Student Equity Plan Disproportionate Impact Analysis 2022

Institutional Research and Planning

Palomar College

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Introduction

The purpose of this study was to examine the equity of outcomes experienced by students at Palomar College. AB 504 directs California Community Colleges to assess student equity by conducting a disproportionate impact analysis using data disaggregated by specific demographic variables (described in Methodology section). This analysis was done to help focus the college's efforts in achieving equity among students on a particular set of outcomes that reflect spaces along the student journey: Successful Enrollment, Retention, Completed Transfer-level Math and English, Completion, and Transfer. These success indicators are described in more detail in the methodology section, but may be broadly defined as follows. *Successful enrollment* indicates whether or not a student who applied to attend Palomar ended up attending Palomar the following year. *Retention* is defined as whether or not a student in their first primary term returns to Palomar in the next primary term. *Completed Transfer-level Math and English* refers to a student who passes both transfer-level math and English in their first academic year. *Completion* is achieved when a student receives a degree or certificate. *Transfer* is when a student, after leaving Palomar, enrolls in a four-year institution.

This report describes these outcomes, the methodology used to determine disproportionate impact, and summarizes the disproportionate impacts identified for Palomar students.

Methodology

Data

Disproportionate impact refers to when a subpopulation experiences an appreciably lower outcome rate on a particular measure relative to the rest of the population. AB 504 mandated that the California Community Colleges examine disproportionate impact by (a) examining specific success indicators (b) disaggregated by a specified list of subpopulations (c) following a common methodology. The California Community College Chancellor's Office (CCCCO) has prescribed the methodology to be used, and made a dataset available to meet these conditions. This data was derived from the collective MIS data submissions of the colleges as well as data from CCCApply. Four important aspects of this dataset should be noted.

System-wide Perspective. Because the CCCCO possesses MIS data from all colleges in the system, the dataset was constructed with a system-wide perspective. That is, data for students who attended multiple colleges is aggregated so that the data reflects a more complete picture than is possible using local college data.

Aggregated Data. The CCCCO provided data in aggregated form rather than individual-level data. Therefore, disaggregation of this data at levels beyond what is presented in this report is not possible.

Cohort View. The CCCCO adopted a cohort view in the construction of this dataset. Consequently, all subpopulations are examined from the same starting point for a given metric, allowing for a more effective assessment of differences among subpopulations.

Baseline Years. The baseline year for each metric is the most recent year for which complete data is available. Because different metrics allow for different spans of time for completion, the baseline year differs by metric. For example, the Completion of Transfer-level Math and English metric requires math and English to be completed within the student's first academic year, so the baseline year is 2020-21. However, the Completion metric allows for three years for the student to complete a degree or certificate, so the baseline year for this metric is 2017-18. The baseline year for each metric is displayed in the table that follows.

Baseline Academic Year by Metric	
Metric	**Baseline Year**
Successful Enrollment in the First Year	2020-21
Persisted First Primary Term to Subsequent Primary Term	2019-20
Completed Both Transfer-Level Math and English within the District in the First Year	2020-21
Attained the Vision for Success Definition of Completion within Three Years	2017-18
Transferred to a Four-Year Institution within Three Years	2016-17

Metrics

The five student equity metrics included in the dataset dovetail with the student journey. These metrics are described below:

- **Successful Enrollment** – Of applicants who indicated an intent to enroll at Palomar in a given year, excluding special admit students, the percent who enrolled at Palomar in the next year.
- **Retention** – Of first-time students enrolled in a primary term, the percent who enrolled in the subsequent primary term.
- **Completed Transfer-level Math and English** – The percent of students who completed both transfer-level math and English in their first academic year of credit enrollment within the district.
- **Completion** –The percent of first-time cohort students who Attained the Vision for Success Completion (earned a Chancellor's Office approved certificate or associate degree) within three years.
- **Transfer** – Of students in a first-time cohort who earned 12 or more units at Palomar and exited the college in the selected year, the number of students who enrolled in any four-year postsecondary institution in the subsequent year.

Data Disaggregation

The analysis involved examination of each of the success metrics described above by the subpopulations below, split out by gender. Most of these subpopulations are specified in AB 504, though the data also allows for disaggregation by first generation status.

- Race and Ethnicity
    - American Indian or Alaska Native
    - Asian
    - Black or African American
    - Hispanic
    - Native Hawaiian or Other Pacific Islander
    - White
    - Some Other Race
    - More Than One Race
- LGBT
- Economically Disadvantaged
- First Generation Status
- Foster Youth
- Disability Status
- Veterans
- Homeless

These subpopulations were assessed for disproportionate impact for the metrics at an overall level, and further disaggregated by gender. However, the analysis of successful enrollment was limited to race and ethnicity and gender. Unlike the other metrics, successful enrollment relies, in part, on data from CCCApply. Data from CCCApply, alone, is not sufficient to classify students into the other subpopulations effectively. Therefore, the data from the CCCCO does not include disaggregation for the other subpopulations on the Successful Enrollment metric.

Determining Disproportionate Impact

The CCCCO has prescribed the Percentage Point Gap Minus One (PPG -1) methodology to determine if a given subpopulation has experienced disproportionate impact. The methodology entails, for each subpopulation, (a) computing a percentage point gap, (b) computing a threshold, and then (c) comparing the percentage point gap to the threshold to determine if disproportionate impact exists for that subpopulation.
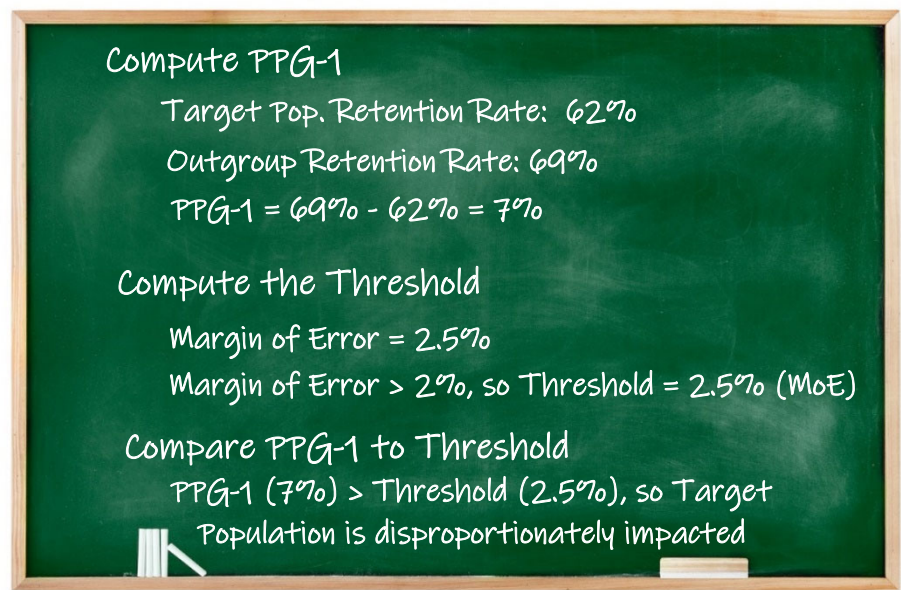
Computing the PPG -1

The PPG -1 is computed by identifying the outcome rate for the target population, and subtracting that outcome rate from the outcome rate for that population's outgroup (everyone who is not in that subpopulation). Using Retention for Hispanic male students as an example, male Hispanic students had a retention rate of 62%. All non-Hispanic male students serve as their outgroup. This outgroup had a retention rate of 69%. So, the PPG -1 for male Hispanic students on the Retention metric is 69% - 62% = 7%.

Computing the Threshold

The threshold is based on a calculation of the margin of error for the target group on the given metric. Specifically, it is the greater of the margin of error or 2%. That is, if the calculated margin of error is less than 2%, then the threshold is 2%. If the margin of error is 2% or greater, the margin of error serves as the threshold. In the example of Retention for male Hispanic students, the margin of error is 2.5%, so the threshold for this assessment is the margin of error (2.5%) for the target population on that metric.

Comparing PPG -1 to the Threshold

The PPG -1 is compared to the threshold. If the PPG -1 is greater than the threshold, then disproportionate impact is present. Continuing with the previous example, because the PPG -1 (7%) is greater than the threshold (2.5%), the conclusion is that male Hispanic students were disproportionately impacted on the Retention metric.

Compute PPG-1
   Target Pop. Retention Rate: 62%
   Outgroup Retention Rate: 69%
   PPG-1 = 69% - 62% = 7%

Compute the Threshold
   Margin of Error = 2.5%
   Margin of Error > 2%, so Threshold = 2.5% (MoE)

Compare PPG-1 to Threshold
   PPG-1 (7%) > Threshold (2.5%), so Target
      Population is disproportionately impacted

Focus of the Analysis

Three principles were used to give focus to the analysis. First, because subpopulations with particularly low Ns do not provide stable statistics, populations of less than 40 were excluded from the analysis. Additionally, populations that have not been historically underrepresented, such as white males, were not focused on in the analysis. Finally, non-definitive categories, such as "Unknown," were excluded from the analyses.

Results

Each metric was examined to determine if any subpopulations at the college experienced disproportionate impact on that metric. This section examines the disproportionate impacts identified in the baseline year for each metric, displayed in a metric summary table. Each of the metric summary tables shows the subpopulations that were identified as experiencing disproportionate impact. For each of these subpopulations, the table displays:

- N – the size of the subpopulation.
- Outcome Rate – the metric rate for the target subpopulation.
- Reference Rate – the metric rate for the outgroup (everyone who is not part of the target subpopulation).
- Equity Number – the full equity number. This is the count of individuals that would need to be added to the success total in order to bring the outcome rate to be equal or greater than the outcome rate for the outgroup.

When there is an overall effect for a subpopulation, the subpopulation is displayed in the table disaggregated by gender to provide greater context. When the disproportionate impact is only for a specific gender, only the data for that gender-subpopulation combination is displayed.

Successful Enrollment

The analysis of Successful Enrollment is summarized in Table 1, which shows that Asian applicants were disproportionately impacted. Of the 536 applicants in this category, 147 enrolled at Palomar, for a Successful Enrollment rate of 27.4%. The full equity number of 51 indicates that if 51 additional applicants had enrolled at Palomar, for a total of 198, this would have resulted in a Successful Enrollment rate of (198/536) 36.9%. This rate would equal the 36.9% outcome rate of the outgroup (all applicants who were not Asian).

Aside from Asian applicants, the table reveals disproportionate impact on the Successful Enrollment metric for Black applicants, female Filipino applicants, and Pacific Islander applicants, as well as females overall. Considering the race categories with an overall disproportionate impact Asian applicants had a 6.1 percentage point gap, and Black applicants had a 7.5 percentage point gap. Asian applicants, Black applicants, and female Filipino

applicants were also disproportionately impacted in one or two of the two years prior to the baseline year reported here. Table 8 in the summary displays this graphically.

Table 1. Disproportionate Impact in Successful Enrollment in the First Year for the 2021 Cohort						
Primary Disaggregation	Subpopulation	Gender	N	Outcome Rate	Reference Rate	Equity Number
Ethnicity	Asian	All Other Values	N<40	N<40	N<40	1
		Female	308	26.0%		34
		Male	226	29.6%		17
		Overall	536	27.4%	36.9%	51
	Black or African American	All Other Values	N<40	N<40	N<40	1
		Female	153	19.0%		28
		Male	176	36.4%		1
		Overall	330	28.2%	36.7%	29
	Filipino	Female	146	24.7%	36.6%	18
	Pacific Islander or Hawaiian Native	All Other Values	N<40	N<40	N<40	1
		Female	N<40	N<40	N<40	7
		Male	N<40	N<40	N<40	1
		Overall	62	24.2%	36.5%	8
Gender	Female	Overall	5,382	32.2%	41.0%	479
Overall				**36.4%**		
Note: Successful Enrollment was disaggregated by Race and Ethnicity and Gender only.						

Retention

Table 2 summarizes the disproportionate impacts present in the retention metric. The table shows an overall retention rate of 66.9%, and reveals two effects by race and ethnicity. That is, both Black or African American students and male Hispanic students were disproportionately impacted, having percentage point gaps of 13.5% and 6.8% respectively. The table also shows that veteran students and Black or African American students had retention rates just above 50%. Each of the last four cohorts of Black or African American students have been disproportionately impacted on retention and two of the last four cohorts of Hispanic students have been disproportionately impacted on retention.

Table 2. Disproportionate Impact in Persisted First Primary Term to Subsequent Primary Term for the 2020 Cohort						
Primary Disaggregation	Subpopulation	Gender	N	Outcome Rate	Reference Rate	Equity Number
Ethnicity	Black or African American	All Other Values	N<40	N<40	N<40	1
		Female	67	62.7%		4
		Male	126	49.2%		23
		Overall	195	53.8%	67.3%	27
	Hispanic	Male	1,486	61.8%	68.6%	101
First Generation	First Generation Student	All Other Values	44	47.7%		10
		Female	1,066	70.1%		0
		Male	1,185	57.8%		134
		Overall	2,295	63.3%	69.1%	133
LGBT	LGBT	All Other Values	N<40	N<40	N<40	
		Female	131	59.5%		11
		Male	67	61.2%		5
		Overall	210	57.6%	67.2%	21
Perkins Economically Disadvantaged	Economically Disadvantaged	Male	1,734	64.4%	67.9%	62
Veterans	Veteran	All Other Values	N<40	N<40	N<40	1
		Female	N<40	N<40	N<40	0
		Male	117	47.9%		23
		Overall	142	51.4%	67.2%	23
Overall				**66.9%**		

Transfer-level Math and English

Overall, 12.3% of the first-time cohort from 2020-21 completed both transfer-level math and English in their first academic year, as indicated in Table 3. Two race and ethnicity subpopulations experienced disproportionate impact on the Transfer-level Math and English metric. Specifically, Black or African American students and Hispanic students experienced disproportionate impact, with percentage-point gaps of 7.5 and 3.5 respectively. Both of these subpopulations experienced disproportionate impact in all of the last four cohorts. Considering both the size of the gap and the size of the subpopulation, first generation students also experienced a substantial amount of disproportionate impact.

Table 3. Disproportionate Impact in Completed Both Transfer-Level Math and English within the District in the First Year for the 2021 Cohort

Primary Disaggregation	Subpopulation	Gender	N	Outcome Rate	Reference Rate	Equity Number
Ethnicity	Black or African American	All Other Values	N<40	N<40	N<40	1
		Female	N<40	N<40	N<40	4
		Male	80	6.3%		5
		Overall	120	5.0%	12.5%	9
	Hispanic	All Other Values	N<40	N<40	N<40	1
		Female	1,095	10.0%		44
		Male	1,116	10.7%		38
		Overall	2,232	10.3%	14.1%	83
First Generation	First Generation Student	All Other Values	N<40	N<40	N<40	2
		Female	821	6.8%		68
		Male	816	7.8%		59
		Overall	1,652	7.3%	15.0%	127
LGBT	LGBT	All Other Values	N<40	N<40	N<40	1
		Female	111	3.6%		10
		Male	57	5.3%		5
		Overall	179	4.5%	12.6%	15
Perkins Economically Disadvantaged	Economically Disadvantaged	Female	1,266	10.3%	13.0%	34
Overall				**12.3%**		

Completion

The overall rate for completion was 9.7%. Three race and ethnicity categories showed evidence of disproportionate impact: American Indian or Alaskan Native, Black or African American, and Hispanic students. In all, seven subpopulations experienced disproportionate impact with respect to completion, with percentage point gaps at around five points. Each of the last four cohorts of Hispanic students have been disproportionately impacted, and for each of the last four cohorts of Black or African American students either the population overall, or the black male subpopulation was disproportionately impacted.

Table 4. Disproportionate Impact in Attained the Vision for Success Definition of Completion within Three Years for the 2018 Cohort

Primary Disaggregation	Subpopulation	Gender	N	Outcome Rate	Reference Rate	Equity Number
Ethnicity	American Indian/Alaska Native	Female	N<40	N<40	N<40	2
		Male	N<40	N<40	N<40	3
		Overall	49	2.0%	9.7%	4
	Black or African American	Female	72	5.6%		4
		Male	148	4.1%		9
		Overall	220	4.5%	9.9%	12
	Hispanic	All Other Values	N<40	N<40	N<40	2
		Female	1,250	10.8%		10
		Male	1,573	5.0%		103
		Overall	2,837	7.5%	11.6%	115
First Generation	First Generation Student	Male	1,963	6.3%	11.3%	100
Foster Youth	Foster Youth	Female	185	5.9%		8
		Male	199	4.5%		11
		Overall	384	5.2%	10.0%	19
Perkins Economically Disadvantaged	Economically Disadvantaged	All Other Values	N<40	N<40	N<40	2
		Female	1,747	12.6%		0
		Male	2,185	5.9%		115
		Overall	3,947	8.9%		92
Veterans	Veteran	All Other Values	N<40	N<40		1
		Female	N<40	N<40		4
		Male	255	5.9%		11
		Overall	296	5.1%		15
Overall				**9.7%**		

Transfer

Hispanic students experienced considerable disproportionate impact with respect to transfer, as indicated in Table 5. Their transfer rate of 15.9% reflects a percentage point gap of 12.1. Hispanic students experienced disproportionate impact with respect to transfer for each of the last four cohorts. Asian students experienced a percentage point gap of 6.3, demonstrating considerable disproportionate impact.

Primary Disaggregation	Subpopulation	Gender	N	Outcome Rate	Reference Rate	Equity Number
Table 5. Disproportionate Impact in Transferred to a Four-Year Institution within Three Years for the 2017 Cohort						
DSPS	Student Who Received Disability	Male	78	12.8%	22.7%	*8*
Ethnicity	Asian	All Other Values	N<40	N<40	N<40	1
		Female	82	18.3%		4
		Male	87	14.9%		7
		Overall	170	16.5%	22.8%	11
	Hispanic	All Other Values	N<40	N<40	N<40	2
		Female	579	20.6%		43
		Male	701	12.1%		112
		Overall	1,284	15.9%	28.0%	156
First Generation	First Generation Student	All Other Values	N<40	N<40	N<40	1
		Female	668	22.0%		28
		Male	798	16.5%		77
		Overall	1,470	19.0%	26.1%	105
Perkins Economically Disadvantaged	Economically Disadvantaged	Male	932	20.1%	23.5%	33
Overall				**22.4%**		

Summary

The results of this analysis show a considerable amount of disproportionate impact. Table 6 summarizes these effects, showing that each metric revealed disproportionate impacts on several subpopulations. In the table, the subpopulations that were disproportionately impacted for a given metric are listed below that metric. Where only one gender was disproportionately impacted, that gender is identified by an initial in parentheses.

Table 7 displays the full equity numbers for each of the disproportionately impacted subpopulations. These numbers can provide a sense of the breadth of the disadvantage being experienced by students, but should not be interpreted as the sum total of students being impacted. The disproportionate impact effects were also examined over time.

Table 8 shows the proportion of cohorts over the last three or four[1] that have been disproportionately impacted. Longer bars indicated more cohorts that were disproportionately impacted on the metric. For example, two of the last four American Indian or Alaska Native cohorts were disproportionately impacted on the completion metric, while four of the last for Hispanic cohorts were disproportionately impacted on that same metric.

While these results show that several subpopulations were disproportionately impacted, in keeping with the 2022-25 Student Equity Plan Planning Resources and Development Template, this report has emphasized the effects for race and ethnicity. The results illustrate that two race or ethnicity subpopulations were consistently disproportionately impacted across most of the metrics. Specifically, the results show that Black or African American students were disproportionately impact on the following metrics:

- Successful Enrollment
- Retention
- Completion of Transfer-level Math and English
- Completion

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[1] Three cohorts are available for the Successful Enrollment metric, and four cohorts are available for each of the others.

The disproportionate impacts for Hispanic students comprise:

- Retention
- Completed Transfer-level Math and English
- Completion
- Transfer

The analysis also reveals that disproportionate impact has been present for the Black or African American and Hispanic subpopulations consistently across cohorts, as illustrated in Table 8.

The results reveal substantial disproportionate impact for first generation students as well as economically disadvantaged students. Because Hispanic students are much more likely to be first generation students and to be economically disadvantaged, the observed disproportionate impact effects for first generation students and economically disadvantaged students are, to an extent, confounded with the disproportionate effects for Hispanic students.

Successful Enrollment	Retention	Transfer-Level Math and Eng.	Completion	Transfer
				DSPS (M)
			American Indian/Alaska Native	
Asian				Asian
Black or African American	Black or African American	Black or African American	Black or African American	
Filipino (F)				
	Hispanic (M)	Hispanic	Hispanic	Hispanic
Pacific Islander or Hawaiian Native				
	First Generation Student	First Generation Student	First Generation Student (M)	First Generation Student
			Foster Youth	
Female				
	LGBT	LGBT		
	Economically Disadvantaged (M)	Economically Disadvantaged (F)	Economically Disadvantaged	Economically Disadvantaged (M)
	Veteran		Veteran	

Table 6. Disproportionately Impacted Subpopulations Summary

Note: Successful Enrollment was disaggregated by Race and Ethnicity and Gender only.

Table 7. Full Equity Numbers for Disproportionately Impacted Subpopulations

Subpopulation	Successful Enrollment	Retention	Transfer-Level Math and Eng.	Completion	Transfer
DSPS					8 (M)
American Indian/Alaska Native				4	
Asian	30				11
Black or African American	25	27	9	12	
Filipino	24 (F)				
Hispanic		101 (M)	83	115	156
Pacific Islander or Hawaiian Native	8				
First Generation Student		133	127	100 (M)	105
Foster Youth				19	
Female	458				
LGBT		21	15		
Economically Disadvantaged		62 (M)	34 (F)	92	33 (M)
Veteran		23		15	

Note: Successful Enrollment was disaggregated by Race and Ethnicity and Gender only.

Table 8. Consistency of Impact Over Time

Subpopulation	Successful Enrollment	Retention	Transfer-Level Math and Eng.	Completion	Transfer
DSPS	*(shaded)*				0.25
American Indian/Alaska Native				■	
Asian	■				.25
Black or African American	.67	■	■	.25	
Filipino	■				
Hispanic		■	■	■	■
Pacific Islander or Hawaiian Native	.33				
First Generation Student	*(shaded)*	.25	.74	■	.67
Foster Youth	*(shaded)*			.25	
Female	■				
LGBT	*(shaded)*	.25	.5		
Economically Disadvantaged	*(shaded)*	.25	.25	.25	■
Veteran	*(shaded)*	■		.25	

Note: Successful Enrollment was disaggregated by Race and Ethnicity and Gender only.