It is not surprising that student retention has attracted the most attention from analytics folks in community colleges. From a statistical perspective, the practice of open access/admissions adds an enormous amount of uncertainty to any model we build to understand completion and success. In four-year or other selective admissions situations, the screening process essentially narrows the diversity of the incoming students. We might think of this mainly in terms of minimum grade point averages and standardized test scores (SAT, ACT, TOEFL, etc.), but research tells us that such minimums effectively screen applicants for a much wider range of student characteristics, including demographic background, parental academic achievement, home support for higher education, cultural orientation towards individual achievement, and especially socio-economic status.

In an open access/admissions environment like ours, then, the central challenge in analyzing retention and completion is teasing out the instructional and institutional effects that we can control (and hence improve) from those that lie outside and beyond our control. This is a large challenge made larger by the limitations on the data we can obtain from other institutions, and the quality of the data we can collect. Fortunately, the UH System institutional research office has been able to obtain key student data from the Hawaii DOE, and has conducted a freshman retention analysis (August 2014 draft). (cont. next page)
Meet the Fall 2013 freshmen cohort (about 450 students) who didn’t reenroll in Fall 2014:

- 34% female, 66% male
- enrolled in an average of 13 credits in their first semester
- were about 23 ½ years old when they stopped, with females slightly older than males
- degree goals: 30% were pursuing an AA, 38% AAS, 27% AS, 5% CA
- had an average GPA of 2.20 at the point they stopped
- had earned an average of 28 credits at the point they stopped

HonCC differences from UHCC students? We conducted a similar but smaller study of Fall 2011 HonCC freshmen and got some interesting findings, including:

- In general, the more credits students enrolled in, the less likely they were to reenroll—in contrast to the larger study’s finding.
- Students who lived either close to campus or very far from campus (e.g., North Shore) were more likely to reenroll.
- Student who had enrolled in a developmental math course were less likely to reenroll; developmental English had no such effect.

Among the results of the UH IRO study of the 2010-11 and 2011-12 UHCC freshman cohorts are the following:

- The strongest effect on freshman retention is the number of credits a student takes: students taking 12-14 credits per semester are more likely to succeed (i.e., reenroll in their sophomore year) than those who take less than 12 credits; moreover, students taking at least 15 credits are even more likely to reenroll. In fact, the results indicate that the odds of reenrollment for students who take at least 15 credits is nearly four times that of part-time students.

If that result sounds counterintuitive (and for many people, it is very surprising), the study’s finding of the second strongest effect on reenrollment is also interesting: students with a high school GPA below 2.6 are more likely to reenroll than those with a higher GPA. The effect is fairly strong: the odds of reenrollment for higher GPA students is nearly one-half of that of lower GPA students. Hmmm.

Of the many other variables tested, one of the surprising results is that Compass test scores in math, reading, and writing show very little effect on reenrollment, as does a student’s math level achieved in high school.

These are the kinds of findings that demonstrate how analytics can sometimes illuminate anecdotal evidence, and point the way for us to explore HonCC data in more detail.