, including their GPA and the number of credits that they have completed, when they log into their online portal.

Laying the Groundwork for Advising Redesign

In fall 2016, UNC Charlotte, Fresno State, and MCCC undertook a semester-long planning process to identify the specific types of reforms they wanted to implement during the first intervention semester. The focus was on selecting enhancements that, when implemented at scale, would align their advising with the SSIPP and advising-as-teaching ideals described above. To facilitate this process, institutional representatives used CCRC and MDRC's tool titled *Implementing Holistic Student Support: A Practitioner's Guide to Key Structures and Processes* (Kalamkarian, 2017) to analyze their current advising practices and to plan enhancements to their advising practices for students in the intervention group.

The framework identifies structures and practices that contribute to a holistic advising environment. The framework also asks institutions to identify if each structure or practice is in place and if and how they would like to change it.

To illustrate, one of the structures of technology-mediated advising reform identified by the framework is "guidelines for ensuring that all students have a complete degree plan." In working through the framework, institutions determined the extent to which there was already a consistent expectation for multisemester degree planning and, if not, whether this would be a useful addition to their advising practices. This approach ensured that enhancements to advising were aligned with each institution's unique context and needs and that they were grounded in research on effective technology-mediated advising practices.

CCRC and MDRC provided the institutions with ongoing support and feedback throughout the planning period. On two separate occasions, the research team convened project leads (three to four advisors and administrators from each institution) to develop and work through their advising redesigns and other implementation plans. First, the research team coordinated a daylong convening in New York at the start of the fall 2016 semester and invited project leads and their respective software vendor partners to attend. At this convening, CCRC and MDRC representatives introduced the holistic student support framework and, with support from colleagues at Achieving the Dream and EDUCAUSE, facilitated working sessions on using the framework. Later that fall, the research team reconvened the same group in California as part of the annual EDUCAUSE conference so they could provide further technical assistance and guidance to the three institutions prior to the beginning of the evaluation.

> " Enhancements to advising were aligned with each institution's unique context and needs and grounded in research on effective technology-mediated advising practices.

In addition, project leads at each institution, in collaboration with CCRC and MDRC, conducted on-site professional development to acquaint other advisors and staff with the specifics of their advising redesigns and address outstanding implementation questions

in advance of the study's launch. These sessions clarified why redesigning advising is important and what the institution hoped to achieve—thereby garnering support from the advisors, whose responsibilities would be changing. The research team described the SSIPP model of advising, the evidence base for this model, and lessons learned from other institutions. Project leads showed screenshots of the new technologies that would be implemented and demonstrated how advisors would be expected to support students' degree and career planning, discuss early-alert flags, and take notes on their advising sessions. Finally, the sessions included role-playing exercises and discussion questions to allow advisors to practice and discuss strategies for interactive advising sessions.

Finally, CCRC and MDRC provided ongoing operational support through regular phone calls with each site and feedback on advising materials designed by the institutions. For example, CCRC worked closely with each institution to design guidelines for advising sessions with students who would receive the enhanced support. Similarly, the MDRC behavioral economics team reviewed all outreach messages to students to ensure that principles from behavioral science were incorporated into the messaging strategy and content. The CCRC and MDRC research team continues to meet and communicate regularly with each site as the institutions implement their advising redesigns.

Key Components of the Colleges' Advising Redesigns

Each institution approached the framework for holistic student support differently and identified unique ways to redesign and enhance advising, even as the end goal, a SSIPP advising model, remained the same. Prior studies on technology-mediated advising reform have also found myriad approaches to leveraging technology to improve student support (Brooks, 2014; Karp et al., 2016). In this section, we highlight the ways that UNC Charlotte, Fresno State, and MCCC operationalized the framework.

The three institutions found that in order to redesign advising, they needed to confront questions of how and when they would provide support to students. Moreover, they needed to articulate answers to these questions that could be implemented well by those charged with directly providing support to students. Thus, each institution created guidelines for two core components of the reformed advising approach: strategic outreach to students and advising sessions.[3]

Strategic outreach entails proactively communicating with students via email, phone, or text message. As part of institutions' enhanced advising, and in accordance with the SSIPP model, outreach takes place at several points over the course of the semester, and the approaches advisors use are often differentiated according to students' needs.

Advising sessions address students' academic and career goals and provide personalized strategies for overcoming academic and nonacademic challenges. These sessions allow advisors to engage students in a data-informed discussion about their successes

and challenges and how well their academic progress to date prepares them for their long-term academic and career goals. Each institution placed a registration hold on at least a subset of students, requiring them to participate in an advising session before registering for courses.

The strategic outreach and advising session components of the institutions' advising redesigns are interconnected. For example, outreach in response to early-alert flags or midterm grades informs students of their academic progress. Then, during advising sessions, advisors can initiate a discussion with students about their academic progress by following up on the information and strategies shared in this earlier communication.

Strategic Outreach

A key aim of institutions' advising redesigns was to establish regular communication with students throughout the semester. By reaching out to students regularly to share information, prompt them to take action, and foster a meaningful advisor–advisee relationship, institutions worked toward enacting the SSIPP model of advising, in which support is sustained and strategic.

To craft an outreach plan, each institution determined when and how often to reach out to students (i.e., timing and frequency), what platform to use to deliver the messages (i.e., mode of communication), and what to say in each message and how to say it (i.e., content and tone).

Timing and Frequency

UNC Charlotte, Fresno State, and MCCC each designed a plan to reach out to students at regular intervals throughout the semester. Institutions were especially cognizant of two factors when deciding on the timing and frequency of communications. First, all three aimed to influence student behavior at key decision points during the semester (e.g., the start of the semester, early-alert receipt, midterm, and prior to finals). Second, because the outreach messages unique to the intervention were generally sent in addition to institutions' standard messaging, the institutions carefully considered the volume of communication that students were receiving about advising and support services.

At Fresno State, students participating in the intervention receive communication from their assigned advisor or peer mentor several times during the semester—at minimum after early alerts are issued and at the start and end of the semester. At MCCC, outreach messages are sent out consistently throughout the semester, varying from weekly to biweekly (every other week), including at the start and end of the semester, after early-alert flags are submitted, and around midterms. Similarly, UNC Charlotte messaging begins right before the start of the semester and continues regularly at least every two weeks until midterms, with a couple of pre- and post-finals messages sent out as well.

Mode of Communication

In addition to the timing and frequency of messages, institutions considered the mode of communication as they planned their advising redesigns. CCRC and MDRC researchers worked with the institutions to leverage their existing communication platforms to deliver messages to students. Outreach took place via email, phone, text message, online assessments and surveys, and Blackboard online messages. Across all three institutions, email was the main mode of communication, but phone calls and texts were also used, as students' responsiveness and use of one mode or another varied.

Message Content and Tone

Institutions' outreach plans mainly included two types of messaging—informational and targeted. Informational outreach was meant to be informative and instructive in nature, focusing on a particular topic (e.g., available services). *Informational communication* included standardized content, so the message was the same for all students, though in some instances there was personalized content in the message as well (e.g., the student's name, program of study, current courses, etc.). *Targeted communication* addressed specific issues related to individual students' academic performance, status, needs, or requirements. Targeted communications were typically personalized (e.g., with the student's name, current courses, mid-semester grades, etc.) and customized (e.g., with the language and message altered based on a student's status, performance, or need). The rationale for using personalized communication as opposed to broad communication is rooted in previous research indicating that direct communication to students is essential for developing meaningful advisor–student relationships (Higgins, 2017).

> **Direct communication to students is essential for developing meaningful advisor–student relationships.**

For each type of communication, considerable attention was given to the tone of the message. In some cases, messages focused on students' academic performance, progress, or challenges, and institutions needed to determine how best to present such sensitive information to avoid discouraging students and to prompt action where needed. Those overseeing the advising redesign at each institution crafted these messages, often engaging advisors in this task. The CCRC and MDRC research team, in collaboration with the project leads at each institution, worked to incorporate insights from behavioral science to ensure the messages' language and tone would encourage the desired outcomes.

Informational communication: Though the majority of the institutions' enhanced outreach efforts were targeted and specific, communications at all three institutions also included informational content with standardized text sent to the entirety of the intervention group. Content was informative in nature, focusing on a particular topic relevant to the general student population regarding available services or resources. Such communications could be used to provide general instruction or standard information in a timely and efficient way, allowing more time for advisors and students to discuss more specific topics and complicated matters during in-person interactions.

For example, at Fresno State, messages welcoming students in the intervention group to the new term and encouraging students to meet with an advisor included a link to instructions on how to complete an educational plan using the MyDegreePlan tool. These instructions were generic steps that students from all academic departments could follow to set up their educational plan.

As part of MCCC's advising redesign, students were enrolled in an organization in Blackboard, mimicking an online course. MCCC used these Blackboard sections to deliver its "Did You Know?" series, which consists of standard informational messages, such as a description of available tutoring services or resources. Messages are visible to students as an announcement on the homepage when they log into Blackboard and are sent to students by email. For example, an email might read:

Did you know? MCCC offers free face-to-face and online tutoring.

MCCC Blackboard
to Student

The College is committed to your success!

We have Tutoring Centers at both West and Central Campuses and many subjects can even be tutored online. Our Centers operate primarily on a walk-in basis, although writing support can be requested via appointment. Our tutors include college professors and other trained specialists—that's why many of MCCC's best students take advantage of our tutoring services. Nearly 1,500 MCCC students benefited from tutoring in the fall semester alone!

Log into *MySuccessNetwork* for more information about tutoring opportunities for any classes in which you want more support. The earlier that you go for tutoring, the more effective it can be. Don't delay!

Other topics covered in the "Did You Know?" series include financial aid opportunities, transfer guidelines, shuttle services, and instructions for switching majors online.

UNC Charlotte's enhanced outreach efforts also included messages with standardized informational content, such as links to support services and an online system for scheduling an appointment with an advisor, as shown below.

Information on Advising Options

UNC Charlotte Advisor
to Student

IF YOU WANT ...	YOU SHOULD ...
Help making an action plan that works for you, or if you're not sure what to do	Meet with me
Help with concepts, advice on success, information on grades	Meet with your Professor (Have you?)
Help understanding content for a specific class	Attend Tutoring or Supplemental Instruction
Help with study skills, time management, etc.	Take a Study Skills Workshop

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Targeted communication: The three institutions also designed communications with content targeted to particular students based on their academic status and needs. Targeted communication helps institutions build toward the sustained, strategic, personalized, and proactive advising characteristic of the SSIPP model; however, this type of outreach is time- and resource-intensive, making it difficult to implement. Each institution approached this trade-off differently.

UNC Charlotte aimed to provide as many details as possible about students' course enrollment and progress while still employing technologies that allow for mass communication. For example, the university utilizes its predictive analytics tool to identify courses that are associated with graduation in a given major, which it refers to as "critical progression courses." As part of the enhanced advising experience, students receive a message during the second week of the semester telling them whether they are enrolled in critical progression courses and, if so, which ones. The message describes the importance of these courses for success in students' major and provides a list of support services that students can utilize to ensure success in these courses.

UNC Charlotte is also strategic in its follow-up communication with students who are identified by faculty as at risk on early-alert surveys or who receive low midterm grades. These messages contain standardized content, such as links to support services

and an online system for scheduling an appointment with an advisor. However, using a mail-merge function, advisors customize areas of the message with information unique to the student, such as the type of flags received and in which courses.

At MCCC and Fresno State, targeted outreach also includes communications that are entirely customized to reflect each student's unique circumstances. MCCC advisors respond individually to each student identified as at risk in at least one course on early-alert surveys. Advisors have discretion in crafting individual messages, but they are asked to include a rationale for the message and specific action items that students should complete to address the instructor's concern. For example, one advisor followed up with a student who the instructor indicated is no longer participating in an online course, stating:

Following up...

MCCC Advisor
to Student

[Student name],

I am following up on the email I had sent to your personal email. Professor [instructor's name] has notified me that you are no longer engaged in your online [course name] course. Please contact her immediately to see if you can re-engage in the course and "catch up" or if you will need to withdraw. You can find the process for withdrawal in your student portal. If something is happening in your personal life this semester, please contact me directly and we can discuss your options. Please respond back as soon as possible. Thank you!

[Advisor's name]

At Fresno State, a unique approach to targeted outreach for at-risk students occurs through phone calls from graduate students employed as peer mentors. The peer mentors do not provide advising but do check in with students, provide assistance with scheduling advising appointments, and offer general information about student supports and resources (e.g., tutoring). Under the university's enhanced advising model, faculty complete early-alert surveys about student performance three times during the semester, at weeks 5, 7, and 10. Peer mentors then call students who are identified as at risk on these surveys within 24 hours to discuss challenges that they are experiencing and share information about relevant resources. A peer mentor described a typical outreach and referral process as follows:

> So let's say that I made the first-attempt call, and I'm able to reach them. So I talk to them, and … I will ask them, "How are you doing in class? Do you know about the SI [Supplemental Instruction] session or tutorial session?" And they say that they do not know. Then I would tell them, "Okay, so would you like me to send you those resources, the link to it, the schedule to

you?" So if they say yes, then I will send it to them. And then probably like the week after, or two weeks after, I would call for a follow-up.

Peer mentors will refer a student to advisors and/or mental health services if their initial conversation suggests the student is experiencing complex issues, including socioemotional challenges. Peer mentors attempt to reach students by phone or email at least three times and record notes about each attempt. The peer-mentor model offers institutions a cost-effective approach to intensive, proactive outreach to students. This model also allows advisors to focus their time on meeting with students.

Advising Sessions

Under each institution's enhanced advising model, at least a subset of students were required to meet individually with advisors once per semester. In these one-on-one sessions, advisors would engage students in a data-informed discussion about their successes and challenges and how their progress aligns with their academic and career goals. Advisors would also assist students in navigating complex institutional structures and refer them to resources for additional help with both academic and nonacademic issues. By addressing these various topics, advisors aimed for a holistic discussion with students—one that extended beyond helping students with the transactional task of registering for courses.

> **Advisors aimed for a holistic discussion with students— one that extended beyond helping students with the transactional task of registering for courses.**

UNC Charlotte, Fresno State, and MCCC took a proactive approach to get students the support they needed, when they needed it, and decided to make participation in advising *mandatory*. Each institution placed a registration hold on at least a subset of students to ensure they would experience enhanced advising.[4] Fresno State and MCCC placed a registration hold on all students in the intervention group. UNC Charlotte used midterm grades to identify students who would most benefit from a required advising session: Students with unsatisfactory midterm grades in both a major course and a non-major course received a registration hold and were required to meet with an advisor.[5]

To facilitate one-on-one sessions, each institution developed a "toolbox" for advisors outlining three to four goals for student learning outcomes focused on information, skills, and cognitive development, along with topics for discussion and guiding questions for each topic. The guiding questions were crafted to facilitate an open-ended, interactive discussion about students' experiences, academic and career goals, and education plans in accordance with an advising-as-teaching model (Wilcox, 2016). The toolboxes are intended to help advisors use the limited time they have with students to assist them with understanding how their academic pathway aligns with their broader goals and with learning to identify and resolve issues that can impede their progress.

At MCCC, students in the intervention group are scheduled to meet with an advisor for a 45-minute session. Students are asked to complete all four career assessments in the JobZology instrument (referred to as *MyCareerPlan* at MCCC) prior to the meeting. Students' assessment results and their education plans in the Starfish Self-Service portal

serve as the basis for the discussion of their academic and career goals in the advising session. See Table A3 in the appendix for the section of the MCCC toolbox that outlines objectives and guiding questions for the "Career and Educational Plans" discussion topic.

Moreover, as shown in Table A2, the MCCC toolbox focuses on nine areas that the college's advisors collectively identified where students can experience issues that may impact performance. In one-on-one meetings, advisors engage students in conversation to determine if issues in one or more of these areas are impacting their success. To address these issues, the toolbox includes suggested action items (including referrals and tasks) that can be used to create individualized success plans for students. Advisors take notes using the Starfish interface during each session, including a narrative description and an indicator for each performance issue addressed during the meeting.

Fresno State students were also required to attend an advising appointment. For students in the intervention group, advising appointments were one hour long, as opposed to the typical 30 minutes. Fresno State advisors, like those at MCCC, used a toolbox that included outcomes, topics, and guiding questions to address students' academic and career goals as well as their progress through their major. Fresno State students were encouraged to schedule this advising appointment after attending an advisor-led workshop on how to use the university's newly launched MyDegreePlan tool. Introducing students to the tool's functionalities in the workshop setting enabled advisors to focus on discussing students' goals in their one-on-one advising appointments.

> **Advisors bring professional expertise to their interactions with students, which is critical to student engagement and high-quality advising.**

At UNC Charlotte, students in the intervention group with unsatisfactory midterm grades in both a major course and a non-major course are required to attend an advising session. During this session, advisors engage students in a dialogue using a toolbox with guiding questions to help them identify challenges and develop strategies for addressing them. Strategies may include reviewing study skills, such as how to prepare for a test; seeking additional institutional support; and considering alternative pathways.

It is important to note that the advising toolboxes at each institution are intended to provide guidance for interactions with students during an advising appointment and to emphasize an advising-as-teaching approach that leverages data on students' performance to improve student outcomes. They are not intended to completely standardize what happens in an advising appointment. Advisors bring professional expertise to their interactions with students, which is critical to student engagement and high-quality advising.

Each institution developed a "toolbox" for advisors outlining three to four goals for student learning outcomes.

Emerging Themes

A number of themes have emerged from our observations and regular meetings with the project leads at each institution. Below, we outline several, with the goal of providing guidance for other institutions interested in adopting similar approaches to advising.

Structural changes are needed to transform how students experience advising.

UNC Charlotte, Fresno State, and MCCC conceptualized their one-on-one advising sessions as opportunities for holistic discussion that approaches an advising-as-teaching ideal. Previous research has shown that implementation of a SSIPP approach is often challenging given structural limitations, including a limited number of advisors and limited time available for advisors to engage with students (Wicks, 2017). Providing high-quality advising is especially challenging for advisors during registration periods or in settings where a walk-in advising process is used. Advisors often have caseloads of hundreds of students, contributing to capacity issues that make incorporating holistic discussions into advising appointments difficult (Karp, 2013).

To alleviate these structural limitations, the institutions in the current study took steps to restructure advising in ways that substantially improved advisors' ability to have meaningful discussions with their students. For example, by extending the duration of advising time slots, Fresno State and MCCC ensured that advisors had ample time to discuss students' long-term academic and career goals and ways to resolve academic and nonacademic challenges. At all three sites, encouraging students who were part of the intervention group to make an appointment to see their assigned advisor (as opposed to meeting with an advisor on a walk-in basis) made it more feasible for advisors to prepare for the session by reviewing key data points, such as students' early-alert flags and midterm grades.

Professional development is necessary to support advisors as they adopt holistic advising practices.

While they have already implemented some structural changes, UNC Charlotte, Fresno State, and MCCC still have work to do to transform how students experience advising. In order for an advisor and a student to create a meaningful partnership, a relational connection must exist between the pair (Higgins, 2017). Advising program staff must first have a broad understanding of the critical components required to create and sustain effective advising relationships, such as trust, communication, and connectedness (Higgins, 2017). However, our engagement with sites to date suggests that there is wide variation in advisors' abilities to build this type of connection with advisees.

Advisors at all three sites suggested that part of the challenge is their limited access to evidence-based guidance on how to engage students in the cognitive development

that is characteristic of the advising-as-teaching model. Advisors need and want additional resources and professional development opportunities that support their efforts to engage students on topics beyond course registration and short-term academic planning; these supports can and should go hand-in-hand with structural changes that allow advisors the time to engage in advising-as-teaching practices.

There are open questions about appropriate ways to use risk information and how to discuss risk data with students.

One core component of the advising redesigns at all three sites is utilizing data—such as early-alert flags, midterm grades, and predictive analytics scores—to gauge the risk of students falling off track in their programs and to prompt targeted outreach to students. Consequently, at all three institutions, students in the intervention group received notifications at points throughout the semester when they appeared to be struggling based on grades, early-alert flags, or other data points. By adopting this practice, UNC Charlotte, Fresno State, and MCCC made significant progress toward proactively identifying and intervening with at-risk students.

As institutions worked to craft outreach messages, however, questions emerged about appropriate ways to use risk information and address risk with students. Advisors engaged in crafting outreach messages in response to risk data varied in their opinions on what the tone of the messages should be and the extent to which the data should be specifically referenced in the communication. Similarly, institutions struggled to articulate how to discuss risk data with students in one-on-one advising sessions. Advisors noted the need to maintain a personalized tone and use the information in a way that motivates rather than discourages students. They believed that it was important to share risk data with students, but that it was also important to emphasize that students could alter their predicted trajectory by modifying academic behaviors, and to make students feel supported as they made key changes.

Advisors and other key personnel struggled to strike this balance. Institutions in the current study and the field in general would benefit from additional research on effective strategies for using and communicating risk data during advising sessions.

Uncertainty about appropriate data use and risk messaging was exacerbated by questions about the efficacy of some predictive analytics tools. At one site, a predictive analytics software program failed to take some students' recent academic performance into account, leading to skewed risk scores for those students. Across the study's three sites, advisors noted that risk scores indicating individual students' probability of on-time graduation did not always reflect what an advisor would predict based on the student's GPA and past course performance and the advisor's knowledge of the student. Improvements to existing technologies related to risk prediction and assessment and a broader understanding of these technologies are both necessary for advisors to trust and use these tools.

Engaging multiple stakeholders in transformational advising redesigns is critical yet challenging.

All three sites approached the work of redesigning advising aware of the need to engage multiple institutional stakeholders in the project. At its core, redesigning advising is about changing how students experience support, leveraging advising technologies. To achieve this objective, all three institutions involved staff from various areas of the college, including advising, support services, and information technology, along with the senior administrators who oversee these divisions. Moreover, given the researchers' role in providing analytic support for the redesign work, each institution also involved institutional research staff, who coordinated with the CCRC and MDRC team to track and transfer data. Consequently, from the start, the core team overseeing the redesign efforts at each institution involved a range of stakeholders.

Throughout the redesign process, however, we learned that we needed to do more at all three sites to involve advisors in both designing and implementing the intervention. Although the core team at each institution included at least one advisor or advising director, it was important to engage a broader cross-section of advisors to accurately identify current advising practices and areas of need and to craft outreach approaches that would resonate with students from various colleges and departments. At institutions with a decentralized advising structure and multiple departments participating in the study, it was helpful to have at least one advisor from each unit participating in the design process so that department-specific preferences could be considered. Moreover, the redesigned outreach plans may have been improved with additional feedback from the full advising team at each institution.

To that end, in fall 2017, we further expanded our engagement with advisors involved in the study. For example, we asked project leads at each site to share early drafts of student outreach communications at advising staff meetings, and we encouraged sites to create working groups of advisors devoted to crafting and reviewing messaging about risk, the benefits of attending advising sessions, and on-campus resources.

Faculty involvement and buy-in are also important to the success of an advising redesign. Through the completion of early-alert surveys and the formal submission of midterm grades for each student during the semester, instructors can provide timely indications of academic struggle or performance concerns to both students and advisors. This information can prompt advisors to reach out to students early in the semester and can inform advising discussions at key points in the semester. Despite the potential benefits, faculty response rates to early-alert surveys and midterm grade submission can vary greatly, so early indicators of students' academic performance are not always available. As part of the redesign efforts at our partner institutions, we worked with senior administrators on ways to communicate the importance of raising early-alert flags and sharing midterm grades to faculty at meetings and through a formal memo. We continue to work with core teams and senior administrators to encourage faculty to provide advisors information about students' academic risk throughout the semester.

Conclusion

UNC Charlotte, Fresno State, and MCCC continue their efforts to leverage advising technologies to redesign their advising services and provide more holistic supports for students. The initial versions of their respective reforms described in this report may serve as useful guides for other colleges and universities embarking on advising reforms. Each institution approached CCRC and MDRC's theoretical framework for technology-mediated advising (Kalamkarian, 2017) in a slightly different way, and other institutions can look to these examples when considering how advising reforms might be customized to suit their own contexts.

CCRC and MDRC continue to engage with all three sites, offering technical assistance and formative feedback. In subsequent publications, we will describe each institution's experience implementing advising redesigns and note if, how, and why institutions refined their enhancements to advising. Moreover, we will consider short-term and longer term impacts of the enhanced advising practices on student outcomes.

Endnotes

1. We define *broad-access colleges* as public or not-for-profit private institutions that accept 80 percent or more of applicants. This includes community colleges as well as open-access four-year colleges (Doyle, 2010).
2. Students who fail to make satisfactory academic progress lose their financial aid; these students may appeal this decision.
3. These guidelines also allowed the research team to document and measure adherence to the redesigned advising model for the purposes of the randomized controlled trial.
4. Registration holds were placed on students' accounts to prevent them from enrolling in or changing courses until they had taken a particular step (i.e., met with an advisor) or addressed certain issues (e.g., paid an outstanding financial obligation). Often registration holds are placed on first-year students or students on academic probation.
5. The policy at UNC Charlotte varied by college, with most colleges requiring students in the intervention group who received a D or an F on a midterm exam to meet with an advisor.

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Appendix

Montgomery County Community College

Table A1.

Advisors' Goals for Student Learning Outcomes as Described in the MCCC Toolbox

TYPE OF OUTCOME	EXAMPLE
Information	• Students will understand what my role is as an advisor, the support that is available at MC3, and how and where to find it.
Skills	• Students will learn how to create, reference, and adjust their career plans to help them meet their educational and career goals. • Students will identify what core performance issues may be affecting their ability to be successful at the College.
Cognitive development	• Students will understand how their courses and academic performance contribute to their long-term academic, career, and life goals.

Table A2.

Core Issues Outlined in the MCCC Toolbox

ISSUE AREAS	ACTION ITEMS
1. **Career indecision** When a student is uncertain as to his or her successful career path	• Referral to Career Services • To-do to further explore MyCareerPlan independently
2. **College readiness** When a student isn't academically prepared to be successful in college-level coursework (study habits, etc.)	• Encouragement to take Strategies for College Success 101 if not already taken • Referral to Tutoring if appropriate
3. **Educational value** When a student doesn't understand the intrinsic value of earning an education, making him or her question the purpose of this experience	• To-do to further explore MyCareerPlan independently
4. **Health issues** When a student has diagnosed or undiagnosed symptoms of anxiety, depression, or other (mental or physical) illnesses that interfere with his or her academic success	• Referral to Student Support and Referral Team
5. **Interference factor** When a student has nonacademic issues that are interfering with academic success	• Referral to Student Support and Referral Team or Financial Aid (or additional cohort program depending upon student need/interest–Minority Student Mentoring Initiative, Keystone Education Yields Success, Act 101 Scholars Program, etc.)
6. **Mismatch between skills, interests, and abilities** When a student has an educational goal that doesn't align with his or her actual skill level or abilities	• Referral to Career Services • Referral to Disabilities Services (if applicable)
7. **Self-efficacy** When a student doesn't believe that he or she can actually succeed in school (lacks the Little Engine's mentality)	• Referral to the Director of Student Retention
8. **Sense of belonging** When a student does not feel a sense of belonging or affiliation with the institution	• To-do encouragement to explore campus involvement
9. **Transition management** When a student is having trouble adopting an identity as a college student, transitioning from other roles as a high school student or worker	• Referral to the Director of Student Retention

Table A3.
Career and Educational Plans Section of the MCCC Toolbox

OBJECTIVES BY TOPIC	GUIDING QUESTIONS
• Confirm student has completed MyCareerPlan. • Review MyCareerPlan results with student. What general areas has the student scored the highest in? Did he or she have a particular career in mind that you can search for to validate the match? • If a student is interested in a particular career, explore it further in the tool, showing how to find jobs or to see the detailed summary of the career (including job growth by state). • Confirm that student has planned out past this semester in Self-Service. Are the student's courses still appropriate? Will the student need to take summer courses to graduate? Will the student stay at the same credit load to graduate?	• We'll get to talking about your questions and discussing classes, but before we do, tell me a bit more about what you are interested in doing after college. What jobs are most interesting to you? What type of work are you interested in doing? • Let's review your MyCareerPlan results. What areas were you the strongest in? • Let's learn more about [career]. Using this tool, we can discover open jobs in a certain geographic area, what the average salary is, what the educational requirements are, and even what the expected job growth outlook is for this field (poor to bright).

Table A4.
Summary of Enhanced and Standard Advising Models at MCCC

COMPONENT	ENHANCED ADVISING	STANDARD ADVISING
Informational communication	Message welcoming students to semester, requesting completion of first self-analysis survey.	No welcome message required, though some advisors may send one.
	Message instructing students to complete MyCareerPlan.	No message about completing MyCareerPlan.
	Early-alert message at Week 3 informing student of his or her progress in specific course(s).	No Week 3 early-alert message, just university-wide message at Week 2.
	Message requesting completion of second self-analysis survey.	No self-analysis surveys.
	Message wishing students good luck on finals.	No good luck or end-of-semester message required, though some advisors may send one.
	Series of "Did You Know?" informational messages throughout the semester.	No "Did You Know?" messages.
Targeted communication	Message responding to early-alert surveys.	Practice varies by advisor.
	Message responding to self-analysis survey results.	Self-analysis surveys not administered.
	Message responding to midterm grades.	Practice varies by advisor.
Advising sessions	Mandatory advising.	Advising only required for students in their first semester at the college and those on probation.
	Messages to schedule appointment.	Walk-in or scheduled appointments initiated by student.
	45-minute session.	30- to 45-minute advising sessions (varies by appointment reason).
	Advisor toolbox with eight core performance areas to guide advising session.	No advisor toolbox to guide advising session.

California State University, Fresno

Table A5.

MyDegreePlan Section of the Fresno State Toolbox

OBJECTIVES BY TOPIC	GUIDING QUESTIONS
MyDegreePlan	

• Confirm student has completed MyDegreePlan that extends beyond one semester.
 • Review plan to identify and help student understand potential pitfalls in what student has planned.
 • Help student craft and/or adjust as necessary a MyDegreePlan based on assessment of aspirations, interests, and values.
 • Teach student to create a "game plan" or develop strategies for next semester that will help him or her achieve academic and career success.
 • Address time management needs to ensure student is taking a course load that allows for enough study time.
	• Review MyDegreePlan content and make adjustments as needed.
	    o If student has not completed a degree plan, walk through how to build a plan and start the process.
	    o If student has a degree plan, give student kudos for attending workshop and setting up a plan.
	    o While reviewing the degree plan, check for items such as sequence of courses, pre-requisites, and course offerings.
	 • "Why do you think this plan makes sense to you? What part of this plan might be challenging? Can we think of strategies to address those challenges in advance, so you have a game plan?"
	 • "Let's discuss your plan for next semester."
	 • "What is the best time of day for you to get things done?"

Academic and Career Goals	

• Address student concerns pertaining to major selection.
 • Support student understanding of degree requirements for major(s) and/or program of study.
 • Help student assess progress toward intended major(s).
 • Help student understand and articulate career options and opportunities based on major selection.
 • Check on how student is performing in major classes to inform how to guide student on success in his or her chosen major.
 • Direct student toward activities and habits that will nurture and support his or her academic and career goals.
 • Refer to University Advising Center for major exploration or Career Development Center for further career guidance, as needed.
 • Refer student to other campus involvement opportunities, such as clubs, study abroad, internships, research opportunities, etc.
 • Guide student to understand connection between current-term performance and long-term goals.
	• How do you feel about the major you have selected?"
	    o "What about this major feels like it is a good fit?"
	    o "What isn't a good fit?"
	    o "What questions/concerns do you have regarding your major?"
	 • "What type of career do you hope to gain from earning your degree in this major?"
	 • "What jobs are most interesting to you? What type of work are you interested in doing?"
	 • "What internships have you considered? What type of internships are you interested in doing?"
	 • "What other activities, like study abroad or research with a professor, are you interested in exploring?"
	 • "What impact do you think your current semester will have on your college degree? Your life after college?"

Table A6.

Summary of Enhanced and Standard Advising Models at Fresno State

COMPONENT	ENHANCED ADVISING	STANDARD ADVISING
Informational communication	Message welcoming students to semester, announcing MyDegreePlan workshops.	No welcome message required, though some advisors may send one.
Targeted communication	Call from peer mentor reminding students to sign up for MyDegreePlan workshop.	No peer mentor phone calls regarding MyDegreePlan.
	Call from peer mentor checking in on flagged students.	No peer mentor phone calls to check in on flagged students. Email or call from Support Net staff for flagged students; process and criteria for outreach varies by college.
	Call from peer mentor reminding students to sign up for advising appointment.	No peer mentor phone calls.
	Call from peer mentor reminding students about upcoming advising appointment.	Peer mentor phone calls at one college reminding students about upcoming advising appointment.
	Early-alert messages at Weeks 5, 7, and 10 informing students of flags in specific course(s).	Early-alert message at Week 7 informing students of flags in specific course(s).
Advising sessions	Mandatory advising.	Advising only required for students who are in their freshman year, have reached 75 credits, or are on academic probation.
	Email campaign sent by advisors to schedule appointment.	Walk-in or scheduled appointments initiated by student.
	One-hour session.	30- to 45-minute advising sessions (varies by college).
	Advisor toolbox to guide advising session.	No advisor toolbox to guide advising session.
	One-hour workshop on MyDegreePlan, with opportunity to complete degree plan with facilitators.	No targeted in-person training on MyDegreePlan.

University of North Carolina at Charlotte

Table A7.
Sample Guiding Questions From the Toolbox

	PURPOSE/GOAL FOR STUDENT LEARNING	IMPLEMENTATION NOTES	GUIDING QUESTIONS/STEPS FOR ADVISORS TO TAKE

Pre-appointment preparation	• Ensure that the advisor has reviewed important and relevant data.
	• Ensure that the student is engaged as an active partner.
		• During high-volume periods preparation time may be limited.
		• Preparation will be limited for walk-in appointments.
			• Review iPASS data.
			  o Student Success Collaborative predictive analytics risk data [Starfish 'home' tab]
			  o Trajectory [Starfish 'tracking items' tab]
			  o Early alerts
			  o Midterm grades
			  o Responsiveness
			• Review transcript data.
			Appointment preparation allows advisor to assess the "trend" in the student's performance (up, flat, down) and thus the extent to which the student is taking the actions necessary for success.

What's not going well	• Enable student to understand challenges he or she faces. • Build student's self-efficacy/agency.	• Enable student to understand challenges he/she faces. • Build student's self-efficacy/agency.	**Challenges:** "Ok, let's shift to challenges you're having. College is a stretch for everyone; it's helpful to explore problems and concerns so you can proactively address them. So tell me what is not going well this semester? And more importantly, what do you think you can do to overcome these challenges?" **Open-ended follow-up:** • Approach depends on your assessment of student's risk trend and reading of the student's needs. • Make reference to iPASS data where appropriate and helpful for the student's development. **Wrap up:** "If you remember, back at the beginning of the semester I let you know that this semester might be a critical turning point. Since then you have had [early alerts and/or D or F midterm grades]. The data we have analyzed suggests that you may be at a critical juncture where you need double down on your commitment to excellence. So let me hear your specific plans for following through for the rest of the semester."

Table A8.

Summary of Enhanced and Standard Advising Models at UNC Charlotte

COMPONENT	ENHANCED ADVISING	STANDARD ADVISING
Informational communication	Message to welcome students and assign "advising homework" or intake form.	No welcome message required, though some advisors may send one. No "advising homework" required.
	Standard messages sent via mail-merge application and based on enrollment in critical progression courses, early alerts, and midterm grades.	No customized messages based on students' risk status.
Targeted communication	At least five messages from advisor over the course of the semester asking students to establish goals and providing feedback based on academic performance and early alerts.	Communication sent to students on a case-by-case basis but with no systematic outreach process.
Advising sessions	Mandatory advising session for students who get a D or an F on midterm.	Walk-in or scheduled appointments initiated by student.
	30-minute session.	Length of advising sessions varies by college.
	Advisor toolbox to guide advising session, with three overarching guiding questions and instructions on how to integrate risk information.	No advisor toolbox to guide advising session.

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