ACCESS TO SUCCESS:
LEADING INDICATORS WORKGROUP

The University of Hawai‘i at Mānoa
New Student Enrollment

First Time Freshmen & Transfer Headcount Enrollment 1999-2009

First-Time Freshmen
Transfer

1999-2009
First Time Freshmen Graduation Rates
1990-2004

Percentage Graduating

- Within 4 Years
- Within 5 Years
- Within 6 Years

Graduation Rates

- 50.7%
- 37.6%
- 17.2%
Focus of Study

- First Time freshmen of Fall 2003
  - n = 1,809
  - Enough history to examine first term retention through degree completion

- Transfer students entering in Fall 2009
  - n = 1,804
  - Currently studying retention
Milestone Facts (Fall 2003 Freshmen)

Probability of Completion Based on Early Accumulation of Credits

- Met Credit Threshold
- Did Not Meet Credit Threshold

- Earned 24+ Credits by End of Year 1:
  - 67.0% (Met)
  - 18.5% (Did Not Meet)

- Earned 48+ Credits by End of Year 2:
  - 77.0% (Met)
  - 18.0% (Did Not Meet)
Milestone Facts (Fall 2003 Freshmen)

Probability of Completion by First-Year Credits Earned

Percentage Completing

First Year Credits Earned

- 0-3: 6.7%
- >3-6: 0%
- >6-9: 20%
- >9-12: 40%
- >12-15: 60%
- >15-18: 80%
- >18-21: 100%
- >21-24: 100%
- >24-27: 100%
- >27-30: 100%
- >30: 78.9%
College-Level Math & English (Fall 2003 Freshmen)

Probability of Completion Based on Achievement of Math and English Milestones

- **Achieved Milestone**
- **Did Not Achieve Milestone**

<table>
<thead>
<tr>
<th>Enroll Year</th>
<th>Completion Year</th>
<th>Math</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>Completion 1st Yr.</td>
<td>61.9%</td>
<td>43.0%</td>
</tr>
<tr>
<td>Completion</td>
<td>Completion 1st Yr.</td>
<td>65.5%</td>
<td>33.6%</td>
</tr>
<tr>
<td>Enrollment</td>
<td>Completion 1st Yr.</td>
<td>59.9%</td>
<td>40.3%</td>
</tr>
<tr>
<td>Completion</td>
<td>Completion 1st Yr.</td>
<td>63.6%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

- College-Level Math Enrollment Yr. 1
- College-Level Math Completion Yr. 1
- College-Level English Enrollment Yr. 1
- College-Level English Completion Yr. 1
Milestone Facts (Fall 2003 Freshmen)

Probability of Completion Based on Credit-Completion Ratios

- Year 1 CCR 80%+: 62.2%
- Year 1 CCR Less Than 80%: 16.4%
Multivariate Analysis

Data Collection, Causal Modeling, Results
Created a longitudinal database with over 100 data elements theoretically related to retention & graduation (see handout for list of variables):

- Demographic
- Geographic Origin
- Pre-Collegiate Experiences
- Academic and Course Experiences
- Campus Experience
- Financial Aid
- Interaction Variables
- *Additional Variables from LI Research!*
These variables account for approximately 34% of the variance in a student’s likelihood of completing a degree (Pseudo R Square = .344).

*Wald statistic (sig.)
The Wald test statistic was used to indicate strength of the variable instead of the coefficient, standardized beta. Because of the nature of the logistic regression, the coefficient is not easily interpretable to indicate strength.
Variables significant in predicting degree completion of freshmen:

- "Expected" predictors emerging from model:
  - Ethnicity (Asian students 2x greater odds)
  - Geographic Origin (1.9x greater odds for HI students)
  - First Term GPA (1.5x greater odds per grade point increase)

- Not-so obvious predictors:
  - >= 24 Credits Earned in Year 1 (Odds Ratio = 6x)
  - Dual Enrollment (Odds Ratio = 2x)
  - Enrollment in College-Level Math in Year 1 (Odds Ratio = 1.5x)
  - Prior Credits Earned (Odds Ratio = 1.5x)
73% of observations correctly classified

- Sensitivity: 76%
- Specificity: 70%

Distribution of Estimates by Score Ranges
What About Transfer Students at Manoa?

- Have started by looking at retention.
- Early findings from a predictive model on transfer retention:
  - Working On-Campus - Students working on-campus had more than 2x odds of being retained.
  - % of Financial Need Met – Every standard deviation increase in percent of Financial Need Met improves students’ odds of retention by 2.
  - Enrollment in Distance Education – More likely to retain
  - STAR Usage – Highly correlated with first year retention
- Still need to integrate findings from Leading Indicators Research into Transfer Model
These variables account for approximately 26% of the variance in a student’s likelihood of completing a degree (Pseudo R Square = .258).

*Wald statistic (sig.)
The Wald test statistic was used to indicate strength of the variable instead of the coefficient, standardized beta. Because of the nature of the logistic regression, the coefficient is not easily interpretable to indicate strength.
Mānoa Policy Implications

Major Impact Initiatives
- STAR: Degree Audit, Giving Tree Scholarships, Academic Planner, Registration Opportunities Program
- MIRO: Campus-level decision support, analysis-focus, fostering a culture of evidence

Facilitate credit momentum
- “Do it in 4” Project
- Students missing credit milestones are called in for advising

Drive enrollment in Math & English in students’ first year
- Automatic (pre)registration for first year students
- Examine course pressure points
- Course wait listing

Mandatory advising in first semester on campus
- Mandatory declaration of major by second year on campus
New opportunities for on-campus employment:
- Undergraduate Research
- Student Success Fellowships
- Legislative Internships

Fast track transfer policies
- Automatic admit for UH System students
- Transfer programs like “Ka’ie’ie”

Show students the cost implications of not graduating on-time

Present predictive model results to Council of Academic Advisors, Deans, and UHCC Transfer advisors.
Who are we?

Mānoa Institutional Research Office

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