**GUIDELINES FOR MEASURING DISPROPORTIONATE IMPACT IN EQUITY PLANS**
**CALIFORNIA COMMUNITY COLLEGES CHANCELLORS' OFFICE**
**AUGUST 2015 REVISION**

**INTRODUCTION AND REGULATORY AND STATUTORY REFERENCES**

This document presents two methodologies to measure disproportionate impact for disaggregated subgroups within the California Community Colleges (CCC) student population. The two methodologies will be demonstrated using cohorts and outcomes from the California Community Colleges Chancellor's Office (CCCCO) Data Mart.

Disproportionate impact occurs when "the percentage of persons from a particular racial, ethnic, gender, age or disability group who are directed to a particular service or placement based on an assessment instrument, method, or procedure is significantly different from the representation of that group in the population of persons being assessed, and that discrepancy is not justified by empirical evidence demonstrating that the assessment instrument, method or procedure is a valid and reliable predictor of performance in the relevant educational setting." [Title 5 Section 55502(d)]

Colleges are directed to establish a program of institutional research for ongoing evaluation of its matriculation process to ensure compliance.  Title 5 states that: " As part of this evaluation, all assessment instruments, methods or procedures shall be evaluated to ensure that they minimize or eliminate cultural or linguistic bias and are being used in a valid manner.  Based on this evaluation, districts shall determine whether any assessment instrument, method or procedure has a disproportionate impact on particular groups of students described in terms of ethnicity, gender, age or disability, as defined by the Chancellor.  When there is a disproportionate impact on any such group of students, the district shall, in consultation with the Chancellor, develop and implement a plan setting forth the steps the district will take to correct the disproportionate impact."  [Title 5 Section 55512(a)]

The California Community Colleges Student Success Task Force "recommends that system-wide accountability efforts be updated to include the collecting and reporting of both the outcomes and the progression measures for the system, and for each college. These measures will be disaggregated by race/ethnicity to aid the system in understanding how well it is performing in educating those historically disadvantaged populations whose educational success is vital to the future of the state." (California Community Colleges Student Success Task Force, 2012, p. 7)

**Education Code, Article  1.5. Student Equity Plans**

**78220.**
 (a) As a condition for receiving Student Success and Support Program funding, and in order to ensure equal educational opportunities and to promote student success for all students, regardless of race, gender, age, disability, or economic circumstances, the governing board of

each community college district shall maintain a student equity plan that includes all of the following for each community college in the community college district:

(1) Campus-based research as to the extent of student equity by gender and for each of the following categories of students:

(A) Current or former foster youth.

(B) Students with disabilities.

(C) Low-income students.

(D) Veterans.

(E) Students in the following ethnic and racial categories, as they are defined by the United States Census Bureau for the 2010 Census for reporting purposes:

(i) American Indian or Alaska Native.

(ii) Asian.

(iii) Black or African American.

(iv) Hispanic or Latino.

(v) Native Hawaiian or other Pacific Islander.

(vi) White.

(vii) Some other race.

(viii) More than one race.

## DATA ELEMENTS AND ANALYSIS

Two methodologies can be used to measure disproportionate impact – proportionality and the 80% Rule. Both methodologies compare a disaggregated subgroup's presence in a cohort to its corresponding presence in its related outcome group. Proportionality is recommended as a preferred methodology and is presented in the body of this document. The 80% Rule methodology can also be used if preferred, and is presented in the next section.

There are five success indicators outlined in the CCCCO Equity Plan with which to assess disproportionate impact:

- Access;
- Course completion;
- ESL and Basic Skills Completion;
- Degree and Certificate Completion; and
- Transfer.

The following six disaggregated student subgroups are specified in Senate Bill 680:

- Gender;
- Foster youth;
- Disability;
- Low-income;
- Veteran; and
- Race-ethnicity.

Data for some of the success indicators and student categories are available from two CCCCO sources: The Data Mart and Data on Demand. The Data Mart is fully available to the public and provides information about students, courses, student services, outcomes and faculty and staff. The purpose of the Data Mart is to answer the questions of administrators, educators, parents, students, state leaders, and professional organizations. Data on Demand provides the Scorecard data sets for researchers at the colleges and is password-protected. Specific steps to access data from the Data Mart and Data on Demand are detailed in the Data Procedures section.

Table One lists the success indicators and student categories available from the two data sources. Six of the eight success indicators presented below are contained in the CCCCO Scorecard. The Scorecard is the latest version of the Accountability Reporting for the Community Colleges (ARCC), the annual report produced by the California Community Colleges Chancellor's office to meet the requirements of Assembly Bill 1417. This performance measurement system contains a set of success indicators for the system and its colleges.

Scorecard success indicators - available from Data on Demand - include Remedial English, Remedial ESL, Remedial Math, and Completion. Subcomponents of the Scorecard Completion outcome are available for analysis: 1) certificates awarded, 2) degrees awarded, and 3) transfer to a four-year college. The Scorecard methodology is available here. The Data-On-Demand file layouts are available here.

Two success indicators – Course Retention and Success and Transfer Velocity – are systemwide indicators available from the Data Mart .

There are no CCCCO data sources for the Access indicator.

**Table 1. CCCCO Data Sources for Student Categories and Success Indicators**

| Success Indicator | Student Category | | | | | |
|---|---|---|---|---|---|---|
| | **Gender** | **Ethnicity** | **Foster Youth** | **Disabled** | **Low-Income** | **Veterans** |
| **Course Completion** | DM[a] Course Retention/ Success Rate | DM Course Retention/ Success Rate | | | | |
| | DOD[b] Scorecard Remedial English | DOD Scorecard Remedial English | | DOD Scorecard Remedial English | DOD Scorecard Remedial English | |
| | DOD Scorecard Remedial ESL | DOD Scorecard Remedial ESL | | DOD Scorecard Remedial ESL | DOD Scorecard Remedial ESL | |
| | DOD Scorecard Remedial Math | DOD Scorecard Remedial Math | | DOD Scorecard Remedial Math | DOD Scorecard Remedial Math | |
| **Degree and Certificate Completion** | DOD Scorecard Completion (Associate Degree) | DOD Scorecard Completion (Associate Degree) | | DOD Scorecard Completion (Associate Degree) | DOD Scorecard Completion (Associate Degree) | |
| | DOD Scorecard Completion (Certificate) | DOD Scorecard Completion (Certificate) | | DOD Scorecard Completion (Certificate) | DOD Scorecard Completion (Certificate) | |
| **Transfer** | DM Transfer Velocity | DM Transfer Velocity | | DM Transfer Velocity | DM Transfer Velocity | |
| | DOD Scorecard Completion (Transfer) | DOD Scorecard Completion (Transfer) | | DOD Scorecard Completion (Transfer) | DOD Scorecard Completion (Transfer) | |

[a] Data Mart

[b] Data-On-Demand

PROPORTIONALITY METHODOLOGY

**Calculating disproportionality for Disaggregated Ethnicity Subgroups Using the Transfer Rate.**

The proportionality methodology will be demonstrated using transfer rate disaggregated by ethnicity. All other proportionality calculations are performed similarly with counts and percentages of subgroups in the cohort and outcome groups.

The proportionality methodology compares the percentage of a disaggregated subgroup in an initial cohort to its own percentage in the resultant outcome group. The formula for proportionality is the percentage in the outcome group divided by the percentage in the original cohort (outcome percentage/cohort percentage). A ratio of 1.0 indicates that a subgroup is present in both conditions at the same rate. A ratio of less than 1.0 indicates that the subgroup is less prevalent in the outcome than the cohort. Conversely, a ratio greater than 1.0 indicates that the subgroup is more prevalent in the outcome than the cohort. The higher the proportionality, the higher the rate at which a subgroup has attained a desired educational outcome; the lower the proportionality index the lower the attainment rate.

Table 2. Proportionality Index Interpretation

| Proportionality Index | Interpretation |
|---|---|
| 1.0 | Proportions of subgroups are equal. |
| Less Than 1.0 | Subgroup is less prevalent in the outcome group. |
| More Than 1.0 | Subgroup is more prevalent in the outcome group. |

Transfer rates were obtained from the CCCCO Data Mart Transfer Velocity metric. Table Three presents the counts and percentages of the initial student cohort beginning in Academic Year 2008-09 (column "Cohort Count") who were then tracked for six years. The counts in the column "Transfer Count" are the numbers of students from the cohorts who transferred to a four-year college anytime within those six years. Filipino counts are counted within the "Asian" ethnicity category.

Table 3. Ethnic Proportionality of Successful Transfer

| Ethnicity | Cohort Count | Cohort Percentage | Transfer Count | Transfer Percentage | Proportionality |
|---|---|---|---|---|---|
| African-American | 7,490 | 0.05398 | 2,566 | 0.04875 | 0.90 |
| American Indian/Alaskan Native | 1,079 | 0.00778 | 314 | 0.00597 | 0.77 |
| Asian | 21,674 | 0.15620 | 10,765 | 0.20453 | 1.31 |
| Hispanic | 43,329 | 0.31226 | 12,662 | 0.24057 | 0.77 |
| Multi-Ethnicity | 29 | 0.00021 | 12 | 0.00023 | 1.09 |
| Pacific Islander | 1,303 | 0.00939 | 452 | 0.00859 | 0.91 |

| | | | | | |
|---|---|---|---|---|---|
| Unknown | 15,185 | 0.10943 | 6,034 | 0.11464 | 1.05 |
| White Non-Hispanic | 48,671 | 0.35076 | 19,828 | 0.37672 | 1.07 |
| Total | 138,760 | 1.00000 | 52,633 | 1.00000 | |

Bensimon and Malcom-Piqueux (2014) specified a cutoff of 0.85 to identify performance below equity when proportionality is used as a performance measure.

Based on a cutoff of 0.85, there is disproportionate impact in transfer rate among two ethnic subgroups:  American Indian/Alaskan Native and Hispanic.


REFERENCES

Bensimon, E.M., & Malcom-Piquex, L. (2014, March).  Assessing Hispanic-Servingness at HSIs. Presented at The Academic Success of Hispanics Conference,  American Association of Hispanics in Higher Education.

California Community Colleges Student Support Task Force (2012). *Advancing student success in the California Community Colleges: Recommendations of the California Community Colleges Student Success Task Force*.

The RP Group (2013).  *Assessing and Mitigating Disproportionate Impact in Matriculation Services* by Rogeair Purnell and Bri Hayes.

Uniform Guidelines on Employee Selection Procedures (1978); 43 FR 38295, (August 25,1978); 29 CFR Part 1607.

# 80% RULE METHODOLOGY

The 80% Rule methodology compares the percentage of each disaggregated subgroup attaining an outcome to the percentage attained by a reference subgroup. The methodology is based on the Equal Employment Opportunity Commission (EEOC) 80% Rule, outlined in the 1978 Uniform Guidelines on Employee Selection Procedures, and was use in Title VII enforcement by the U.S. Equal Opportunity Commission, Department of Labor, and the Department of Justice.

The 80% Rule states that: "A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact." [Section 60-3, Uniform Guidelines on Employee Selection Procedure (1978); 43 FR 38295(August 25, 1978)] Any disaggregated group that is included in a desired outcome at less than 80% when compared to a reference group is considered to have suffered an adverse – or disproportionate - impact.

The 80% Rule methodology will be demonstrated using transfer rate disaggregated by ethnicity. All other 80% Rule calculations are performed similarly with counts of subgroups in the cohort and outcome groups.

Transfer rates were obtained from the CCCCO Data Mart Transfer Velocity metric. Table One presents the counts and transfer percentages of the student cohorts beginning in Academic Year 2008-09 who were then tracked for six years.

In Table One, the counts in the column "Transfer Count" are the numbers of students from the cohorts who transferred to a four-year college anytime within those six years. Filipino counts are counted within the "Asian" ethnicity category.

Table 1. Transfer Rate Disaggregated by Ethnic Subgroup

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage |
|---|---|---|---|
| African-American | 7,490 | 2,566 | 0.34 |
| American Indian/Alaskan Native | 1,079 | 314 | 0.29 |
| Asian | 21,674 | 10,765 | 0.50 |
| Hispanic | 43,329 | 12,662 | 0.29 |
| Multi-Ethnicity | 29 | 12 | 0.41 |
| Pacific Islander | 1,303 | 452 | 0.35 |
| Unknown | 15,185 | 6,034 | 0.40 |
| White | 48,671 | 19,828 | 0.41 |
| Total | 138,760 | 52,633 | 0.38 |

Using this methodology, the percentage of each disaggregated subgroup attaining the desired outcome (i.e., transfer percentage) is calculated by dividing the transfer frequency into the cohort frequency (Table One).  The second step of the methodology compares the transfer percentage of each non-reference disaggregated subgroup to the transfer percentage of a reference subgroup.  The 80% Rule index is calculated by dividing the transfer percentage of a non-reference subgroup into the transfer percentage of the reference subgroup.   A result of less than 80 percent is considered evidence of a disproportionate impact.

The 80% Rule methodology requires that a reference group be designated against which the performances of all other disaggregated subgroups are compared.  The methodology was devised in 1987 to identify disparate impact on hiring across ethnic categories.  At that time the largest subgroup – Whites – was also disproportionately hired at higher rates.  When these conditions hold - the largest subgroup is also most likely to be the highest percentage in the outcome condition – then the 80% Rule methodology is useful.

When these conditions do not hold the 80% Rule is less useful.  For example, in the case of transfer the highest performing group – Asians – is not the largest group.  Relatedly, the largest ethnic subgroup -  Whites – is not the highest performing subgroup.  One is then faced with a conundrum:  Should the reference group be the largest or the highest performing?  The reference group choice can have a dramatic effect on which ethnic subgroups fall below the 80-percent cutoff.   Some researchers use the overall rate as the reference group in this case.

Tables Two through Four present the 80% Rule calculations using three different reference groups: the highest performing, the largest, and the overall rate.

Table 2. 80-Percent Index With Highest Performing Reference Group (Asian)

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage | 80-Percent Index |
|---|---|---|---|---|
| African-American | 7,490 | 2,566 | 0.34 | 0.69 |
| American Indian/Alaskan Native | 1,079 | 314 | 0.29 | 0.59 |
| **Asian** | **21,674** | **10,765** | **0.50** | **1.00** |
| Hispanic | 43,329 | 12,662 | 0.29 | 0.59 |
| Multi-Ethnicity | 29 | 12 | 0.41 | 0.83 |
| Pacific Islander | 1,303 | 452 | 0.35 | 0.70 |
| Unknown | 15,185 | 6,034 | 0.40 | 0.80 |
| White | 48,671 | 19,828 | 0.41 | 0.82 |
| Total | 138,760 | 52,633 | 0.38 | |

Table 3. 80-Percent Index With Largest Reference Group (White)

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage | 80-Percent Index |
|---|---|---|---|---|
| African-American | 7,490 | 2,566 | 0.34 | 0.84 |
| American Indian/Alaskan Native | 1,079 | 314 | 0.29 | 0.71 |
| Asian | 21,674 | 10,765 | 0.50 | 1.22 |
| Hispanic | 43,329 | 12,662 | 0.29 | 0.72 |
| Multi-Ethnicity | 29 | 12 | 0.41 | 1.02 |
| Pacific Islander | 1,303 | 452 | 0.35 | 0.85 |
| Unknown | 15,185 | 6,034 | 0.40 | 0.98 |
| **White** | **48,671** | **19,828** | **0.41** | **1.00** |
| Total | 138,760 | 52,633 | 0.38 | |

Table 4. 80-Percent With Overall Rate Reference Group

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage | 80-Percent Index |
|---|---|---|---|---|
| African-American | 7,490 | 2,566 | 0.34 | 0.90 |
| American Indian/Alaskan Native | 1,079 | 314 | 0.29 | 0.77 |
| Asian | 21,674 | 10,765 | 0.50 | 1.31 |
| Hispanic | 43,329 | 12,662 | 0.29 | 0.77 |
| Multi-Ethnicity | 29 | 12 | 0.41 | 1.09 |
| Pacific Islander | 1,303 | 452 | 0.35 | 0.91 |
| Unknown | 15,185 | 6,034 | 0.40 | 1.05 |
| White | 48,671 | 19,828 | 0.41 | 1.07 |
| **Total** | **138,760** | **52,633** | **0.38** | **1.00** |

Using the highest-performing subgroup (Table Two) as the reference creates the largest number of ethnicities below the 80-percent cutoff:  African-American, American Indian/Alaskan Native, Hispanic, and Pacific-Islander.  Using the largest ethnic subgroup (Table Three) or the overall rate (Table Four) place the same ethnicities below the 80-percent cutoff:  American Indian/Alaskan Native and Hispanic.

**ATTACHMENT D: DATA PROCEDURES**

<u>Course Completion</u>

1.  Access the CCCCO <u>Data Mart</u>.
2.  Under the "Outcomes" heading, click on "Enrollment Retention and Success Rate."
3.  From the "Select State-District-College" drop down list, select "Collegewide Search."
4.  From the "Select District-College" drop down list, select your college.
5.  From the "Select Term" drop down list, select a term. Often, the most recent fall term is selected as a representative term. You may want to combine several to terms to obtain academic year counts.
6.  From the "Select Program Type" drop down list, select "All TOP Codes."
7.  From the "Select Instruction Method" drop down list, select "All."
8.  Click the "View Report" button.
9.  Under the "Report Format Selection Area" heading toward the bottom of the web page, select the "Course Status" most applicable to your analysis. It is recommended that you select only one type of course status to simplify the subsequent processing. You may select one or more of the course statuses and report them separately or combine them into one cohort.
10.  <u>Gender</u>. Also under the "Report Format Selection Area" heading in the lower left of the page, check the "Gender" option under the "Demographic Options" heading.
11.  Click the "Update Report" button to the lower right of the web page.
12.  Once the report is completed, select the "Excel" radio button and click the "Export To" button.
13.  Open the Excel file when completed to examine, and save as an Excel file.
14.  Deselect the "Gender" option under the "Demographic Options" heading.
15.  <u>Ethnicity</u>. Check the "Ethnicity" option under the "Demographic Options" heading.
16.  Click the "Update Report" button.
17.  Once the report is completed, select the "Excel" radio button and click the "Export To" button.
18.  Open the Excel file when completed to examine, and save as an Excel file.
19.  For each of the saved files, calculate the percentages of each subgroup in the original cohort and the percentages of each subgroup in the outcome group.
20.  Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

<u>Remedial English</u>

1.  Access the <u>Research, Analysis & Accountability</u> web page.
2.  Click the "Data on Demand" button on the lower left of the web page.
3.  Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data on Demand.)
4.  Click the "Accountability" tab.
5.  Click the "Scorecard" option on the selection bar.
6.  From the "Select College" drop down list, select the college of your choice.
7.  From the "Select File Type" drop down list select "Remedial English."

8.  In the "Select Report Year" drop down list the system defaults to "2015."
9.  Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009';
13. Define the disaggregated subgroups:
    a.  To define the gender subgroup, use the "GENDER" data element:
        i.   "F' = 'Female';
        ii.  'M' = 'Male; and
        iii. 'X' = 'Unknown.
    b.  To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i.    'A' ,'F' = 'Asian';
        ii.   'B' = 'African American';
        iii.  'H' = 'Hispanic';
        iv.   'N' = 'American Indian/Alaskan Native';
        v.    'P' = 'Pacific Islander';
        vi.   'T' = 'Two Or More Races';
        vii.  'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c.  For the disabled subgroup, use the "DSPS" data element:
        i.   'Y' = 'Yes'; and
        ii.  'N' = 'No.'
    d.  To create the low-income subgroup, use the "ECON_DIS" data element:
        i.   'Y' = 'Yes'; and
        ii.  'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the data element "DEGREE_APP."
    a.  If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:
    a.  Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.
    b.  Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.
    c.  Calculate the percentages of each subgroup in the "Outcome" group.
16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

Remedial ESL

1.  Access the Research, Analysis & Accountability web page.
2.  Click the "Data On Demand" button on the lower left of the web page.
3.  Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data On Demand.)
4.  Click the "Accountability" tab.

5. Click the "Scorecard" option on the selection bar.
6. From the "Select College" drop down list, select the college of your choice.
7. From the "Select File Type" drop down list select "Remedial ESL."
8. In the "Select Report Year" drop down list the system defaults to "2015."
9. Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009';
13. Define the disaggregated subgroups:
    a. To define the gender subgroup, use the "GENDER" data element:
        i. "F' = 'Female';
        ii. 'M' = 'Male; and
        iii. 'X' = 'Unknown.
    b. To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i. 'A','F' = 'Asian';
        ii. 'B' = 'African American';
        iii. 'H' = 'Hispanic';
        iv. 'N' = 'American Indian/Alaskan Native';
        v. 'P' = 'Pacific Islander';
        vi. 'T' = 'Two Or More Races';
        vii. 'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c. For the disabled subgroup, use the "DSPS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
    d. To create the low-income subgroup, use the "ECON_DIS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the data element "DEGREE_APP."
    a. If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:
    a. Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.
    b. Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.
    c. Calculate the percentages of each subgroup in the "Outcome" group.
16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

Remedial Math

1. Access the Research, Analysis & Accountability web page.
2. Click the "Data on Demand" button on the lower left of the web page.

3. Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data on Demand.)
4. Click the "Accountability" tab.
5. Click the "Scorecard" option on the selection bar.
6. From the "Select College" drop down list, select the college of your choice.
7. From the "Select File Type" drop down list select "Remedial Math."
8. In the "Select Report Year" drop down list the system defaults to "2015."
9. Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009';
13. Define the disaggregated subgroups:
    a. To define the gender subgroup, use the "GENDER" data element:
        i. "F" = 'Female';
        ii. 'M' = 'Male; and
        iii. 'X' = 'Unknown.'
    b. To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i. 'A','F' = 'Asian';
        ii. 'B' = 'African American';
        iii. 'H' = 'Hispanic';
        iv. 'N' = 'American Indian/Alaskan Native';
        v. 'P' = 'Pacific Islander';
        vi. 'T' = 'Two Or More Races';
        vii. 'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c. For the disabled subgroup, use the "DSPS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
    d. To create the low-income subgroup, use the "ECON_DIS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the data element "DEGREE_APP."
    a. If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:
    a. Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.
    b. Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.
    c. Calculate the percentages of each subgroup in the "Outcome" group.
16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.


Associate Degree

1. Access the [Research, Analysis & Accountability](#) web page.
2. Click the "Data on Demand" button on the lower left of the page.
3. Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data on Demand.)
4. Click the "Accountability" tab.
5. Click the "Scorecard" option on the selection bar.
6. From the "Select College" drop down list, select the college of your choice.
7. From the "Select File Type" drop down list select "Completion."
8. In the "Select Report Year" drop down list the system defaults to "2015."
9. Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009'.
13. Define the disaggregated subgroups:
    a. To define the gender subgroup, use the "GENDER" data element:
        i. "F' = 'Female';
        ii. 'M' = 'Male; and
        iii. 'X' = 'Unknown.
    b. To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i. 'A','F' = 'Asian';
        ii. 'B' = 'African American';
        iii. 'H' = 'Hispanic';
        iv. 'N' = 'American Indian/Alaskan Native';
        v. 'P' = 'Pacific Islander';
        vi. 'T' = 'Two Or More Races';
        vii. 'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c. For the disabled subgroup, use the "DSPS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
    d. To create the low-income subgroup, use the "ECON_DIS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the data element "AA_FLAG."
    a. If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:
    a. Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.
    b. Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.
    c. Calculate the percentages of each subgroup in the "Outcome" group.
16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

Certificate

1. Access the Research, Analysis & Accountability web page.
2. Click the "Data on Demand" button on the lower left of the page.
3. Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data on Demand.)
4. Click the "Accountability" tab.
5. Click the "Scorecard" option on the selection bar.
6. From the "Select College" drop down list, select the college of your choice.
7. From the "Select File Type" drop down list select "Completion."
8. In the "Select Report Year" drop down list the system defaults to "2015."
9. Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009'.
13. Define the disaggregated subgroups:
    a. To define the gender subgroup, use the "GENDER" data element:
        i. "F' = 'Female';
        ii. 'M' = 'Male; and
        iii. 'X' = 'Unknown.
    b. To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i. 'A','F' = 'Asian';
        ii. 'B' = 'African American';
        iii. 'H' = 'Hispanic';
        iv. 'N' = 'American Indian/Alaskan Native';
        v. 'P' = 'Pacific Islander';
        vi. 'T' = 'Two Or More Races';
        vii. 'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c. For the disabled subgroup, use the "DSPS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
    d. To create the low-income subgroup, use the "ECON_DIS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the data element "CERT_FLAG."
    a. If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:
    a. Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.
    b. Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.

c. Calculate the percentages of each subgroup in the "Outcome" group.

16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

Transfer

Data Mart Transfer Velocity:
1. Access the CCCCO Data Mart.
2. Under the "Outcomes" heading, click on "Transfer Velocity."
3. From the "Select State-District-College" drop down list, select "Collegewide Search."
4. From the "Select District-College" drop down list, select your college.
5. From the "Select Cohort Year" drop down list, select a cohort year.
6. From the "Select Years to Transfer" drop down list, select the number of years you want to use for the measurement period.
7. Click the "View Report" button.
8. Gender. Under the "Report Format Selection Area" heading, check the "Gender" option under the "Demographic Options" heading.
9. Click the "Update Report" button to the lower right of the web page.
10. Once the report is completed, select the "Excel" radio button and click the "Export To" button.
11. Open the Excel file when completed to examine, and save as an Excel file.
12. Deselect the "Gender" option under the "Demographic Options" heading.
13. Ethnicity. Under the "Report Format Selection Area" heading, check the "Ethnicity" option under the "Demographic Options" heading.
14. Click the "Update Report" button.
15. Once the report is completed, select the "Excel" radio button and click the "Export To" button.
16. Open the Excel file when completed to examine, and save as an Excel file.
17. Deselect the "Ethnicity" option under the "Demographic Options" heading.
18. Disabled. Select the "Disabled Students Programs & Services (DSPS)" option under the "Special Category" heading.
19. Click the "Update Report" button.
20. Once the report is completed, select the "Excel" radio button and click the "Export To" button.
21. Open the Excel file when completed to examine, and save as an Excel file.
22. Dichotomize the variable by combing all types of disability into one count as "Yes" and use the row indicating nonparticipation for "No."
23. Deselect the "Disabled Students Programs & Services (DSPS)" option under the "Special Category" heading.
24. Low-Income. Select one of the three financial aid options under the "Special Category" heading to use as a proxy for low-income status.
25. Click the "Update Report" button.
26. Once the report is completed, select the "Excel" radio button and click the "Export To" button.
27. Open the Excel file when completed to examine, and save as an Excel file.
28. Dichotomize the variable by combing all types of financial aid into one count as "Yes" and use the row indicating nonparticipation for "No."

29. For each of the saved files, calculate the percentages of each subgroup in the original cohort and the percentages of each subgroup in the outcome group.
30. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

Data-On-Demand Scorecard Completion Transfer Subcomponent:
1. Access the Research, Analysis & Accountability web page.
2. Click the "Data On Demand" button on the lower left of the page.
3. Enter your "User Name" and "Password" and click "LOGIN." (Personnel in the research unit at each college have these. The Chief Information Systems Officer at the college designates staff with access to Data on Demand.)
4. Click the "Accountability" tab.
5. Click the "Scorecard" option on the selection bar.
6. From the "Select College" drop down list, select the college of your choice.
7. From the "Select File Type" drop down list select "Completion."
8. In the "Select Report Year" drop down list the system defaults to "2015."
9. Click the "Create Text File" button.
10. Open the file to examine and save as a text file.
11. Import the text file into Excel, SPSS, SAS or other application for analysis.
12. Select records with a Cohort Year of '2008-2009'
13. Define the disaggregated subgroups:
    a. To define the gender subgroup, use the "GENDER" data element:
        i. "F' = 'Female';
        ii. 'M' = 'Male; and
        iii. 'X' = 'Unknown.
    b. To create the ethnicity subgroups, use the "RACE" data element with the following labels:
        i. 'A','F' = 'Asian';
        ii. 'B' = 'African American';
        iii. 'H' = 'Hispanic';
        iv. 'N' = 'American Indian/Alaskan Native';
        v. 'P' = 'Pacific Islander';
        vi. 'T' = 'Two Or More Races';
        vii. 'W' = 'White'; and
        viii. 'X' = 'Unknown';
    c. For the disabled subgroup, use the "DSPS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
    d. To create the low-income subgroup, use the "ECON_DIS" data element:
        i. 'Y' = 'Yes'; and
        ii. 'N' = 'No.'
14. Crosstabulate each of the disaggregated subgroups with the scorecard metric "XFER_FLAG.
    a. If the crosstabulated cell sizes are too small for reliable conclusions, you can combine cohort years into one sample.
15. Calculate the percentages:

      a. Calculate the percentages of each subgroup (i.e., gender, age group, and ethnicity) in the initial cohort.

      b. Select the students in the initial cohort who achieved the outcome; these students constitute the "Outcome" group.

      c. Calculate the percentages of each subgroup in the "Outcome" group.

16. Use these percentages to calculate proportionality or the 80% Rule index as outlined in this document.

**APPENDIX E: PERCENTAGE POINT GAP METHODOLOGY**

The percentage point gap methodology **compares the percent of students in a disaggregated subgroup who succeed in an outcome with the percent of *all* students who succeed in the same outcome.** Percentage point gap measurements are calculated by subtracting the all student average success rate (%) from the success rate (%) of a disaggregated subgroup in the same outcome. The resulting 'percentage point gap' will have a - / + designation that signals whether or not the disaggregated subgroup is experiencing a rate that is lower (-) or higher (+) than the all student average (*Quick note: The all student group rate is subtracted from the disaggregated subgroup to avoid outcomes in which positive values represent a gap and negative values represent equal or higher success*).

According to this methodology, a '-3 percentage point gap or greater' is evidence of a disproportionate impact.  Though this, much like the 80% rule, is an arbitrary designation, it serves as a reasonable strategy for identifying unequal outcomes that would benefit from further discussion, which should include the following considerations. First, ***the number of students impacted***: a campus may prioritize a smaller percentage point gap that is calculated for a student group with more than 100 students over a larger percentage point equity gap calculated for a student group with fewer than 10 students. This is because rates calculated using smaller numbers will be subject to greater variability and it may make sense to prioritize a gap that impacts a greater number of students. Second, ***the disaggregated subgroup's proportion of the total population***: The larger the proportion a subgroup represents of the total population, the more similar their success rate will be to the all student average. In this instance, campuses should consider comparing the all student success rate (as well as the subgroup's) with the success rates at comparable institutions or systems.

The percentage point gap methodology is demonstrated below using transfer rate data disaggregated by ethnicity. Other percentage point gap calculations are performed similarly with the counts of subgroups in the cohort and outcome groups.

Transfer rates were obtained from the CCCCO Data Mart Transfer Velocity metric. Table One presents the counts and transfer percentages of the student cohorts beginning in Academic Year 2008-09 who were then tracked for six years.

Table One presents the results of a percentage point gap analysis.  In the table, the counts in the column "Transfer Count" are the numbers of students who transferred to a four-year institution anytime within those six years. Filipino counts are counted within the "Asian" ethnicity category.

Table 1. Transfer Rate Disaggregated by Ethnic Subgroup

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage |
|---|---|---|---|
| African-American | 7,490 | 2,566 | 34% |
| American Indian/Alaskan Native | 1,079 | 314 | 29% |

| | | | |
|---|---|---|---|
| Asian | 21,674 | 10,765 | 50% |
| Hispanic | 43,329 | 12,662 | 29% |
| Multi-Ethnicity | 29 | 12 | 41% |
| Pacific Islander | 1,303 | 452 | 35% |
| Unknown | 15,185 | 6,034 | 40% |
| White | 48,671 | 19,828 | 41% |
| Total | 138,760 | 52,633 | 38% |

Using this methodology, the percentage of each disaggregated subgroup attaining the desired outcome (i.e., transfer percentage) is calculated by dividing the transfer frequency into the cohort frequency (Table One).  The second step of the methodology compares the transfer percentage of each non-reference disaggregated subgroup to the transfer percentage of all students.

The 'Percentage Point Gap' column is calculated by subtracting the transfer rate for all students (38%) from the transfer rate of each disaggregated subgroup. For example, the percentage point gap for Asians is calculated by subtracting 38 from 50, which equals +12. This indicates that Asians experience transfer rates that are 12 percentage points above the overall transfer rate for all students. In this example, African-Americans, American Indians/Alaskan Natives, Hispanics, and Pacific Islanders experience gaps that are 3 percentage points or more below the overall transfer rate for all students, indicating that there are disparities in this area.

Table 2. Transfer Rate Disaggregated by Ethnic Subgroup

| Ethnicity | Cohort Count | Transfer Count | Transfer Percentage | Percentage Point Gap |
|---|---|---|---|---|
| African-American | 7,490 | 2,566 | 34% | -4 |
| American Indian/Alaskan Native | 1,079 | 314 | 29% | -9 |
| Asian | 21,674 | 10,765 | 50% | +12 |
| Hispanic | 43,329 | 12,662 | 29% | -9 |
| Multi-Ethnicity | 29 | 12 | 41% | +3 |
| Pacific Islander | 1,303 | 452 | 35% | -3 |
| Unknown | 15,185 | 6,034 | 40% | +2 |
| White | 48,671 | 19,828 | 41% | +3 |
| Total | 138,760 | 52,633 | 38% | |

A strength of the percentage point gap measurement is that it allows users to calculate and communicate the number of students 'lost' relative to the all student (or another group's) average. For example, percentage point gap measurements can be translated to, "this gap

would not have existed if 8 additional African American students had persisted to basic skills MAT 55." This statement makes it easier for the average person to immediately comprehend the magnitude of the gap, which is in contrast to proportional index measurements that are communicated as "African American students have a proportionality index gap of 0.89 in MAT 55."* It is important to note that the former language should not be misunderstood as a quota or goal, as it is neither. Instead, this language is a description of past data ("If 5 additional African American students *had succeeded*, *we would have experienced* equity") that measures the size of the gap in terms of number of students rather than rates. Another way to think of it is that it's the use of a different *measure* to describe the same gap, like describing an amount of liquid using liters instead of ounces.

* As highlighted here, the Proportionality Index (and other proportionality or share based measurements) does not easily allow the translation to numbers as the math starts to get complicated and would require unrealistic assumptions (e.g., only one target group can see an increase in the outcome measure, so that the total number of students achieving the outcome only increases by the number of additional students in the one target population. Problems then emerge if following the same process with a different subgroup.)