

## Updated Analysis of Undergraduate Admissions to University of California Campuses by Race and Ethnicity (May 2005)

In fall 2003, UC President Robert C. Dynes formed an Eligibility and Admissions Study Group to examine a variety of issues associated with the admission of undergraduates to the University. In connection with its work, the Study Group reviewed the results of various statistical analyses, including a University analysis comparing admissions of students of different races and ethnicities.

At every UC campus, admissions officers are prohibited from considering race or ethnicity in admissions decisions. Though applicants are given the option to report their race or ethnicity by checking a box on the application, this information is removed from all files given to application readers.

Data analyses presented at the March 2004 Study Group meeting showed some small differences at some campuses between actual and predicted admission rates of students of different ethnicities. While Study Group members understood that, in general, small differences may be expected given the nature of statistical modeling, it also was recommended that the University undertake a second round of analysis in an effort to better understand the differences observed in the initial analyses. This second round of analysis used the statistical method of the first round, as well as an additional methods of analyses, including “recursive partitioning” or the “Tree” model, as recommended by third-party experts.

The results of this second round of analysis, presented to the 2004-05 Eligibility and Admissions Study Group at its May 2005 meeting, are described below.

### KEY POINTS

- The second round of analysis suggests that University admissions officials are following Proposition 209 faithfully and that race and ethnicity are playing virtually no role in the admissions process. The second round of analysis shows even smaller differences between the actual and predicted admission rates of students of different races and ethnicities than did the first analysis. In cases where small differences remain, these can well be ascribed to the “noise” in statistical modeling. This analysis further demonstrates that since the implementation of Proposition 209, differences between actual and predicted admission rates have been reduced dramatically, indicating that the University is complying with Proposition 209.
- The analyses also continue to demonstrate that African American and Chicano/Latino students remain underrepresented at UC, compared both to their representation in the California public high school graduating class and to students of other races and ethnicities at the University.

**The attached materials consist of four parts:**

- CPEC eligibility data (Figure 1): These data are from the most recent (May 2004) California Postsecondary Education Commission report on UC eligibility rates by race/ethnicity for both 1996 and 2003.
- Race/Ethnicity of California high school students vs. UC freshmen: (Figures 2-3) These charts show the representation of students of different races and ethnicities in the California public high school graduating class and in the UC freshman class over a period of years.
- Campus-by-campus comparisons of predicted vs. actual admits, by race and ethnicity: Figures 4-11 demonstrate the data results from the analysis performed using the Logistic Model, the same model employed in last year's analyses. This methodology incorporates only quantitative admissions factors and treats similar applicants identically, regardless of race or ethnicity. The data have been updated to reflect admission to the Fall 2004 freshman class. **Figures 4-11 also demonstrate the data results from analyses performed using a new method of analysis using a "recursive partitioning" or "Tree" Model. Unlike the Logistic Model, this analysis takes account of "interactions" and "non-linearities" in the data.** For example, it can take account of the possibility that test scores may have a different degree of influence on outcomes for students at the higher end of the GPA range than at the lower end.
  - For each campus and racial/ethnic group, the attached charts in Figures 4-11 show (1) a *prediction of the number* of students who would have been admitted, using the original "Logistic" statistical model, (2) a second *prediction of the number* of students who would have been admitted, this time according to the "Tree" statistical model, and (3) the *actual number* of admitted students. The charts on the right side of each page in Figures 4-11 show the same data, but displayed in terms of admission rates rather than numbers of students.
  - If predicted and actual numbers (or admit rates) are similar, then there is no evidence that race or ethnicity is playing a role in admissions decisions. Large differences, however, would suggest the possibility that race or ethnicity may be playing a role and would therefore merit further scrutiny.
  - To show changes in these numbers over time, for each campus there is a comparison of actual and predicted admission rates for each race or ethnicity at three points in time – 1997 (the last year prior to the elimination of race-conscious admissions policies at UC), 2003 (after the elimination of these policies) and 2004 (the most recent year available in the second round of analysis).
  - The predictions in the Logistic Model of analysis are based on a statistical methodology, recommended by outside statistical experts, that groups together applicants whose quantitative academic and demographic characteristics (excluding race and ethnicity) would give them a similar probability of admission to the campus under consideration. The Tree Model, also endorsed by outside experts as a more refined approach, uses a different approach that simulates the admissions process by determining which combinations of factors best predict outcomes for students throughout the applicant pool.

**The key findings of the analyses are as follows:**

**As was reported with the first round of analyses, African American and Chicano/Latino students continue to achieve UC eligibility at much lower rates than other groups, and their numbers on campus remain relatively small.**

- The bar graph of CPEC data on UC eligibility rates (Figure 1) shows that these rates, although they have increased since 1996, continue to be far lower for African American

- (6.2%) and Chicano/Latino (6.5%) students than for White (16.2%) and Asian American (31.4%) students.
- Figure 2 shows the representation of students of different races/ethnicities among California public high schools graduates, and Figure 3 demonstrates that there is a major gap between the proportion of underrepresented minorities in the high school graduating class and in the UC freshman class—and that the gap is widening.
- The campus-by-campus comparisons (Figures 4-11) illustrate that African American and Chicano/Latino students continue to form a relatively small portion of the admitted class at each UC campus.

**After further analysis following the March 2004 Study Group meeting, the gap between predicted and actual admits in all ethnic groups narrowed significantly.**

- Data analysis performed last year indicated that, on most campuses, somewhat fewer Asian American students, and more African American and Chicano/Latino students (and, in some cases, White students), were admitted than was predicted by the model. While in general, such small differences may be expected given the nature of statistical modeling, the fact that the pattern was consistent across campuses prompted further analysis by the University.
- Further analysis was conducted using both the Logistic Model (used in data distributed at March 2004 Study Group meeting) and the Tree Model. The latter was used to perform a more precise analysis of these data. The result was significant narrowing—and in some cases elimination—of the gaps between predicted and actual admits in all ethnic groups, as shown in Figures 4-11 (On most campuses, for most ethnic groups, the bars showing actual and predicted admissions in each ethnic group are very nearly level, and the differences between them are minimal – very likely within what might be considered to be statistical “noise.”) Furthermore, the pattern of small but consistent “underadmission” of Asian applicants across campuses observed in the 2003 analysis does not appear in the 2004 “Tree” analysis, suggesting that the pattern may have been an artifact of the 2003 analytical method.
- Both the 2003 and 2004 data sets show major changes from the outcomes in 1997, when race/ethnicity was still legally used as a consideration in admissions. At that time, the differences between actual and predicted admission rates were much larger than in the 2003 and 2004 data sets, in which the differences have been virtually eliminated.
- Because no statistical model can perfectly describe an admissions process, small differences between predicted and actual numbers can be expected. Admissions processes are complex, and statistical models can only approximate them. Admissions decisions involve many factors—such as academic accomplishments outside the classroom and leadership qualities not accounted for in these data. Furthermore, even the most accurate statistical analysis would be subject to margin of error.

**Implications of the analysis include the following:**

- **UC remains committed to an admissions process that is based on multiple indicators of academic and personal achievement and that fully complies with Proposition 209.** The analysis demonstrates that since the implementation of Proposition 209, major differences in the admission rates of similar students of different races or ethnicities have nearly disappeared.
- **Where the first round of analysis revealed small but noticeable differences between actual and predicted admissions rates for some groups at a few campuses, the University conducted further analysis and found significantly reduced—if not eliminated—gaps between predicted and actual outcomes.**
- **Continued low rates of eligibility and admission for African American and Chicano/Latino students indicate the need for continuing commitment by the state,**

**UC, and other educational partners to improve student academic achievement and college preparation throughout California's K-12 school system.**

**Some important points about methodology:**

- The analyses in this packet focus on UC-eligible, California resident applicants. In both 1997 and 2003, all UC-eligible students were guaranteed admission to at least one campus in the UC system; those denied admission to their campus of choice were offered admission to another campus. In 2004, state budget difficulties resulted in a reduction in the number of students UC was able to admit during the normal admission cycle. (These students, who were subsequently offered admission to at least one campus, are not included in the 2004 statistics because they were not admitted by normal campus selection processes, which are the focus of this analysis.)
- The campus-by-campus comparisons are duplicated; that is, students who applied to multiple campuses are counted in the individual analyses for each campus where they applied. Adding numbers from different campuses would count the same students more than once.
- All of the analyses are limited because they are quantitative in nature, meaning they do not account for the non-quantitative criteria used in the admissions process. Furthermore, most of the analyses are based on data available in UC Office of the President databases; some quantitative criteria used by individual campuses were not available for these analyses.

**Background on UC eligibility and admissions:**

**Eligibility:** Students generally become eligible for the UC system by completing a prescribed college preparatory curriculum (the "a-g" subjects) and either achieving a combination of grades and standardized test scores that meet the University's eligibility index or by earning grades that place them in the top 4% of their high school class. Students who achieve UC eligibility historically are guaranteed admission to the University, though not necessarily to the campus, major, or term of their choice.

**Admissions:** Students may apply to as many campuses as they wish, and each campus admits students from among those who applied to that campus. To be admitted to his or her campus of choice, a student generally must demonstrate higher academic achievement than is required for UC eligibility, in order to be competitive with other high-achieving students in that campus' admissions process. In admitting students, those campuses that cannot admit all UC-eligible applicants use a process called comprehensive review. Whereas eligibility is based on grades and/or test scores alone, the selective campuses use a wide range of criteria for admissions because they are selecting among large numbers of students with, in many cases, very small differences in grades and test scores. Therefore, campuses also look at a variety of other measures of academic and personal achievement; there are 14 criteria in all. Growth in demand for higher education in California generally has made it harder for students to be admitted to their first-choice UC campus. More details on the UC admissions process are available at <http://www.ucop.edu/pathways/infoctr/introuc/select.html>.