# Update & Progress Report:  2018 Faculty Compensation Equity Study

David H. Perlmutter, Executive Vice Chancellor for Medical Affairs and Dean
Diana L. Gray, Associate Dean for Faculty Affairs
Richard J. Stanton, Associate Vice Chancellor for Administration and Finance
Mary Corcoran, Chief Financial Officer

Analysis of fiscal year (FY) 2018 faculty compensation data was initiated immediately following the report of the 2016 pay equity study in the winter of 2019.  Progress in process improvement includes the following:  periodic pay equity studies are now to become systematic annual reviews and continued refinement of the data collection process with elimination of confounding factors such as those for faculty members jointly appointed between the two WU campuses whose salary and FTE had been in appropriately adjusted as if part-time WUSM faculty.  Improved curation of the data will continue as the reviews become more systematic and regular in occurrence.

Based on faculty feedback from the 2016 report, the study regression of 2018 pay data was run with and without variables for space and productivity.  Space allotment per faculty member was not found to be a predictor of compensation; hence, this variable has been eliminated from the analysis.  Productivity variables, however, were found to have statistically significant impacts on base and total compensation with the greater impact on total compensation, defined as base plus incentive (bonus) pay.  Therefore, productivity variables were retained for the 2018 pay analysis and will be retained for future analyses.

The study methods other than the changes noted above were identical to those described in the final report of the study of faculty pay for FY 2016.  Please review that report for further detail of the methods used in these studies by the pay equity study leadership team at WUSM and by the consultants at Willis Towers Watson.

## 2018 Results

The team at Willis Towers Watson again concluded that the variations between actual faculty compensation in 2018 and predicted compensation for all groups analyzed were within the predicted range (95% confidence intervals [CI.])   For additional insight, the WUSM pay equity leadership team again chose to examine the differences between actual and predicted compensation by gender and by race/ethnicity that remained after the model was applied. The final model explained 78% of the variation in base pay and 81% for total compensation ($R^2$ = 0.78, 0.81.)  The variables that were the strongest predictors of compensation were as follows: highest degree, faculty rank, faculty track, market variables as manifest by department/division/AAMC data, administrative/leadership role, length of time as faculty, tenure, and whether working full-time Vs part-time.

**Gender/Ethnicity gap after adjustment:**

| Unpredicted Variation | Base Pay | Total Cash Comp |
|---|---|---|
| Male/Female | 2.58% | 4.02% |
| White/Asian | 0.67% | 1.66% |
| White/Underrepresented* | 0.60% | 2.72% |

\* Racial/ethnic groups underrepresented in medicine according to the AAMC are African-American, Latinx, Native American, Native Alaskan or Pacific Islander

In the table below are the ***unadjusted*** (prior to use of the regression model) differences in mean annual salary (base pay) and total compensation (cash) with incentive pay included.

| Differences in Actual Means | Base Pay | Total Cash |
|---|---|---|
| Male/Female | 18.63% | 23.45% |
| White/Asian | 14.46% | 15.38% |
| White to Underrepresented* | 2.95% | 3.37% |

\* Racial/ethnic groups underrepresented in medicine according to the AAMC are African-American, Latinx, Native American, Native Alaskan or Pacific Islander

The next table compares gaps in total compensation from various studies by gender after applying a compensation model (regression formula) and differences in unadjusted means.

| Unpredicted Variation | Male/Female | Differences in Actual Means |
|---|---|---|
| • 2008 WUSM study | 4.00% | 39.8% |
| • *2016 JAMA study** | *8.70%* | *27.3%* |
| • 2016 WUSM study | 2.87% | 27.4% |
| • 2018 WUSM study | 4.02% | 23.5% |

**Total Compensation Gender Gap**

Adjusted Means
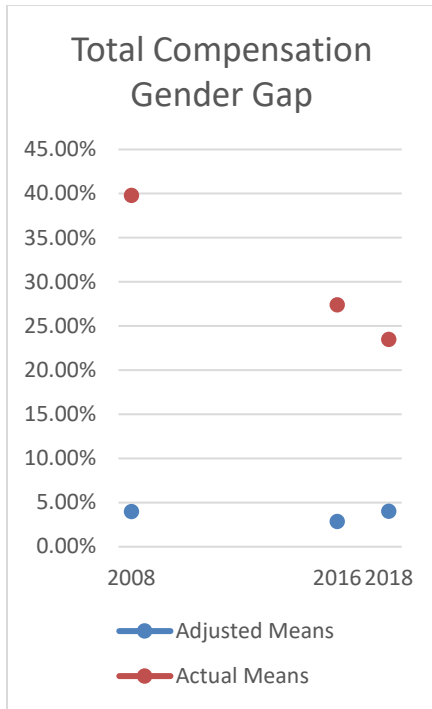
Actual Means

The graph above demonstrates decrease over time in the gender gap for actual total compensation means from approximately 40% in the 2008 study to 23.5% in 2018 while the difference in adjusted means has remained static at approximately 3-4%. Parallel to total compensation the difference in means for base salary has decreased from 21.7% in 2016 to 18.6% in 2018 while the unpredicted variation in base salary between men and women has stayed fairly steady state from 2.4% in 2008, to 1.5% in 2016 to 2.8% in 2018.

## Actual Mean Total Compensation

| | 2016 N=1630 | | 2018 N = 1830 | | % change 2016 to 2018 |
|---|---|---|---|---|---|
| | Total Comp | Gap | Total Comp | Gap | |
| **Male** | 228,914 | | 243,215 | | 6.25% |
| **Assistant** | 181,944 | | 196,242 | | |
| **Associate** | 209,445 | | 221,391 | | |
| **Professor** | 274,692 | | 282,239 | | |
| **Chief** | 364,077 | | 473,804 | | |
| **Female** | 179,692 | 27.4% | 197,008 | 23.5% | 9.64% |
| **Assistant** | 166,332 | 9.4% | 178,491 | 9.9% | |
| **Associate** | 174,165 | 20.3% | 202,768 | 9.2% | |
| **Professor** | 222,907 | 23.2% | 219,058 | 28.8% | |
| **Chief** | 302,389 | 20.4% | 390,342 | 21.4% | |
| **White** | 217,547 | | 232,110 | | 6.69% |
| **URM** | 205,391 | 5.9% | 224,545 | 3.4% | 9.33% |
| **Asian** | 183,172 | 18.8% | 201,172 | 15.4% | 9.83% |

The actual mean faculty salaries in 2016 and 2018 by gender, race/ethnicity and by rank for the men and women are shown in the above table. Increases in women's salaries between '16 and '18 were greater on average than in men's salaries (9.64% Vs 6.25 %.) Similarly, increases for faculty from under-represented groups were on average greater than those for the white majority class (9.33-9.83% Vs 6.69 %.)

Although initial review of the data in the above table reveals possible troubling differences in salaries and in the gender gap for women professors and "chiefs" between 2016 and 2018, a deeper dive reveals logical explanations.  There were 37 women promoted to professor rank between '16 and '18, and those newly promoted have lower salaries than those longer at this rank. Additionally in this time period, 10 women at professor rank with higher salaries left WUSM.  These were two contributing factors to the lower mean salary in 2018.  If the data are normalized for only the women who were at professor rank in both 2016 and 2018, the net average increase in total compensation was 6.6%.  Similarly, if only women and men who were at professor rank in both 2016 and '18 were compared, the gap between their salaries decreased by 2.3%.  If the data for "Chiefs" were normalized in similar fashion by looking at only those with that title for both time periods, the mean salary for women chiefs increased by 8.8% and the gap between men and women decreased by 0.9%.

**Impact of Elimination of Productivity and Space Variables**

After reviewing the results of the 2016 pay equity study, faculty advocacy groups suggested that productivity (performance) variables be eliminated from the model.   The pay equity leadership group hypothesized that the amount of research space a faculty member was allocated had no bearing on compensation.  This was then tested by removing the research space variable from the regression.  Indeed, this had no effect on the fit of the model.  Therefore, the "space" variable has been eliminated from this and all future iterations of the pay study model.

The regression was also run with and without performance variables such as RVU's, clinical revenues, grant costs, publications etc.  Eliminating these variables significantly decreased the goodness of fit of the model.  For **base salary** $R^2$ values decreased from 0.78 with performance variables in the model to 0.74 without these variables.  The compensation gap between men and women was 2.97% without performance variables in the model and 2.58% with them.  Deleting these variables translates to $459.00 (0.2%) less in the base salary predicted for men Vs $703.00 (0.4%) more for women.  A similar decrease in $R^2$ values occurred for **total compensation** from 0.81 to 0.75, resulting in a pay gap of 5.61% without performance variables Vs 4.02% with them in the model.  This translates to $2,250.00 (0.94%) less predicted for men compared to $3,375.00 (1.68%) more for women if performance variables were not included.

**Variables of Greatest Impact on Compensation**

The following variables were found to have the greatest impact on pay:  highest degree, faculty rank, faculty track, department and division, AAMC market data, administrative/leadership role, years of experience, tenure, full-time as compared to part-time status.

**Faculty Change by Gender from 2016-18**

From 2016 to 2018 the total WUSM faculty (assistant professor and above) grew by 200 members from 1630 to 1830 (12.3 %.)  Overall, the proportion of women added to the faculty in this timeframe is 44% (table below.)  The greatest gains for women faculty were at the associate (47.1%) and full professor ranks (45.8 %.)

## Faculty Demographics & Change

| | 2018 | | Female % | 2016 | | Female % | Change 2016 to 2018 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | | Male | Female | | Male | Female | |
| Assistant Professor | 425 | 335 | 44.1% | 393 | 313 | 44.3% | 32 | 22 | 40.7% |
| Associate Professor | 278 | 185 | 40.0% | 241 | 152 | 38.7% | 37 | 33 | 47.1% |
| Professor | 374 | 115 | 23.5% | 342 | 88 | 20.5% | 32 | 27 | 45.8% |
| Chief | 76 | 21 | 21.6% | 67 | 15 | 18.3% | 9 | 6 | 40.0% |
| | | | | | | | | | |
| **Total** | **1172** | **658** | **36%** | **1060** | **570** | **35%** | **112** | **88** | **44.0%** |

The commitment to annual reviews of pay equity will be impactful for many reasons, not the least of which is that the time lag between when one pay equity study is reported and the next is undertaken has been longer than optimal.  Thus, the potential impact of results from a recently reported study would not be found in an updated study two years later.  For example, pay decisions for FY '18 were made in the spring of 2017, long before the study of the 2016 data was completed.  The commitments to improving pay equity by academic unit leaders made in January of 2019 when the results of the 2016 data were reported should be reflected in FY'20 compensation.  However, that represents a 3 year time lag, adding to a sense that "catching up" becomes ever more challenging.

## Conclusions

Actual WUSM faculty total compensation differences between women and men have decreased from 27.4% in AY '16 to 23.5% in FY '18; however, the adjusted pay gap by gender increased slightly from 2.58% ('16) to 4.02% ('18.)   The compensation differences between the white majority group and those from underrepresented racial/ethnic groups were less than those stratified by gender.  The difference in average actual total compensation for faculty self-described as Asian compared to the white majority was - 15.38% and the adjusted difference was - 1.66%.  For those faculty self-identified as from groups underrepresented in medicine the actual mean difference in total compensation was - 3.37% with an adjusted difference of - 2.72%. The consulting group concludes that these findings are within the expected 95% confidence interval for all groups stratified by the above demographic variables.

The minimal change in the adjusted pay gap by gender can likely be explained by the changes that occur in a large and complex faculty such as that of the School of Medicine.  Many faculty changes occur over a two year period including faculty exits and arrivals, promotions and changes in job descriptions.  Forcing such a large and diverse faculty group into one regression model when in actual fact, scores of different business and compensation models are used across the School of Medicine does not result in the most refined study possible.  However, the leadership of the School continues to believe that it is important to use the same model for all faculty members across time in order to be able to track changes and to be able to make standardized comparisons between faculty members from different academic units.

## Next Steps

Results have been shared with leaders of academic units and where appropriate, adjustments have been made.  School leadership remains committed to equal pay for equal work and to the following actions towards that goal:  continuing to address compensation equity in annual strategic planning meetings with academic units, correcting or justifying outliers regularly, reviewing departmental compensation plans and assisting as needed with departmental processes for reviewing compensation with individual faculty members.  In addition, School leadership will be responding to recommendations of the Task Force on Women's Career

Advancement, which has undertaken a review of time in rank for all faculty stratified by gender. Rank is highly correlated with compensation.  Other recommendations of the Task Force are expected by June 2020.  School leadership is also developing and implementing a new School-wide faculty annual review and effort reporting system which will better align faculty expectations and work products with those of academic unit leadership.  Finally, the pay equity study has been updated for the academic year ending June 20, 2019 and those results are under review.