LEADING RURAL INNOVATION AND CHANGE SERIES:
ADAPTING TO THE FUTURE OF WORK

A REPORT ON RECOMMENDATIONS FROM INNOVATIVE PRESIDENTS OF RURAL-SERVING COMMUNITY COLLEGES

NC STATE UNIVERSITY
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ABOUT THE BELK CENTER

Creating tools, convening leaders, and catalyzing change: the Belk Center for Community College Leadership and Research works with educators, researchers, and policymakers to further more equitable community college outcomes in North Carolina and across the nation. We equip community college leaders with actionable insights and create opportunities for collaboration as we tackle the most pressing issues facing students and campuses to build stronger, more resilient communities. The Belk Center is housed in the College of Education at North Carolina State University, a land-grant university that shares our commitment to community colleges and the critical role these institutions play in creating and expanding opportunities for all North Carolinians.

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EXECUTIVE SUMMARY

This report provides a synthesis of advice from community college presidents across 15 states, including North Carolina. The advice focuses on recommended areas of innovation that rural-serving institutions should consider in order to align with the changing nature of work and the workforce. While the nature and nuance of innovations at each institution may vary, there were seven key areas that emerged as priorities, each supported by recent research in the field:

1. BETTER ENGAGEMENT OF UNDERSERVED STUDENT POPULATIONS

Declining K–12 populations and demographic shifts in rural areas require community colleges to better engage currently underserved prospective student populations, such as adults over the age of 24, ethnic minorities, low-income and first-generation students, males, and justice-involved individuals. This is essential, not only for the sustainability of community colleges themselves, but also to maximize economic opportunity for rural residents and available human capital for rural employers.[1] An example of this is North Carolina's NC Reconnect initiative that focuses on reengagement with former students over 24 years old to help them successfully navigate the complexities of re-enrollment and re-entry, while developing a plan to complete a degree or credential.[2]

2. SHORTER, STACKABLE CREDENTIAL PATHWAYS

Rapidly changing technologies and task composition of jobs require shorter, stackable credential pathways that allow students to enter and exit postsecondary institutions with a meaningful credential aligned to labor market demand as efficiently as possible.[3] This is essential for all students, but especially the underserved student populations noted above, who may have limited time and resources for a linear two-to-four-year degree pathway.[4] An example of this is the FastTrack career program model offered at Mohawk Valley Community College in New York that provides accelerated, stackable credential pathways targeting career entry or advancement in 14 weeks or less.[5]

3. MORE CONVENIENT, FLEXIBLE SCHEDULING

An increasing number of working, caregiving adults in need of additional postsecondary education require scheduling options that are convenient and flexible, leveraging technology and individualized timing, pacing, and support. These individuals represent a growing and critical share of the overall student population and must access postsecondary education during nontraditional hours and methods.[6] An example of this is the HyFlex class model, a new generation of technology-enabled scheduling flexibility, wherein students can attend in-person or online, during or after class sessions, while achieving the same learning objectives.[7]

1 Fuller et al., 2021; Grawe, 2021; Hetrick et al., 2021; Korzenik, 2021
2 Belk Center, 2023
3 Austin et al., 2012; Bailey & Belfield, 2017; Ganzglass, 2014; Tate & Klein-Collins, 2012
4 Bailey & Belfield, 2017
5 Mohawk Valley Community College, 2023
6 Breeden et al., 2022; David et al., 2013; Goldrick-Rab et al., 2017; Nolte, 1992; Smith, 2016
7 Columbia University Center for Teaching and Learning, 2023

4. WHOLE STUDENT UNDERSTANDING AND SUPPORT

An increased prevalence of basic-needs insecurities among students (housing, food, childcare, transportation, internet, mental health, and financial fragility) requires institutions to allocate resources to better understand and address individualized academic and nonacademic student needs. When engaging underserved populations especially, whole student advising, understanding, and support should be cultivated to address basic-needs insecurities, academic, and other nonacademic needs that inhibit success in postsecondary completion.[8] An example of this is the one-stop student support center model, wherein colleges have centralized and visible infrastructure staffed by professional social workers equipped with needs assessment tools and a variety of resources to address students' basic needs.[9]

5. ECONOMIC MOBILITY VIA EMPLOYMENT AND ENTREPRENEURSHIP

Economic opportunity and mobility are the predominant motivation for students enrolling in community college,[10] and fulfilling this value proposition requires tighter linkages between educational pathways and either employment or entrepreneurship. These linkages can take the form of deeper engagement and planning with employer partners. Examples include co-recruitment of prospective students, apprenticeships and work-based learning, customized on-the-job training, and entrepreneurial training and support.[11] More intentional pathways to entrepreneurship may be accomplished through short-term, interdisciplinary pathways (e.g., combining construction and business management classes) that link to business incubator programming and supportive entrepreneurial ecosystems to help students prepare and launch their venture successfully.[12]

6. ADOPTION AND PROMOTION OF CURRENT TECHNOLOGIES

Increased digitalization, automation, and artificial intelligence in the labor market require community colleges to remain current, or slightly ahead, of the equipment and technology that graduating students will use in the workplace. Adoption and promotion of current and emerging technologies should be vetted and pursued by community colleges to help students compete in the labor market, support employer needs, or develop relevant entrepreneurial ventures.[13] An example of this is teaching students to leverage generative artificial intelligence to speed up and enhance the ideation phase of entrepreneurship.[14]

7. CONTINUOUS MONITORING AND EXPERIMENTATION OF NEW MODELS

Rapidly shifting external environmental factors related to the technological, economic, competitive, and demographic landscape surrounding higher education require community colleges to continuously monitor and experiment with new models of postsecondary education that ensure relevance and mission fulfillment. These new models are, by definition, emerging and largely unknown, given the pace of disruptive innovation.[15] However, a few examples from across the United States include connecting local students to high-paying remote work opportunities, subscription-based tuition pricing, programs in Spanish, creation of limited liability enterprises for alternative revenue, restructuring positions to integrate siloed functions, and leveraging virtual reality for instruction, among many others.[16]

8 Anderson et al., 2021; Bragg, 2020; Miller et al., 2020; Petty & Leach, 2020; Price & Valentine, 2019
9 Barricklow, 2023
10 Strada-Gallup, 2018
11 Bailey, 2015; Corbin & Thomas, 2019; Hyman, 2018; Wyner, 2014
12 Barricklow, 2023
13 Autor & Salomons, 2018; Koricich et al., 2018; McKay et al., 2019; Muro et al., 2017; Rembert et al., 2022a; Wells et al., 2019
14 Davidson, 2023; Eapen et al., 2023
15 Phelan, 2016; Salomon-Fernández, 2019; VanWagoner, 2018
16 Barricklow, 2023

INTRODUCTION

This report provides recommended areas of innovation that rural-serving institutions should consider in order to align with the changing nature of work and the workforce. The recommendations come from community college presidents across 15 states, including North Carolina. The report opens with an overview of the essential role of rural colleges and the changing nature of work, followed by an overview of the study. The remainder and majority of the report outlines specific areas of innovation.

ESSENTIAL ROLE OF RURAL COLLEGES

Rural America's future depends on its people, and community colleges are central catalysts for human capital development in rural communities.[17] The extent to which rural community colleges adapt effectively and in alignment with economic and technological trends significantly influences the extent to which the people and communities they serve experience economic success.[18] Moreover, community colleges serve the most diverse segment of higher education in terms of age, race, ethnicity, and a greater portion of low-income families than baccalaureate degree granting colleges and universities.[19] Increasing racial, cultural, and generational diversity in rural communities requires careful improvements to and through postsecondary institutions that result in equitable access to economic opportunity.[20] Rural community colleges make up more than half of all community colleges[21] and serve 3.4 million students annually.[22] If individuals living in rural communities are not equipped with the skills, resources, and connections they need vis-à-vis the changing nature of work, they stand a greater chance of being excluded and harmed by these changes.[23] Innovation within community colleges is critical to effectively and equitably serving students.[24] Therefore, advancing our understanding of how rural community college presidents across the nation lead their institutions through innovative adaptations – related to the changing nature of work – represents a significant contribution to the field of community college leadership and rural postsecondary education.

THE CHANGING NATURE OF WORK

Several converging technological, economic, and demographic trends - including automation and artificial intelligence, the digitalization of work, the growth of remote work, and demographic shifts in labor markets - affect the future of work and disproportionately impact rural communities.[25]

AUTOMATION AND ARTIFICIAL INTELLIGENCE

Rural communities are more susceptible to automation.[26] The share of automatable jobs is higher in rural areas, with occupations most likely to be automated accounting for 43% of total employment compared to just 34% in metro areas.[27] Exponential advancements in artificial intelligence in recent years will only accelerate the pace of automation across a broader swath of job tasks and careers.[28]

DIGITALIZATION OF WORK

Rural communities are less equipped to leverage the digitalization of work.[29] Rural areas face an exacerbated digital divide, where, on average, only 51.6% of households have access to the minimum recommended broadband internet connectivity compared to 94% of urban households.[30]

17 Crookston & Hooks, 2012; Friedel & Reed, 2019; Garza & Eller, 1998; Mullin & Winkel, 2019; Salomon-Fernández, 2019
18 Corbin & Thomas, 2019; Drury, 2003; Salomon-Fernández, 2019
19 Ma & Baum, 2016
20 Kochhar & Cilluffo, 2017; Lichter et al., 2012
21 Eddy et al., 2019
22 Rural Community College Alliance [RCCA], 2018
23 Muro et al., 2017; Rembert et al., 2021a
24 Phelan, 2016
25 Fry et al., 2018; Hetrick et al., 2021; Lai & Widmar, 2021; Muro et al., 2017; Rembert et al., 2021a, 2021b, 2022a, 2022b
26 Muro et al., 2017
27 Ibid.
28 Penprase, 2018
29 Lai & Widmar, 2021
30 Ibid.

REMOTE WORK

More positively, remote work represents a unique opportunity for rural communities to tap into the knowledge economy, which has been geographically concentrated in metro areas for the past 30–40 years.[31] However, the national share of digital jobs in high-growth, remote-work-friendly occupations is disproportionately low in rural areas, with rural communities representing 15% of the national workforce but only 5% of digital job employment. [32]

DEMOGRAPHIC SHIFTS

Demographic shifts creating tighter labor markets across the United States are particularly prevalent and concerning in rural areas.[33] Decades of net out-migration in rural areas and a lack of population replacement nationally have caused a shortage of people, especially those of prime working age (typically ages 25-54 per labor economists), needed to sustain local economies.[34] Of the largest prime working age population, the Millennial generation, an estimated 88% lived in nonrural areas as of 2018,[35] leaving a dearth of working-age adults proportionate to retired adults.[36]

The changing nature of work and the workforce has implications for how community colleges evolve to fulfill their mission of activating talent and advancing economic mobility. This evolution requires skillful presidential leadership to achieve scalable institutional adaptation and innovation.

INNOVATIVE PRESIDENTS

The insights included in this report come from 17 community college presidents across 15 states who lead high-performing, rural-serving institutions.[37]

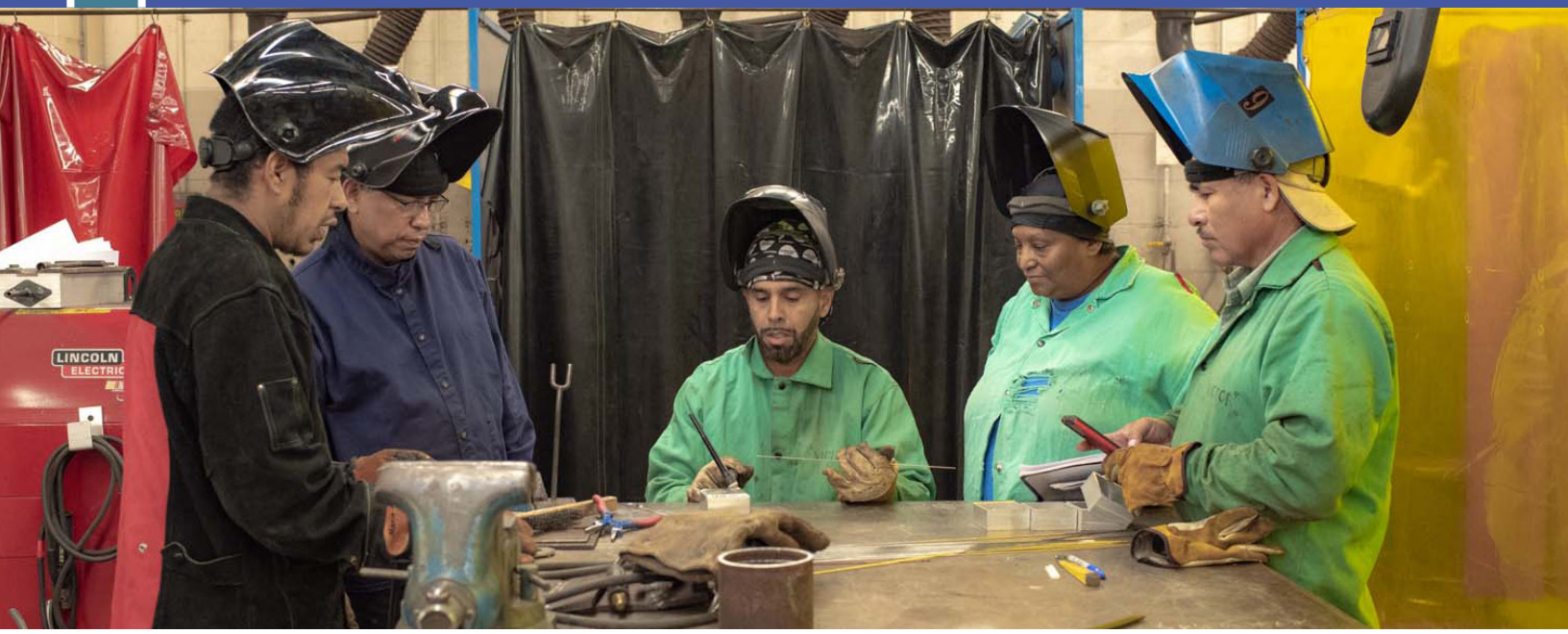
On average, these presidents had served more than nine years in the role of president and more than 22 years in community college leadership roles overall.[38] Institutions led by presidents in the study had an average three-year graduation rate approximately nine percentage points higher than the national average for public two-year institutions.[39] Students served by their institutions were predominantly low-income and were generally more racially and ethnically diverse than the national rural population.[40] Institutions ranged in enrollment headcount from 700 to 6,750 and full-time equivalent (FTE) enrollment from 400 to 4,375.[41] On average, the institutions had an enrollment headcount of 3,964 and FTE enrollment of 2,394. Full-time equivalent employees ranged from 94 to 683, with an average of 325 FTE employees. A more detailed description of the study, participant profiles, and institutional characteristics is included in Appendices A, B, and C respectively.

31 Rembert et al., 2021a, 2022a, 2022b
32 Rembert et al., 2021a
33 Hetrick et al., 2021
34 Ibid.
35 Fry et al., 2018
36 Hetrick et al., 2021
37 Barricklow, 2023
38 Ibid.
39 National Center for Education Statistics, 2021
40 Barricklow, 2023
41 Ibid.

RECOMMENDED AREAS OF INNOVATION

Consistent themes emerged across the presidents interviewed when asked how rural-serving community colleges needed to adapt to the shifting economic, technological, and demographic landscape. Themes fell into seven categories:

1. Better engagement of underserved student populations
2. Shorter, stackable credential pathways
3. More convenient, flexible scheduling
4. Whole student understanding and support
5. Tighter linkage to employment and entrepreneurship aimed at economic mobility
6. Adoption and promotion of current technologies
7. Continuous monitoring and experimentation of new models



1. BETTER ENGAGEMENT OF UNDERSERVED STUDENT POPULATIONS

Amid dramatic demographic shifts in both the labor market and community college service area populations, the first category of needed adaptation expressed by presidents was better engagement of underserved student populations and linking them to talent-starved employer partners. Every president noted the need to reach segments of the prospective student population currently unserved. The target populations varied slightly between regions of the country, but generally included adults above 24 years old, ethnic minorities, low-income and first-generation individuals, male students, and justice-involved individuals. These identified populations align with the literature related to demographic shifts in the U.S. labor market and the need to engage and upskill segments of the population at risk of underemployment or unemployment.[42]

Each president had identified their region's untapped talent and expressed their vision for engaging segments of their local population who would benefit from postsecondary education. "The fastest growing demographic in our service area is Latinx," explained one president in the Southeast United States. "We have to build trust and inroads with these new neighbors." Another president in the Midwest noted: "We need to be looking at our prison education programs. There's lots of evidence that shows you can reduce recidivism by providing education." A president in the Northwest focused his institution's attention on the emerging labor force: "Today, we get about 65% of our high school graduates going on to postsecondary. How do we get 90% going? And how do you get them through something meaningful that results in a good-paying job or career?" Multiple presidents addressed the need to re-engage male students: "If we don't figure out how to engage rural white males, our enrollment crisis is going to be part of a bigger economic crisis." One president was even exploring how to increase the international student population to augment enrollment decline—a strategy more commonly adopted by four-year colleges and universities. Another president, located in a region heavily populated with military bases and veterans, was looking to draw transitioning military and their spouses into the college. Though some variation existed, every president expressed a version of this objective to engage a higher proportion of prospective students in their service area. Linked to this objective, according to presidents, is building shorter, stackable credential pathways that lead to employment, thereby drawing students with a compelling value proposition.

42 Fuller et al., 2021; Grawe, 2021; Hetrick et al., 2021; Korzenik, 2021

2. SHORTER, STACKABLE CREDENTIAL PATHWAYS

In the context of rapidly changing technologies and task composition of jobs, presidents unanimously stressed the need for shorter, stackable credential pathways that allow students to enter and exit postsecondary institutions with a meaningful credential aligned with labor market demand as efficiently as possible. "We need to quit thinking about two-year degrees as our only option," summarized one president. "We need shorter, more flexible programs. … More certificates and credentials and fewer six-year degrees in poetry. No offense to poets."

Aligned with literature on the changing nature of work, another president emphasized that the pace of technological change "moves us more into the noncredit arena" via short-term, fast-paced skill training that get students ready for industry. " We've always been nimble. But that nimbleness is taking on a whole new meaning." Accomplishing this adaptation requires a critical evaluation of several things, according to presidents.

First, the divide between noncredit[43] and credit-earning programs must be bridged. Nearly every president explained efforts to better articulate and award degree-seeking credits for the completion of noncredit programs. For example, one community college issues credit toward an IT degree upon successful completion of a CompTIA industry-recognized certification offered through its continuing education program. In an ideal scenario, explained one president, "We would not differentiate so much between [short-term] workforce and [degree-seeking] academic programs. Our students don't differentiate, they simply want practical, meaningful education that sets them up for success after."

Second, within degree programs, most presidents were adapting their approach to developmental education. Some were shifting to co-requisites instead of prerequisites, which allow students to maintain credit momentum and avoid multiple semesters of delayed progress. Some were simply reducing the volume of developmental education courses altogether, instead augmenting regular courses with tutoring or workshops. "Two and three layers of developmental education is a recipe for death for many students," explained one president.

Several presidents also mentioned contextualized education as a strategy for enhancing remedial reading and math course delivery and student success. Instructors contextualize their curriculum by tailoring lessons to the specific needs and interests of the students and connecting academic content to real-world situations.[44]

For example, a math instructor with culinary arts students in the class may integrate practice problems that focus on calculating ingredient measurements, recipe conversions, and portion sizes. Notably, recent research supports this practice, and indicates that reducing or adapting developmental education, through methods such as mainstreaming or co-requisite models, can significantly increase student persistence and completion rates in community colleges.[45] For more information on contextualized instruction, see Building Momentum Toward Degree Attainment through Contextualized English Courses.

Third, several presidents were creating fast-track, stackable credential and microcredential programs housed in both noncredit and credit-earning programs. Typically, these programs last between five and 15 weeks and lead directly to employment or to a continued degree pathway. For example, one community college created a pathway in mechatronics, which bridges from a three-week bootcamp in mechatronics through the workforce development department. When the student completes the certification at the end of the three weeks, they are automatically awarded 14 academic credits. "[The student] has their first semester of the degree checked off in three weeks instead of three months," explained the president.

43 Also known as continuing education, community education, and work force development programming, depending on the state.

44 Baker et al., 2009

45 Attewell et al., 2006; Bailey et al., 2014; Belfield et al., 2016; Bickerstaff & Edgecombe, 2021; Dana Center, 2017; Fain, 2014; Fletcher et al., 2018; Hamilton, 2013; Jaggars et al., 2014; Li & Bahr, 2020; Logue, 2018; Scott-Clayton & Rodríguez, 2012; Vandal, 2014

Fourth, several presidents were looking at credit for prior learning, also known as prior learning assessment. The American Council on Education defines credit for prior learning as "academic credit granted for demonstrated college-level equivalencies gained through learning experiences outside of the college classroom, using one of the well-established methods for assessing extra-institutional learning, including third-party validation of formal training or individualized assessment, such as portfolios."[46] This concept applies particularly well to individuals transitioning from military service to civilian life.[47] Naturally, presidents in this study whose community colleges are located adjacent to military bases or whose service areas have large veteran populations were looking to apply the concept. The challenges of prior learning assessment and recognition are cost to the institution and student, limited standards and information about the practice and corresponding policies, and incorporation of recognition of low-skill jobs.[48] Overall, credit for prior learning is an area of innovation that requires broad collaboration and consensus from institutions of higher education to fully manifest its benefits.

Fifth, and perhaps undergirding all of the above, was consensus among most presidents included in this study that the Carnegie Unit must be reassessed. The Carnegie Unit, also known as the credit hour, was established early in the 20th century as the basic unit of measurement to determine students' readiness for college and their progress through an acceptable program of study.[49] "The standard Carnegie Unit is defined as 120 hours of contact time with an instructor."[50] It is typically operationalized through a 15- to 16-week semester built around live instruction. As our economy moves beyond purely industrial settings and education is called on to align with a fast-moving, technology-driven economy, one president explained, "This whole idea of 15-week semesters, 16-week semesters, is just lunacy… A competency-based model could be self-paced, as well as structured." Most presidents in the study articulated the need to think differently about credit hours as the foundation of higher education. They embraced more competency-based, time-flexible, rolling admission models that incorporate some mix of the strategies noted above, leading to shorter, stackable credential pathways. The aim is to give students maximum efficiency when entering and exiting postsecondary credential pathways. Notably, this critique of the Carnegie Unit is echoed in recent publications, including by the Carnegie Foundation for the Advancement of Teaching.[51] The shift, according to presidents, necessitates a careful look at scheduling practices.

There was consensus among presidents in this study that the Carnegie Unit - also known as the credit hour - must be reassessed. Many articulated the need to think differently about credit hours as the foundation of higher education, and rather, embrace more competency-based, time-flexible, rolling admission models leading to shorter, stackable credential pathways.

46 Lakin et al., 2015, p. 3
47 Bergman & Herd, 2017; Bergman et al., 2020; Lakin et al., 2015
48 Lane & Leibrandt, 2021
49 Silva et al., 2015
50 Silva et al., 2015, p. 8
51 Silva et al., 2015; Levine & Van Pelt, 2021

3. MORE CONVENIENT, FLEXIBLE SCHEDULING

In a world of remote and hybrid work schedules and an increasing number of working adults in need of additional postsecondary education, each president in the study expressed the need to make class schedules as convenient and flexible as possible for students. This was often framed as being more student-centric and less college-centric with class scheduling structures. Comments from the presidents echoed the literature, noting that rural students often face transportation barriers, lack access to internet connectivity, need to balance work with college schedules, or caregiving responsibilities that challenge their ability to be in class at fixed times of the week.[52]

While every community college represented did increase its online course offerings during the pandemic, there was variation in the extent to which presidents embraced purely online courses. Most presidents articulated a blend of online, in-person, hybrid, and HyFlex. While some presidents saw generally positive outcomes with online instruction, others voiced strong concern about online courses:

"Particularly for students coming from rural areas, there [are] all kinds of problems related to online learning, not only their ability to connect to Wi-Fi, but … a new student, a first-generation student, students that struggle in any way; trying to take online learning as a new student is a disaster, I believe. And I think it's important for students to have on-campus face-to-face instruction and then kind of ease into [online instruction]."

Other presidents embraced a blend of in-person and online, synchronous and asynchronous, through a HyFlex course structure:

"Now we're looking at what we call HyFlex, which is where … the faculty member comes in and delivers the instruction, and there will be students in the classroom, there might be students online, and then other students can access the course later in the week as their schedule allows."

The common theme of every interview was the need to meet students where they are in terms of logistical, connectivity, and life circumstances. Presidents viewed this as an essential strategy for engaging adults, low-income, justice-involved, transitioning military, and other rural students who face barriers to consistent attendance within more rigid course scheduling structures. Meeting students where they are also requires deeper understanding and broader support.

52 Breeden et al., 2022; David et al., 2013; Goldrick-Rab et al., 2017; Nolte, 1992; Smith, 2016

4. WHOLE STUDENT UNDERSTANDING AND SUPPORT

As community colleges seek to engage underserved segments of their local population, presidents in the study articulated the imperative of understanding and supporting the whole student, including nonacademic dimensions. Demographic shifts such as aging local populations, reduced prime working age populations, and increased ethnic diversity were manifested in all community college service areas represented in this study. Presidents also noted the increased prevalence of basic-needs insecurities also reflected in the literature, including housing, food, childcare, transportation, internet, mental health, and financial fragility.[53] Given declining K–12 populations, greater demand for skilled labor among industry partners, and the missional mandate of serving all residents of the service area seeking postsecondary education, the community colleges represented in this study were looking at how to better understand and address basic nonacademic student needs to engage more students. One president summarized well the practical and ethical reasons why student support must adapt in the future, given demographic and population constraints:

"We can't afford to lose a single solitary student. … The way we get to that is to stop thinking about the student as a transaction. … We have to understand the whole student … and then deploy resources to them. Which also fits justice issues. It fits equity issues. … Think about this as "Big D" diversity. … That every student is diverse. Every student. And so, if we approach everyone as a unique, whole student, and we deploy the resources to help them be successful, then there's no reason that they should leave or drop out or have debt because we've been resolving these challenges that have come along."

Several approaches to understanding and supporting the whole student were shared. The approaches aligned with promising practices reflected in the Guided Pathways framework developed by the Community College Research Center at Columbia University[54] and high-impact practices researched and curated by the American Association of Colleges and Universities.[55] Specific interventions mentioned included one-stop centers for student and wrap-around services, adapted student intake and advising models, experimentation with student housing, public transportation vouchers and discounts, provision of on-campus childcare, and expansive food and meal programs. Access to mental health services was also acknowledged as a critical need, though no specific practices were shared during interviews.

Presidents had realigned infrastructure and reallocated staffing to create centralized locations on campus for student and wrap-around services. The stated objective was to create a "one-stop location for all academic and nonacademic support," according to one president based in the Midwest. These locations housed tutoring services, academic advising, counseling and social worker staff, enrollment and administrative services, food pantry or food service area, and social areas. The one-stop facility was typically staffed by employees who were cross-trained and knowledgeable about commonly asked questions and students' needs. The intent of the facility, as explained by another president in the Southeast, was to provide students with a "front door to the college" where they were greeted by friendly, helpful staff.

Presidents referenced changes to student intake and advising models to better assess and address student needs. A central theme of the changes to advising connected back to the need for a deeper understanding of students.

53 Breeden et al., 2022; David et al., 2013; Goldrick-Rab et al., 2017; Smith, 2016

54 Bailey et al., 2015

55 AACU, 2023

"We need to understand the full presenting of this person," explained one president. "What is their story? Where are they going? How is their mental health? What kind of support systems do they have? Did they get a meal last night? Do they have stable housing?" With a deeper intake process and a more holistic understanding of circumstances and goals, advisors are better equipped to suggest credential pathways, course schedules and formats, and available wrap-around services.

The focus on innovation within advising practices is merited insomuch as it has been found to influence persistence and graduation rates.[56]

A smaller subset of presidents had piloted – and were expanding – student housing. This is rare for community colleges. As of 2015, only about 28% of community colleges provided on-campus housing, and only 1% of community college students lived on campus.[57] "Now that we have housing, we can attract other [students] where they didn't have that opportunity previously. They can live in our housing, and they can complete credentials that make really good money." One president was incorporating a tiny home development near campus that would house students and their family members. According to these presidents, on-campus or near-campus housing addressed transportation and housing barriers for first-generation, low-income students.

Two presidents interviewed had incorporated on-campus childcare. One stated: "We were hearing from the student voice that single parents were having difficulty. Obviously, with childcare, which is … a big thing. … It's hard to manage [coursework] and have a job and childcare and all that. So, we incorporated childcare on campus."

On-campus childcare was often, but not always, tied to early childhood degree programs offered on campus, so students could obtain hands-on experience to pair with their theoretical coursework, and other students could access on-campus childcare services.

Every community college represented in the study had some type of food pantry, with one institution in the Northeast even creating a free meals program. Their president explained: "We provide students breakfast and lunch for free at the college, at all of our locations - even if the student is 100% online. They come in and eat, and now they're going to access tutoring and bump into faculty along the way."

56 Habley & McClanahan, 2004; Jenkins et al., 2018; McClenney & Waiwaiole, 2005

57 AACC, 2015

5. ECONOMIC MOBILITY VIA EMPLOYMENT AND ENTREPRENEURSHIP

While earlier periods of higher education and community college reform focused on access and completion, presidents in this study voiced the need for a stronger focus on economic mobility as the ultimate aim of the community college mission. This aligns with a recent Strada-Gallup Education Consumer Survey of more than 86,000 U.S. adults with experiences at more than 3,000 institutions, which found that obtaining a good or better job was the number one motivation to pursue higher education.[58] According to presidents, this is accomplished by building a tighter linkage between educational pathways and either employment or entrepreneurship. Five strategies were shared: deeper engagement and planning with employer partners, co-recruitment, apprenticeships and work-based learning, customized on-the-job training, and entrepreneurial training and support.

Deeper engagement with employer partners was a cross-cutting theme and key strategy noted by presidents for staying current with the external environment. Presidents emphasized the importance of employer partners in developing curricula, identifying and adopting new technologies, recruiting students, and connecting students to job opportunities prior to graduation.

The primary mechanism for this engagement and planning is program advisory committees, which typically meet once or twice each year and bring program leads at the college together with key stakeholders: largely employers. Presidents in the study acknowledged the variation of quality and depth of these program advisory committees, including a tendency for college leaders to simply present information and not gather information. A president in the Midwest, whose institution is nationally recognized for labor market outcomes among students, explained it this way to his program leads at the college: "If you're talking more than 50% of the time, you're doing it wrong. You need to be getting information from them." Another approach cited was externships for faculty, which ensure that instructors are familiar with the workplace, perhaps after being in the classroom for years or decades. According to presidents, ensuring that curricula, class technology and equipment, and credentials align with employer needs and technologies fosters higher rates of employment among graduates and success on the job. It also enables the co-recruitment of students with employers.

Co-recruitment occurs when colleges and employers co-brand, co-message, and co-staff recruitment efforts to attract students into high-demand credential pathways. This method draws a clear pathway from education to employment. According to presidents who have used the method, it is particularly effective for emerging career opportunities with new industries entering the service area or remote work-friendly careers that do not have a visible history and precedent in the service area. "We launched a new program focused on remote tech jobs," shared one president in the Southeast. "As opposed to us trying to convince the community that these jobs were real, accessible, and good-paying opportunities, instead, we let the employers tell that story. It was a game-changer." In this model, the employer paints a picture of the ultimate job and career opportunity, increasingly including transparent salary ranges, while the community college paints a picture of the educational pathway and milestones needed to access it. The combination, according to presidents, gives prospective students more confidence in their choice to enroll. Further solidifying the clear connection to employers are apprenticeship and work-based learning opportunities while enrolled.

Presidents referenced apprenticeships, learn-and-earn models, and other work-based learning formats as an important mechanism for increasing employment prospects and job success for community college students after graduation. The apprenticeship model often includes financial support to students for tuition and other expenses related to college coursework, as well as a clear

58 Gallup & Strada, 2018

graduated pay scale for work completed for the employer outside of class time. The student and employer commit to one another for the duration of the student's college journey, with the expectation of full-time employment after graduation. Earn-and-learn models pay a living stipend to students to allow them to focus full-time on college coursework. This was referenced several times in relation to short-term, accelerated industry credential programs.

On-the-job training is another model. In this case, employers hire students as part-time or full-time employees, and the community college fits training or coursework into the employee's work schedule. It fulfills the employer's immediate need for workers while not delaying the employee's educational journey. According to presidents, a key to this model is delivering the training or coursework in a manner that fits with the employee's work schedule and aligns with the skill gaps of employers. The training is sometimes customized to the employer and may even be delivered, in part, by the employer. "We have to be co-developing and co-delivering the curriculum in a way that works for the employer and works for the student," explained a president in the Southwest who implemented this model within the large local hospitality industry. "Rather than having a five-day-a-week [training and education] program, we have a two-day-a-week program, where [students] can work the other three days onsite." Work-based learning models designed with employers benefit the student through a clear pathway to employment and real-world experience, the employer through the immediate provision of workers, and the community college's mission related to economic opportunity.

Partnerships are key to making this happen. The Rural Healthcare Partnership Toolkit provides a curated set of over 50 examples of partnership models leveraged by North Carolina community colleges to bolster the rural healthcare workforce.

Entrepreneurial training, support, and ecosystem-building were also referenced as critical areas of innovation and adaptation for rural-serving community colleges.

Several presidents referenced shorter-term, interdisciplinary, and incubator-oriented programming in lieu of the two-year degree pathway in small business administration or entrepreneurship. Another widespread practice was to offer introductory business courses alongside a student's primary major, for example, pairing a construction-related degree with foundational business administration courses to prepare the student to own their own construction business.

"Students don't have time to spend two years with us to get an associate degree in small business development, [or] to stand up a small business. So, we partnered with our local Chambers of Commerce to create eight-week bootcamps free to all participants that the Chamber funds, and we provide all the instruction."

This model noted above generated substantial results: more than $3 million in economic development, over 60 new businesses, and 150 new jobs in the community.[59] More than 50% of these participants were from racial and ethnic minority populations, and more than 60% were female.[60] Partnerships featured heavily in these models. Several were engaged with outside entities, such as third-party nonprofit agencies, for the provision of specialized entrepreneurial training. Multiple presidents in the study had invested or partnered in a physical business incubator space. Most were operated by outside entities, typically nonprofits, but located adjacent to community college facilities.

59 Barricklow, 2023
60 Ibid.

6. ADOPTION AND PROMOTION OF CURRENT TECHNOLOGIES

Presidents in the study recognized the need to keep equipment and technology current with what students would eventually see in the workplace. However, there was variation in how aggressively each institution adopted emerging technologies. The majority seemed to allow industry to mediate and interpret what technologies were relevant and aligned with labor market opportunities for graduates. "We leverage our program advisory councils to let us know what technology or equipment must be incorporated into the curriculum," explained one such president. Conversely, a few presidents expressed a strong preference for staying slightly ahead of industry:

> It's our duty to our employers that we be the most up to date. … Oftentimes, our students are training on equipment, software, and design techniques that are a step ahead of where their employers are, but we're driving that change.

Several community colleges invested in facilities, partnerships, and promotional strategies to raise awareness in the community for where the future of work is headed. Two examples illustrate this approach best. One community college in the Midwest invested in a manufacturing engineering technology facility. They made the investment based on an observation that people in their service area still associated manufacturing with dirty, dangerous work. "People were afraid of manufacturing," explained the president. Their new facility allowed the community college to offer interactive programming to youth and adults interested in seeing what Industry 4.0 looks like. Another community college in the Southeast launched a partnership with multiple nonprofit entities to promote remote work in information technology as a viable career pathway. The joint endeavor ultimately included a coworking space equipped for remote technology workers and entrepreneurs, nonprofit staff dedicated to recruiting individuals into the community college who were interested, and a combination of contract and in-house instructors delivering short-term and two-year credential pathways for those who wanted to launch a career in technology.

7. CONTINUOUS MONITORING AND EXPERIMENTATION OF NEW MODELS

Presidents in this study continuously monitored and experimented with new models of postsecondary education which included a variety of strategic levers, such as employer partnership, tuition structures, language of instruction, alternative sources of revenue for the college, staffing structures, and uses of virtual reality. The interviewees shared six specific examples that fall outside the norm of rural-serving community colleges.

The first example was a focus on remote technology jobs, engaging with employer partners outside the service area (often located in metropolitan centers) and connecting students with jobs that can be done remotely from their home county. This breaks from the norm of community colleges exclusively focusing on local employment opportunities.

The second example was subscription-based pricing. In this case, a community college was piloting a subscription model for prison inmates to access as many courses as they would like for a fixed price per semester. This model was happening in a state without a system office and centrally controlled tuition policies.

The third example was offering short-term credential programs entirely in Spanish. In communities with rapidly growing Latinx populations, a high proportion of workers in the construction-related trades are Spanish speakers. Community colleges that have offered credential programs in Spanish have benefited from significant enrollment growth while serving an important workforce development need.

The fourth example was the creation of a limited liability social enterprise owned by the community college. The idea was born out of budgetary necessity and industry benchmarking. The president and his team analyzed companies like Ben & Jerry's and Greystone Bakery. They then created multiple social enterprises that leverage intellectual capital from community college faculty to provide a business service and generate an alternative revenue stream that comes back to the community college.

The fifth example was restructuring positions to better integrate siloed functions of the community college and foster innovation. One president combined the institutional advancement role with industry engagement. According to the president, this facilitated deeper engagement with industry. In addition to developing customized workforce development solutions that serve local industry, according to the president, the community college now receives more than 50% of its foundation donations from business and industry.

A sixth, albeit aspirational, example of innovation was leveraging virtual reality for instruction. One president shared his vision for a virtual reality lab where students could step into immersive learning environments: "Think about how impactful it would be if a nursing student could walk inside the chambers, the ventricle of a heart and see it throbbing and pulsing and understand how that's all happening. What a brilliant way for a rural community college to embrace the future of work!"

SUMMARY

This report provides a synthesis of advice from community college presidents across 15 states, including North Carolina, on areas of innovation that rural-serving institutions should consider in order to align with the changing nature of work and the workforce. While the nature and nuance of innovations at each institution may vary, the seven areas of recommended innovation align with recent research in the field of community college and rural postsecondary education. The challenge ahead is cultivating the institutional culture and capacity to make such innovation happen successfully and aligning policy to facilitate it. Subsequent briefs will delve into these topics.

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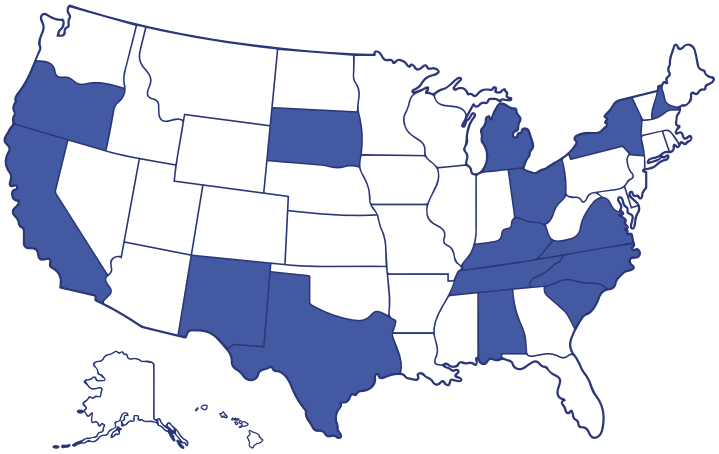
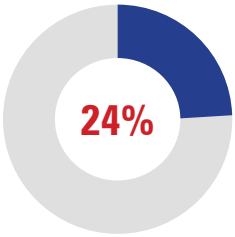
APPENDIX A: STUDY OVERVIEW

The purpose of the study was to show how innovative rural community college presidents in the United States lead their institutions through adaptations aligned with the changing nature of work. The study explored how these presidents monitor and interpret external environmental factors related to the changing nature of work, empower their institutions to address the organizational factors that inhibit or contribute to innovation, and the principles or concepts they rely on most to lead organizational change and innovation. The study was qualitative in nature, using semi-structured interviews as the primary data collection method. A purposefully unique, criterion-based sampling was applied to identify research participants with experience leading innovation in rural community colleges.

Seventeen presidents participated in the study, representing a diverse spectrum of rural community colleges from across the United States. Presidents represented every region of the United States: Northeast, Midwest, Northwest, Southwest, South, and Southeast; and 15 states: Alabama, California, Kentucky, Michigan, North Carolina, New Hampshire, New Mexico, New York, Ohio, Oregon, South Carolina, South Dakota, Tennessee, Texas, and Virginia.



PARTICIPANT DEMOGRAPHIC



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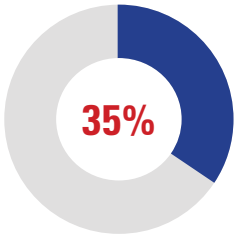
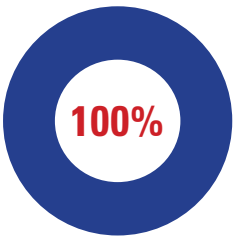


female



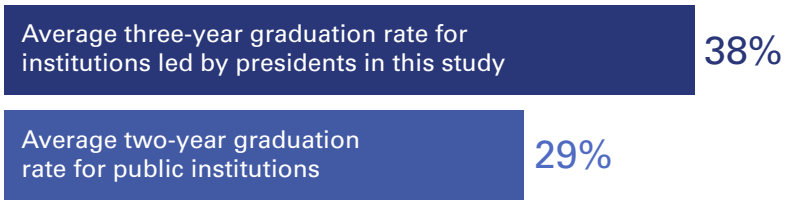
represented rural-serving two-year postsecondary institutions per the criteria set forth by ARRC (Koricich et al., 2022)

held a doctorate degree

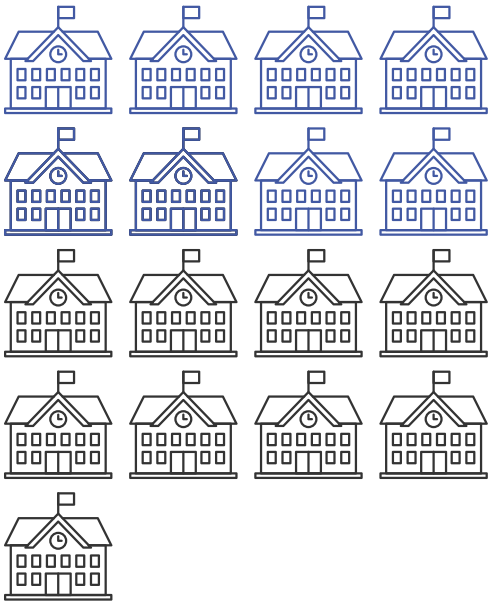
On average, participants had served more than nine years as presidents and more than 22 years in community college leadership roles overall. Presidential tenures ranged from 1.5 years to 22 years, with 14 participants having served more than five years as presidents.

Interviews were conducted online via Zoom, one-on-one, and lasted 60 to 90 minutes. The average interview lasted 85 minutes. A total of 1,445 minutes of one-on-one interviews were conducted. Interviews took place between November 2022 and February 2023. Interview transcripts ranged from 16 to 25 pages. The average interview transcript was 22.5 pages. A total of 382 pages of interview transcripts were analyzed.

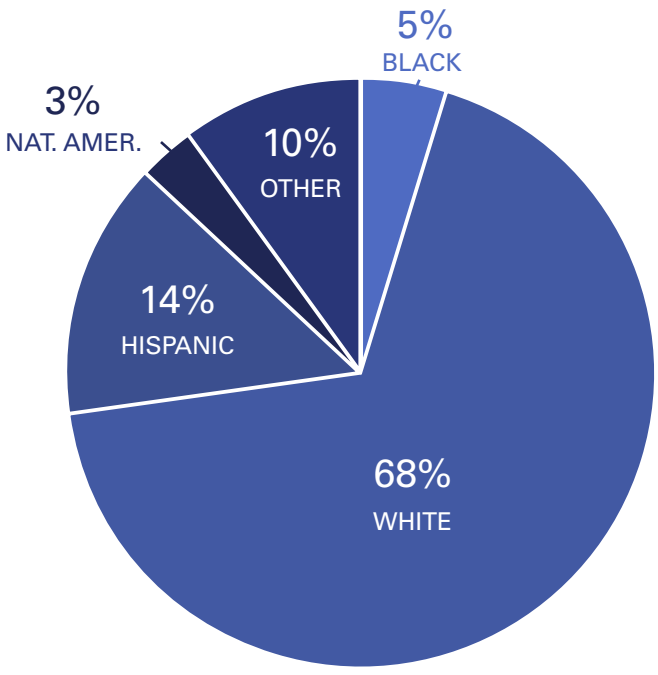
Institutions led by presidents in the study had an average three-year graduation rate of 38%, approximately nine percentage points higher than the national average of 29% for public two-year institutions (National Center for Education Statistics, 2021). Students served by the institutions represented were predominantly low-income, with six out of 10 students receiving the Pell Grant, averaging across all institutions. Eight of the 17 institutions were designated by the Economic Research Service as low education, low employment, persistent child poverty, persistent poverty, or population loss (Economic Research Service, 2017). The institutions represented in this study were more racially and ethnically diverse than the national rural population—with about 68% White, 14% Hispanic, 5% Black, 3% Native American, and 10% other ethnicities or multiethnic—but perhaps reflective of the younger rural population being more diverse than the older adult population (Johnson & Lichter, 2022). The institutions ranged in enrollment headcount from 700 to 6,750 and full-time equivalent (FTE) enrollment from 400 to 4,375. On average, the institutions had an enrollment headcount of 3,964 and FTE enrollment of 2,394. Full-time equivalent employees ranged from 94 to 683, with an average of 325 FTE employees. A complete breakdown of anonymized participant profiles can be found in Appendix B and institutional characteristics in Appendix C.



8 of the 17 institutions were designated by the Economic Research Service as low education, low employment, persistent child poverty, persistent poverty, or population loss



The institutions represented in this study were **more racially and ethnically diverse** than the national rural population



APPENDIX B: PARTICIPANT PROFILE

REGION	AARC* RURAL-SERVING	GENDER	ETHNICITY	PRESIDENTIAL TENURE (years)	LEADERSHIP EXPERIENCE (years)
Northeast	Yes	Male	White	6	21
Southwest	Yes	Female	Latina	1.5	18.5
Midwest	Yes	Male	White	8	18
Midwest	Yes	Female	White	6	39
Midwest	Yes	Male	White	8.5	16
Southeast	Yes	Male	White	1.5	12
Midwest	Yes	Male	White	22	35
South	Yes	Male	White	8.5	43
South	Yes	Female	White	19.5	26.5
South	Yes	Male	Black	6.5	6.5
South	Yes	Female	White	19.5	19.5
Southeast	Yes	Male	White	9	9
South	Yes	Male	White	4	23.5
Northeast	Yes	Male	White	16	31
Northwest	Yes	Female	White	8	25
Southwest	Yes	Female	Nat. Am.	11	20
Southwest	Yes	Male	Latino	4	15.5

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APPENDIX C: PARTICIPANT'S INSTITUTION PROFILE

COMMUNITY COLLEGE	IPEDS 150% COMPLETION RATE	COUNTY TRAITS	HEADCOUNT ENROLLMENT	FTE ENROLLMENT	% PELL GRANT	% WHITE	% HISPANIC	% BLACK	% NAT. AMER.	% OTHER ETHNIC
1	54%	Population loss Persistent poverty	697	401	60	87	1	0	0	12
2	19%	Child poverty high Hispanic-enrolling	1,143	548	76	28	56	1	0	15
3	44%	-	2,262	1,222	58	86	1	2	1	10
4	32%	-	1,904	1,100	57	93	1	1	0	5
5	74%	-	2,228	1,749	45	90	2	1	0	7
6	41%	Low employment	2,238	1,528	66	65	9	19	0	6
7	15%	Low employment	4,616	2,845	70	68	6	10	0	15
8	31%	-	3,370	2,322	61	84	6	6	0	4
9	34%	Persistent child poverty	4,858	2,738	66	64	19	10	0	7
10	53%	-	6,327	3,502	60	78	4	7	0	11
11	45%	-	4,985	3,349	55	81	6	6	1	6
12	45%	Low education Low employment	2,692	1,560	61	75	10	2	0	12
13	36%	-	6,181	4,378	35	78	6	9	0	7
14	34%	Population loss	6,007	3,988	68	71	7	7	0	13
15	24%	-	5,533	3,571	40	64	12	1	1	20
16	25%	High Native-enrolling (non-TCU) persistent child poverty High	6,741	3,841	62	39	18	1	33	9
17	N/A	Hispanic-enrolling	5,600	2,064	N/A	16	71	3	0	10

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