

TOPIC: REMEDIAL REPORT

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I. SUMMARY

Under C.R.S. 23-1-113.3, the institutions “shall track all students who are required to take basic skills courses,” and the Commission “shall transmit annually to the education committees of the Senate and House of Representatives, the Joint Budget Committee, and the Department of Education an analysis of that data.” CCHE began collecting data in the 2000-01 academic year. In January 2002, CCHE transmitted a summary of the remedial activity to the General Assembly.

Since the primary purpose of the feedback report is to help Colorado schools improve the competency and skills of high school graduates and consequently improve access to higher education for Colorado high school graduates, the Commission staff has consulted with the Colorado Association of School Executives (CASE) on the report. The highlights of the 2003 Report show that 36 percent of recent high school graduates require some form of remediation in college. High school students that follow a high school core courses (i.e., 4 years of English, 3 years of Mathematics, 3 years of Science, 3 years of Social Studies) fare better with only 21 percent needing remediation in college.

The analysis also focuses on the policy’s effectiveness. The data indicate that the policy needs clarification. Not only is it difficult to interpret the data with the variety of remedial assessments used, but it is confusing to students. To address these problems, staff recommend that CCHE, in consultation with the governing boards, review the Remedial Policy and prepare recommendations for revising the current Remedial Policy, clarifying reporting requirements, and revising other academic policies that may be critical to meeting the Remedial Policy goals and statutory intent. A number of studies document a high level of correlation between student academic success and the following program characteristics:

- required entry-level testing,
- mandatory placement in basic skills courses,
- continuous evaluation,
- interface between remedial and college-level courses, and
- using technology to offer remediation through alternative instructional media.

The research further suggests specific policy areas to improve academic performance, including specifying a common test for remedial placement, mandatory student placement into remedial courses, enrollment in remedial courses upon initial entry to the college, restricting admission to potential transfer students who have not resolved remedial deficiencies, and requiring students who declare a major to resolve all remedial

needs prior to enrolling in courses required in the major. Section IV of this agenda item provides data supporting these policy changes.

II. BACKGROUND

This section provides the historical context of CCHE's Remedial Policy and the adopted policy parameters and definitions of students exempt from remedial testing. It is extracted from the 2002 agenda item that summarized the previous year's remedial activity.

The statute (**C.R.S. 23-1-113.3**) defined the Commission's role and responsibilities, including to (1) design and implement statewide policies for remedial education, (2) provide the General Assembly information on the number, type, and cost of remedial education provided, (3) develop appropriate funding policies that support the institutional roles and missions, (4) ensure the comparability of these placement or assessment tests, and (5) ensure that each student identified as needing basic skills remedial course work is provided with written notification identifying which state institutions offer such basic skills courses and the approximate cost and relative availability of such courses, including any electronic on-line courses.

At its August 2000 meeting, the Commission approved a new Remedial Policy that was designed to achieve three policy goals:

- All degree-seeking first-time students (freshmen, transfer, and non-degree seeking students changing to degree-seeking status) are prepared to succeed in college level courses.
- Students assessed as needing remedial instruction have accurate information regarding course availability and options to meet the college entry-level competencies.
- Colorado public high schools are informed about the level of college readiness of their recent high school graduates.

In March 2001, the Commission approved the revised FTE policy. The policy clearly identifies which institutions may claim state support for remedial education and what circumstances apply.

The Commission addressed four of its five statutory responsibilities in 2002. It adopted a policy, developed funding policies for remedial education, developed a reporting system, and ensured the comparability of placement or assessment tests through a pre-approval process. The governing boards submitted remedial plans for each institution addressing (1) who will be assessed, (2) how the students will be assessed, and (3) how the institutions will advise students regarding reading, writing, and mathematics deficiencies (i.e., where the test indicates that they are performing below college level) and inform

them of their available options. In this context, the assessment tools are often referred to as college basic skills tests or placement tests. The fifth statutory responsibility requires the Commission to provide a feedback report to public school districts regarding the college readiness of its recent graduates. This report is due in 2003.

The twenty-seven public institutions that admit freshman students share a common definition of who will be assessed -- all first-time, degree-seeking students. First-time includes freshmen, transfer and those who change their enrollment status from non-degree seeking to degree-seeking regardless of the number of college credits earned.

In general, colleges are using the ACT test as a screening test. A screening test differentiates students who demonstrate college readiness from those who need to take a specific placement test. For example, community colleges, UCD and Metro use the ACT test for screening and an Accuplacer for placement. A student who does not meet the basic skills standards has an opportunity to retake the test or use an alternative assessment to measure college readiness. Because all incoming recent high school graduates will take the ACT test, it minimizes the testing burden on an institution.

In compliance with the need for comparable assessment scores, the Academic Council negotiated common cut scores for ACT subtests during the following month. At the conclusion of the negotiation session, the decision specified that:

- A student must score a 19 or higher on the Act Math subtest to be considered college ready in mathematics (SAT equivalent of 440).
- A student must score 18 or higher on the ACT English subtest to be considered college ready in writing (SAT equivalent of 420).
- A student must score 17 or higher on the ACT Reading subtest to be considered reading at college level (SAT equivalent of 400).

The cut scores were based on the analysis conducted by ACT that 50 percent of the students who earn a 19 or higher on the ACT Math subtest will earn a C or better in college level Math. Similarly, a student who scores 18 or higher on the ACT English subtest will earn a C or better in College Composition course. Setting common cut scores was critical to ensure that no student would be tested twice or receive conflicting advice regarding their need for remedial assistance.

The following students are exempt from taking a placement test in reading, writing, or mathematics:

- Earned a bachelor or associate transfer degree (i.e., AA or AS).
- Been previously assessed at a Colorado public college or university.
- Successfully completed basic skills instruction in mathematics, writing or reading are exempt from testing in that subject area only.

- Successfully completed (C or better) a college-level course in English are exempt from the requirement for English assessment only.
- Successfully completed (C or better) a college-level course in Mathematics are exempt from basic skills assessment in Mathematics only.

III. STAFF ANALYSIS

One of the questions that members of the General Assembly raised concerns the **remedial needs of recent high school graduates**. National data indicate that approximately 20 percent of students entering four-year research universities require remediation while 40 percent of community college freshmen and sophomores are required to take remedial courses. Colorado’s Remedial Policy is designed to reverse this trend of inadequate preparation and lower the number of student enrolled in remedial courses.

The following data was presented in graph format at the March Commission meeting. This section provides the numbers as well as some supplementary data requested during the discussion. Table 1 compares the recent high school graduates who were assessed as needing remedial courses by contrasting the students who completed 4 years of English, 3 years of mathematics, 3 years of science, and 3 years of social studies in high school.

Table 1. STATEWIDE SUMMARY OF COURSE-LEVEL ASSIGNMENT BY ACT CORE CURRICULUM FOR RECENT COLORADO PUBLIC HIGH SCHOOL GRADUATES ENROLLED IN COLORADO PUBLIC HIGHER EDUCATION, FY2002

ACT-Recommended Core Curriculum Status***	Unduplicated Headcount Who Were Assigned to --		
	College-level Coursework*	Remedial-level Coursework*	TOTAL
Core Curriculum	6,075 78.9%	1,626 21.1%	7,701
Less than Core Curriculum	3,265 62.2%	1,982 37.8%	5,247
Missing test data**	1,536 39.0%	2,403 61.0%	3,939
TOTAL	10,876 64.4%	6,011 35.6%	16,887

Note: Excludes students (8,704) not assessed and those with pending assessments and missing data.

*Students reported as college-level had no developmental coursework whereas remedial-level students were assigned to at least one pre-collegiate level course.

**Missing test data based on students who did not take the ACT or SAT or those who did not provide a student ID that matches an identifier in the SURDS Enrollment or Applicant Files.

***Core curriculum calculated from student self-reported responses accompanying ACT and SAT college entrance examinations indicating courses they have taken or plan to take by time of graduation.

**Table 2. COURSELEVEL ASSIGNMENT BY ACT CORE CURRICULUM BY RACE/ETHNICITY
 FOR RECENT COLORADO PUBLIC HIGH SCHOOL GRADUATES
 ENROLLED IN COLORADO PUBLIC HIGHER EDUCATION, FY2002**

Race/Ethnicity	ACT-Recommended Core Curriculum Status***	Unduplicated Headcount Assigned to --		
		College-level Coursework*	Remedial-level Coursework*	TOTAL
Asian/Pacific Islander	Core Curriculum	263	107	370
		71.1%	28.9%	
	Less than Core Curriculum	145	80	225
		64.4%	35.6%	
	Missing test data**	57	82	139
		41.0%	59.0%	
	Total	465	269	734
	Courselevel Assignment as % of Specified R/E Group	63.4%	36.6%	
Black, Non-Hispanic	Core Curriculum	111	107	218
		50.9%	49.1%	
	Less than Core Curriculum	64	118	182
		35.2%	64.8%	
	Missing test data**	24	142	166
		14.5%	85.5%	
	Total	199	367	566
	Courselevel Assignment as % of Specified R/E Group	35.2%	64.8%	
Hispanic	Core Curriculum	469	247	716
		65.5%	34.5%	
	Less than Core Curriculum	276	389	665
		41.5%	58.5%	
	Missing test data**	133	445	578
		23.0%	77.0%	
	Total	878	1,081	1,959
	Courselevel Assignment as % of Specified R/E Group	44.8%	55.2%	
Native American	Core Curriculum	38	19	57
		66.7%	33.3%	
	Less than Core Curriculum	29	18	47
		61.7%	38.3%	
	Missing test data**	14	24	38
		36.8%	63.2%	
	Total	81	61	142
	Courselevel Assignment as % of Specified R/E Group	57.0%	43.0%	
White, Non-Hispanic	Core Curriculum	5,030	1,103	6,133
		82.0%	18.0%	
	Less than Core Curriculum	2,648	1,325	3,973
		66.6%	33.4%	
	Missing test data**	1,245	1,618	2,863
		43.5%	56.5%	
	Total	8,923	4,046	12,969
	Courselevel Assignment as % of Specified R/E Group	68.8%	31.2%	
Minority Subtotal	Core Curriculum	881	480	1,361
		64.7%	35.3%	
	Less than Core Curriculum	514	605	1,119
		45.9%	54.1%	
	Missing test data**	228	693	921
		24.8%	75.2%	
	Total	1,623	1,778	2,480
	Courselevel Assignment as % of Minority Total	64.7%	35.3%	
Public Sector Total	Core Curriculum	6,075	1,626	7,701
		78.9%	21.1%	
	Less than Core Curriculum	3,265	1,982	5,247
		62.2%	37.8%	
	Missing test data**	1,536	2,403	3,939
		39.0%	61.0%	
	Total	10,876	6,011	16,887

Table 2 compares the college readiness by ethnic background. Recent high school graduates who have Asian American, Native American, Hispanic, or African American backgrounds are less likely to be prepared for college level courses than White counterparts.

Table 3 illustrates college level readiness by economic background. It documents that 54 percent of the students enrolled in school districts with the highest percent of low-income families (i.e., Quartile 1) are prepared for college work while 74 percent of students attending school districts with the lowest percent of low-income families are college ready.

Table 3. COURSELEVEL ASSIGNMENT BY ACT CORE CURRICULUM BY SCHOOL DISTRICT LUNCH CATEGORIES FOR RECENT COLORADO PUBLIC HIGH SCHOOL GRADUATES ENROLLED IN COLORADO PUBLIC HIGHER EDUCATION, FY2002

Quartiles (Based on Percent of Students Qualifying for Free or Reduced Lunch)	ACT-Recommended Core Curriculum Status***	Unduplicated Headcount Assigned to --		
		College-level Coursework*	Remedial-level Coursework*	TOTAL
Quartile 1** -- Highest % Free/Reduced Lunch	Core Curriculum	1,135	462	1,597
		71.1%	28.9%	
	Less than Core Curriculum	691	680	1,371
		50.4%	49.6%	
	Missing test data***	292	697	989
		29.5%	70.5%	
	Total	2,118	1,839	3,957
	Courselevel Assignment as % of Quartile Total	53.5%	46.5%	
Quartile 2** -- Second Highest % Free/Reduced Lunch	Core Curriculum	1,613	487	2,100
		76.8%	23.2%	
	Less than Core Curriculum	704	610	1,314
		53.6%	46.4%	
	Missing test data***	297	649	946
		31.4%	68.6%	
	Total	2,614	1,746	4,360
	Courselevel Assignment as % of Quartile Total	60.0%	40.0%	
Quartile 3** -- Second Lowest % Free/Reduced Lunch	Core Curriculum	1,799	431	2,230
		80.7%	19.3%	
	Less than Core Curriculum	841	336	1,177
		71.5%	28.5%	
	Missing test data***	458	587	1,045
		43.8%	56.2%	
	Total	3,098	1,354	4,452
	Courselevel Assignment as % of Quartile Total	69.6%	30.4%	
Quartile 4** -- Lowest % Free/Reduced Lunch	Core Curriculum	1,522	243	1,765
		86.2%	13.8%	
	Less than Core Curriculum	1,027	352	1,379
		74.5%	25.5%	
	Missing test data***	481	447	928
		51.8%	48.2%	
	Total	3,030	1,042	4,072
	Courselevel Assignment as % of Quartile Total	74.4%	25.6%	
Public Sector Total	Core Curriculum	6,069	1,623	7,692
		78.9%	21.1%	
	Less than Core Curriculum	3,263	1,978	5,241
		62.3%	37.7%	
	Missing test data***	1,528	2,380	3,908
		39.1%	60.9%	
	Total	10,860	5,981	16,841

Note: Excludes students (8,704) not assessed and those with pending assessments and missing data. Also excludes students (46) from unknown CO high school.

*Students reported as college-level had no developmental coursework whereas remedial-level students were assigned to at least one pre-collegiate level course.

**Ranges for quartiles are: Quartile 1: 37.2% and higher; Quartile 2: 18.3 - 37.1%; Quartile 3: 12.2 - 18.2%; Quartile 4: 0 - 12.1%.

***Missing test data based on students who did not take the ACT or SAT or those who did not provide a student ID that matches an identifier in the SURDS Enrollment or Applicant Files.

***Core curriculum calculated from student self-reported responses accompanying ACT and SAT college entrance examinations indicating courses they have taken or plan to take by time of graduation.

Table 4. COURSELEVEL ASSIGNMENT BY ACT CORE CURRICULUM BY SCHOOL DISTRICT SETTING FOR RECENT COLORADO PUBLIC HIGH SCHOOL GRADUATES ENROLLED IN COLORADO PUBLIC HIGHER EDUCATION, FY2002

School District Setting	ACT-Recommended Core Curriculum Status***	Unduplicated Headcount Assigned to --		
		College-level Coursework*	Remedial-level Coursework*	TOTAL
Denver Metro	Core Curriculum	3,410 77.3%	1,002 22.7%	4,412
	Less than Core Curriculum	1,747 65.0%	941 35.0%	2,688
	Missing test data**	820 41.2%	1,172 58.8%	1,992
	Total	5,977	3,115	9,092
	Courselevel Assignment as % of Setting Category	65.7%	34.3%	
Urban/Suburban	Core Curriculum	1,589 81.6%	359 18.4%	1,948
	Less than Core Curriculum	900 61.1%	574 38.9%	1,474
	Missing test data**	386 35.3%	706 64.7%	1,092
	Total	2,875	1,639	4,514
	Courselevel Assignment as % of Setting Category	63.7%	36.3%	
Outlying City	Core Curriculum	343 78.7%	93 21.3%	436
	Less than Core Curriculum	215 57.5%	159 42.5%	374
	Missing test data**	81 29.5%	194 70.5%	275
	Total	639	446	1,085
	Courselevel Assignment as % of Setting Category	58.9%	41.1%	
Outlying Town	Core Curriculum	493 81.5%	112 18.5%	605
	Less than Core Curriculum	274 59.6%	186 40.4%	460
	Missing test data**	162 43.7%	209 56.3%	371
	Total	929	507	1,436
	Courselevel Assignment as % of Setting Category	64.7%	35.3%	
Rural	Core Curriculum	234 80.4%	57 19.6%	291
	Less than Core Curriculum	127 51.8%	118 48.2%	245
	Missing test data**	79 44.4%	99 55.6%	178
	Total	440	274	714
	Courselevel Assignment as % of Setting Category	61.6%	38.4%	
Public Sector Total	Core Curriculum	6,075 78.9%	1,626 21.1%	7,701
	Less than Core Curriculum	3,265 62.2%	1,982 37.8%	5,247
	Missing test data**	1,536 39.0%	2,403 61.0%	3,939
	Total	10,876	6,011	16,887
	Courselevel Assignment as % of Setting Category			

Note: Excludes students (8,704) not assessed and those with pending assessments and missing data. Also excludes students (46) from unknown CO high school.

*Students reported as college-level had no developmental coursework whereas remedial-level students were assigned to at least one pre-collegiate level course.

**Missing test data based on students who did not take the ACT or SAT or those who did not provide a student ID that matches an identifier in the SURDS Enrollment or Applicant Files.

***Core curriculum calculated from student self-reported responses accompanying ACT and SAT college entrance examinations indicating courses they have taken or plan to take by time of graduation.

Table 4 presents a slightly different comparison, contrasting the remedial needs of recent high school graduates by different school settings – Suburban, Denver Metro, Outlying City, Outlying Town, and Rural – the categories used by the Colorado Department of Education to compare school districts. In Urban/Suburban, Outlying Town and Rural schools districts, 81 percent of students who finish the high school recommended curriculum are assessed as college ready. In outlying cities and the Denver Metro area, 78 percent and 77 percent respectively are assessed as college ready. Denver Metro area includes Adams County 14, Adams-Arapahoe 28J, Boulder Valley RE 2, Bright 27J, Cherry Creek, Denver County 1, Douglas County RE 1, Englewood 1, Jefferson County RE-1, Littleton 6, Mapleton 1, Northglenn-Thornton, Sheridan 2, and St. Vrain Valley RE1J. On average, there is a 17-percentage point difference between those who complete the recommended high school courses and those who do not.

IV. POLICY ANALYSIS

Both research and current practice support the use of structured assessment and placement of students in remedial courses. Based on the philosophy of structured open access, the "systematic use of academic standards linked with additional approaches to assist students to reach their educational objectives," this type of proactive institutional strategy has been more successful than an open-door, laissez-faire approach that allows students to enroll in any course regardless of prerequisites (Fonte, 1997, 45). Rather than limiting student achievement, such intervention builds connections among students, counselors, and faculty.

Illinois adopted a structured model in the early 1990s that demonstrates that intrusive procedures need not be punitive and can actually foster a caring environment for students with remedial needs (Fonte, 1997). Samples of the 14 policies of the model include:

- Mandatory placement testing for full-time and part-time students who have taken six credit hours.
- Mandatory enrollment in remedial courses beginning with the student's first semester of enrollment.
- Blocked registration for students with unresolved remedial needs in the second semester.

Colorado's remedial model, while departing from the laissez-faire model, is less proactive than the Illinois model described above. Since the Commission is responsible for ensuring that its policies are effective, it is important to review how its current Remedial policy is meeting the statutory goals.

CCHE's Remedial Policy was based on an assumption that all degree-seeking students would be assessed prior to enrollment or during the first semester of enrollment. The data in Table 5 indicate that a significant number of students are not evaluated during the first year of enrollment, let alone the first semester. Of the first-time freshmen, less than half of the 2001-02 first-time students were evaluated in fall 2001 or spring 2002.

**Table 5. SUMMARY OF REMEDIAL ASSESSMENT
 BY REGISTRATION STATUS AND INSTITUTIONAL SECTOR, FY2002**

Unduplicated Full-Year Undergraduate Headcount --				
	# Enrolled	# Evaluated**	# Exempt in all Remedial Areas	% Evaluated
Entering First-time Undergrad				
Four-year Public Inst	33,801	23,886	3,915	80%
Two-year Public Inst	55,290	17,515	272	32%
Subtotal	89,091	41,401	4,187	49%

*Registration status based on first term student enrolled during year.

**Evaluated is based on number of students for whom assessment data are reported.

**Exempt includes students who have earned a baccalaureate or transfer associate degree, were assessed previously, successfully completed a remedial course, or are pursuing a vocational certificate, are non-degree-seeking, are an exchange student, or are concurrently enrolled as a high school student.

In short, the data indicates that the percent of students needing remediation in this report will be **understated** because 49 percent of first-time freshmen entering colleges were not evaluated in 2001-02.

From the student perspective, the assessments are not reliable due to the considerable variety of placement tests used by institutions to measure mathematics and writing ability. See Attachment A for a list of the placement tests and cut scores. Some institutions have concluded that the best approach for students and the most reliable way to implement remedial testing is a single placement test (e.g., Accuplacer) for students who do not have ACT scores. This conclusion appears reasonable and cost effective.

**Table 6. SUMMARY OF UNDERGRADUATE PLACEMENT REMEDIAL COURSEWORK
 BY REGISTRATION STATUS AND INSTITUTIONAL SECTOR, FY2002**

Registration Status*/ Institutional Sector	Unduplicated Full-Year Undergraduate Headcount --			
	# Enrolled	# Assigned to College-level Coursework	# Assigned to Remedial-level Coursework in One or More Disciplines	% of Enrolled Students Assigned to Remedial-level Coursework
Entering First-time Undergrad				
Four-year Public Inst	33,801	20,008	3,878	11.5%
Two-year Public Inst	55,290	5,864	11,651	21.1%
Subtotal	89,091	25,872	15,529	17.4%
Entering Undergrad Transfer				
Four-year Public Inst	15,871	13,205	1,153	7.3%
Two-year Public Inst	6,481	2,048	1,545	23.8%
Subtotal	22,352	15,253	2,698	12.1%
Continuing Undergrad				
Four-year Public Inst	92,091	947	260	0.3%
Two-year Public Inst	76,430	1,488	3,102	4.1%
Subtotal	168,521	2,435	3,362	2.0%
GRAND TOTAL--ALL PUBLICS	279,964	43,560	21,589	7.7%

*Registration status based on first term student enrolled during year.

**Includes students assigned to college-level coursework in all disciplines as well as those with partial or pending assessments.

CCHE's current Remedial Policy requires testing of students transferring from other institutions and reporting of placement test data for undergraduates who took placement tests in their sophomore, junior or senior year. Approximately 2,700 transfer students and 3,300 continuing students needed remediation. The data indicate that:

- 1,153 students transferring to four-year colleges have unresolved remedial needs.
- 5,797 continuing students were not assessed during their freshmen year and of these, 50 percent (3,362) needed remediation.

This pattern indicates that remedial testing does not occur soon enough for a large number of first-time students. The unintended consequence is that students enroll in courses that they are not prepared to pass. National data supports this observation. According to the Mathematics Association of America, approximately 40 percent of students enrolled in College Algebra receive grades of D or F, or withdraw from the course.

**Table 7. DETAIL FOR UNDERGRADUATES PLACED IN REMEDIAL COURSEWORK
 BY REGISTRATION STATUS AND INSTITUTIONAL SECTOR, FY 2002**

Registration Status/ Institutional Sector	Assessment Status (Unduplicated Full-Year Undergraduate Headcount) --						
	# Students Assigned to Remedial --						
	M	W	R	M, W	M, R	W, R	M, W, R
Entering First-time Undergrad							
Four-year Public Inst	1,447	409	953	540	177	143	209
Two-year Public Inst	4,213	340	376	1,535	1,166	494	3,527
Subtotal	5,660	749	1,329	2,075	1,343	637	3,736
Entering Undergrad Transfer							
Four-year Public Inst	517	117	219	120	80	46	54
Two-year Public Inst	845	52	39	236	113	45	215
Subtotal	1,362	169	258	356	193	91	269
Continuing Undergrad							
Four-year Public Inst	100	26	61	12	19	34	8
Two-year Public Inst	1,186	77	57	485	243	71	983
Subtotal	1,286	103	118	497	262	105	991
GRAND TOTAL--ALL PUBLICS	8,308	1,021	1,705	2,928	1,798	833	4,996

The data in Table 7 show that students enrolling in different types of institutions have differing levels of remedial needs. The last column of Table 7 illustrates that students enrolled at community colleges are more likely to need remediation in all skill areas (reading, writing, and mathematics), while only a small percent of four-year recent high school graduates need comprehensive remediation (i.e., 209 of 2,603). This data supports the role and mission of community colleges as the primary remedial providers.

First-time students enrolled at community colleges are more likely to need math remediation than those students entering a four-year college. In total, 2,373 of the 34,000 freshmen enrolled at four-year colleges needed math remediation. At the community colleges, 10,441 of the 55,000 students needed math remediation. This number is computed by added those who needed only math remediation (M) with those requiring math and writing (M,W), those who require math and reading (M,R) and those that require remediation in all three (M, W, R). The high incidence of remediation needs at community colleges may be partially attributed to the fact that a high proportion of community college freshmen are non-traditional students (i.e., not entering college directly from high school and partially to the open admission role of community colleges.

Table 8 compares the remedial needs of recent high school graduates (i.e., graduated from high school in 2001) with other college freshmen. As expected, the number of community college freshmen requiring remediation decreased significantly (approximately 8,500 fewer students requiring remediation). When calculating the percent of enrolled recent high school graduates who need remediation, the percent needing remediation increases at both the four-year and community colleges. Approximately 19 percent of recent high school graduates attending four-year colleges need remediation compared to 12 percent of all freshmen attending four-year colleges (Table 6). Similarly, 35 percent of recent high school graduates attending two-year colleges need remediation compared to 21 percent of all freshmen enrolled at a two-year college. Because of the inconsistent assessment practices, it is difficult to interpret this data.

**Table 8. PLACEMENT IN REMEDIAL COURSEWORK
 OF RECENT COLORADO HIGH SCHOOL GRADUATES, FY2002**

Unduplicated Full-Year Undergraduate Headcount --			
	# Enrolled	Coursework in One or More Disciplines	
		#	% of Enrolled
Entering First-time Undergrad			
Recent** CO H Sch Grad			
Four-year Public Inst	14,003	2,603	18.6%
Two-year Public Inst	9,012	3,120	34.6%
Subtotal	23,015	5,723	24.9%
Non-Recent** CO H Sch Grad			
Four-year Public Inst	4,207	453	10.8%
Two-year Public Inst	13,972	3,793	27.1%
Subtotal	18,179	4,246	23.4%
Other***			
Four-year Public Inst	15,591	822	5.3%
Two-year Public Inst	32,306	4,738	14.7%
Subtotal	47,897	5,560	11.6%
Total	89,091	15,529	17.4%

Table 9 presents the recent high school graduates' remediation patterns. Of the 23,015 recent high school graduates enrolled in public higher education, 18 percent require math remediation, 11 percent require remediation in writing, and 12 percent require reading remediation.

**Table 9. UNDERGRADUATES PLACED IN REMEDIAL COURSEWORK
 RECENT COLORADO HIGH SCHOOL GRADUATES, FY2002**

	Assessment Status (Unduplicated Full-Year Undergraduate Headcount)								
	# Enrolled	# Students Assigned to Remedial --							
		M	W	R	M, W	M, R	W, R	M, W, R	
Entering First-time Undergrad									
Recent** CO H Sch Grad									
Four-year Public Inst	14,003	960	284	717	327	121	89	105	
Two-year Public Inst	9,012	876	112	147	354	340	147	1,144	
Subtotal	23,015	1,836	396	864	681	461	236	1,249	
Non-Recent** CO H Sch Grad									
Four-year Public Inst	4,207	154	42	117	74	35	11	20	
Two-year Public Inst	13,972	1,497	78	78	518	419	86	1,117	
Subtotal	18,179	1,651	120	195	592	454	97	1,137	
Other***									
Four-year Public Inst	15,591	333	83	119	139	21	43	84	
Two-year Public Inst	32,306	1,840	150	151	663	407	261	1,266	
Subtotal	47,897	2,173	233	270	802	428	304	1,350	
Total	89,091	5,660	749	1,329	2,075	1,343	637	3,736	

**Recent high school graduate is defined as a student reported with graduation year of 2001, or when graduation year is missing, a student whose calculated age is 19 years or younger. Totals for recent graduates here do not match those in high school table due to deletion of high schools with less than 10 and non-public high schools.

***Other includes students graduating in other states, students with a missing high school code, graduation year and age data.

Table 10 displays the remedial numbers by higher education institution. The institutional data is difficult to compare or interpret because of the individual differences in reporting and differences in assessment strategies. The other important factor to remember when reviewing the data in Table 10 is that the percent needing remediation in this table will be **understated** because 49 percent of first-time freshmen entering colleges were not evaluated in 2001-02.

**Table 10. UNDERGRADUATES PLACED IN REMEDIAL COURSEWORK
 BY INSTITUTION FOR RECENT COLORADO HIGH SCHOOL GRADUATES, FY2002**

	Assessment Status (Unduplicated Full-Year Undergraduate Headcount)								
	# Enrolled	# Students Assigned to Remedial-level Coursework	# Students Assigned to Remedial --						
			M	W	R	M, W	M, W, R	W, R	M, W, R
Entering First-time Undergrad Four-Year Public Inst									
Adams State College	379	0	0	0	0	0	0	0	0
Colorado School of Mines	424	23	1	6	6	2	0	8	0
Colorado State University	3,118	204	198	3	0	0	0	3	0
Fort Lewis College	624	299	111	39	7	46	6	37	53
Mesa State College	792	338	120	73	0	145	0	0	0
Metropolitan SC of Denver	1,734	793	53	11	618	2	62	19	28
University of Colorado - Boulder	2,762	68	63	5	0	0	0	0	0
University of Colorado - Colo Spr	816	35	4	31	0	0	0	0	0
University of Colorado - Denver	618	165	49	54	0	62	0	0	0
University of Northern Colorado	1,863	327	217	33	16	37	8	9	7
University of Southern Colorado	512	232	77	10	69	10	43	10	13
Western State College	361	119	67	19	1	23	2	3	4
Subtotal--4 Yr Publics	14,003	2,603	960	284	717	327	121	89	105
Two-Year Public Inst									
Aims CC	635	206	58	18	16	35	6	14	59
Arapahoe CC	795	290	98	5	24	26	35	9	93
Colorado Mountain College	453	87	10	4	13	3	3	33	21
Colorado Northwestern CC	341	45	10	1	1	4	8	2	19
Community College of Aurora	507	196	49	4	5	9	21	11	97
Community College of Denver	369	256	31	2	6	10	37	10	160
Front Range CC	1,524	780	215	22	40	80	115	39	269
Lamar CC	268	33	8	0	2	4	2	4	13
Morgan CC	488	98	23	4	9	2	8	7	45
Northeastern Junior College	397	78	22	5	5	5	9	2	30
Otero Junior College	247	94	21	7	4	16	6	1	39
Pikes Peak CC	1,046	439	146	27	12	91	34	6	123
Pueblo CC	750	213	63	7	7	24	23	3	86
Red Rocks CC	985	241	108	6	1	42	19	6	59
Trinidad State Junior College	207	64	14	0	2	3	14	0	31
Subtotal--2 Yr Publics	9,012	3,120	876	112	147	354	340	147	1,144
Subtotal--All Publics	23,015	5,723	1,836	396	864	681	461	236	1,249

**Recent high school graduate is defined as a student reported with graduation year of 2001, or when graduation year is missing, a student's calculated age is 19 years or younger. Totals for recent graduates here do not match those in high school table due to deletion of small N size and non-public high schools.

The policy does not appear to meet its goal of providing students early information regarding their academic deficiencies. It is possible that a simpler remedial testing plan would be more cost effective. The data indicate that the policy needs to be reviewed to examine three questions:

- (1) What is the most reliable assessment practice for Colorado students?
- (2) In what ways can the policy be simplified to reduce the data and testing burdens?
- (3) Is the policy clear regarding the responsibility of students to complete remedial requirements during the first year of enrollment?

(4) Does the policy explicitly incorporate program characteristics that research documents as having a high level of correlation between student academic success? These characteristics include:

- required entry-level testing,
- mandatory placement in basic skills courses,
- continuous evaluation,
- interface between remedial and college-level courses, and
- using technology to offer remediation through alternative instructional media.

The research suggests specific policy areas to improve academic performance, including specifying a common test for remedial placement, mandatory student placement into remedial courses, enrollment in remedial courses upon initial entry to the college, restricting admission to potential transfer students who have not resolved remedial deficiencies, and requiring students who declare a major to resolve all remedial needs prior to enrolling in courses required in the major.

V. **STAFF RECOMMENDATION**

That the Commission direct its staff to consult with the governing boards to review CCHE's Remedial Policy and prepare recommendations for revising the current Remedial Policy, clarifying reporting requirements, and revising other academic policies that may be critical to meeting the Remedial Policy goals and statutory intent.

Appendix A

STATUTORY AUTHORITY

The policy applies to all state-supported institutions of higher education, including all four-year state-supported universities and colleges that admit freshmen, extension programs of the state-supported universities and colleges, junior and community colleges, and local district colleges. The governing boards and institutions of the public system of higher education in Colorado are obligated to conform to the policies set by the Commission within the authorities delegated to it by **C.R.S. 23-1-113.3**.

Commission directive – basic skills courses. (1) ON OR BEFORE SEPTEMBER 1, 2000; THE COMMISSION SHALL ADOPT AND THE GOVERNING BOARDS SHALL IMPLEMENT STANDARDS AND PROCEDURES WHEREBY BASIC SKILLS COURSES, AS DEFINED IN SECTION 23-1-113 (4) (c), MAY BE OFFERED BY STATE INSTITUTIONS OF HIGHER EDUCATION PURSUANT TO THIS SECTION.

Attachment A

The following table summarizes the institutional remedial plans accepted by the Commission October 2001, or as amended in June 2002.

INST	PLACEMENT / CHALLENGE TESTS	TEST AVAILABILITY
Community colleges	Mathematics: Accuplacer Elementary Algebra test – 72 Reading: Accuplacer test – 83 Writing: Accuplacer test in Sentence Skills -- 86	Provides assessment testing continually before and during each semester. No cost to student
AIMS	Mathematics: Compass 88 or Accuplacer 72 Reading: Compass 83 or Accuplacer -- 83 Writing: Compass 93-94 or Accuplacer 100	Walk in testing at Greeley; testing by appointment at Fort Lupton and Loveland
CMC	Mathematics: Accuplacer Elementary Algebra test – 72 Reading: Accuplacer test – 83 Writing: Accuplacer test in Sentence Skills – 86	Provides assessment testing continually before and during each semester. No cost to student
ASC	Mathematics: Mathematical Placement Exam (Mathematical Association of America Placement Testing Program) -- 19 English: English Placement – 46 Reading: CAAP Reading Test – 22	Testing is free but each enrollment in remedial course is \$50.
CSM	Mathematics: NA – CSM does not admit students who score below 25 on Math Reading: CSM developed reading test; scored by 2 readers Writing: CSM developed writing test; scored by 2 readers	Prior to registering for first semester courses
CSU	Mathematics: For students with ACT scores 19 or above -- CSU's Mathematics Placement Exam. For others: Entry Level Mathematics Exam that was written to align with high school exit standards Writing: CSU's Composition Placement exam with a score of 3 out of 6. Scoring guidelines correlated to ACT essay guides.	Orientation sessions
FLC	Mathematics: FLC Mathematics Placement Exam with score of 13 Reading: Accuplacer test – 80 Writing: Accuplacer test in Sentence Skills -- 86	Tested during freshmen orientation session before registering for class. Additional test dates continuously between first day of class and census date.
MESA	Mathematics: Compass -- 50 Reading: Compass – 76 Writing: Challenge by writing an essay score 3 on 6 point scale. ³	ACT scores are available before students register. Challenge essays may be written anytime. Compass is a computer-based assessment and scores area available immediately.
METRO	Mathematics Accuplacer Elementary Algebra Test 83 or above, based on correlation between Accuplacer and ACT score of 24.	

INST	PLACEMENT / CHALLENGE TESTS	TEST AVAILABILITY
	<p>Reading Accuplacer test 83 Writing Accuplacer in Sentence Skills 86</p>	
UCB	<p>Alternate demonstration of college readiness: Analyze high school transcripts, including enrollment in AP courses in English or Math, four or more years in English or Math with passing grades in all courses.</p>	<p>Students will be advised to enroll in at a community college course during the first semester of college enrollment.</p>
UCCS	<p>Opportunity to retake ACT exam</p> <p>Alternate demonstration of college readiness: Analyze high school transcripts, including enrollment in AP courses in English or Math, four or more years in English or Math with passing grades in all courses.</p>	<p>In addition to the state ACT test date, national test date, UCCS offers the ACT exam at its testing center (\$33).</p>
UCD	<p>Mathematics: Accuplacer Elementary Algebra test – 83 or above Reading: Accuplacer test – 83 Writing: Accuplacer test in Sentence Skills -- 86</p>	<p>Contracts with CCD to test transfer and freshmen without ACT scores students using the Accuplacer.</p>
UNC	<p>Mathematics Accuplacer Elementary Algebra test – 50 Reading: Accuplacer test – 56 Writing: Accuplacer test in Sentence Skills – 66</p>	<p>UNC offers on-line and paper versions of Accuplacer test at the Career Services Testing Center</p>
USC	<p>Mathematics: USC Placement exam scoring at Intermediate Algebra mastery level; worked with ACT on scoring guidelines Reading: Accuplacer test – 81 Writing: USC proctored 300 – 500 word essay scored by 2 faculty.</p>	<p>During Student orientation or by appointment at USC’s Learning Center</p>
WSC	<p>Mathematics: MAA Basic Algebra – 16 Reading: WSC English Placement I -- 15 Writing: WSC English Placement II – 18</p>	<p>Placement tests offered during orientation sessions.</p>