Proposed UH Productivity and Efficiency Metrics

Presented on behalf of the UH Officers
April 2, 2014
Work in progress

Background

- UH Officers Sub-Committee: Interim President, Interim Executive Vice President, Vice President for Community Colleges, Vice President for Budget and Finance, and the Chancellors of the 4-year institutions
- The current Strategic Outcome Measures and goals end in 2015 and need to be updated
- These measures support the “High Performance System of Higher Education and the Hawaii Graduation Initiatives” of the 2015-2021 Strategic Directions
Outline of Presentation

Review of potential measures
   – Productivity Measures: focusing of outcomes and success of students
   – Efficiency Measures: focusing on cost and resources needed to produce degrees

• Questions

Proposed Productivity Measures

Measure 1: The number of degrees and certificates
   – CAs and higher
   – Set growth targets

Major source of data:
Common national data, US Department of Education, Integrated Postsecondary Education Data System (IPEDS), to allow for comparisons with peer institutions
“55% of Hawai‘i’s working age adults to have a 2-year or 4-year college degree by the year 2025.”

Hawai‘i’s Degree Gap

Source: NCHEMS & U.S. Census Bureau, American Community Survey, 1-year estimates, 2006 to 2012
UH will need a 6% annual growth in Associates and Bachelor degrees to reach the goal

![Graph showing degree production needed to reach goal]

Source: University of Hawai‘i Institutional Research and Analysis Office

Proposed Productivity Measures

Measure 2: The number of students who graduate on time
- 100% and 150% grad rates (First time, Full Time IPEDS definition)
  - Compare to peers/benchmarks
  - Compare to grad rates for Native Hawaiians, URM, PELL
  - Consider including grad plus transfer rate for CCs;

Measure 2a: Graduation rate for Part-time students
- 200% for 4 years and 300% grad rates for 2 years (First time IPEDS definition)

Peers are current established peers and IPEDS Auto Select Peers
Major source of data:
- Common national data, *US Department of Education, Integrated Postsecondary Education Data System (IPEDS)*, to allow for comparisons with peer institutions
150% graduation rates have been relatively steady

Graduation Rates within 150% of Normal Time – UH Units

UH Mānoa’s six-year graduation rate is below its peers at 55.7%

Graduation Rates within 150% of Normal Time
UH Mānoa Comparison Group
UH Hilo’s six-year graduation rate is close to its peers

Graduation Rates within 150% of Normal Time
UH Hilo Comparison Group

UHCC three-year graduation rates are below their peers

Graduation Rates within 150% of Normal Time
UHCC Comparison Group
Graduation Rates - UH 4 year

First-time, Full-time, Freshmen

- **UH Mānoa**
  - 2009: 18.6%, 19.5%
  - 2007: 58.6%, 56.6%

- **UH Hilo**
  - 2009: 13.5%
  - 2007: 34.4%, 34.1%

- **UH West O'ahu**
  - 2009: 11.7%, 10.7%
  - 2007: 25.0%

Graduation Rates - UH 2 year

First-time, Full-time, Freshmen

- **Hawaii**
  - 2011: 20.8%
  - 2010: 15.9%

- **Honolulu**
  - 2011: 3.1%
  - 2010: 1.2%

- **Kapiolani**
  - 2011: 15.9%
  - 2010: 15.6%

- **Kauai**
  - 2011: 11.8%
  - 2010: 12.3%

- **Leeward**
  - 2011: 1.8%
  - 2010: 1.6%

- **Mauna Kea**
  - 2011: 11.3%
  - 2010: 11.3%

- **Windward**
  - 2011: 15.9%
  - 2010: 17.6%
200% Graduation Rates for Part-time Students - UH 4 year

First-time, Part-time, Freshmen

200%
(Fall 2005)

45.0% 40.0% 38.5% 57.1% 50.0% 23.5% 28.6% 33.3%

UH Mānoa UH Hilo

TOTAL Native Hawaiian URM PELL

* Fall 2005 Cohort information for UH West O'ahu not available.

300% Graduation Rates for Part-time Students - UH 2 year

First-time, Part-time, Freshmen

300%
(Fall 2007)

18.0% 11.2% 11.1% 10.8% 11.1% 11.8% 11.8% 11.8%

Haw Hon Kap Kau Lee Mau Win

TOTAL Native Hawaiian URM PELL
Proposed Productivity Measures

Measure 3
. The number and success rate of students who transfer
• Transfer-in cohort size and grad rate, for four years only
  – Grad time frame 100% and 150%, determined by # of credits transferred in
• Transfer out rate for CCs and West Oahu and Hilo (in progress)
  – Transfer anywhere, use National Student Clearinghouse (NSCH);
  – FTFT cohort matching IPEDS
• % of Transfer out that go to a UH 4 year (in progress)
  – Denominator: use all transfers from a CC to 4 year, all students in First Time cohort including part-time and those that transfer with degrees
  – Numerator: # that go to UH 4-years

Transfers Into UH 4-Year from UHCC in an Academic Year

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>UH Mānoa</th>
<th>UH West O'ahu</th>
<th>UH Hilo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1,168</td>
<td>335</td>
<td>175</td>
</tr>
<tr>
<td>2009</td>
<td>1,320</td>
<td>353</td>
<td>202</td>
</tr>
<tr>
<td>2010</td>
<td>1,266</td>
<td>418</td>
<td>253</td>
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<tr>
<td>2011</td>
<td>1,346</td>
<td>495</td>
<td>302</td>
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<tr>
<td>2012</td>
<td>1,316</td>
<td>525</td>
<td>295</td>
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<tr>
<td>2013</td>
<td>1,317</td>
<td>591</td>
<td>325</td>
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</tbody>
</table>

*Students who have had a change in home campus and a student type indicating transfer status
Transfer-in Graduation Rates - UH 4 year

Proposed Productivity Measures

Measure 4. Post graduate outcomes
• Workforce (exact measure not yet determined)
• Continuing to higher level of education (exact measure not yet discussed)
Proposed Efficiency Measures
Definitions: The Cost of Education

Total Education and General Expenditures
- Instruction
- Research
- Public Service
- Academic Support
- Student Services
- Institutional Support
- Operations and Maintenance
- Scholarships and Fellowships expenses

Total Education and Related Expenditures
- Instruction
- Student Services
- Pro-rated share of Academic Support, Institutional Support and Operations and Maintenance
- Does not include Research, Public Service and Scholarships and Fellowships expenses

Total education and general expenditures has increased an average of 3.6% annually while education and related expenditures has increased by 4.7%
Growth in Education & Related spending was higher in percentage terms at UH and UHWO than at UHM or the UHCCs.

Total Education & Related Expenditures – UH Units

Instruction comprises 71% of total E&R expenditures at UH Mānoa, 52% at UH Hilo, 44% at UH West O‘ahu and 60% at the UH Community Colleges.

Education & Related Expenditures by Type – FY 2012
Proposed Efficiency Measures

Measure 1:
Institutional Support Expenditures over total Education and General Expenditures
- Includes general administration, fiscal, legal, and personnel
- Compare to peers/benchmarks

Source: US Department of Education, Integrated Postsecondary Education Data System (IPEDS)
Proposed Efficiency Measures

Measure 2a.
Educational and institutional costs per FTE student
- Education and Related Spending
- Compare to peers/benchmarks
Source: US Department of Education, Integrated Postsecondary Education Data System (IPEDS)

Definitions:
- Completions = Certificates >1 year and all degrees
- E&R Spending = Cost of instruction (salaries and wages, fringe benefits, other expenditures), student services, and the instructional share of academic support, institutional support and operations & maintenance (excludes cost of research, public services and CIP)

Education and Related Spending per FTE

Education & Related Expenditures per FTE Student – UH Units

All dollar amounts adjusted to 2012 dollars.

Fiscal Year


$ Thousands

0 5 10 15 20 25

UH Hilo, $22.6
UH Mānoa, $22.6
UH West O'ahu, $17.4
UHCC Average, $12.0
UH Mānoa E&R spending per FTE student is higher than its peers

Education & Related Expenditures per FTE Student
UH Mānoa Comparison Group

- UH Mānoa, $22.6
- IPEDS Group, $18.8
- Peer Group, $15.8

All dollar amounts adjusted to 2012 dollars.

UH Hilo’s E&R Spending per FTE student is higher than its peers

Education & Related Expenditures per FTE Student
UH Hilo Comparison Group

- UH Hilo, $22.6
- Peer Group, $19.0
- IPEDS Group, $14.8

All dollar amounts adjusted to 2012 dollars.
UH West O‘ahu’s E&R spending per FTE student has increased in the last year to be higher than its peers

Education & Related Expenditures per FTE Student
UH West O‘ahu Comparison Group

All dollar amounts adjusted to 2012 dollars.

UHCC’s E&R Spending per FTE student is higher than its Peers

Education & Related Expenditures per FTE Student
UHCC Comparison Group

All dollar amounts adjusted to 2012 dollars.
Proposed Efficiency Measures

Measure 2b. Educational and institutional costs per completion

- Education and Related Spending over all degrees and certificates of one year or more
- Compare to peers/benchmark
- Consider adding in transfer out for CC’s as part of measure

Inflation adjusted costs for E&R spending per completion have been relatively stable, with the exception of UH West O‘ahu with its new lower division and UH Hilo with its new College of Pharmacy

Education & Related Expenditures per Completion – UH Units

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>UH Hilo, $89.5</th>
<th>UH Mānoa, $79.9</th>
<th>UHCC Average, $67.9</th>
<th>UH West O‘ahu, $56.0</th>
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<tr>
<td>2002</td>
<td>$59.0</td>
<td>$84.4</td>
<td>$63.6</td>
<td>$31.9</td>
</tr>
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<td>2003</td>
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<td>2004</td>
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<td>2006</td>
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<td>2007</td>
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<td>2008</td>
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<td>$84.4</td>
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<tr>
<td>2012</td>
<td>$584.4</td>
<td>$84.4</td>
<td>$63.6</td>
<td>$31.9</td>
</tr>
</tbody>
</table>

All dollar amounts adjusted to 2012 dollars. Completion excludes Certificates <1 Year.
In 2012, UH Mānoa’s E&R expenditures per completion was slightly higher than its peers

UH Hilo’s E&R expenditures per completion increased beginning in 2007, with the establishment of the College of Pharmacy, but decreased in 2011 and 2012 to be slightly higher than its peers.
E&R expenditures per completion have been rising for UH West O‘ahu, but it remains below its peers

The UHCCs E&R expenditures per completion have increased slightly but remain close to their peers
Proposed Efficiency Measures

Measure 3. Average number of credits of graduates
• Average Credits to completion

Measure 4. Number of programs with 5 or less graduates
• Average over 3 years
• Excludes programs in existence for less than three years
• Include all programs

Average Credits to Completion

<table>
<thead>
<tr>
<th></th>
<th>Full-Time Bachelor's</th>
<th>Full-Time Associate</th>
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<tr>
<td></td>
<td>Degree-Seeking</td>
<td>Degree-Seeking</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>Students</td>
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<td></td>
<td>AY 2009</td>
<td>AY 2011</td>
</tr>
<tr>
<td>UH Mānoa</td>
<td>132.3</td>
<td>131.42</td>
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<tr>
<td>UH Hilo</td>
<td>126.05</td>
<td>124.11</td>
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<td>HawCC</td>
<td>75.17</td>
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<td>HonCC</td>
<td>78.04</td>
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<td>KapCC</td>
<td>74.31</td>
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<td>KauCC</td>
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<td>LeeCC</td>
<td>75.17</td>
<td>78.22</td>
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<td>MauC</td>
<td>66.37</td>
<td>66.16</td>
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<tr>
<td>WinCC</td>
<td>66.37</td>
<td>66.16</td>
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</table>
Number of programs with 5 or less average degrees awarded from Fiscal Years 2010-12

Programs with 5 or Less Graduates

<table>
<thead>
<tr>
<th>Location</th>
<th>Advanced Prof Certificate</th>
<th>Associate</th>
<th>Certificate</th>
<th>Baccalaureate</th>
<th>Master</th>
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<tbody>
<tr>
<td>Mānoa</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Hilo</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>West O'ahu</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Hawai'i</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Honolulu</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Kapi'olani</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Kaua'i</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Maui</td>
<td>6</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>15</td>
</tr>
</tbody>
</table>

Proposed Efficiency Measures

Measure 5: Ratios of students to faculty, to staff and to E/M employees
  • Compare to peers/benchmark

Measure 6: SSH per FTE Faculty
  • Compare to peers/benchmark

Source: IPEDS
Student/Staff Ratios

1. FTE Students per FTE Instructional Faculty
2. FTE Students per Executive / Managerial
3. FTE Students per Professional / Technical
4. Student Semester Hours (SSH=credits per class X number of students X number of classes) per FTE Instructional Faculty

Goals:
• Increase ratio of students per instructional faculty comparable to peers
• Increase SSH production per instructional faculty

Student/Staff Ratios (Continued)

Sources: IPEDS

Definitions:
- **FTE students**: Full-time plus part-time multiplied by a factor that varies by sector of institution and level of student (IPEDS method)
- **FTE Instructional Faculty**: All faculty whose responsibility is primarily instruction, with an adjustment for part-time faculty.
- **Executive / Managerial**: Persons whose assignments involve management of the institution, or a customarily recognized department or subdivision thereof. Assignments require the performance of work directly related to management policies or general business operations of the institution, department or subdivision.
- **Professional / Technical**: Other Professionals plus Technical and Paraprofessionals (excludes clerical and maintenance workers)
- **SSH**: 12-Month Semester Hours offered (all levels)
FTE students per FTE faculty have increased slightly in recent years and are highest at UHCC (19.4) and lowest at UHM (11.9)

FTE Students per FTE Instructional Faculty – UH Units

Academic Year

FTE students per FTE faculty measured 11.9 for UH Mānoa and about 17 for its peers in 2012

FTE Students per FTE Instructional Faculty
UH Mānoa Comparison Group

Academic Year
UH Hilo’s FTE students per FTE faculty ratio at 14.8 is lower than its peers which are at 16-17

UH West O’ahu’s ratio has been rising, and FTE students per FTE instructional faculty is between its two peer groups
UHCCs FTE students per FTE instructional faculty ratio has been rising, but is still below their peers

FTE Students per FTE Instructional Faculty  
UHCC Comparison Group

FTE students per E/M has been flat at UH Hilo and UH Mānoa but increasing at UHCC and UH West O‘ahu

FTE Students per Executive / Managerial Staff – UH Units
UH Mānoa has more students per E/M than its peers

FTE Students per Executive / Managerial
UH Mānoa Comparison Group

UH Hilo has more FTE students per E/M than its peers

FTE Students per Executive / Managerial
UH Hilo Comparison Group
UH West O‘ahu FTE students per E/M has increased in recent years and in 2012 was higher than its peers.

The UHCCs have more FTE students per E/M than their peers.
FTE students per professional staff declined in most UH Units

UH Mānoa, with 9 FTE students per professional staff, is comparable to its peers
UH Hilo, with about 19 FTE students per professional staff, is comparable to its peers

UH West O‘ahu, with 18.6 FTE students per professional staff, is comparable to its peers
The UHCCs have fewer FTE students per professional staff than their peers.

Faculty at the UHCCs generate 558 student semester hours per year (students X credit hours carried) while UH Mānoa faculty generate 332.
UH Mānoa faculty generate fewer student semester hours per FTE instructional faculty than their peers

**12-Month SSH per FTE Instructional Faculty**
**UH Mānoa Comparison Group**

![Graph showing SSH per FTE Instructional Faculty for UH Mānoa Comparison Group]

UH Hilo faculty generate fewer student semester hours per FTE instructional faculty than their peers

**12-Month SSH per FTE Instructional Faculty**
**UH Hilo Comparison Group**

![Graph showing SSH per FTE Instructional Faculty for UH Hilo Comparison Group]
UH West O‘ahu faculty generate fewer student semester hours per FTE instructional faculty than their peers but comparable to the IPEDS group

12-Month SSH per FTE Instructional Faculty
UH West O‘ahu Comparison Group

UHCC faculty generate fewer student semester hours per FTE instructional faculty than their peers

12-Month SSH per FTE Instructional Faculty
UHCC Comparison Group
Proposed Efficiency Measures

Measure 7. Share of credits earned by distance learning
Measure 8. Cost of utilities
  • Kilowatt hours per square feet of usable space
Measure 9. Ratio of total tuition and fees over median state personal income
Measure 9. Classroom utilization
  • Measure to be developed using new AIM system

Share of distance learning credits out of total credits taken by classified undergraduates that Fall

Percent Distance Learning Credits of Total Credits

- UH West O'ahu, 36.2%
- UHCC Average, 15.8%
- UH Hilo, 7.4%
- UH Mānoa, 6.2%
Cost of Utilities:
kWh Consumption per Square Foot

KWh Consumption per Square Foot per Year

Total tuition and fees as percentage of state median household income

Percent Tuition and Fees of Median State Income

Source: U.S. Census Bureau; Hawaii State Department of Business, Economic Development & Tourism, UH Executive Policy E6.201.
Concluding Remarks

• This is a work in progress
• Comments are welcome
• E-mail: iboshi@hawaii.edu