



**Report
to
The LEGISLATIVE FINANCE COMMITTEE**



Higher Education Department
On-time Graduation and Degree Production
December 7, 2015

Report #15-12

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December 7, 2015

Dr. Barbara Damron, Secretary
Higher Education Department
2044 Galisteo St.
Santa Fe, New Mexico 87505

Dear Secretary Damron:

On behalf of the Legislative Finance Committee, I am pleased to transmit the evaluation, *On-time Graduation and Degree Production*. The evaluation reviewed degree production, and in particular on-time degree production, within four years for a bachelor's degree and two years for an associate's degree in New Mexico institutions of higher education.

This report will be presented to the Legislative Finance Committee on December 7, 2015. An exit conference to discuss the contents of the report was conducted with you and your staff at the Higher Education Department on December 4, 2015.

I believe this report addresses issues the Committee asked us to review and hope New Mexico's higher education system will benefit from our efforts. We very much appreciate the cooperation and assistance we received from your staff.

Sincerely,

A handwritten signature in blue ink that reads "David Abbey".

David Abbey, Director

Cc: Senator John Arthur Smith, Chairman, Legislative Finance Committee
Representative Jimmie C. Hall, Vice-Chairman, Legislative Finance Committee
Dr. Tom Clifford, Secretary, Department of Finance and Administration
Mr. Timothy Keller, State Auditor
Mr. Keith Gardner, Chief of Staff, Office of the Governor

Table of Contents

Page No.

EXECUTIVE SUMMARY	1
BACKGROUND INFORMATION	7
FINDINGS AND RECOMMENDATIONS	16
New Mexico has Improved Degree Production, But Needs to Enact Performance Goals and Align them with the Funding Formula.....	16
Higher Education has Implemented Many Best Practices to Graduation Rates, But a Faster and More Uniform Scale Up of Effort is Needed.	22
AGENCY RESPONSE	37
APPENDIX A	40
APPENDIX B: Performance Indicators in Neighboring States	42
APPENDIX C: Certificate and Degree Production.....	43
APPENDIX D: Awards by Institution	44
APPENDIX E: NMSU Vision 2020	45
APPENDIX F: Graduation Rates	46
APPENDIX G: UNM Peer Institutions.....	47

EXECUTIVE SUMMARY

Higher education is a key component of economic growth and prosperity for New Mexico. Workforce projections indicate that 35.5 percent of job openings by 2020 will require a postsecondary degree in New Mexico. Absent major changes in educational attainment, New Mexico is likely to fall short of having the educated workforce necessary to fill these openings let alone expand economically. Institutions of higher education play a key role in the state's ability to grow economically by producing a more educated citizenry. The Legislature has invested heavily in higher education and its citizens devote significant tax effort to support this sector of government.

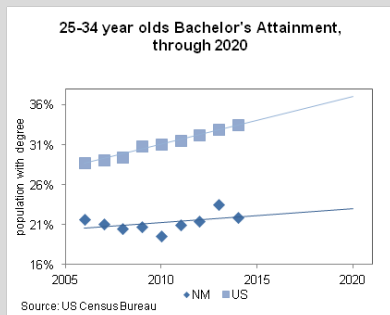
While the need is great, and state investments are high, higher education outcomes have been poor for decades. The state recognized a need to change the financial arrangement with its institutions of higher education and begin allocating resources based on outcomes rather than inputs in an effort to improve performance. This new finance approach puts New Mexico on the leading edge of change in this arena. This evaluation sought to assess whether institutions of higher education around New Mexico were responding to the change in financial incentives, including implementing or expanding best practices and if outcomes were improving. This report focuses primarily on degree production, and in particular on-time degree production, within four years for a bachelor's degree and two years for an associate's degree.

Overall, degree production has improved since 2012, especially coming off of record enrollment levels as the state emerged from the Great Recession. On-time degree production is mixed, but still remains low overall when compared to other states and institutions with similar student populations. The production of associate's degrees is helping the state close the educational attainment gap with the national average, but bachelor's degree production, and on-time production, needs to increase significantly.

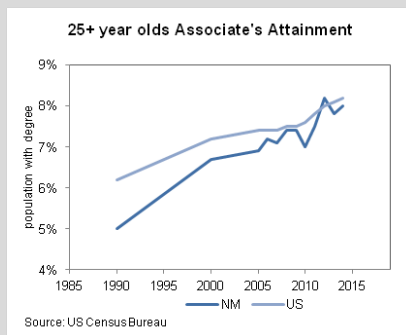
A comprehensive, coherent accountability system to monitor results does not exist, which inhibits legislative and executive oversight of the higher education system. Institutions of higher education generally have made progress implementing and expanding best practices, but a faster and more uniform scale up is needed. Best practices in the areas of policy, curriculum, and student support offer promise; if implemented correctly, will contribute to increased performance. The Higher Education Department (HED) has encouraged implementation of many best practices identified in this report, and should seek ways outside of the formula to expand some of the practices.

The report recommends HED develop a comprehensive performance system with realistic and achievable targets, and a plan to achieve them. The state needs to set statewide and institution specific performance measures and targets using the Accountability in Government Act (AGA) process to monitor results. The Legislature should consider statutory changes to place a cap on bachelor semester credit hours (SCH) at 120, with appropriate exceptions.

The expected population of 25-34 year olds to hold a bachelor's degree or higher will be 37 percent nationally and 23 percent in New Mexico by 2020.



More progress has been made closing the state-national attainment gap for New Mexicans earning an associate's degree.



KEY FINDINGS

New Mexico has improved degree production, but needs to enact performance goals and align them with the funding formula. As in other states, the economy of New Mexico is increasingly reliant on skills and knowledge that can be primarily obtained through postsecondary education. New Mexico will fall short by 13,000 workers by 2020, absent major changes. New Mexico needs to make more progress on increasing educational attainment, citing 2013 Census data which showed that less than 35 percent of the state's working-age adults (those between the ages of 25 and 64) hold a two- or four-year college degree, below the national average of 40 percent.

Like many other states, New Mexico has moved to a performance-based funding formula for higher education to better align resource allocation with desired outcomes, principally degree production. New Mexico and 29 other states including Nevada, Utah, and Oklahoma have a funding formula in place that allocates some amount of funding based on performance indicators. Indicators such as course completion, time to degree, transfer rates, the number of degrees awarded, or the number of low-income and minority graduates in place for two- and four-year institutions are used.

In 2011, the Legislature adopted language in the General Appropriations Act (GAA) directing the HED to develop a performance-based funding formula, which it did. Since 2011, the state has continued to wrestle with fine tuning the funding formula but each year the general direction of financing higher education has stayed the same – produce more post secondary degrees and certificates.

The higher education funding formula has very clear financial incentives based on the state's priorities and geared toward each sector of higher education's mission. The formula provides incentives to increase the awarding of degrees and certificates overall, and incentives for degrees in specific fields in science, technology, engineering, math, and health care (STEM-H) and for low-income students. The formula does not include specific performance targets to earn funding, but rather each institution must outperform their peer institutions. Using funding carved out of each institution's base appropriations has proven the most controversial aspect of the new funding formula.

New Mexico institutions of higher education have increased the number of degrees and certificates awarded since 2012 by about 15 percent. Most institutions of higher education have boosted the number of awards for certificates, associate's, bachelor's and graduate degrees over the past four years. Certificates increased eight percent to over 3,700. Associate's degrees increased 31 percent and bachelor's degrees by 9 percent. Institutions of higher education increased graduate awards by nearly 200, or about 6 percent.

Bachelor's degree production peaked in 2014 and then dropped two percent in 2015, primarily due to declines at the New Mexico State University

The higher education funding formula has very clear financial incentives based on the state's priorities and geared toward each sector of higher education's mission.

NM Public Degrees

	Assoc.	Bach.
2012	6,242	7,038
2013	6,881	7,404
2014	6,670	7,807
2015	8,191	7,679
Change	1,949	641
Percent Change	31%	9%

Source: HED data

Best Practices to Boost Graduation and Enrollment

- Requiring full-time enrollment in college while also providing an array of ongoing supports for students, such as enhanced advisement and financial supports leads to better outcomes.
- Inter-sessions, especially in the summer, provides opportunities to increase enrollment and credit accumulation.
- Requiring students to participate in key program components and monitoring program operations, with a focus on ongoing improvement contributes to strong implementation.
- Encouraging or requiring students to take developmental courses can hasten and increase completion of those requirements.

Source: MDRC

(NMSU) and the University of New Mexico (UNM). Between 2012 and 2015, Western New Mexico University (WNMU) increased bachelor's degree awards 35 percent to 221. New Mexico Highlands University (NMHU) and Eastern New Mexico University (ENMU) increased by 100 each, or 28 percent and 17 percent, respectively. UNM and NMSU produced, by far, the bulk of bachelor's degrees among all four year institutions and increased degree production 7 percent and 4 percent respectively.

HED has made progress moving towards a more comprehensive performance reporting system, but additional steps are needed to align Executive, Legislative, and institutional goals. The Accountability in Government Act (AGA) and the annual GAA provide vehicles for establishing common state and institutional performance measures to track progress towards needed statewide goals for higher education. Each entity, the Executive and HED, Legislature, and individual institutions have a role in establishing and approving agreed upon performance targets, tracking and reporting, as well as implementation and monitoring the implementation of improvement plans.

Opportunities exist for continued improved performance reporting and alignment with any new changes in goals and measures. The nature of when outcomes occur makes intermediate performance reporting in some cases difficult for higher education. The system currently only reports one performance measure (fall to fall persistence) in one quarter as part of its quarterly reporting for the AGA. LFC report cards are not available for year-end review with state agencies due to reporting delays. Institutional organizations, such as the Council of University Presidents, do produce comprehensive reports across a range of metrics. However, the timing of these reports is usually at the last LFC hearing and constitutes an overwhelming amount of information at the final stages of budget development. The combination of these factors results in policy-makers lacking a robust set of performance information during critical periods leading up to budget development.

HED developed a data dashboard that was aligned with degree production and student credit hour production in key areas as it relates to the funding formula. However, data is only available through FY13 online at the time of this publication.

Higher education has implemented many best practices to improve graduation rates, but a faster and more uniform scale up of effort is needed. New Mexico has low graduation rates, though some institutions have shown some modest recent improvement. New Mexico ranks 47th in the nation for six-year graduation rates and 49th for on-time graduation rates, at 41 percent and 14 percent of first-time full-time students, respectively. New Mexico graduation rates have minimally increased since 2002, ranking 45th in the nation for the change in six-year graduation rates from 2002 to 2013. On-time degree completion for bachelor's degrees has remained relatively flat over time.

Cost Benefit

For example, each percentage point increase in retention generates \$1.7 million in recurring increased revenue for Arizona State University (ASU).

Given that ASU saw an 8 percent increase, this represents 13.6 million in recurring funds.

A similar increase in retention at the University of New Mexico could result in an increase of about \$4 million in revenue.

Source: LFC Analysis

Cost Benefit

NMSU redesigned the first year experience for engineering majors beginning in fall 2014. The redesign included a peer mentorship program, group advising sessions, English 111 learning communities, and an introductory transition course comprised of workshops, flipped classrooms, problem-based learning, and campus exposure exercises.

Upon implementation of the redesign, retention rates for the 384 freshman engineering majors rose from 63.9 percent to 78.5 percent.

Source: NMSU

Cost Benefit

A similar increase in retention at the New Mexico four-year institutions would result in an increase of 200 students returning for their sophomore year.

At NMHU, for instance, a retention rate increase of 15 percentage points would result in about 50 additional sophomores paying \$2,400 in tuition in the fall semester.

Estimating a similar amount of revenue from state formula funding would result in a total increase of about \$250 thousand for NMHU in the fall semester.

Source: NMHU and LFC analysis

Four- and six-year graduation rates at research universities show mixed results recently. UNM and NMSU have improved four year graduation rates, but they still do not reach the 25 percent goal recommended in the 2010 LFC report on those institutions.

Many best practices exist in higher education to improve graduation and time to degree. We have grouped these best practices into three broad categories: policy, curriculum related, and student support services. LFC staff found evidence of many of these best practices being implemented across the state to varying degrees and implementation stages. Each practice has different applicability and not all practices should necessarily be implemented universally by each institution in the state.

Policy: Some institutions in New Mexico have moved to better align admission standards, degree requirements, and financial aid policies to encourage on-time degree completion.

- Admission standards with clear pathways for students not ready to enter research universities.
- Changes to the legislative lottery scholarship, tuition incentives and new innovative financial aid programs show promise at boosting full-time enrollment and thus on-time degree completion.
- Institutions of higher education in New Mexico are experimenting with a variety of different practices designed to provide a clear and supported path to on-time degree completion.
- Implementation of meta-majors can lead to more informed student choices and improved graduation outcomes.
- Math Pathways offer an opportunity to accelerate degree attainment.

Curriculum: Changes in the delivery and coordination of curriculum can help boost student outcomes.

- Alternative remediation is being implemented widely throughout the state.
- Curriculum, teaching methods, and program redesign also offer potential positive effects.
- Better coordination between institutions of higher education and key feeder high schools can help improve the quality and preparedness of incoming freshmen for college work.

Student Support: Institutions have implemented a variety of efforts to support students academically.

- Intrusive academic advisement can help lower dropout rates for underprepared students.
- Research shows learning communities, if implemented correctly, can improve student outcomes.
- Graduation rates at City Universities of New York (CUNY) doubled in three years for at-risk community college students through Accelerated Study in Associate's Programs (ASAP). With a few

Cost Benefit

A 2012 report by the United States Department of Education profiled colleges that reconfigure the first two years through learning communities.

Early results from the 2012 report have shown improved persistence, credit accumulation, and higher grade point averages. Learning community students had a 5th semester persistence rate of 82 percent, compared to 64 percent for all first-time freshmen.

A 2009 assessment by Wayne State University found consistent improvements in student academic achievement measures, including higher first year retention and GPA from membership in a learning community.

At Doña Ana Community College (DACC), students in learning communities have next-semester retention rates over 30 percentage points higher since 2012. New Mexico Tech (NMIMT) has also shown improvement in retention rates with a learning community pilot program.

Source: DACC and NMIMT

exceptions, Central New Mexico Community College (CNM) has recently implemented the ASAP model.

- Supplemental instruction can provide the benefit of interactive, in-depth instruction, specifically for material that students struggle with the most, at a fraction of the cost of hiring full-time faculty.

State policies can aid in providing some common structure to a decentralized system of higher education in New Mexico, but HED needs support implementing these in some cases. Some state statutory tools are unused. In 2005, the Legislature enacted the Post-Secondary Education Articulation Act, Section 21-1B NMSA1978, stating the Higher Education Department (HED) shall:

1. Define and publish discipline modules for lower-division coursework, including a general education core, that are fully accepted for transfer towards a bachelor's degree at all institutions.
2. Establish and advertise a complaint process for transfer students whose credits are not accepted towards a degree and recommend financial penalties for institutions not accepting credits.
3. Report to the legislature and the governor each year on the status of articulation programs and transfer agreements between institutions statewide.

Changes to governance likely will need to be considered in the future absent significant and widespread implementation of best practices and improvement on degree production, on-time degree production, and awards for transfer students without excess semester credit hour (SCH) accumulation. Given the forecast budget pressures over the next five to ten years due to public school finance challenges and growth in Medicaid costs, additional and significant new investments in higher education absent improved performance may well prove challenging.

KEY RECOMMENDATIONS

The Legislature:

- Consider statutory changes to:
 - Place a cap on bachelor's SCH degree requirement at 120, and associate's degree requirements at 60, and authorize HED to provide exemptions for programs demonstrating a need, including accreditation requirements.

Higher Education Department:

- Form a task force, including representatives of higher education and the Legislative Finance Committee staff, to recommend a comprehensive performance system for higher education, including recommending statewide long term goals aligned with the funding formula; a system to measure performance and report on key metrics more than twice per year; and make the information more accessible and timely for policymakers. On-time degree production, graduation levels for transfer students from community colleges to comprehensive and research universities and employment metrics for graduates staying in New Mexico should be priority metrics.
- Taking into consideration task force recommendations, establish statewide long term goals for the state of New Mexico for higher education performance and request appropriate new performance measures and targets, as applicable as part of the normal AGA process for the department.
- Continue to work with LFC to perform workforce analysis on key economic sectors to examine employment, retention and wages of recent graduates relative to workforce development needs. This analysis should inform long range planning and be shared with institutions of higher education, the Legislature, Workforce Solutions Department, Economic Development Department and other relevant stakeholders.
- Develop a financial incentive program, outside of the funding formula, to encourage the use of meta-majors and other best practices to either assist with scale up costs or encourage better system efficiencies such as effective 2+2 programs to boost bachelor degree production. In some cases these financial incentives could be used to implement interventions that may not prove cost-beneficial to the institutions internal finances but have proven societal benefits of helping boost graduation levels of at-risk student populations in order for the state to meet its strategic goals.

Institutions of Higher Education:

- Work with HED, the Department of Finance and Administration, and LFC to revise, as applicable, performance measures and targets to align with statewide long-term goals and desired performance.

BACKGROUND INFORMATION

Overview. Higher education is a key component to economic growth and prosperity for New Mexicans. Citizens with higher levels of education are healthier, have higher levels of income, commit fewer crimes, contribute more to their communities, and have higher levels of happiness, according to the World Economic Forum's *Global Competitiveness Report*. The report further contends that states with greater percentages of educated citizens have healthier, more robust economies, lower health care costs, lower crime rates, and decreased reliance on the most costly government services. In a competitive, global economy, a well-educated workforce is required to perform complex tasks and adapt rapidly to evolving demands.

U.S. Ranking. The U.S. ranks 12th in the world in the percentage of young adults with a college education, according to a U.S. Department of Education (DOE) report. Countries such as Korea, Japan, Canada, Russian Federation, United Kingdom, and Israel all outrank the U.S. The DOE report suggests the increase in tuition of two-year and four-year higher education institutions nationwide is a factor in the U.S. ranking. The report also suggests colleges have not focused on keeping costs down and states have slashed investments in higher education. In addition, the report states:

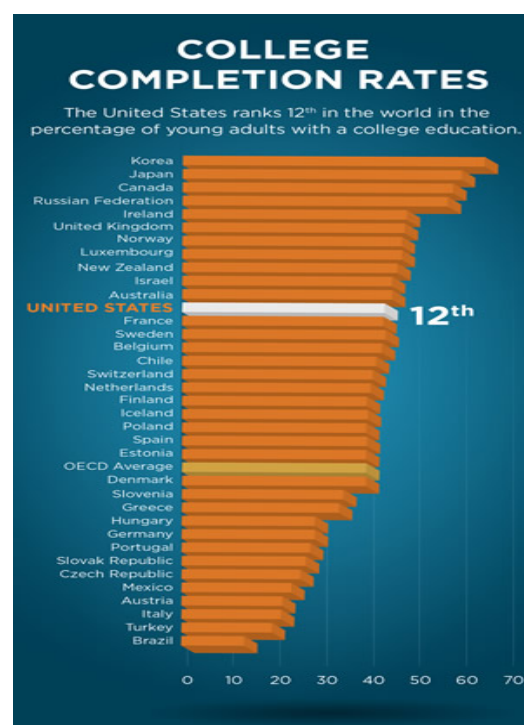
- Over the past three decades, tuition at four-year colleges has more than doubled, even after adjusting for inflation.
- Between 1992 and 2012, the average loan amount owed by a student earning a bachelor's degree nearly doubled by \$27 thousand.
- The maximum federal Pell Grant in FY15 covers about 30 percent of the cost of a four-year public college education, less than half what the grant covered in 1980.

National Statistics. Nearly 59 percent of students who began seeking a bachelor's degree at four-year institutions nationwide in fall 2007 completed a degree within six years, according to the National Center for Educational Statistics (NCES). In fall 2013, 17.5 million undergraduate students nationwide attended degree-granting postsecondary institutions in the U.S. some 10.5 million undergraduate students (60 percent of the total) attended four-year institutions, while 7 million (40 percent of the total) attended two-year institutions. Of the undergraduate students at four-year institutions, 8.1 million, or 77 percent, attended full time. Of the undergraduate students at two-year institutions, 2.8 million (41 percent) were full-time students. The graduation rate for females (62 percent) was higher than the rate for males (56 percent).

In addition, NCES states in terms of student retention among first-time, full-time students who enrolled at four-year degree-granting institutions in FY12, about 80 percent returned the following fall (2012). At public four-year institutions, the overall retention rate was 80 percent, with a range from 60 percent at the least selective institutions (those with open admissions) to 95 percent at the most selective institutions (those that accept less than 25 percent of applicants).

New Mexico. The state funds 21 independent governing bodies that oversee 31 institutions of higher education and 36 satellite sites, including four- and two-year colleges, branch campuses, special schools, and tribal colleges. There is a varying amount of alignment between institutions, even among institutions under the authorization of the same governing body.

Chart 1. World Ranking of College Attainment



Source: U.S. Department of Education

Although New Mexico ranks highest in the nation in allocations to higher education, it ranks among the lowest in terms of educational attainment and personal income. The New Mexico Legislature appropriated \$848 million to fund higher education in FY16, about 14 percent of all appropriations from the general fund. The state has increased higher education appropriations since FY12, but amounts still remain below pre-recession levels. New Mexico ranks 7th nationally in higher education spending per capita, according to the state higher education executive officers association (SHEEO), yet it ranks 46th nationally in baccalaureate graduation rates: 14 percent graduate on-time in four years, 42 percent graduate within six years (Chronicle of Higher Education).

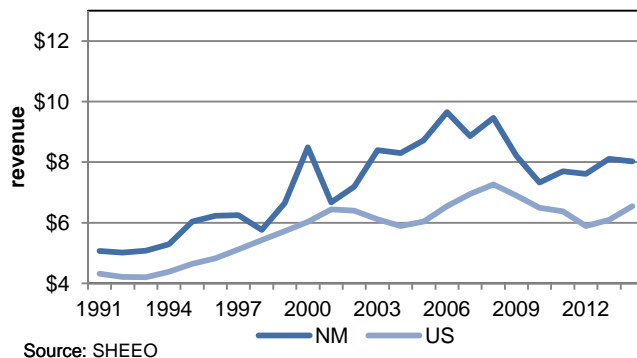
Table 1: Personal Income and Higher Education Support

Category	Higher Education Support per Capita (FY13)	Higher Education Support per \$10,000 of Personal Income (FY13)	Tax Revenues and Lottery Profits (FY12)	Higher Education Support (FY12)	Allocation to Higher Education (FY12)
Highest	\$717	13.57	\$184.9 million	11,433,414	12.1%
Lowest	\$65	2.80	\$2.9 million	82,696	1.5%
New Mexico	\$456	12.69	\$7.5 million	921,492	12.1%
US	\$259	5.79	\$1.4 billion	80,991,246	5.8%

Source: SHEEO and LFC files

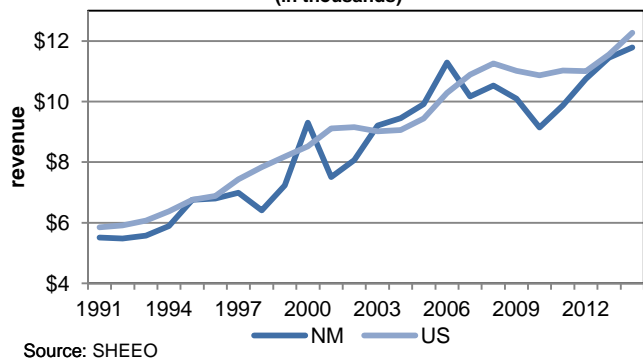
Twenty-six percent of the population has a bachelor's degree or higher while the per capita personal income for New Mexico is \$35,079. The U.S. average is almost 31 percent for educational attainment and \$42,693 in personal income. Among the highest ranking states are Connecticut, Massachusetts, New Jersey, and Maryland. When including student tuition, New Mexico institutions rank 29th in total revenue per FTE. Additionally, New Mexico has funded higher education at well above the national average for decades, and total revenue per FTE for higher education institutions has remained close to the national average for decades.

Chart 2. State Funding Per FTE
(in thousands)



Source: SHEEO

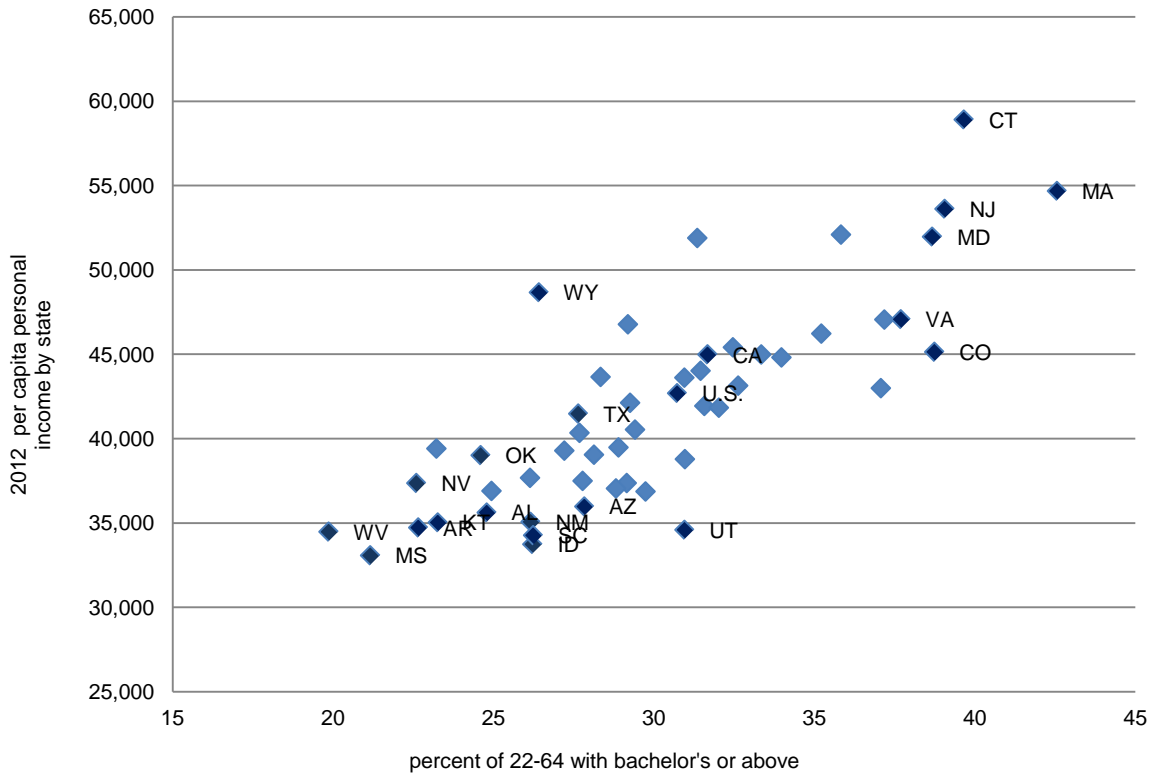
Chart 3. Total Educational Funding Per FTE
(in thousands)



Source: SHEEO

The state's per capita income is aligned with educational attainment. Despite a higher funding effort, New Mexico has historically lower attainment and lower per capita income compared with other states.

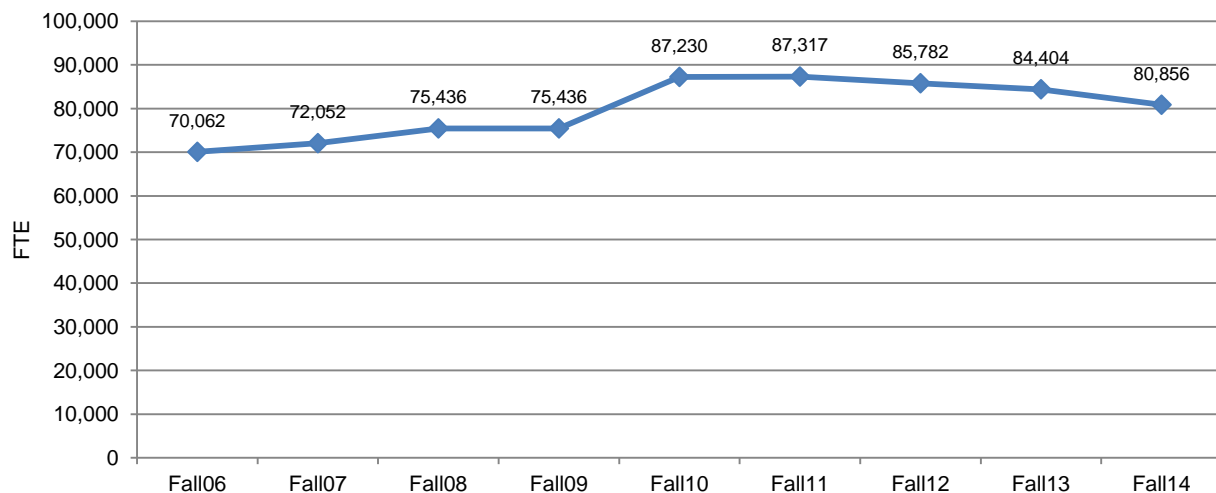
Chart 4. Educational Attainment and Personal Income



Source: US Department of Education

Undergraduate FTE has declined steadily since 2010. Enrollment reached an all time high of over 87 thousand in FY10 but has declined to almost 81 thousand in the last five years.

Chart 5. Undergraduate Full Time Equivalent (FTE) Enrollment, Fall 06 to Fall 14



Source: HED

Graduation Rates. Four-year graduation rates are low for research and comprehensive universities, the highest is at New Mexico Institute of Mining and Technology (NMIMT) at 22 percent. NMIMT and the University of New Mexico (UNM) have the highest retention rate for students who began their studies in fall 2013 and returned in fall 2014 at 79 percent. New Mexico State University (NMSU) falls 5 percent behind while the comprehensive universities trail behind the research institutions by as much as 31 percentage points.

Table 2. Retention and Graduation Rates of Research and Comprehensive Institutions of Higher Learning in New Mexico

Research Institutions	*Retention Rate FY13-FY14	**Graduation Rate 4 year	**Graduation Rate 6 year	**Graduation Rate 8 year
New Mexico Institute of Mining and Technology (NMIMT)	79%	22%	45%	52%
New Mexico State University (NMSU)	74%	16%	46%	49%
University of New Mexico (UNM)	79%	15%	47%	53%
Comprehensive Institutions	Retention Rate FY13-FY14	**Graduation Rate 4 year	**Graduation Rate 6 year	**Graduation Rate 8 year
Eastern New Mexico University (ENMU)	59%	11%	27%	na
New Mexico Highlands University (NMHU)	48%	8%	17%	21%
***Northern New Mexico College (NNMC)	50%	na	na	na
Western New Mexico University (WNMU)	55%	7%	22%	19%

Sources: National Center for Educational Statistics

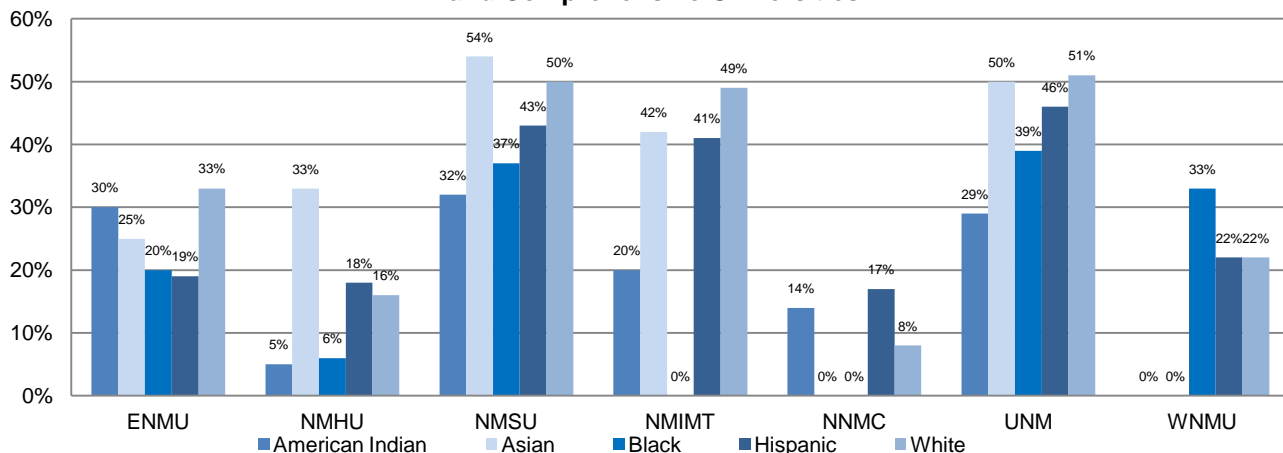
*Percentage of students who began their studies in fall 2013 and returned in fall 2014

** Percentage of full-time, first-time students who graduated in the specified amount of time and began in fall 2008

***NNMC recently became a 4-year institution of higher learning.

Graduation rates decrease if a student has taken remedial courses. In a 2012, Complete College America report *Remediation Higher Education's Bridge to Nowhere*, 7 percent of students having taken remedial courses will graduate with a bachelor's degree in 6 years from a New Mexico institution of higher learning. Western states are three to five times more likely to graduate students who have taken remedial courses such as Colorado (22 percent); Nevada (37 percent); Oklahoma (31 percent); Texas (30 percent); and Utah (23 percent).

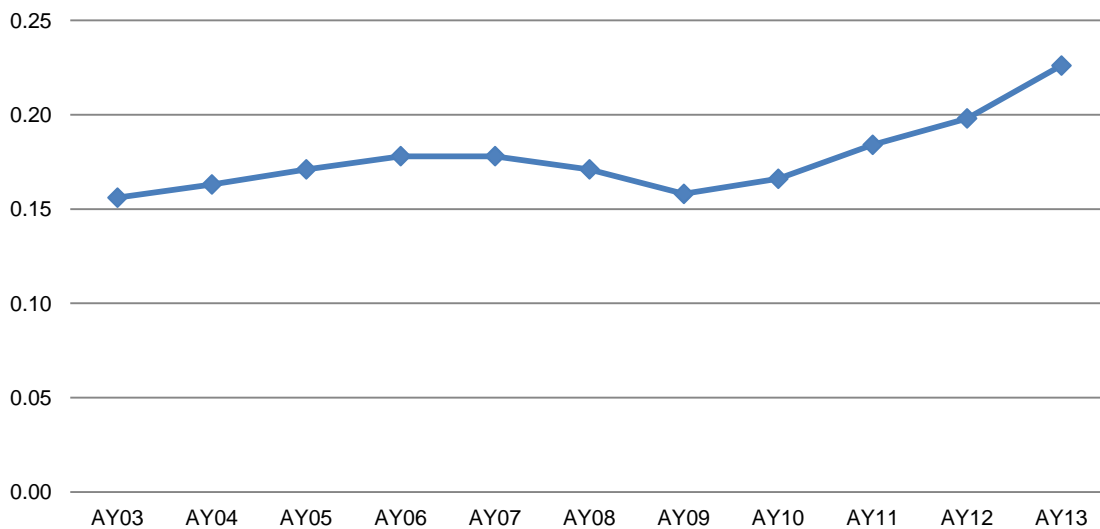
Chart 6. Six-year Graduation Rates at New Mexico Research and Comprehensive Universities



Source: National Center for Educational Statistics

Certificates and degrees awarded per 100 FTE increased in the past decade for higher education institutions in New Mexico from 15.6 in 2003 to 22.6 in 2013.

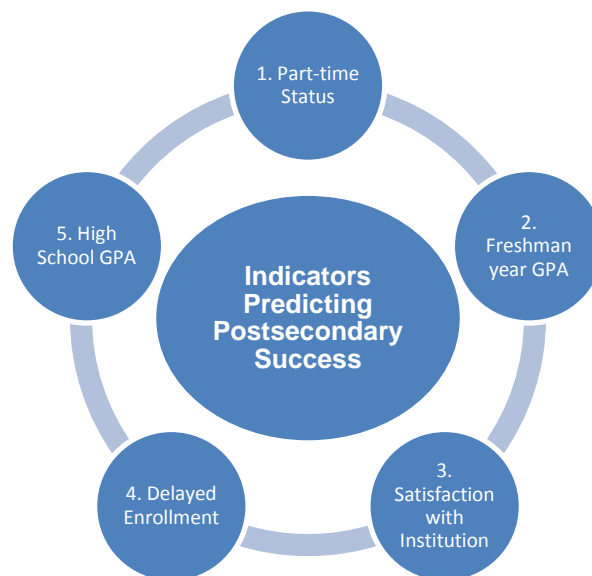
Chart 7. Certificates and Degrees Awarded per Full Time Enrollment (FTE) in New Mexico, AY03 - AY13



Source: HED

Issues impacting degree completion. Numerous LFC, HED and other analyses have shown that a number of factors can impact degree completion and time to degree, including student effort, family educational and economic background, preparedness, poor advisement, and excess credits. A 2014 study by Child Trends called “Social Indicators Predicting Postsecondary Success,” calculated that the five largest predictors of a student completing a college degree are as follows, ranked in order of largest to smallest impact:






Figure 1. Predictors of Post-secondary Success



Source: Child Trends

About 50 percent of Hispanics nationwide are the first in their families to enroll in college, according to the National Conference of State Legislatures (NCSL). Hispanic students often lack the experience, information and resources needed to attend college, receive financial aid, succeed in getting a degree, and find the support services they need along the way. Hispanic students are more likely to come from low-income families and are less likely than other students to assume loans, more likely to attend part-time, more likely to work part- or full-time to help pay for college; and more likely to continue to live at home while they attend college. New Mexico Legislative Lottery Scholarship incentivizes both full-time status and not delaying college enrollment, higher education institutions can work with high schools to provide feedback on student performance in order to improve high school grade point averages (GPAs) and can provide academic and student support services to improve freshmen class performance and satisfaction.

Table 3. NCSL Recommendations for Higher Hispanic Success Rates in College

Best Practice	Recommendations
 Inform students and families about financial aid options, expand college preparation programs in high schools and support services in colleges.	<ul style="list-style-type: none"> Legislators can support outreach and counseling efforts by tapping into the resources offered by federal programs and local or national initiatives. Legislators also can determine whether local or national foundations provide counseling and college preparation services in their community and encouraging collaboration between the foundations and state departments of education. Legislators can promote initiatives through legislative resolutions, public service announcements and other media outlets.
 Preserve need-based financial aid programs and sustain investments in work-study programs.	<ul style="list-style-type: none"> Legislators can supplement state funding for need-based aid and work study programs by supporting matching grants provided by federal programs, private donors, and foundations.
 Learn from the successes of Hispanic-serving institutions, particularly in family engagement.	<ul style="list-style-type: none"> Legislators can get to know Hispanic serving institutions (HSIs) by visiting with leaders and faculty, and understanding not only the demographics of the students served, but also the retention and graduation rates. Legislators can support the success and growth of HSIs by considering funding formulas that reward institutions for successfully graduating large numbers of underrepresented students and through capacity-building projects.
 Recognize community colleges are the entry point for many Hispanic students	<ul style="list-style-type: none"> Legislators can ensure appropriate academic and/or financial supports are in place to help these institutions increase Hispanic students' achievement and success. Legislators can encourage collaboration between community colleges and local businesses to ensure that community colleges are responsive to local workforce needs and to encourage businesses that may hire these graduates to provide financial support through grants and scholarships.
 Simplify transfer and articulation agreements between community colleges and four-year universities	<ul style="list-style-type: none"> Legislators can encourage institutions to create a statewide course numbering system and guaranteeing admission to a four-year college as a junior for any student who completes an associate's degree at a community college. Legislators can support transfer by tracking transfer rates of community colleges and considering funding incentives to reward them for successful transfers. Legislators can provide incentives for four-year universities by allowing them to include transfer students in their graduation rates.

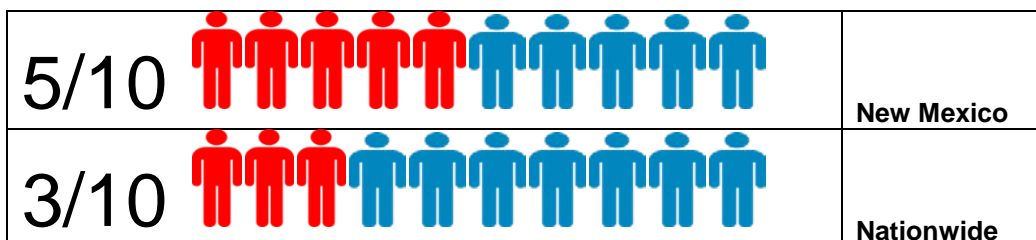
Source: NCSL

College readiness. Nearly 60 percent of first-year college students who are eligible to attend college are not academically prepared for postsecondary studies. The joint National Center for Public Policy and Higher Education (NCPPE) and the Southern Regional Education Board (SREB) report identifies common shortcomings of state readiness efforts:

1. Higher education has not been sufficiently involved, leaving public education with unclear messages about the knowledge and skills required for college readiness.
2. Readiness standards, if set, are set too low and are based on courses, not an emphasis on academic skills.
3. Efforts have been piecemeal rather than systematic.
4. State accountability structures do not contain incentives to achieve college readiness outcomes.

The U.S. Department of Education reports that in academic year 2012, 30 percent of first-year, first-time undergraduates nationwide took a remedial course, the percentage jumped 20 points to 50 percent for the same population of students in New Mexico.





























































Table 4. First-year, First Time Undergraduates in College Remedial Courses, FY12



Source: U.S. Department of Education and HED

New Mexico has addressed 50 percent of the blueprint policies in the Education Commission of the States (ECS) Blueprint for College Readiness to improve readiness standards. According to the report the state has a comprehensive approach to facilitate student transfers from two- and four-year institutions, a “strong” commitment in providing high school students with access to advanced coursework, and a “strong” K-12 accountability program incorporating measures of college and career readiness (CCR) into its calculations of school performance. ECS recommends New Mexico develop a uniform set of requirements for admission to four-year colleges and adopt a statewide definition of CCR that is recognized by high schools and colleges to align benchmarks.

Table 5. ECS CCR Blueprint Policies in New Mexico and Surrounding States, FY14

State	CCR Standards	CCR Assessments	K-12 Grad Requirements Aligned	K-12 Accountability	Statewide Admission	Statewide Remedial and Placement	Transfer	Higher Ed Accountability	Statewide CCR Definition	P-20 Data and Reports	Policies
CO											9/10
UT											9/10
AZ											8/10
NV											8/10
TX											7/10
NM											5/10

Source: Education Commission of the States

Many New Mexico high school graduates are unprepared for their chosen college major, according to the American College Test (ACT) college readiness benchmarks. Well under 50 percent of New Mexico students are academically prepared according to the ACT benchmarks in most majors, namely nursing (8 percent), business administration (14 percent), and elementary education (14 percent). However, students pursuing some academically rigorous STEM professions were slightly better prepared like aeronautical engineering with 51 percent of students prepared. When registering for the ACT, high school students complete a survey listing a preferred college major they intend to pursue in college. The ACT calculates student scores in English, reading, math, and science against minimum scores by major to determine if students are academically prepared to pursue the major.

**Table 6. ACT College Readiness Benchmark
Attainment for Planned Majors Among
New Mexico High School Graduates, FY15**

Major	N	*Percent Prepared
Nursing, Registered (BS/RN)	530	8%
Medicine (Pre-Medicine)	501	39%
Mechanical Engineering	415	32%
Criminology	379	10%
Business Administration	289	14%
Law (Pre-Law)	244	18%
Athletic Training	230	17%
Aeronautical Engineering	152	51%
Biology	149	32%
Biochemistry and Biophysics	123	39%
Civil Engineering	119	31%
Elementary Education	107	14%
Accounting	106	19%

Source: ACT

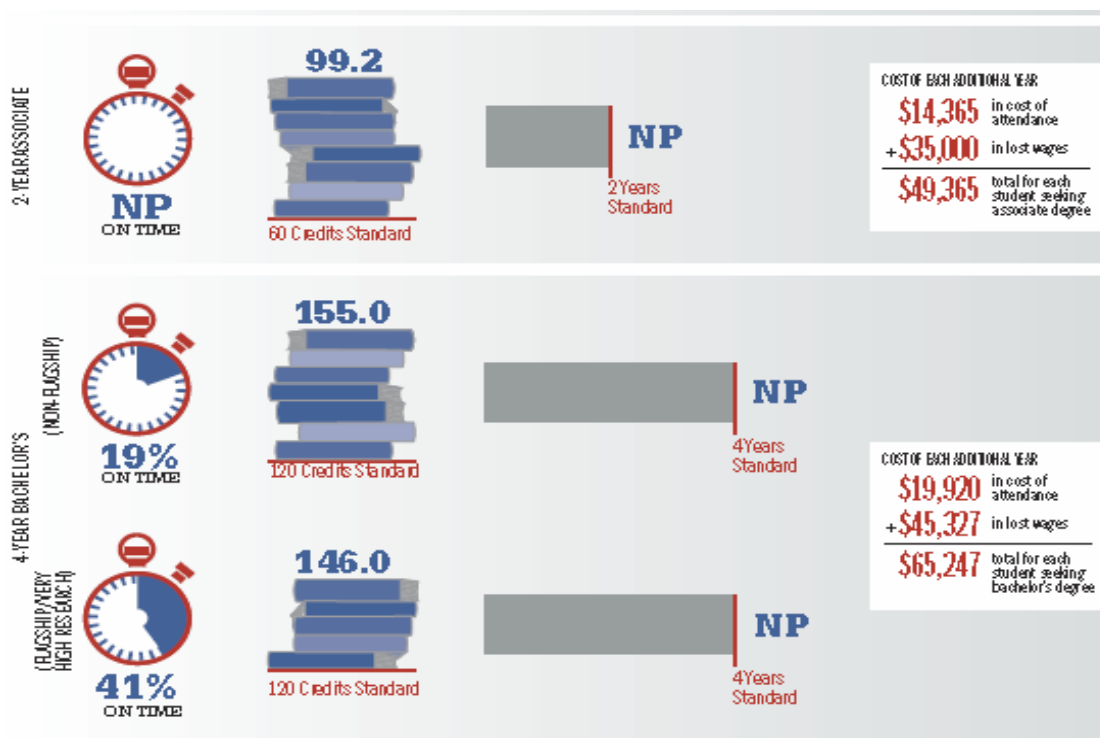
*Across all subject areas (English, reading, math, science)

Historically, the majority of New Mexico high school graduates are required to take remedial courses in college. Students required to take even one remedial course are three times less likely to graduate. Best practices for improving graduation for remedial students include using multiple placement assessments, implementing alternatives to traditional remediation, and redesigning required math courses to align more closely with programs of study. A 2015 LFC progress report on college readiness highlights the status of improving remedial outcomes for students in New Mexico. Remediation rates are down 10 percentage points for 2014 high school graduates and higher education institutions across the state are experimenting with alternatives to traditional remediation, with positive outcomes. However, institutions can still expand their implementation of effective alternatives and align math requirements with programs of study statewide. As mentioned in the 2015 report, a statewide expansion of similar practices in Tennessee has improved credit-bearing course completion rates by a factor of five for remedial students across all socioeconomic backgrounds.

Redesigning placement, curriculum, and course pathways has no recurring costs. As mentioned in the 2015 report, Central New Mexico Community College reduced public spending by \$6 million through these practices. UNM reduced the cost of delivering remedial math from \$82 per student to \$64 per student, and saw improved performance outcomes by implementing alternative curriculum.

Excess Credits and Time to Degree. Taking too long to get a degree is costly. Each additional year a student remains in a four-year college in New Mexico costs \$65 thousand in attendance and lost wages and \$49 thousand for a student in a two-year college. According to the Complete College America *Four-Year Myth* report it has become the accepted standard to measure graduation rates at four-year colleges on a six-year time frame and two-year community colleges on a three-year graduation rate. In New Mexico, 19 percent of students at non-flagship four-year colleges graduate on time and on average students take 35 credits over the standard of 120 credits. Forty-one percent of students at flagship colleges graduate on time taking 26 credits more than the standard average. In addition, Hispanic and Native American students take 10 to 13 more credits to graduate than Asian and White students at non-flagship colleges.

Chart 8. On-time Graduation Rates and Excess Credit Rates at New Mexico Institutions of Higher Learning



Source: Lumina Foundation

FINDINGS AND RECOMMENDATIONS

NEW MEXICO HAS IMPROVED DEGREE PRODUCTION, BUT NEEDS TO ENACT PERFORMANCE GOALS AND ALIGN THEM WITH THE FUNDING FORMULA

A 2010 report by the Georgetown University Center on Education and the Workforce notes that 47 percent of job openings will require a postsecondary degree by 2020. The Georgetown report noted that New Mexico needs to make more progress on increasing educational attainment. US Census data shows that less than 35 percent of adults over the age of 25 hold a two- or four-year college degree in New Mexico, significantly below the national average of 40 percent. To increase education levels, the state's public and private institutions of higher education need to increase degree production. Migration patterns can impact the ability of the state to boost educational attainment. For example, UNM recently reported economic data showing of the 12,027 people who left the state in 2013, an estimated 5,145 had bachelor's degrees. However, more can be done to improve degree production by improving access and increasing graduation rates. New Mexico ranks 4th in the country for high school graduates enrolling directly in college, at 72 percent, but 42nd for associate's degree graduation rates, at 13 percent, and 47th for bachelor's degree graduation rates, at 42 percent, according to the National Center for Higher Education Management Systems (NCHEMS).

According to a Lumina report, *A Stronger Nation Through Higher Education*, "the need to increase higher education attainment — the percentage of the population that holds a two-year or four-year college degree or other high-quality postsecondary credential — is well understood in New Mexico." As in other states, the economy of New Mexico is increasingly reliant on skills and knowledge that can be primarily obtained through postsecondary education. However, by 2020, New Mexico will fall short by 13,000 educated workers, absent major changes, based on these projections and LFC analysis.

From 2006 to 2014, the percent of 25-34 year olds nationally with a bachelor's degree or higher increased nearly five points, from almost 29 percent to over 33 percent, but remained stagnant in New Mexico at about 22 percent. This is not necessarily explainable by "brain drain," as a 2015 the Bureau of Business and Economic Research (BBER) report finds no out-migration with educational attainment levels above the resident average until 2013. If these trends hold, the expected population of 25-34 year olds to hold a bachelor's degree or higher will be 37 percent nationally and 23 percent in New Mexico by 2020.

Chart 9. 25-34 year olds Bachelor's Attainment, through 2020

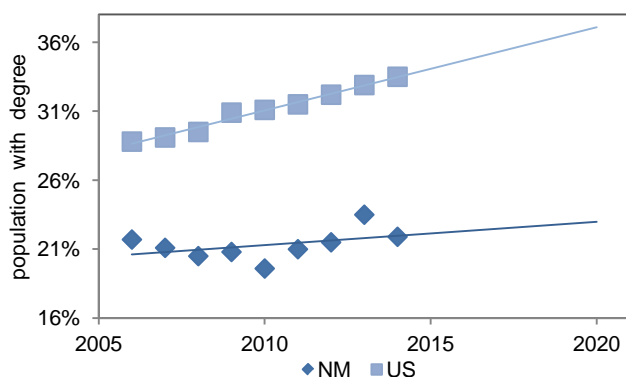
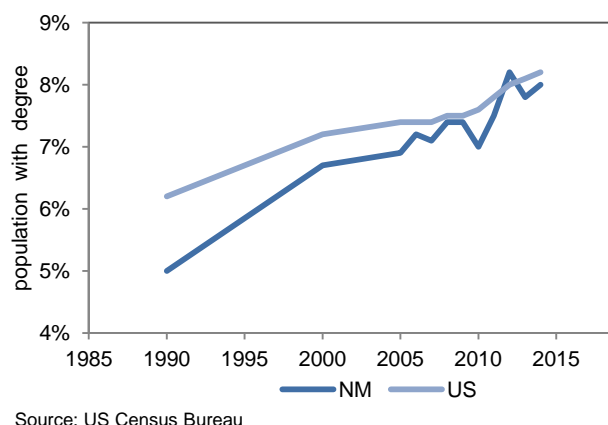


Chart 10. 25+ year olds Associate's Attainment



New Mexico ranks 50th for percent of 25-34 year olds with a bachelor's degree or higher, 50th for 18-24 year olds with a bachelor's degree or higher, and 50th for the per capita change in population age 25+ with a bachelor's degree or higher from 2000 to 2010. This is in spite of New Mexico having the 4th highest rate in the nation of high school graduates enrolling in college, at 72 percent. Conversely, the population with an associate's degree in New Mexico has nearly closed the gap with the national average, and is continuing to increase.

Like many other states, New Mexico has moved to a performance-based funding formula for higher education to better align resource allocation with desired outcomes, principally degree production. New Mexico and 29 other states including Nevada, Utah, and Oklahoma have a funding formula in place that allocates some amount of funding based on performance indicators. Indicators such as course completion, time to degree, transfer rates, the number of degrees awarded, or the number of low-income and minority graduates in place for two- and four-year institutions are used. Texas has a performance funding program in place for two-year institutions and Arizona for four-year institutions. Four states including Colorado are currently transitioning to some type of performance funding, meaning the Legislature or governing board has approved a performance funding program and the details are currently being worked out (Appendix B).

In 2010, an LFC evaluation of UNM and NMSU reported overall low post-secondary attainment levels in New Mexico, lack of alignment of financing incentives with outcomes, and need for the state's two largest research universities to boost graduation rates. New Mexico had experimented with elements of performance funding prior to 2010 but these were separate from the main funding formula which was principally based on enrollment levels. In 2011, the Legislature adopted language in the GAA directing the HED to develop a performance-based funding formula, which it did. Since 2011, the state has continued to wrestle with fine tuning the funding formula but each year the general direction of financing higher education has stayed the same – produce more post secondary degrees and certificates.

The higher education funding formula has very clear financial incentives based on the state's priorities and geared toward each sector of higher education's mission. The formula provides incentives to increase the awarding of degrees and certificates overall, and incentives for degrees in specific fields in science, technology, engineering, math, and health care and for low-income students. Other incentives include intermediate outcomes such as course completion, mission specific such as research, or targeted state priorities such as the use of dual credit for high school students. Institutions compete for performance funding which comes from each institutions' own base appropriations and/or "new" funding appropriated by the Legislature. The formula does not include specific performance targets to earn funding, but rather each institution must outperform their peer institutions. Using funding carved out of each institution's base appropriations has proven the most controversial aspect of the new funding formula.

New Mexico institutions of higher education have increased the number of degrees and certificates awarded since 2012 by about 15 percent. Most institutions of higher education have boosted the number of awards for certificates, associate's, bachelor's and graduate degrees over the past four years, as shown in Appendix C. Certificates increased eight percent to over 3,700. Associate's degrees increased 31 percent and bachelor's degrees by 9 percent. Institutions of higher education increased graduate awards by nearly 200, or about 6 percent.

Bachelor's degree production peaked in 2014 and then dropped two percent in 2015, primarily due to declines at NMSU and UNM. Between 2012 and 2015, WNMU increased bachelor's degree awards 35 percent to 221. NMHU and ENMU increased by 100 each, or 28 percent and 17 percent, respectively. UNM and NMSU produced, by far, the bulk of bachelor's degrees among all four year institutions and increased degree production 7 percent and 4 percent respectively

Table 7. NM Public Degrees		
	Assoc.	Bach.
2012	6,242	7,038
2013	6,881	7,404
2014	6,670	7,807
2015	8,191	7,679
Change	1,949	641
Percent Change	31%	9%

Source: HED data

during the same time period. Between 2001 and 2013 bachelor's degree production increased less than 2 percent a year on average compared to almost 5 percent nationally. However, production levels varied widely from negative growth from 2007-2010 to solid increases in the early 2000s.

Associate's degree production levels have shown strong but uneven growth statewide. Central New Mexico Community College (CNM), the state's largest two-year school, increased associate's degree awards 63 percent to over 4,000 in 2015. By contrast, Doña Ana Community College (DACC) increased total associate's degree awards by 62, or about 7 percent. Other colleges experienced declining awards, NMSU-Alamogordo dropped by 38 percent, Mesalands Community College by 35 percent, and Luna Community College by 20 percent. Appendix D includes all awards by institution.

New Mexico is one of 19 states yet to develop statewide goals to increase postsecondary attainment, according to the Lumina Foundation. The Lumina Foundation report recommends New Mexico set goals to address the critical need to close gaps in postsecondary attainment for minority students, low-income students, working adults, and other underrepresented students. However, goals alone will not be realistic without an administrative plan that shows targets are achievable.

Table 8. Examples of State Goals, FY14

State	Goal Statement	Goal Setting Organization
Arizona	Increase the percent of adults with bachelor's degrees from 29 percent to 30 percent by 2020	Arizona Board of Regents
Colorado	Increase the number of Coloradans aged 25 to 34 who hold high quality postsecondary credentials (degrees or certificates) to 66 percent by 2025 as well as reduce attainment gaps among students from underserved communities	Colorado Department of Higher Education
Texas	At least 60% of Texas workers hold a postsecondary credential, certificate, or degree of value in the workplace by 2036 (2036 is the state's bicentennial)	Legislature and Governor – HB2036 (2013)
Utah	"66 By 2020" To have 66% of Utah's men and women age 25 to 64 with a postsecondary degree or certificate by the year 2020	Governor and Board of Regents
Virginia	55 percent of adults age 25 to 64 hold an undergraduate degree by 2025 per legislation "To place Virginia among the most highly educated states and countries by conferring approximately 100,000 cumulative additional undergraduate degrees on Virginians between 2011 and 2025"	Legislature -Virginia Higher Education Opportunity Act of 2011: Preparing for the Top Jobs of the 21st Century (TJ21)

Source: Lumina Foundation

NMSU's recently adopted strategic plan, Vision 2020, identifies five major goals for the main-campus and branch-campuses to focus on: Academics and Graduation, Diversity and Internationalization, Research and Creative Activity, Economic Development and Community Engagement, and Resource Stewardship. The goals are implemented through 15 objectives, with progress measured by the university's relative position in 30 key performance indicators among a 16-member peer group of "like" institutions (Appendix E). For instance, within the "completion" objective, the target for the "4-year graduation rate" key performance indicator is 30 percent, which would improve NMSU's position from the 4th quartile to the 2nd quartile among its peer group.

The Lumina Foundation report further states that New Mexico must make more progress on increasing attainment. The percentage of the working age population nationwide, 25 to 64 years old with at least an associate's degree nationwide has increased slowly from 37.9 percent in 2008 to 40 percent in 2013. Since 1990 the percentage of the New Mexico population with high school diplomas, bachelor's degrees or higher degrees has increased. However, the majority of neighboring states, excluding Texas, continue to outperform New Mexico by as much as 10 percentage points in the same time period. New Mexico has not surpassed the national average in both high school diploma and bachelor's degree attainment.

Table 9. Higher Education Diploma and Degree Attainment, 1990-2010

State and US Average	Percent of Population and Ranking (25+) with a High School Diploma or Higher, 1990	Percent of Population and Ranking (25+) with a High School Diploma or Higher, 2000	Percent of Population and Ranking (25+) with a High School Diploma or Higher, 2010	Percent of Population and Ranking (25+) with a Bachelor's Degree or Higher, 1990	Percent of Population and Ranking (25+) with a Bachelor's Degree or Higher, 2000	Percent of Population and Ranking (25+) with a Bachelor's Degree or Higher, 2010
US	75.2%	80.4%	85.6%	20.3%	24.4%	28.2%
New Mexico	75.1%	78.9%	83.3%	20.4%	23.5%	25.0%
	33 rd	37 th	43 rd	21 st	25 th	35 th

Source: HED

Due to migration patterns and other uncertainties, HED could use education attainment levels to inform more specific degree production performance targets for the state, as well as efficiency and outcome measures such as on-time degree completion. These would need to be aligned with elements of the funding formula's incentive and workforce priorities, including degree production for at-risk students and science, technology, engineering, mathematics, and health (STEM-H) fields. The Higher Education Department Act, Section 9-25-9 NMSA1978; provides HED shall study and report on enrollment capacity over a ten-year period, in terms of demographic and workforce needs. This reporting, in conjunction with estimates by the Workforce Solutions Department, could help guide higher education institutions towards specific fields of degree production.

On-time degree completion should be a focus of performance expectations given the significant additional costs for students to graduate in 150 percent of program. The students captured in this measure represent first time full time freshman, and tend to constitute the most traditional student moving from high school to college. Additional metric can and should be developed to examine overall degree production that captures transfer students and returning students and the institutions' relative efficiency.

HED has made progress moving towards a more comprehensive performance reporting system, but additional steps are needed to align Executive, Legislative and institutional goals. The Accountability in Government Act (AGA) and the annual General Appropriations Act (GAA) provide vehicles for establishing common state and institutional performance measures to track progress towards needed statewide goals for higher education. Each entity, the Executive and HED, Legislature, and individual institutions have a role in establishing and approving agreed upon performance targets, tracking and reporting, as well as implementation and monitoring the implementation of improvement plans.

The state has been revising some of its performance measures for higher education, and recently HED requested changes to statewide measures to place more emphasis on efficient degree completion, including on-time degree completion for four-year institutions. These are positive steps. However, the institutions of higher education in New Mexico continue to report the six-year rate. The state has not agreed on a goal for how many more degrees and certificates that institutions of higher education should be producing over a given time period. As such the state cannot evaluate whether the recent trend of improved degree and certification production levels of about 3 percent a year is sufficient or not. Without performance goals and targets, policymakers cannot assess whether the financial incentives in the formula are resulting in desirable performance levels for the state as whole. Instead, performance funding may only act as a way to redistribute funding among higher education institutions without significant long-term changes in performance overall.

Prior to, and since, implementation of the state's performance-based funding formula, concerns have been raised over how to ensure that the quality of degrees will not be eroded. While the system does not measure quality now, options exist for examining quality in the future. Nationally, higher education is grappling with this issue and some experiments exist to validate student learning gains on different forms of standardized tests.

Accrediting bodies both institution-wide and department/degree specific serve as a key quality control. Additional metrics could be developed, particularly for priority degrees; this would give policy makers some, though not perfect, information on the preparation of graduates. For example, many degrees result in a person needing to obtain a professional license to practice in New Mexico. Previous LFC studies examining colleges of education found that higher passing scores on teacher exams correlated with better performance of teachers in the classroom. Employer surveys about recent graduates could also shed light on whether graduates are meeting the needs of employers coming out of school.

Finally, employment rates in New Mexico of graduates from four year institutions could help policy makers assess whether the increased degree production is helping address the need for a more educated workforce. Community colleges already have employment performance metrics and HED has the capacity to report the same for other institutions.

Opportunities exist for continued improved performance reporting and alignment with any new changes in goals and measures. The nature of when outcomes occur makes intermediate performance reporting in some cases difficult for higher education. The system currently only reports one performance measure (fall to fall persistence) in one quarter as part of its quarterly reporting for the AGA. LFC report cards are not available for year-end review with state agencies due to reporting delays. Institutional organizations, such as the Council of University Presidents, do produce comprehensive reports across a range of metrics. However, the timing of these reports is usually at the last LFC hearing and constitutes an overwhelming amount of information at the final stages of budget development. The combination of these factors results in policy-makers lacking a robust set of performance information during critical periods leading up to budget development.

HED developed a data dashboard that was aligned with degree production and student credit hour production in key areas as it relates to the funding formula. However, data is only available through FY13 online at the time of this publication. This platform provides an opportunity to expand and update performance data and assess actual versus desired performance of each institution in the state for the public and policymakers. The higher education system has substantial performance data that could be reported such as course completion rates, average semester credit hours (SCH) credit load earned per student, degrees produced in the fall/spring among other possibilities. Alignment of outcome information with the formula and desired policy goals, such as on-time degree completion and SCH per graduate, could be aggregated for annual reporting.

RECOMMENDATIONS

Higher Education Department:

- Form a task force, including representatives of higher education and the Legislative Finance Committee staff, to recommend a comprehensive performance system for higher education, including recommending statewide long term goals aligned with the funding formula; a system to measure performance and report on key metrics more than twice per year; and make the information more accessible and timely for policymakers. On-time degree production, graduation levels for transfer students from community colleges to comprehensive and research universities and employment metrics for graduates staying in New Mexico should be priority metrics.
- Taking into consideration task force recommendations, establish statewide long term goals for the state of New Mexico for higher education performance and request appropriate new performance measures and targets, as applicable as part of the normal AGA process for the department.
- Continue to work with LFC to perform workforce analysis on key economic sectors to examine employment, retention and wages of recent graduates relative to workforce development needs. This analysis should inform long range planning and be shared with institutions of higher education, the Legislature, Workforce Solutions Department, Economic Development Department and other relevant stakeholders.

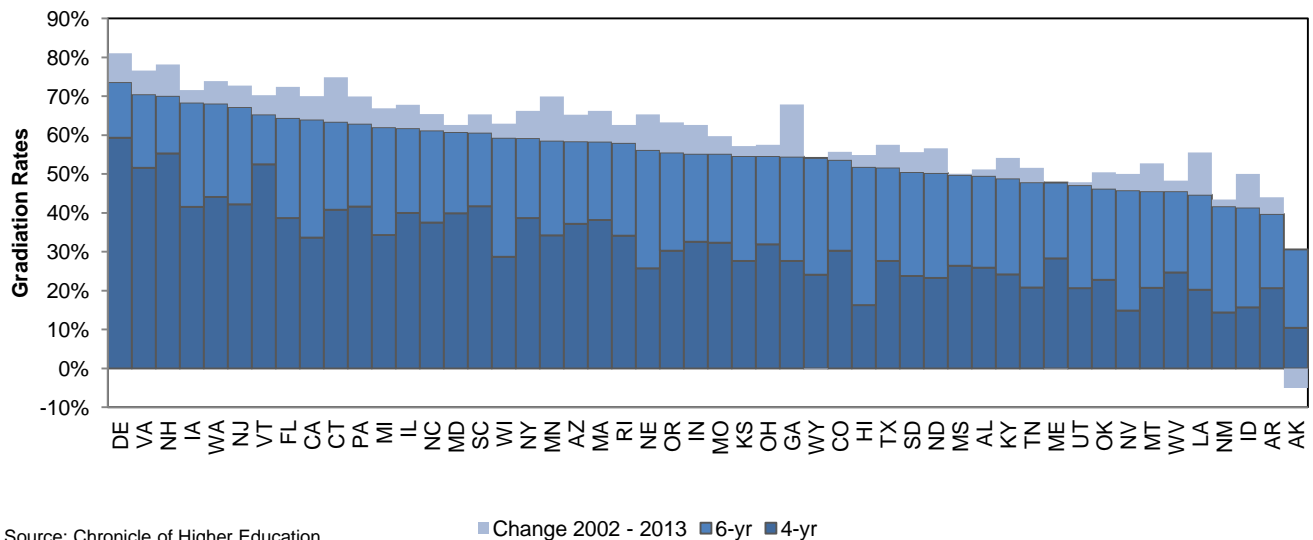
Institutions of Higher Education:

- Work with HED, the Department of Finance and Administration, and LFC to revise, as applicable, performance measures and targets to align with statewide long-term goals and desired performance.

HIGHER EDUCATION HAS IMPLEMENTED MANY BEST PRACTICES TO IMPROVE GRADUATION RATES, BUT A FASTER AND MORE UNIFORM SCALE UP OF EFFORT IS NEEDED.

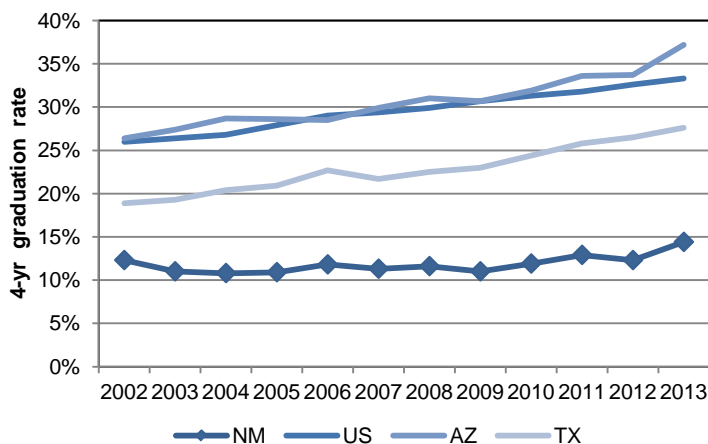
New Mexico has low graduation rates, though some institutions have shown some modest recent improvement. New Mexico six-year graduation rates rank 47th in the nation and on-time graduation rates rank 49th, at 41 percent and 14 percent of first-time full-time students, respectively. New Mexico graduation rates have minimally increased since 2002, ranking 45th for the change in six-year graduation rates from 2002 to 2013. On-time degree completion for bachelor's degrees has remained relatively flat over time.

Chart 11. Four-year and Six-year Graduation Rates by State, FY13



Data analysis, in Appendix F, shows that New Mexico six-year baccalaureate graduation rates are below average even when controlling for predictive measures. As a state, New Mexico graduation rates rank below all states with similar or lower ACT scores, similar or higher poverty rates, and below most states with similar or lower median income. Institutionally, the three New Mexico baccalaureate granting institutions classified as Research 1 Universities (R1s) have graduation rates below the majority of public R1s nationwide with similar ACT scores for incoming freshmen, similar federal Pell Grant eligibility rates for their student population, and similar total revenue per FTE. The only exception is New Mexico State University, which ranks slightly above what is expected given the ACT scores of its incoming freshmen.

Chart 12. New Mexico On-time Completion



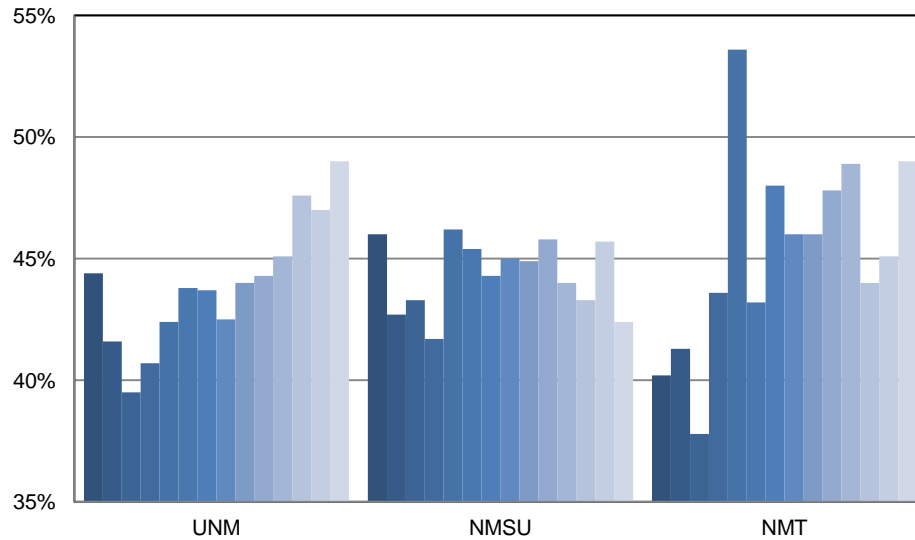
Some institutions with similar demographic profiles as UNM and NMSU have significantly better performance outcomes on metrics such as full-time freshman retention rates, on-time graduation rates, and graduation rates within 150 percent of standard time to completion. The bottom quartile of the UNM peer group consists of: UNM, New Mexico State University (NMSU), University of Nevada-Las Vegas (UNLV), University of Colorado-Denver (UCD), University

of Texas-Arlington (UTA), and University of Texas-El Paso (UTEP). Those universities ranking in the bottom quartile do have larger percentages of students receiving Pell grants and a higher minority undergraduate student

population. However, University of California-Riverside (UCR) and Florida International University (FIU), with substantially higher at-risk populations, outperform UNM in freshman retention rates, on-time graduation, and graduation rates within 150 percent of standard time to completion, as shown in Appendix G.

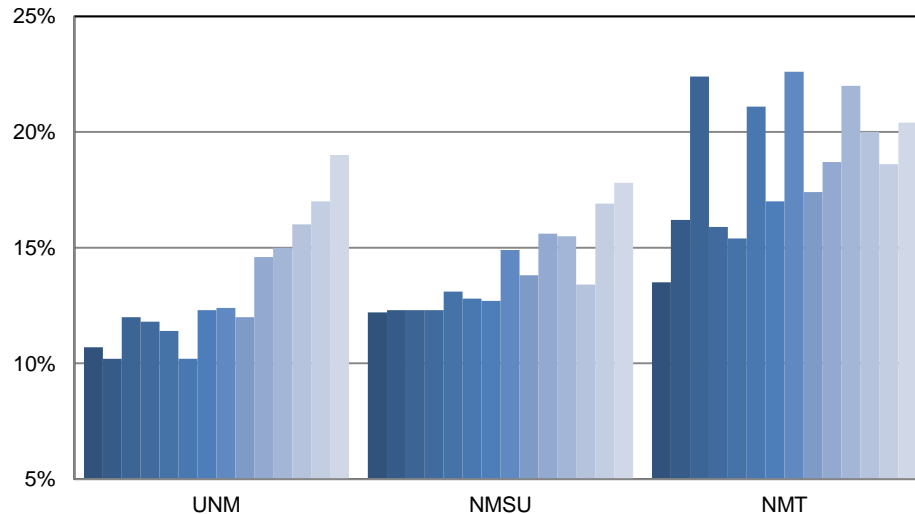
Four- and six-year graduation rates at research universities show mixed results recently. UNM and NMSU have improved four year graduation rates, but they still do not reach the 25 percent goal recommended in the 2010 LFC report on those institutions.

Chart 13. 6-year Graduation Rates 1996 - 2009 Cohorts



Source: Institutional data

Chart 14. 4-year Graduation Rates 1998 - 2011 Cohorts



Source: Institutional data

Many best practices exist in higher education to improve graduation and time to degree. We have grouped these best practices into three broad categories: policy, curriculum, and student support services. LFC staff found evidence of many of these being implemented across the state to varying degrees and implementation stages. Each practice has different applicability and not all practices should necessarily be implemented universally by each institution in the state. Rather careful consideration should be given to these and other possibilities, as institutions develop or update strategic plans for improving student outcomes in alignment with recommendations in the first chapter of this report. The best practices have different potential costs and benefits and applicability for student populations. Institutions will need to build in the ability to assess whether implementation of any of these practices is done correctly and is producing desired results. Examples from various institutions are included in this report but do not constitute a comprehensive list on activities that are being implemented statewide.

Table 10. Institutional Best Practices

Policy	
Admissions Standards/Preparation of Incoming Students	Raising admission standards is directly correlated with improved graduation rates. Improving the preparation of incoming freshman can have the same effect as raising admission standards.
Full-time Enrollment	Completion of 15 credits per semester in order to stay focused and finish 120 credits in 4 years.
Guided Pathways	Coherent programs of study versus individual course loads, degree mapping along default pathways that enable students to track progress using easily accessible tools, and required milestones of success that students must achieve in order to progress along a given field.
Incentivize On-time Completion	Paying stipends to students for completion of full-time course loads per semester while maintaining a competitive GPA.
Meta-Majors	Collection of majors within a broad field of study, such as STEM, students must select at the beginning of their academic career. All credits taken within their meta-major then count/transfer towards a degree once they choose a major within their meta-major.
Structured Schedules	Block course schedules that promote student support through predictability and organically formed student cohorts.
Curriculum	
Improving Remedial Outcomes	Using multiple placement assessments, implementing alternatives to traditional remediation, and redesigning required math courses to align more closely with programs of stud
Flipped Classrooms	Lectures are not delivered in class, but are posted online for students to review during their personal study time. Class time is used for project based learning, where students work together on case studies and peer-facilitated workshops
Vertical Alignment	Collaboration between faculty at post-secondary and secondary institutions in order to align high school curriculum to match college expectations.
Student Support	
Internships	Credited internships can give upper-division students the experiential learning and career opportunities they need to focus on degree completion
Intrusive Advisement	Early warning system to identify students at risk of dropping out in order to prevent them from doing so with targeted intervention.
Learning Communities	A group of students paired into a cohort that take the same classes at the same time and typically meet together for weekly seminar, study sessions, group activities, and collaboration on a semester-long academic project.
Mentorship	Pairing incoming students with upper-division peers for encouragement and support
Supplemental Instruction	An academic support model that uses peer assisted study sessions to aid student learning
Support for Under-represented Students	Resource centers, clubs, classes, and mentorship that facilitates and encourages camaraderie, opportunities, and support among historically under-represented students
Transfer Student Support	Additional academic, administrative, and student support focused specifically on transfer students in order to acclimate them to a new college environment
Tutoring	Tutoring is one of the oldest forms of student support, but institutions can continue to improve outcomes and increase usage

Source: LFC Literature Review

Some universities have now aligned their bachelor's degree requirements to a national standard of 120, but state policy on this standard is still needed. The number of student credit hours (SCH) required for a degree varies.

UNM and NMSU have begun limiting some degrees to 120 SCH. Full-time students are far more likely to graduate, and should complete 15 credits per semester to graduate on-time. Full-time students are four times more likely to graduate than exclusively part-time students according to the National Student Clearinghouse. Institutions can help students stay on track and on-time by encouraging completion of 15 credits per semester, limiting degree requirements to 120 credit hours, and structuring courses within a program of study in block schedules that promote student support through predictability. At some four-year universities in New Mexico, students graduating with a bachelor's degree had between 150 and 250 SCH, particularly in the STEM fields. This amount is 30 to 130 credits over the proposed 120 SCH limit.

According to Complete College America, the University of Hawaii was able to increase the percent of students taking 15 credits per semester by 18 percentage points in one year by promoting the benefits of the practice and offering students the opportunity to take credits beyond 12 at no additional cost in tuition. New Mexico institutions have begun capping many degrees at 120 credit hours, and the New Mexico Legislative lottery scholarship was redesigned in FY14 to require 15 credits per semester and funding for the 9th semester was eliminated. However, declining revenue has limited the scholarship award to 90 percent of tuition in FY16, straining the financial support needed by students to focus on full-time study. A 2014 publication by the Lumina Foundation noted that many students are currently not being provided sufficient financial support needed to cover both tuition costs and living expenses. As a result, many students work while attending school and are unable to devote themselves to full-time study, lowering on-time degree completion. While there is no cost associated with simply requiring students to enroll full-time, there is a cost for providing them the financial support they need to be able to do so.

POLICY: Some institutions in New Mexico have moved to better align admission standards, degree requirements and financial aid policies to encourage on-time degree completion.

Table 11. Effects of Institutional Best Practices – Policy

Best Practice	Outcomes	Cost	Affected Groups
Admissions Standards	LFC analysis indicates that each additional point in the average ACT of incoming freshman increases graduation rates by 5 points at public R1s.	Lower	Universal
Full-time Enrollment	NMSU increased the percent of all incoming freshman taking 15+ credits from 48 percent in Fall 2012 to 88 percent in Spring 2015 through a combination of tuition discounts for 15+ credits and increased lottery scholarship requirements.	No Cost	Universal
Guided Pathways	Arizona State University increased retention by 8 percentage points with eAdvisor system.	Medium	Universal
Incentivize On-time Completion	The graduation rate of low-income entering freshmen at UNM increased by 5.1 points from awarding a \$1,000 stipend per semester for completing 15 credits above 2.0 GPA. The cost of the UNM program was estimated at \$67 thousand per additional degree.	Higher	Targeted
Meta-Majors	Rhode Island College increased retention by 16 points with precursor meta-major policies such as abolishing undeclared majors.	Lower	Undeclared
Structured Schedules	City University of New York doubled graduation rates for associates degrees with ASAP.	Lower	Universal

Source: LFC analysis

The college readiness of an incoming freshmen class is directly correlated with academic performance in higher education. However, the missions of institutions across the state vary, with some focusing on open enrollment and others on high performance research. Not every institution can or should raise admission standards, but the most selective universities have the ability to do so. Raising admission standards is directly correlated with improved graduation rates. Unfortunately, raising admission standards among the pool of New Mexico high school graduates will lower enrollment numbers because high schools have not significantly improved college readiness for years, according to previous LFC evaluations. UNM and NMSU have moved in recent years to modestly increase

admission standards. In a recent study conducted by NMIMT, if the university raises admissions standards by requiring all incoming freshmen to be calculus ready, nearly 75 percent of incoming freshmen would be rejected.

The College and University Journal states increasing admission standards will lead to a better prepared student body that will have higher graduation and retention rates. In order to test this, the study analyzed 157 Doctoral I universities and examined the effects of raising the ACT score of the lowest quartile of the student body by two points and the average high school GPA by 0.25. Through a regression analysis the study found that high school GPA and ACT scores both have a positive and statistically significant effect on first year retention and graduation rates. Increasing the high school GPA of the student body by 0.25 leads to a 2.5 percent increase in the graduation rate, while a two point increase in the ACT score of the lowest 25th percentile increases the graduation rate by 3.76 percent. The costs of increasing admissions standards come from either decreased enrollment or increased recruitment expenses.

Admission standards with clear pathways for students not ready to enter research universities. NMSU is overhauling transfer articulation policy with Aggie Pathway. Starting fall 2016, NMSU will raise admissions requirements, to a 2.75 GPA and implement a program called Aggie Pathway to integrate students, who fall below the new standards into student life and support services on main campus while enrolled at branch campuses. Aggie Pathway students select a degree plan that fully transfers towards a bachelor's degree on main campus, and are automatically enrolled to main campus upon completion of their two-year program. This model of transfer articulation, commonly referred to as a 2+2 program, was intended to be enacted statewide by the Post-Secondary Education Articulation Act, Section 21-1B NMSA, 1978. A 2010 Joint Committee Report on the California Higher Education Master Plan concludes that a complex system of articulation among various institutions is a waste of resources, preferring one model of articulation statewide, including a transfer associate's degree. The NMSU transfer articulation efforts represent a realization of this best practice within the NMSU system.

Tennessee requires dual admission partnerships, for example Dyersburg State Community College (DSCC) signed a dual admission partnership agreement Sept. 18 that will guarantee admission to the University of Tennessee (UT) Martin for students who meet current admission criteria and major in an eligible Tennessee Transfer Pathway baccalaureate program. The partnership assigns students academic advisers from both institutions to ensure they are meeting the full requirements to complete both degrees. Students will have access to DSCC's Learning Resource Center and UT Martin's library, as well as access to all computer labs and student affairs offices. Those who elect to pay applicable fees will be able to attend UT Martin sporting events and participate in campus activities. Participating students will continue their four-year bachelor's degree programs as juniors at UT Martin upon completion of their two-year DSCC program.

Changes to the legislative lottery scholarship, tuition incentives and new innovative financial aid programs show promise at boosting full-time enrollment and thus on-time degree completion. UNM and NMSU increased block tuition discounts from starting at 12 credit hours to 15 per semester in fall 2013 in order to incentivize larger student course loads. While this made a significant impact at UNM, it did not at NMSU. Meanwhile, increasing the required SCH taken to 15 per semester in order to earn the lottery scholarship starting with the fall 2014 cohort significantly increased the average freshmen course load at both institutions. While the credit increases can

About Aggie Pathway

What is it?

The Aggie Pathway to the Baccalaureate Program is designed to provide the support a student needs as they transition from high school to college. An Aggie Pathway student will start at one of our four community college campuses, located in Alamogordo, Carlsbad, Doña Ana County or Grants and receive personalized guidance to help in every step of the way towards a bachelor's degree.

Who is it for?

Aggie Pathway serves students who do not immediately meet the admission requirements to NMSU's Las Cruces campus, paving another path to a bachelor's degree.

Priority admission to Aggie Pathway will be given to students meeting the following criteria:

- At least a 2.75 high school GPA but missing one required course
- At least a 2.5 high school GPA and up to 20 ACT

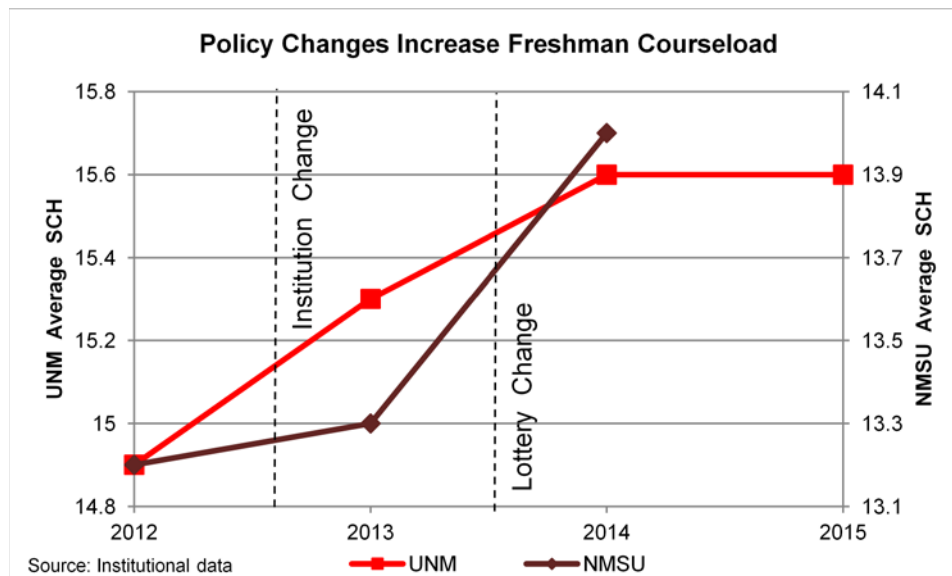
How does it work?

Once admitted to the program, students will enroll in courses at an NMSU community college. Upon completion of 24 college-level credit hours with a minimum 2.5 GPA, they can pursue a bachelor's degree at NMSU Las Cruces without submitting another application.

Source: NMSU

probably be attributed to both institution and the Legislative lottery scholarship policy changes, it is clear that state policy can drive positive outcomes in a coordinated way.

Chart 15. Policy Changes



Institutions are experimenting with offering cash payments or tuition discounts to students making progress in on-time completion. Students can be motivated to complete more credits if they know that they will be directly rewarded for it. Early results indicate that paying students for completion can be an effective technique if minimum course load requirements are combined with modest performance requirements.

UNM will pay tuition costs of the final semester for new incoming freshmen who graduate in eight regular semesters. The Finish-in-Four initiative at UNM targets first-time, full-time beginning freshman entering the college starting this fall (2015). Fort Lewis College gives incoming freshman a \$3,500 signing bonus to enter the Finish-in-Four program. The national initiative is recommended by colleges and higher education departments in other states such as Minnesota, Mississippi, New York, and Indiana. Complete College America espouses a similar initiative called 15 to finish recommending students take 15 credits a semester to graduate in four years. Adams State University revised its tuition policy so students pay the same for 15 credits as for 12 credits. The university also offers \$500 incentive scholarships to students who complete 30 credits per year. The number of credits students take at Adams State increased 11 percent in the last two years.

A 2009 study published by the Journal of Human Resources analyzed the PROMISE Scholarship in Virginia and its impact as an incentive for on-time degree completion. In order to maintain this scholarship, students must keep a 3.0 cumulative GPA while taking at least 30 credit hours per year. This study found a large impact in on-time degree completion for students maintaining the PROMISE scholarship. The study also found that PROMISE likely would not have had the same impact without incentivizing both high performance as well as a full course load.

Similarly, a 2015 study by MDRC, an independent research company, showed that awarding a random selection of low-income entering freshmen at the University of New Mexico a \$1,000 stipend per semester for four semesters improved their graduation rate by 5.1 percentage points compared to their peers after four and a half years. Students had to attend enhanced academic advisement, maintain a 2.0 GPA, and enroll in 15 credits per semester. The cost of the UNM program was estimated at \$67 thousand per additional degree, over ten times less than the lifetime benefit of a college degree according to the Federal Reserve Bank of San Francisco.

Institutions of higher education in New Mexico are experimenting with a variety of different institutional practices designed to provide a clear and supported path to on-time degree completion. UNM is developing a statewide degree pathway dashboard through research, public service, and other special projects (RPSP). An ongoing RPSP, called Degree Plans: Roadmaps for Higher Education in New Mexico, is using researchers at UNM to provide public access to digital tracking of degree progress and articulation status among all state institutions. The goal is to create a web service for students and institutions to quickly determine which courses they have taken, which courses they need, and what their status would become were they to transfer between institutions or programs of study. The development of this tool would allow students to determine which courses transfer for credit between institutions, and what the consequences are of changing institutions or degree plans. Students may also use this tool to stay focused on their progress, and institutions may be able to determine where student progress is the most encumbered. This RPSP, if fully implemented, will be an essential component of improving transfer articulation in the state.

Best Practices to Boost Graduation and Enrollment

- Requiring full-time enrollment in college while also providing an array of ongoing supports for students, such as enhanced advisement and financial supports leads to better outcomes.
- Inter-sessions, especially in the summer, provides opportunities to increase enrollment and credit accumulation.
- Requiring students to participate in key program components and monitoring program operations, with a focus on ongoing improvement contributes to strong implementation.
- Encouraging or requiring students to take alternative developmental courses can hasten and increase completion of those requirements.

Source: MDRC

Clear degree pathways presented to students through easily accessible tools can improve retention and graduation rates. According to the Online Journal for Workforce Education and Development, half of college enrollments are first generation students, meaning that neither of their parents have earned above a high school diploma. Further, 70 percent of first generation students are enrolled at public institutions, according to a 2011 study by the Higher Education Research Institute at UCLA. First generation students are less prepared for the bureaucracy of higher education, and their 6-year graduation rates are 15 percentage points lower than students from families with a college degree. First generation students, and others, can benefit from being placed on a guided pathway to degree completion. Best practices for guided pathways include students choosing coherent programs of study versus individual course loads, degree mapping along default pathways that enable students to track progress, and required milestones of success that students must achieve in order to progress along a given field. Combined with effective advisement, these policies can help make choices and consequences clear to students and put them on paths to graduate on-time, with fewer excess credits.

Examples

After implementation of degree maps at Georgia State University, graduation rates have gone up 20 percent over the past 10 years.

In 2013, Florida passed a law requiring universities to establish meta-major academic pathways, which has helped Florida State University cut the number of students graduating with excess credits.

Source: Literature Review

A 2013 journal article in Change: The Magazine of Higher Learning “Improving Advising Using Technology and Data Analytics” highlighted the effectiveness of the eAdvisor system at Arizona State University (ASU). This system creates a degree map for students that tracks student progress and provides an early alert when a potential problem exists. Students thus are continually aware of where they are in their current degree path, and what will be necessary to change majors or fields of study. This has the effect of keeping students on track and has also led to an increase in the freshman retention rate, which increased from 76 percent to 84 percent over 5 years. Additionally, 91 percent of students are classified as “on track” for their program compared to 22 percent three years prior.

Cost Benefit

Each percentage point increase in retention generates \$1.7 million in recurring increased revenue for Arizona State University (ASU).

Given that ASU saw an 8 percent increase, this represents 13.6 million in recurring funds.

A similar increase in retention at the University of New Mexico could result in an increase of about \$4 million in revenue.

Source: LFC Analysis

Implementation of meta-majors can lead to more informed student choices and improved graduation outcomes. Complete College America cites meta-majors as part of the initiatives universities should take to create guided pathways to success, which is one of their five game changers for reform. They state that in behavioral economics

theory, too much choice, especially uninformed choice, leads to indecision or poor decisions, and that a substantial number of people would prefer a default choice designed by informed professionals. Meta-majors are a broad field of majors that students must select towards the beginning of their academic career, and are then required to take the courses necessary to prepare for a major in that field. Students then follow a degree map specific to their meta-major until they declare their major.

Changing majors within broad fields does not necessarily need to result in excess credit requirements or delays in graduation. For example top-ranked universities in terms of graduation and freshman retention rates like the University of Notre Dame have a program of freshman studies front-loaded with university requirements without penalty for changing majors. The University has a tightly structured course schedule for each student. Advisement is intensive freshman year with a guaranteed one-on-one session with a peer and adult advisor. Each adult advisor has a case load of no more than 150 students. Collaborative learning is emphasized and automatic tutoring is initiated when a student dips below a certain threshold at mid-terms. Students must meet nine milestones as simple as navigating the inside Notre Dame website and an electronic portfolio is kept as measurable evidence of a student's progress. Many of these best practices may be translated to public universities in New Mexico.

Math Pathways offer an opportunity to accelerate degree attainment. A large majority of students who place into developmental math never pass a credit bearing math course. In particular, a majority of students never pass college algebra. In an effort to improve the success of these students, Santa Fe Community College (SFCC) redesigned mathematics pathways in order to accelerate students through developmental math and create a pathway for students outside of the STEM fields who do not need to be prepared for taking calculus. SFCC implemented the redesign in fall 2015, with the following goals in mind to:

1. Accelerate student progress;
2. Increase student success;
3. Increase interaction in the classroom;
4. Use math in real-life situations;
5. Build conceptual understanding; and
6. Reduce repetition.

The resulting redesign was faculty driven, reduces the number of semesters in developmental math by 1 for all students, and replaces intermediate algebra with applied math for non-science majors.

UNM is implementing or beginning to implement best practices suggested by Complete College America including co-requisite models, degree pathways, meta-majors (health, STEM, undecided), and a “one-stop shop” for advisement. In addition, the university re-designed freshman orientation and is providing advisors for transfer students. UNM recently initiated co-requisite programs such as math maLL (math learning lab) and English stretch and studio to eliminate remedial courses. Reiterated CNM to UNM transfer is now completely articulated. UNM is currently attempting to “beef up” career services center and assess competence of student advisors.

Table 12. UNM Math Pathways

Previous Math Pathway		Math Pathway as of Fall 2015	
Remedial classes		Co-requisite classes	
Math 120 → Math 121 (college algebra), Math 129 or Stat 145		Math 101/102 → Math 129 or Stat 145 Math 101/102/103 → Math 121 (college algebra)	
ACT math score		ALEKS (assessment and assignment tool) to place and progress monitor students	
Traditional route (take course until student passes with C or better)		Math Learning Lab (MaLL) – take courses on-line	
Math 120 → final grade of C or above	36.49 %	Math 101/102 → final grade of C or better	69.39%
		Math 101/102/103 → final grade of C or above	70.34%

Source: UNM

CURRICULUM: Changes in the delivery and coordination of curriculum can help boost student outcomes.

Table 13. Effects of Institutional Best Practices – Curriculum

Best Practice	Outcomes	Cost	Affected Groups
Improving Remedial Outcomes	Tennessee improved credit-bearing course completion by a factor of five by instituting math pathways and remedial curriculum redesign.	No cost	Remedial
Flipped Classrooms	NMSU increased passed rates in introductory biology from 57 percent to 67 percent	No cost	Universal
Vertical Alignment	Alamogordo High School sent 14 fewer graduates into remedial college courses after strengthening vertical alignment with NMSU-A	Lower	Remedial

Source: LFC analysis

Alternative remediation is being implemented widely throughout the state. According to a 2014 LFC program evaluation on college readiness, institutions offer a comprehensive array of alternative strategies to traditional, pre-requisite remediation. Consequently, the percent of students taking traditional remediation in New Mexico has dropped significantly since 2012. For instance, the number of students enrolled in remedial coursework dropped by 40 percent at CNM.

Curriculum, teaching methods and program redesign also offer potential positive effects. Rethinking core curriculum requirements for the 21st century and the assurance that curriculum is aligned with modern education and workforce needs could help streamline degree requirements. Multiple universities have stated that the current General Education Common Core standards set in statute are outdated and present a burden to articulation. CNM and DACC both presented LFC staff with examples of college requirements not aligning with standards set in statute. In some cases this leads to additional credits students must take. A letter sent to the HED Secretary in October 2015 from the seven four-year college provosts describes the current standards as “an approach to general education that has been abandoned by many forward thinking institutions of higher education.”

Cost Benefit

NMSU redesigned the first year experience for engineering majors beginning in fall 2014. The redesign included a peer mentorship program, group advising sessions, English 111 learning communities, and an introductory transition course comprised of workshops, flipped classrooms, problem-based learning, and campus exposure exercises.

Upon implementation of the redesign, retention rates for the 384 freshman engineering majors rose from 63.9 percent to 78.5 percent.

Source: NMSU

Over the last several years, NMSU has begun introducing “flipped classrooms” in freshman and sophomore level introductory biology courses. Flipped classrooms post lectures online for students to review during their personal study time, and use class time for project based learning, where students work together on case studies and peer-facilitated workshops. Pass rates increased from 57 percent in the traditional lecture model to 67 percent with the most effective flipped classroom redesign. NMIMT has also started implanting flipped classrooms in select subject areas.

Better coordination between institutions of higher education and key feeder high schools can help improve the quality and preparedness of incoming freshmen for college work. Previously LFC has found institutions draw a large portion of their incoming freshman classes from handfuls of local feeder high schools. Many students are underprepared and placed into remedial education courses, despite scoring high on high school state exams, indicating a lack of alignment between the two systems.

Building on techniques developed between post-secondary and secondary institutions in Houston, TX, English faculty at Santa Fe Community College (SFCC) recently began collaborating with English faculty at Santa Fe High School (SFHS) in order to improve alignment between high school curriculum and college expectations. Efforts have included SFHS faculty meeting with the SFCC Dean of Liberal Arts to map out an alignment plan between English IV and English 111, working with non-AP/honors SFHS faculty in order to impact a broad population of high school students, and facilitating discussions of assignments, outcomes, and assessments between SFHS and SFCC English faculty, including SFHS faculty participating in end-of-term panel grading with the SFCC English

department. SFCC plans to expand these “vertical conversations” to other local high schools and for other core subjects in 2016-2017. Every developmental course that a high school graduate is able to test out of, because of successful improvement in curriculum alignment, increases their chance of receiving a college certificate by a factor of 2-3, and a bachelor’s degree by a factor of 3-5.

STUDENT SUPPORT: Institutions have implemented a variety of efforts to support students academically.
(Not all of the best practices are discussed at length below).

Table 14. Effects of Institutional Best Practices - Student Support

Best Practice	Outcomes	Cost	Affected Groups
Internships	A 2005 article by the Journal of Accounting and Finance Research found that students completing an internship had GPAs significantly higher than their non-intern counterparts.	Lower	Universal
Intrusive Advisement	The University of Southern Indiana increased retention from 55 percent to 70 percent since intrusive advisement implementation.	Medium	Targeted
Learning Communities	A 2012 report by the United States Department of Education found that learning community students have a 5 th semester persistence rate 18 points higher than average.	Medium	Universal
Mentorship	At New Mexico State University, mentored student athletes have a 6 year graduation rate of 51 percent, compared to 43 percent for all students.	Medium	Targeted
Supplemental Instruction	A 2008 study by the College Student Journal found that SI attendance in freshmen courses increase the probability of on-time graduation by 11 percent.	Medium	Universal
Support for Under-represented Students	Over 80 percent of college enrollment in New Mexico is comprised of students from historically under-represented groups.	Higher	Targeted
Transfer Student Support	50 percent of the incoming class at UNM is comprised of transfer students.	Higher	Transfers
Tutoring	The UNM tutoring center, CAPS, is visited by 6,000 students, or about 30 percent of undergraduate enrollment. The graduation rate for CAPS users is 62 percent, double the rate of non-users. CAPS annual operating budget is \$1 million.	Higher	Universal

Source: LFC analysis

Intrusive academic advisement can help lower dropout rates for underprepared students. The largest percent of drop outs occur within freshmen year. Students who are underprepared for college begin to fall behind early, and often receive little personal attention or encouragement from the institution. Intrusive advisement uses an early warning system to identify students at risk of dropping out in order to prevent them from doing so with targeted intervention. An early warning system can flag a student with low attendance and course progress and notify their advisor to check up on them. The advisor may then help the student purchase books, for example, or encourage them to join a support center or attend tutoring depending on their needs. NMSU and New Mexico Highlands University (NMHU) are implementing early warning systems.

A 2014 article in the National Academic Advising Association (NACADA) Journal entitled “An Intrusive Advising Program for Underprepared STEM Students” studied the effect of intrusive advising on retention rates by studying outcomes of the Pathways Leading to Undergraduate Success in the Science (PLUSS) program at the University of Southern Indiana. The PLUSS program features intrusive advising designed specifically for at-risk STEM majors with the goal of increasing retention. The study showed first-time, full-time PLUSS students have higher one, two, and three year retention rates compared to

Higher Education Department and Report #15-12
On-time Graduation and Degree Production
December 7, 2015

Cost Benefit

A similar increase in retention at the New Mexico four-year institutions would result in an increase of 200 students returning for their sophomore year.

At NMHU, for instance, a retention rate increase of 15 percentage points would result in about 50 additional sophomores paying \$2,400 in tuition in the fall semester.

Estimating a similar amount of revenue from state formula funding would result in a total increase of about \$250 thousand for NMHU in the fall semester.

Source: NMHU and LFC analysis

PLUSS eligible students enrolled prior to the implementation of the program. The University of Southern Indiana saw freshmen retention rates for STEM students rise from 32 percent to 53 percent over the four years since PLUSS implementation. Additionally, the overall freshmen retention rate rose from 55 percent to 70 percent over the same time period.

Research shows learning communities, if implemented correctly, can improve student outcomes. Learning communities place a group of students into a cohort that take the same classes at the same time and typically meet together for weekly seminar, study sessions, group activities, and collaboration on a semester-long academic project. Learning communities are designed to provide student peer-support for first and second year students who do not typically form such groups organically until the upperclassmen years. A 2012 report by the United States Department of Education profiled colleges that reconfigure the first two years through learning communities.

NMIMT learning communities require freshmen to work on year-long research/design projects like Robotics, Explosives, and Mobile Computing. One year-retention rates for NMIMT freshmen in learning communities was 82 percent in 2012, versus 69 percent for freshmen not in communities, and retention has improved every year since learning communities were introduced. The costs of learning communities come from the additional FTE used to monitor students and facilitate group activity. A university should break even if a handful of students are additionally retained each year per FTE. At NMHU all first-time freshmen are mandated to join an interest-based learning community and live in the dorms (exception for students living within a 45 mile radius) and NMIMT initiated a pilot program of voluntary freshman learning communities.

Cost Benefit

A 2012 report by the United States Department of Education profiled colleges that reconfigure the first two years through learning communities.

Early results from the 2012 report have shown improved persistence, credit accumulation, and higher grade point averages. Learning community students had a 5th semester persistence rate of 82 percent, compared to 64 percent for all first-time freshmen.

A 2009 assessment by Wayne State University found consistent improvements in student academic achievement measures, including higher first year retention and GPA from membership in a learning community.

At DACC, students in learning communities have next-semester retention rates over 30 percentage points higher since 2012. New Mexico Tech (NMIMT) has also shown improvement in retention rates with a learning community pilot program.

Source: DACC and NMIMT

Exhibit 1. Freshman Learning Communities at NM Tech, 2015



Source: New Mexico Tech



Graduation rates at City Universities of New York (CUNY) doubled in three years for at-risk community college students through Accelerated Study in Associate's Programs (ASAP). ASAP waived tuition costs and introduced "mandatory and intrusive guidance" for low-income students needing one or more remedial courses. Upfront costs were about \$16 thousand more per student, but an MDRC study concluded with an associate's degree, graduates could earn more and pay more in taxes over their lifetimes. The program will also ultimately save the state and city of New York more than \$40 thousand in criminal justice, health, and public-assistance costs per student.

MDRC found that comprehensive, long-term interventions can substantially boost students' success; developmental education students' outcomes can be markedly improved with the right package of supports, requirements, and messages without changing what happens in the classroom; and full-time enrollment can be boosted when required with increased supports.

In 2015, CNM began implementing a new program called Suncat Scholars, modeled after the successful experiment by MDRC and CUNY ASAP initiatives. With some minor changes, the CNM program is intended to support students achieving the academic goal of earning an associate's degree within two years. Suncat Scholars receive a

stipend of \$300 each semester by completing 12 credits, maintaining a 2.5 GPA, only enrolling in courses within their degree plan, and meeting with student support specialists.

CNM Suncat Scholar Benefits

- Early registration: guaranteed entry into the classes for which the student meets the pre-requisites.
- Personal support: a one-on-one relationship a CNM employee to help through the CNM journey.
- Group experience: belonging to a smaller group of students.
- Books: ability to check out up to \$400 worth of required textbooks for the term.
- Financial assistance: Award not to exceed amount a student is determined to be eligible for, based on FAFSA.
- Assistance with tuition, registration fees and technology fees not covered by other Financial Aid; award up to \$708.
- If all scholarship requirements are met each term, a scholarship disbursement of up to \$300 will be given.

Source: CNM

Supplemental instruction can provide the benefit of interactive, in-depth instruction, specifically for material that students struggle with the most, at a fraction of the cost of hiring full-time faculty. Every institution contacted for this evaluation reported providing some form of supplemental instruction. Supplemental instruction (SI) is an academic support model that uses peer assisted study sessions to aid students. Typically, sessions meet at a specific time

for about an hour once or twice a week, are led by an upperclassman who has been trained and has previously taken and excelled in the class, and focus on specific material or concerns a students need further guidance on. A 2008 study by the College Student Journal found that using SI has a positive effect on on-time graduation. After sufficiently controlling for self-selection effects, SI attendance in freshmen courses is found to increase the probability of on time graduation by approximately 11 percent. In New Mexico this translates to 1.5 percentage points or 150 more students graduating on time.

State policies can aid in providing some common structure to a decentralized system of higher education in New Mexico, but HED needs support implementing these in some cases.

Some state statutory tools are unused. In 2005, the Legislature enacted the Post-Secondary Education Articulation Act, Section 21-1B NMSA1978, stating the Higher Education Department (HED) shall:

1. Define and publish discipline modules for lower-division coursework, including a general education core, that are fully accepted for transfer towards a bachelor's degree at all institutions.
2. Establish and advertise a complaint process for transfer students whose credits are not accepted towards a degree and recommend financial penalties for institutions not accepting credits.
3. Report to the legislature and the governor each year on the status of articulation programs and transfer agreements between institutions statewide.

Getting students who transfer to graduate with a bachelor's degree has proven challenging for the higher education system in New Mexico. The UNM first-time full-time 2005 cohort who completed lower-division coursework and persisted into 3rd year graduated at 71 percent and 80 percent levels in 2011 and 2013. Transfer students, who have completed the lower-division coursework, graduated at 43 percent and 56 percent levels in 2011 and 2013, putting them roughly 25 – 30 graduation rate percentage points behind their native student peers or students who began as first-time freshmen. By contrast, two-year institutions have increased degree productivity relative to the national average and have statistically closed the gap on associate's degree attainment rates between New Mexico and the nation.

Transfer students perform worse academically than traditional students and are less likely to persist to graduation. The Canadian Journal of Higher Education study compared college students who transferred to Brock University in Ontario, Canada with non-transfer students. Transfer students earned fewer credits each year, had lower GPAs, and were less likely to persist to their fourth year. The four-year persistence rate of non-transfer students was 71.1 percent compared to 56.5 percent for transfer students. Transfer students earned 0.26 less course credits per year compared to non-transfer students in their first year. Non-transfer students also had an average course pass rate for credits attempted over four years of 93.1 percent compared to only 89.1 percent for transfer students. The first year retention rate was 85.4 percent for non-transfer students versus 82.1 percent for transfer students. The study recommended additional academic and administrative support focused specifically on transfers to address this problem. A similar four-year persistence deficit of 15 percentage points for transfer students at the UNM would amount to 450 dropouts each year or over \$6 million in lost revenue.

Many New Mexico higher education institutions are pushing forward with reverse transfers. For example, DACC has prepared a letter to send to students who have earned 66 credits or more in order to award them an associate's degree. The letter states "Occasionally, there are benefits that go unclaimed simply because we are unaware that they exist." DACC will be waiving the application fee for the degree. A DACC official stated the college could go back 20 years in their search for potential applicants. CNM is also going back through their files to find students who are a few credits shy of an associate's degree or have excess credits. Similarly, NMSU is seeking students who were close to completing their bachelor's degree but did not, assisting with advisement and financial aid. Twelve students graduated in fall 2015 through this program.

While some two-year and four-year institutions have signed articulation agreements like the example in Table 15, discipline modules are not defined or published by HED. The general education core is defined and published by HED, but is not aligned among all institutions. There is no formal complaint process published by HED, and not every institution explicitly advertises the process in the student handbook. According to HED, the department has received zero complaints for FY15 and FY16. The status of articulation has not been reported to the legislature by HED since 2009.

Table 15. Discipline Module Between SFCC and NMHU

<u>DISCIPLINE MODULE for ARTICULATION BETWEEN</u> SANTA FE COMMUNITY COLLEGE AND NEW MEXICO HIGHLANDS UNIVERSITY				
SFCC AA Business Administration			NMHU BBA Business Administration/Finance	
General Education - 37 Credits			<i>SFCC students who earn the Business Administration (AA) degree as prescribed in this document will be admitted to NMHU as Juniors in the Business Administration/Finance (BBA) degree program. Furthermore, the additional NMHU core curriculum requirements and minor requirements, if any, are waived. Upon completion of the requirements specified within this agreement, students will have earned a SFCC AA degree in Business Administration and a NMHU BBA degree in Business Administration/Finance .</i>	
Area I. Communications - 9 credits				
ENGL 111	Composition and Rhetoric	3		
ENGL 216	Technical Writing	3		
SPCH 111 or	Public Speaking or	3		
SPCH 225	Small Group Communications			
Area II. Mathematics - 4 credits				
MATH 121	College Algebra	4		
Area III. Laboratory Science - 8 credits				
Sceince w/Lab		8		
* Area IV. Social/Behavioral Sciences - 9 credits			NMHU Requirements	
ECON 200	Principles of Economics - Macroeconomics	3	Any Level Electives At Either SFCC Or NMHU	21
ECON 201	Principles of Economics - Microeconomics	3	Remaining BBA Requirements	
BSAD 235	Human Relations in the Workplace	3	MKTG 302 or	Principles of Marketing or
* Area V. Humanities and Fine Arts - 6 credits			FIN 341	Financial Management I
BSAD 270	Business Ethics	3	FIN 340	Personal Finance
Humanities or Fine Arts Requirement			-	3
Health and Wellness - 1 credit			MGMT 325	Operational Research 1
Any HPER Course			-	3
Core Requirements - 25 credits			MGMT 489	Strategic Management
			(Seniors)	3
			MKTG 411	Marketing Research
			-	3
			FIN 342	Financial Management II
			-	3
ACCT 121	Principles of Accounting I	4	FIN 332	Money and Banking
			-	3
ACCT 122	Principles of Accounting II	4	FIN 407	Risk and Insurance
			-	3
BSAD 211	Principles of Management	3	FIN 409	Investment Planning
			-	3
BSAD 232	Business Law I	3	FIN 460	Portfolio Analysis
			-	3
BSAD 240 or	Principles of Marketing or	3	FIN 475	International Finance
BSAD 245	Principles of Finance		-	
BSAD 260	Business Statistical Analysis	4	Upper Level Finance Credits 45	
OFTC 111	Business Software Essentials	4	SFCC AA Requirements 62	
Total AA Credits 62			Any Level Electives 21	
			Total Credit Hours 128	

Source: Higher Education Center

Changes to governance likely will need to be considered in the future absent significant and widespread implementation of best practices and improvement on degree production, on-time degree production and awards for transfer students without excess credit hour accumulation. Given the forecast budget pressures over the next five to ten years due to public school finance challenges and growth in Medicaid costs, additional and significant new investments in higher education absent improved performance may well prove challenging.

RECOMMENDATIONS

The Legislature:

- Consider statutory changes to:
 - Place a cap on bachelor's SCH degree requirement at 120, and associate's degree requirements at 60, and authorize HED to provide exemptions for programs demonstrating a need, including accreditation requirements.

HED should consider the following funding recommendations:

- Develop a financial incentive program, outside of the funding formula, to encourage the use of meta-majors and other best practices to either assist with scale up costs or encourage better system efficiencies such as effective 2+2 programs to boost bachelor degree production. In some cases these financial incentives could be used to implement interventions that may not prove cost-beneficial to the institutions internal finances but have proven societal benefits of helping boost graduation levels of at-risk student populations in order for the state to meet its strategic goals.

NEW MEXICO HIGHER EDUCATION DEPARTMENT



SUSANA MARTINEZ
GOVERNOR

DR. BARBARA DAMRON
CABINET SECRETARY

December 4, 2014

Mr. David Abbey, Director
Legislative Finance Committee
125 Don Gaspar
Santa Fe, NM 87501

Dear Director Abbey,

I have reviewed the Legislative Finance Committee's (LFC) recent Program Evaluation Report, *Improving On-Time Degree Completion*, in draft form.

The New Mexico Higher Education Department (HED) and higher education institutions (HEIs) have set long-term statewide goals to increase 4-year graduation rates, improve transfer and articulation, and improve remedial education outcomes. HED is pursuing these goals through the following initiatives:

1. Statewide common course numbering and alignment of lower division coursework
2. Developing meta-majors and transfer modules
3. Reforming the general education core curriculum
4. Co-requisite remediation and Math pathways
5. Decreasing the number of hours required for both associate's and bachelor's degrees
6. Incentivizing four-year graduation
7. Performance funding

Common Course Numbering System

HED is beginning the work to implement a statewide common course numbering system, which will create a statewide higher education system that will ease credit transfer and articulation between New Mexico's HEIs. This work will include the identification of equivalent courses, alignment of student learning outcomes, and assignment of a common course number. This will ensure that courses will transfer between all HEIs and that students will achieve the same learning outcomes in the equivalent courses statewide.

Meta-majors and Transfer Modules

HED is working in collaboration with the HEIs to develop statewide meta-majors and transfer modules. This work began with the Governor's Summit on Higher Education on September 9, 2015 and is being

followed up with the upcoming Governor's Symposium on Meta Majors, Credit Transfer, and Articulation on December 14, 2015. Meta-majors are a 1-2 semester map of coursework that will articulate to multiple degrees in a student's area of interest. Meta-majors ensure that students take courses that will ultimately count as degree requirements for their major while still allowing them to explore their options. In addition to meta-majors, we are developing 60 credit transfer modules that will allow students to transfer seamlessly from a two-year to four-year institution.

The meta-majors and transfer module work is dependent on the degree mapping research from UNM's Research and Public Service Project (RPSP) entitled "Degree Plans: Roadmaps for Higher Education in New Mexico". The degree mapping project has created term by term schedules of courses that students need to take to graduate on-time. We are in the process of analyzing the completed degree maps to identify which courses will be included in meta-majors and transfer modules. In addition, the degree mapping project can be the basis for intrusive advising and tracking student success.

The New Mexico Nursing Education Consortium (NMNEC) is a collaboration of nursing programs across the state that have adopted a common core curriculum that transfers between different HEIs. NMNEC serves as an example of the seamless transfer that will be accomplished through the meta-major and transfer module project.

General Education Core Curriculum Reform

Our general education core curriculum initiative is being undertaken in collaboration with the provosts of the four-year HEIs. In addition to decreasing the number of required credit hours, this initiative will develop a curriculum that builds the skills that are important to success in academia and the professional world.

Co-requisite Remediation and Math Pathways

At the Governor's Summit on Higher Education in September 2015, it was announced that the state of New Mexico was accepted to be part of Complete College America's (CCA) Fall 2015 cohort of states that will receive funding and support to implement co-requisite remediation and math pathways statewide by Fall 2017. In co-requisite remediation, students enroll in an introductory college-level course AND an associated studio course. The studio course provides the needed remedial support while the student is taking the introductory course. In other states, the co-requisite remediation model has doubled the number of underprepared students who take and pass the introductory college-level course. In addition, as part of the CCA cohort we will work toward aligning required math courses with a student's intended major.

60 hour associate's and 120 hour bachelor's degrees

A number of HEI's have committed to changing their associate's and bachelor's degree requirements to 60 and 120 hours, respectively. 32% of bachelor's degree programs in New Mexico have accomplished this change as of June 2015.

Incentivizing four-year graduation

New Mexico's HEIs and HED have moved to incentivize students to take 15 credit hours a semester (which puts a student on track to graduate from a 120 hour degree program in 4 years) and on-time, 4-year graduation. As of September 2015, five of New Mexico's seven 4-year HEIs have implemented tuition incentives for students to graduate on time. For example, UNM has implemented a policy that provides free tuition for a student's last semester if they are set to graduate in 4 years. Furthermore, the Legislative

Lottery Scholarship requires students to successfully complete 15 credit hours each semester to remain eligible for further funding.

Performance Funding

Additionally, HED has been collaborating with the LFC and other stakeholders to refine and stabilize a funding formula that rewards institutions for graduating students, incentivizes outcomes production, and recognizes institutional improvement. Early data shows that tying funding to performance is working: since 2012, New Mexico's HEIs have increased the number of degrees and certificates awarded by approximately 15%.

I anticipate that these initiatives will improve student success and the 4-year graduation rates in New Mexico.

Sincerely,

A handwritten signature in black ink, reading "Barbara L. Damron". The signature is fluid and cursive, with the first name "Barbara" being more prominent than the last name "Damron".

Barbara Damron, PhD, RN, FAAN
Cabinet Secretary
Higher Education Department

Evaluation Objectives.

Objective 1: Review state incentives and potential policy and financial, barriers for institutions of higher education to improve on-time completion.

Objective 2: Assess the status of, and institutions of higher education efforts to improve degree production and on-time degree completion.

Objective 3: Review best practices and cost-benefits related to improving on-time degree completion.

Scope and Methodology.

The evaluation was a multi-site study of all public universities in New Mexico with field work conducted at six universities. The study employed quantitative measures to analyze data and employed multiple sources of information such as documents, reports, interviews, observations, and New Mexico Higher Education Department (HED) data sets.

Participants. The team conducted site-visits and interviews with administrators, faculty, staff, and students at Central New Mexico Community College; Doña Ana Community College; New Mexico Highlands University; New Mexico Institute for Mining and Technology; New Mexico State University; and University of New Mexico.

Data Collection.

Selected major fieldwork procedures included the following:

- Literature review on best practices of universities nationwide related to improving on-time degree completion; budgeting and performance monitoring systems and measures, posting of information for the public; coordinating delivery of similar programs by multiple institutions; sponsored foundations; and on-time degree completion policies and programs contacting other states as appropriate.
- Interviewed key administrators at institutions of higher education.
- Other interviews included HED staff, Institutional Research, Institutional Relations, members of the Faculty Senate, deans and department chairs, center directors, student leaders, and other employees or members of the community.
- Data analysis of financial, curricular, and student performance data, information as appropriate and available.
- HED planning, policies and procedures.
- Reviewed HED and public institutions data and documents for:
 - Coordination with public education;
 - Practices in place to improve retention and on-time graduation of degree seeking students;
 - Strategic planning, monitoring and reporting documents, customer satisfaction surveys; performance reports, budget status reports, etc.;
 - Degree requirements – including minimum SCH and pathways for key degree programs;
 - Admission standards and requirements;
 - Financial aid programs, loans, and student debt;
 - Academic programs – efforts to support low-income students or academically underprepared students; and
 - Student Support centers (advising, employment, tutoring, on-campus living).

Evaluation Team.

Charles Sallee, Lead Program Evaluator

Madelyn Serna Mármol, Program Evaluator

Travis McIntyre, Program Evaluator

Higher Education Department and Report #15-12

On-time Graduation and Degree Production

December 7, 2015

Authority for Evaluation. LFC is authorized under the provisions of Section 2-5-3 NMSA 1978 to examine laws governing the finances and operations of departments, agencies, and institutions of New Mexico and all of its political subdivisions; the effects of laws on the proper functioning of these governmental units; and the policies and costs. LFC is also authorized to make recommendations for change to the Legislature. In furtherance of its statutory responsibility, LFC may conduct inquiries into specific transactions affecting the operating policies and cost of governmental units and their compliance with state laws.

Exit Conference: The contents of this report were discussed with the Higher Education Department on December 4, 2015. A report draft was provided to the Higher Education Department on November 24, 2015 for a formal written response.

Report Distribution. This report is intended for the information of the Office of the Governor; The Higher Education Department; Office of the State Auditor; and the Legislative Finance Committee. This restriction is not intended to limit distribution of this report, which is a matter of public record.

A handwritten signature in black ink, appearing to read "Charles Sallee". The signature is fluid and cursive, with the first name "Charles" and last name "Sallee" clearly distinguishable.

Charles Sallee
Deputy Director for Program Evaluation

APPENDIX B: Performance Indicators in Neighboring States

Table 16. Higher Education Performance Indicators in Neighboring States

State	Status	Funding Amount	Metrics
Arizona	Four-year institutions	For FY13 and FY14, \$5 million per year allocated through performance formula. Beginning in FY16 all budget requests and allocations above base funding amount will be allocated according to performance funding formula developed by Board of Regents.	<ul style="list-style-type: none"> Degrees awarded (15% bonus for certain high demand degrees) Credit hours measured in milestones of 24 credit hours External research and public service dollars brought into the university system (Metrics based on a 3-year rolling average of data and weighted based on institutional mission. Degrees awarded and completed student credit hours also weighted by cost and degree level.)
Colorado	In transition	Colorado Commission on Higher Education proposed formula to begin in FY16. Under proposed formula, 56 percent of funding will be a College Opportunity Fund stipend. The remaining funding to be allocated as follows: <ul style="list-style-type: none"> 60 percent for role and mission 40 percent for performance 	Colorado Commission on Higher Education proposed metrics for retention and completion with additional weights for type of credential earned.
Nevada	Two-year and four-year institutions	The amount of performance funding increases by 5 percent increments until reaching 20 percent in FY2018.	Metrics include number of: <ul style="list-style-type: none"> Certificates and degrees Students who transfer to a 4-year institution with an associate's or with at least 24 credits Degrees or certificates awarded per 100 FTE Total amount expended on sponsored research projects and other scholarly activities Students who complete a college level English or math course STEM and allied health degrees and certificates Certificates and degrees aligned with the state's economic development plan.
New Mexico	Two-year and four-year institutions	Performance-based funding is 5 percent, and increasing, of instruction and general formula funding to colleges and universities.	Formula focuses on outputs for all institutions: <ul style="list-style-type: none"> Course completion rate Number of certificates and degrees awarded Number of certificates and degrees awarded in state workforce priority areas and earned by financially at-risk students. For FY15, formula included funding for mission-specific measures: <ul style="list-style-type: none"> Research universities: a percent of prior year grant or contract funding Comprehensive institutions: 30 and 60 credit momentum points Community colleges: 30 credit momentum points and completed dual- credit courses
Oklahoma	Two-year and four-year institutions	Performance funding only applies to new appropriations	Performance factors : <ul style="list-style-type: none"> First-year retention First-year retention for Pell recipients 24 credits in first academic year Cohort graduation rates anywhere in the system Degrees granted Program accreditation
Texas	Two-year institutions	10 percent	Ten percent of formula funding allocated based on points earned from a 3-year average of number of students who: <ul style="list-style-type: none"> Complete first college level course in math, reading intensive, and writing intensive courses Number of students who successfully complete 30 credit hours Transfer to a General Academic Institution after completing at least 15 semester credit hours Number of degrees and certificates awarded (Additional points are awarded for degrees in STEM or Allied Health fields)

Source: NCSL

Table 17. Certificate and Degree Production per Award Type per Institutions per Year

APPENDIX C: Certificate and Degree Production

Table 17. Certificate and Degree Production per Award Type per Institutions per Year

Inst	2011-12					2012-13					2013-14					2014-15					Total
	Cert	Assoc	Bach	Grad	Total	Cert	Assoc	Bach	Grad	Total	Cert	Assoc	Bach	Grad	Total	Cert	Assoc	Bach	Grad	Total	
NMIMT	0	3	193	108	304	0	1	183	108	292	0	2	214	103	319	0	1	240	114	355	
NMSU	0	10	2,335	992	3,337	0	23	2,429	943	3,395	0	15	2,552	942	3,509	0	16	2,436	948	3,400	
UNM	0	0	3,334	1,681	5,015	0	0	3,460	1,677	5,137	0	0	3,625	1,778	5,403	0	0	3,569	1,732	5,301	
Total	0	13	5,862	2,781	8,656	0	24	6,072	2,728	8,824	0	17	6,391	2,823	9,231	0	17	6,245	2,794	9,056	
ENMU	0	11	599	151	761	0	16	631	179	826	0	88	697	192	977	1	102	699	230	1,032	
NM/HU	0	0	356	393	749	0	0	421	391	812	0	0	454	384	838	0	0	456	431	887	
NNMC	32	96	53	0	181	6	93	64	0	163	19	98	70	0	187	23	115	58	0	196	
WNMU	34	131	168	125	458	33	114	216	145	508	28	111	195	162	496	27	127	221	199	574	
Total	66	238	1,176	669	2,149	39	223	1,332	715	2,309	47	297	1,416	738	2,498	51	344	1,434	860	2,689	
ENMU/RO	218	315	0	0	533	302	299	0	0	601	468	266	0	0	734	276	252	0	0	528	
ENMU/RU	63	28	0	0	91	31	17	0	0	48	28	28	0	0	56	57	54	0	0	111	
NMSUA	3	260	0	0	263	4	235	0	0	239	6	187	0	0	193	3	162	0	0	165	
NMSUC	18	106	0	0	124	21	86	0	0	107	15	71	0	0	86	27	99	0	0	126	
DACC	316	903	0	0	1,219	252	958	0	0	1,210	210	1,017	0	0	1,227	206	965	0	0	1,171	
NMSUG	39	62	0	0	101	30	97	0	0	127	47	64	0	0	111	37	61	0	0	98	
UNMG	43	146	0	0	189	44	196	0	0	240	61	182	0	0	243	48	166	0	0	214	
UNMLA	4	37	0	0	41	0	67	0	0	67	0	36	0	0	36	0	56	0	0	56	
UNMT	23	44	0	0	67	42	33	0	0	75	32	63	0	0	95	55	66	0	0	121	
UNMV	4	139	0	0	143	9	198	0	0	207	49	189	0	0	238	61	163	0	0	224	
CNM	1,729	2,503	0	0	4,232	2,823	2,789	0	0	5,612	1,848	2,608	0	0	4,456	1,842	4,076	0	0	5,918	
CCC	232	167	0	0	399	338	284	0	0	622	411	298	0	0	709	202	285	0	0	487	
LCC	77	106	0	0	183	101	113	0	0	214	93	100	0	0	193	69	85	0	0	154	
MCC	124	68	0	0	192	110	62	0	0	172	60	59	0	0	119	55	44	0	0	99	
NMJC	81	207	0	0	288	57	217	0	0	274	109	215	0	0	324	92	251	0	0	343	
SJC	224	617	0	0	841	158	620	0	0	778	182	588	0	0	770	259	627	0	0	886	
SFCC	185	283	0	0	468	303	363	0	0	666	307	385	0	0	692	380	418	0	0	798	
Total	3,383	5,991	0	0	9,374	4,625	6,634	0	0	11,259	3,926	6,356	0	0	10,282	3,669	7,830	0	0	11,499	
Grand Total	3,449	6,242	7,038	3,450	20,179	4,664	6,881	7,404	3,443	22,392	3,973	6,670	7,807	3,561	22,011	3,720	8,911	7,679	3,654	23,240	

Source: HED

APPENDIX D: Awards by Institution

Table 18. New Mexico Undergraduate Degree and Certificate Production, FY13

Institution	Certificates	Associates	Bachelors	Total Undergraduate Degree and Certificate Production	Degrees and Certificates per 100 *FTE, FY11-FY12-FY13 Average	Undergraduate *FTE
Research						
NMIMT	na	1	194	195	15.4	1,465
NMSU	na	27	2,551	2,578	20.0	11,559
UNM	na	na	3,520	3,520	17.8	19,297
Comprehensive						
ENMU	na	18	644	662	17.3	3,261
NMHU	na	na	416	416	20.2	1,875
NNMC	23	99	71	170	14.6	946
WNMU	67	123	214	337	16.8	1,703
Branch Community College						
ENMU-Roswell	480	298	na	778	18.8	1,678
ENMU-Ruidoso	37	22	na	59	5.6	327
NMSU-Alamogordo	11	248	na	259	15.0	1,221
NMSU-Carlsbad	20	86	na	106	13.1	714
NMSU- Doña Ana	344	1,025	na	1,369	24.1	5,068
NMSU-Grants	23	109	na	132	17.6	468
UNM-Gallup	53	207	na	260	11.0	1,542
UNM-Los Alamos	na	69	na	69	12.2	313
UNM-Taos	49	37	na	86	7.2	662
UNM-Valencia	22	260	na	282	11.8	1,230
Independent Community College						
CNM	3,700	3,368	na	7,068	25.2	11,772
Clovis	552	357	na	909	21.3	1,450
Luna	97	107	na	204	17.7	756
Mesalands	190	70	na	260	15.2	313
New Mexico Junior	66	244	na	310	15.5	1,404
San Juan	601	654	na	1,255	18.1	4,645
Santa Fe	326	403	na	729	18.6	2,819
Total Statewide	6,661	7,832	7,610	22,103	Res. and Comp. 17.4 Comm. Coll. 15.7	76,488

Source: HED

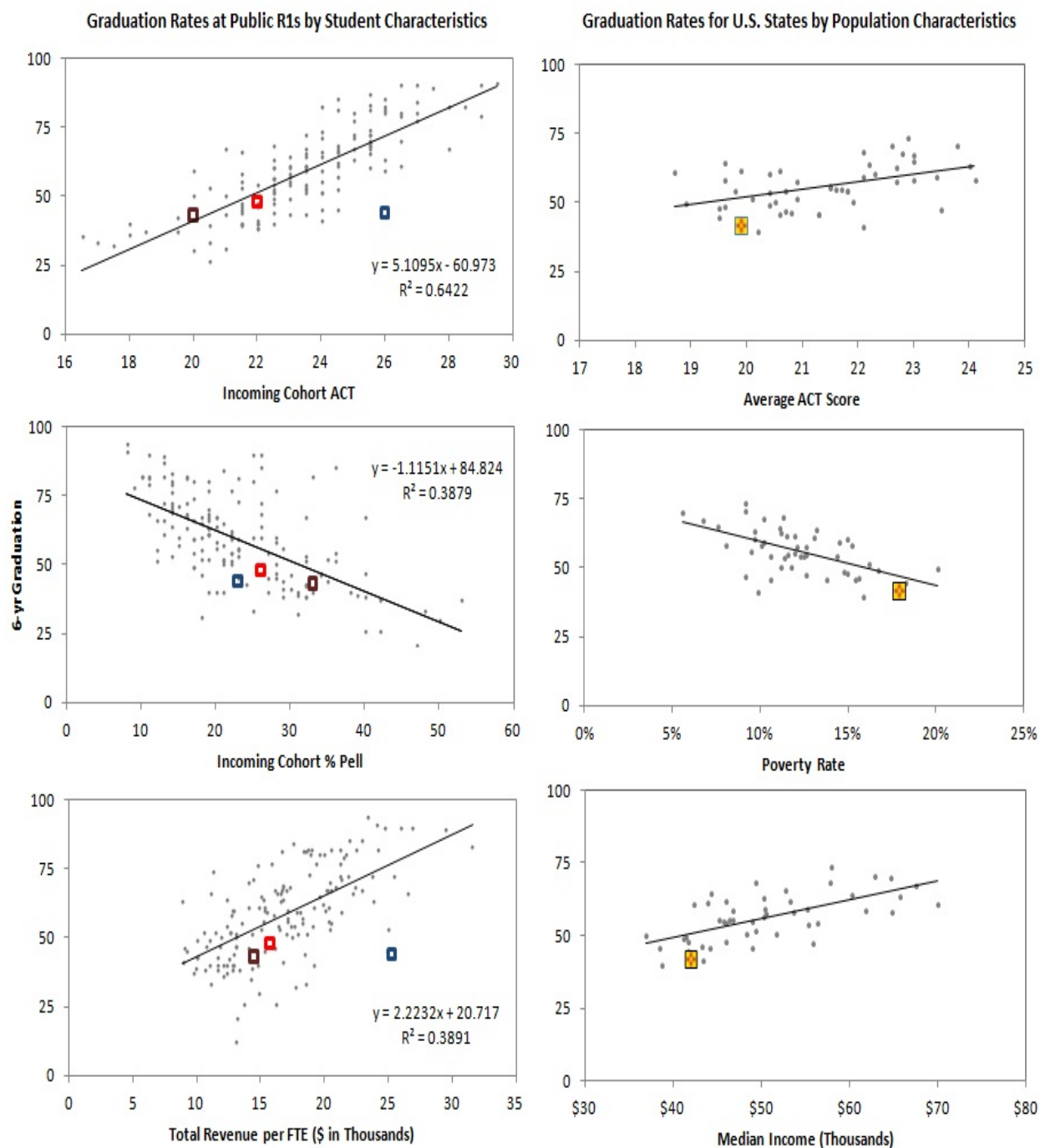
*Full-time enrollment (FTE)

Table 19. NMSU Vision 2020

Vision 2020 Goals	NMSU - Las Cruces Campus			p. 11
	Objectives	Key Performance Indicators		Target
Academics & Graduation	1 – Enrollment	KPI 1 – Enrollment Growth	Achieve 1% undergraduate and 3% graduate student FTE growth	Q3/Q2
		KPI 2 – Graduate Enrollment	Achieve 20% graduate enrollment	Q1
	2 – Access	KPI 3 – Pell Recipients	Maintain low-income accessibility of 45% + students receiving Pell grants	Q1
	3 – Affordability	KPI 4 – Net Price	Maintain a highly affordable average annual net price in quartile 1	Q1
	4 – Completion	KPI 5 – Retention Rate	Achieve an 80% first year retention rate	Q2
		KPI 6 – 4/5/6 Year Graduation Rates	Enhance graduation rates: 30% 4-yr, 45% 5-yr, 55% 6-yr	Q2/Q2/Q3
		KPI 7 – Value Add Graduation Rate	Maintain a 4 point net positive value-added graduation rate	Q2
		KPI 8 – STEM-H-B Degrees	Achieve a complementary mix of 50% STEM, Health and Business degrees and 50% non-STEM-H-B degrees	Median
	5 – Debt	KPI 9 – Default Rate	Steadily decrease the system student loan default rate by 1% annually	Q3 (8%)
Diversity & Internationalization	6 – Diversity	KPI 10 – Diverse Community	Maintain a highly diverse campus community (faculty 25%+, exempt staff 35%+, non-exempt staff 50%+, student body 50%+)	Q1
	7-Internationalization	KPI 11 – International Presence	Achieve increasing internationalization, global presence: international 6%+	Q2
Research & Creative Activity	8 – Research	KPI 12 – Proposals	Achieve 5% annual growth in submitted proposal dollars	Internal
		KPI 13 – Researchers	Achieve 1% annual increase in externally funded researchers	Internal
		KPI 14 – Research Funding	Maintain \$150K average funded research expenditures per tenure system faculty	Q2
Economic Development & Community Engagement	9 – Scholarship	KPI 15 – Publications & Creativity	Achieve 1% annual increase in publications and creative works per faculty	Internal
	10 – Engagement	KPI 16 – Student Innovation	Achieve 2% annual increase in student research and innovation: employment, Arrowhead programs, and work-based learning	Internal
		KPI 17 – Commercial Engagement	Maintain 1% growth in commercial engagement: industry and entrepreneurial relationships, partnerships, and internships	Internal
		KPI 18 – Community Engagement	Maintain 1% increase in the impact of community engagement, extension, outreach, and service	Internal
	11 – Employment	KPI 19 – Student Employment	Achieve 2% annual increase in students employed (on-campus and off-campus work-study)	Internal
		KPI 20 – Career Placement	Achieve a 75% career placement rate (to include graduate school)	Internal
		KPI 21 – Alumni Earnings	Maintain top 100 Brookings value-added mid-career earnings	Q1
Resource Stewardship	12 – Prominence	KPI 22 – Rankings	Achieve and maintain top 100 Washington Monthly academic prominence composite ranking of social mobility, research, and service	Q2
	13 – Philanthropy	KPI 23 – Alumni Giving	Achieve 8% VSE-defined alumni giving rate	Q2
		KPI 24 – Gift Revenue	Achieve \$1,650 annual gift revenue per student	Q3
		KPI 25 – Endowment	Achieve endowment value of \$12,000 per student	Q3
	14 – Staffing	KPI 26 – Staffing Ratios	Achieve right sized student/faculty and student/staff ratios	Median
		KPI 27 – Compensation	Achieve competitive average faculty salaries	Median
	15 – Efficiency	KPI 28 – Instruction Focus	Achieve optimal instruction/I&G efficiency ratio of 55%	Q1
		KPI 29 – Degree Cost	Achieve optimal I&G degree production cost efficiency in quartile 1	Q1
		KPI 30 – Athletic Self-Sufficiency	Achieve 40% athletic revenue self-sufficiency	Q2

Source: NMSU

Chart 16. Graduation Rates of New Mexico Research Institutions



Sources: IPEDS, Chronicle of Higher Education, US Census Bureau, ACT

APPENDIX G: UNM Peer Institutions

Table 20. UNM Peer Institutions Approved by HED, Fall 2014

Institution	Percentage of students receiving Pell Grants	Percentage of Minority *UG Students	**FRR Full-Time	On-time Graduation Rate	Graduation Rate within 150% of Normal Time	UG Enrollment Fall14	Total Enrollment Fall14
UNM	38%	56%	79%	15%	47%	21,792	27,844
Arizona State	26%	31%	86%	43%	63%	39,961	50,320
Florida International	51%	82%	84%	24%	54%	5,337	49,610
NMSU	43%	59%	74%	16%	46%	12,784	15,829
Oklahoma State	26%	17%	81%	34%	61%	20,952	25,962
Texas A&M	24%	29%	90%	50%	79%	47,093	61,642
Texas Tech	24%	31%	83%	33%	59%	28,632	35,158
U of Arizona	31%	36%	82%	40%	60%	32,987	42,236
U of Houston	40%	64%	86%	18%	48%	33,037	40,914
U of Iowa	19%	12%	86%	48%	70%	22,354	29,970
U of Kansas	23%	16%	80%	37%	60%	19,343	27,180
U of Missouri	22%	13%	85%	46%	69%	27,642	35,425
U of Nebraska	26%	10%	84%	33%	67%	19,979	25,006
U of Nevada	42%	49%	77%	14%	39%	23,803	28,515
U of Oklahoma	23%	24%	85%	37%	67%	21,011	27,261
U of Tennessee	29%	13%	87%	39%	69%	21,664	30,386
U of Utah	25%	17%	89%	24%	62%	23,907	31,515
UC-Riverside	55%	77%	90%	44%	69%	18,780	21,498
UC-Boulder	17%	17%	84%	46%	70%	26,557	32,432
UC-Denver	36%	33%	72%	15%	40%	13,509	22,791
UT-Arlington	42%	50%	69%	18%	42%	29,883	39,740
UT-Austin	25%	45%	94%	52%	81%	39,523	51,313
UT-El Paso	67%	86%	68%	12%	38%	19,817	23,079

Source: NCES College Navigator

*Undergraduate

**Freshman Retention Rate