

# Strategies to Increase Research Productivity in a College of Nursing

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# Strategies to Increase Research Productivity in a College of Nursing

- This presentation will:
- Describe the results of a 5-year (2011-2016) evaluation case study to identify performance metrics and faculty decisions associated with the development of a research strategic plan

# Strategies to Increase Research Productivity

- Methodology:
- This case study collected a range of performance measures including
  - Grants submitted and external/internal funding
  - Research expenditure
  - Changes to revenue as a result of increased revenue generation activities
  - Growth in student numbers and faculty

# Strategies to Increase Research Productivity

- Background (Institution & College Classification/Rankings, 2016)
  - University of Massachusetts, Amherst (UMA) is a Carnegie classification of very high research activity ( RU/VH)
  - UMA research expenditure was \$160m
  - The University of Massachusetts system received \$630m
  - The University is ranked 27<sup>th</sup> (tie) public university by US News & World Report
  - The College of Nursing is ranked 13<sup>th</sup> (Master's online) by US News & World Report

# Strategies to Increase Research Productivity

- Background to the College of Nursing (2016)
  - BS, Accelerated BS, RN-BS, CNL, DNP (online), PhD, certificates
  - Total college students approximately 800—500 undergraduate
  - DNP approximately 250 students (approved in over 40 US states)
  - PhD Program with 52 students
  - 42 full-time faculty (breakdown)
  - 18 tenure system faculty

# Strategies to Increase Research Productivity

- The Background to the Research Strategic Plan
  - In the late 1990s and early 2000s the college had its 'golden' period of research activity with external funding including an R01 and HRSA grants
  - In 2011 there were only 3 external grants submitted
  - There was no strategic plan for turning this situation around
  - There was no investments strategy to support faculty or academic research leadership
  - The faculty wanted to be more successful in its research activity—and so did the provost!

# Strategies to Increase Research Productivity

- Research Strategic Planning 2011/12
  - Multiple faculty meetings (small group and whole faculty) to discuss research expertise/priorities
  - Realization that there no clear research themes with faculty research
  - No investment priorities or strategies
  - Understanding that this was problematic when hiring new tenure track and tenured faculty, as well as recruiting PhD students, and for collaboration across campus
  - Faculty took a long hard look at where the college needed to put its research energies; a process that took into account existing expertise, the national funding priorities as well as campus initiatives

# Strategies to Increase Research Productivity

- Research Themes
  - Self-Management with Assistive/Wearable Devices
  - Healthy Aging
  - Social Justice
  - Health Systems



# Strategies to Increase Research Productivity

- Additional Outcomes
  - Need for an Associate Dean for Research and infrastructure support
  - A realization that non-nurse faculty would add to the College's mission
  - Consider the full-range of option for faculty hiring to meet the college's mission, including laboratory-based researchers

# Strategies to Increase Research Productivity

- Strategy Implementation
  - Request for an Associate Dean for Research
  - Increase the number of revenue generating students
  - Begin increasing the number of tenure-track and clinical track faculty to meet growing student numbers
  - Begin an incentive program to pump-prime research activities
  - Continue to develop existing and identify new collaborative partners across the campus and University of Massachusetts system

# Strategies to Increase Research Productivity

- Metrics for Change
  - Increase tenure-track and tenured faculty density
    - In 2011 nursing was 1:48, many research active US nursing schools are in low 20s, at UMass the science fields were typically 1:19
  - Tenure-track appointments with post-doctoral studies
  - Target set for annual submission of external grants and internal grants
    - In 2011 nursing submitted 3 external. The goal was to double this each year for the next 3 years supported by 3 annual competitively awarded seed grants of \$5k per annum
  - Increase on the number of campus collaborative research relationships (in 2011 there was 1)
  - A development plan that emphasized corporate and foundation activities

# Strategies to Increase Research Productivity

- Action in 2012/13
- Appointment of an Associate Dean for Research who was a laboratory scientist studying skin cell growth and collaborating with the Department of Polymer Science
- First non-nurse appointed as tenure-track faculty a clinical psychologist and statistician researching fetal alcohol syndrome and health outcomes
- Beginning of competitive seed funding initiatives

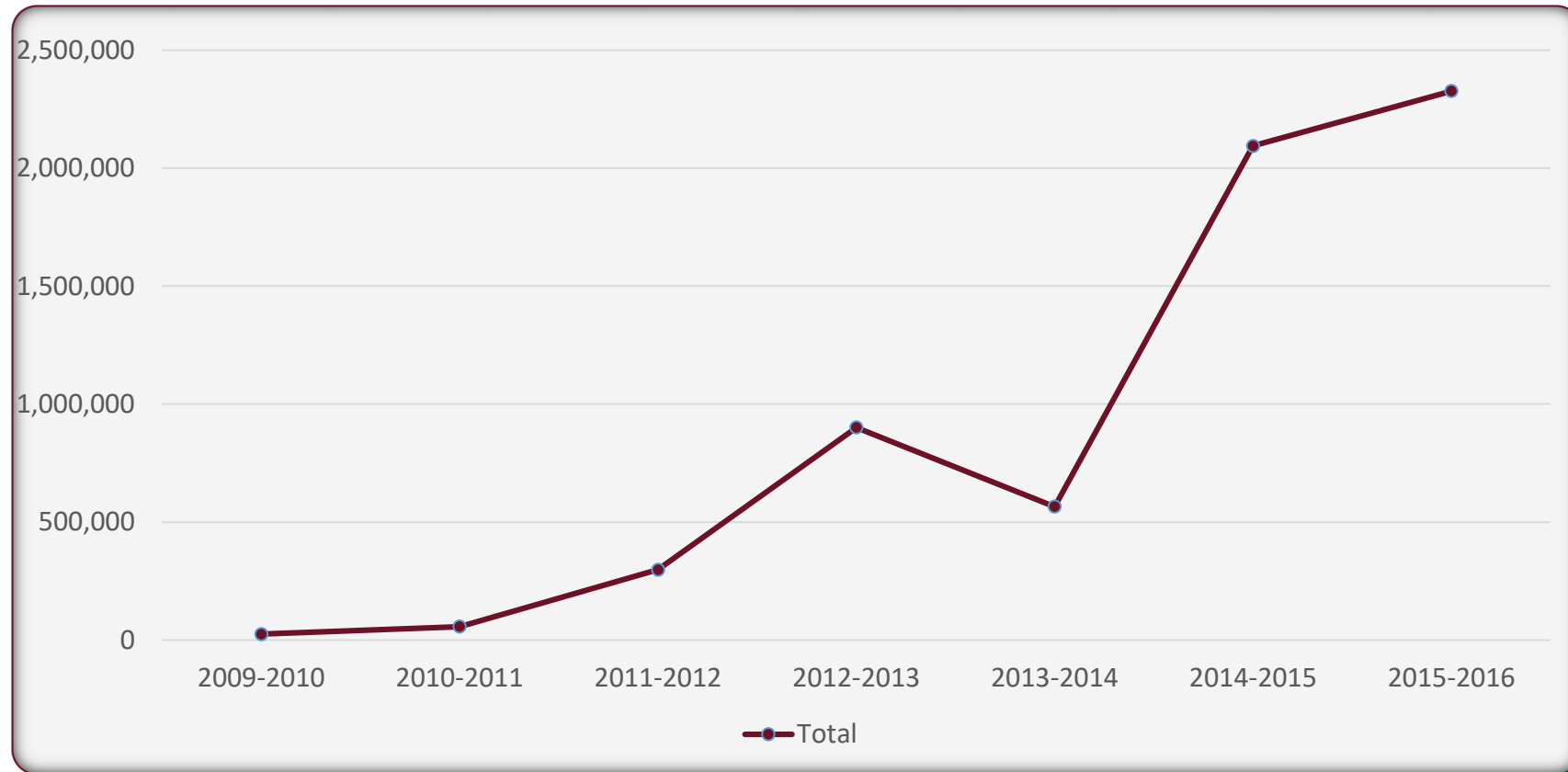
# Strategies to Increase Research Productivity

- Additional Strategies to Support Research
  - Increase the weight of research productivity in the annual merit-based pay awards
  - Structure release time for grants to allow a reduction in teaching contribution
  - Re-negotiate union contract to create a clinical professorial track and promotion structure based up scholarly productivity
  - Partner nursing's university honors students with active faculty nursing researchers

# Strategies to Increase Research Productivity

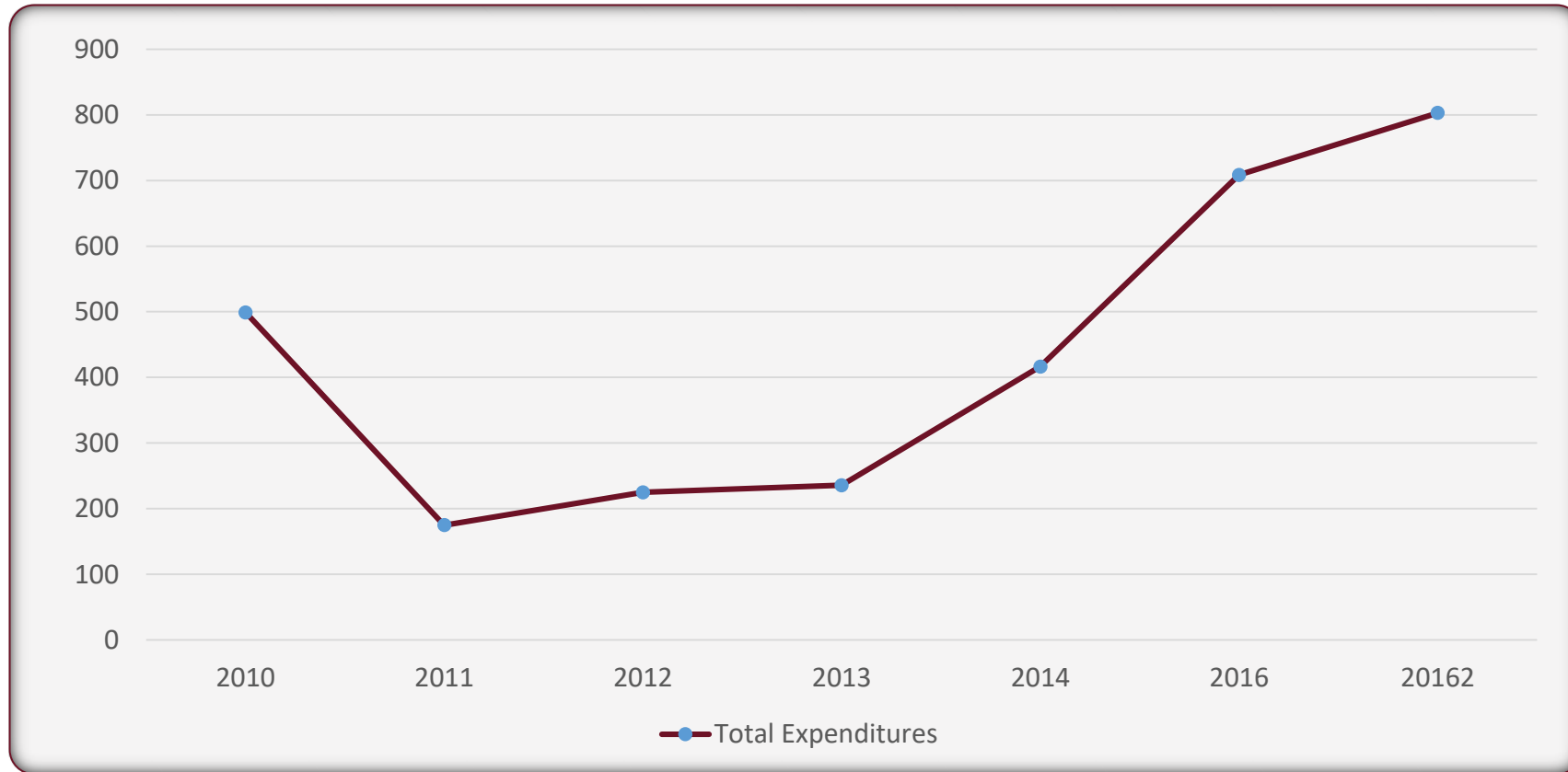
- Faculty Added (areas of expertise PhD + Post-Doctoral Studies)
  - Cancer care home monitoring with wearable device
  - Non-nurse international health researcher investigating mental health, suicide and vitamin D3 in vulnerable populations
  - Adult-Gerontology and the management of delirium in the elderly
  - Nurse Midwife researching Assistive devices in the management of high-risk pregnancies and caesarian sections
- Appointed 2017/18
  - Nurse geneticist studying breast milk and cancer cells
  - Joint nurse/engineer making wearable in-home devices

# Research Income 2011-2016



All sources of research income

# Expenditures per Tenure System Faculty

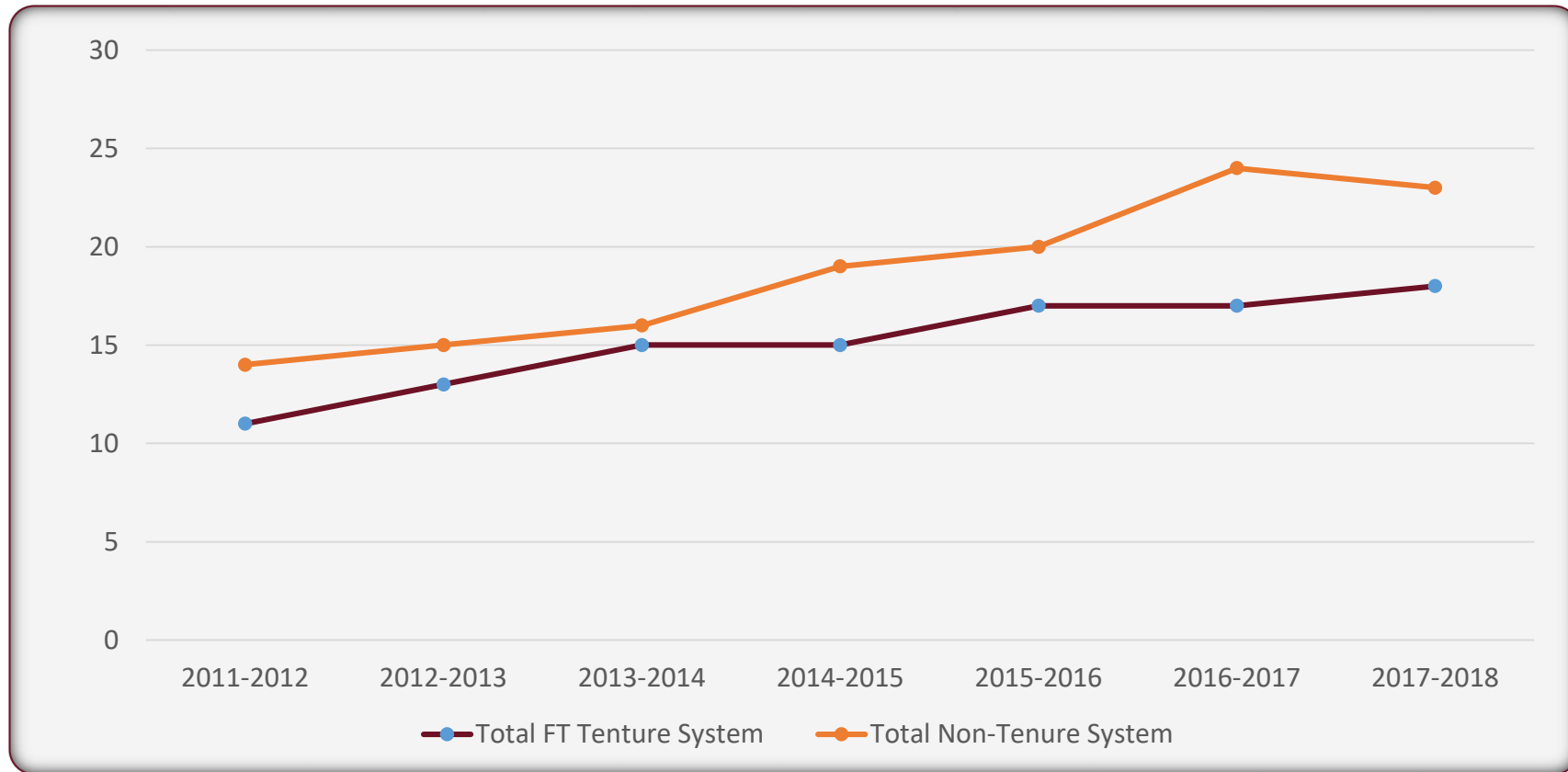


- Expenditures in thousands (\$US)



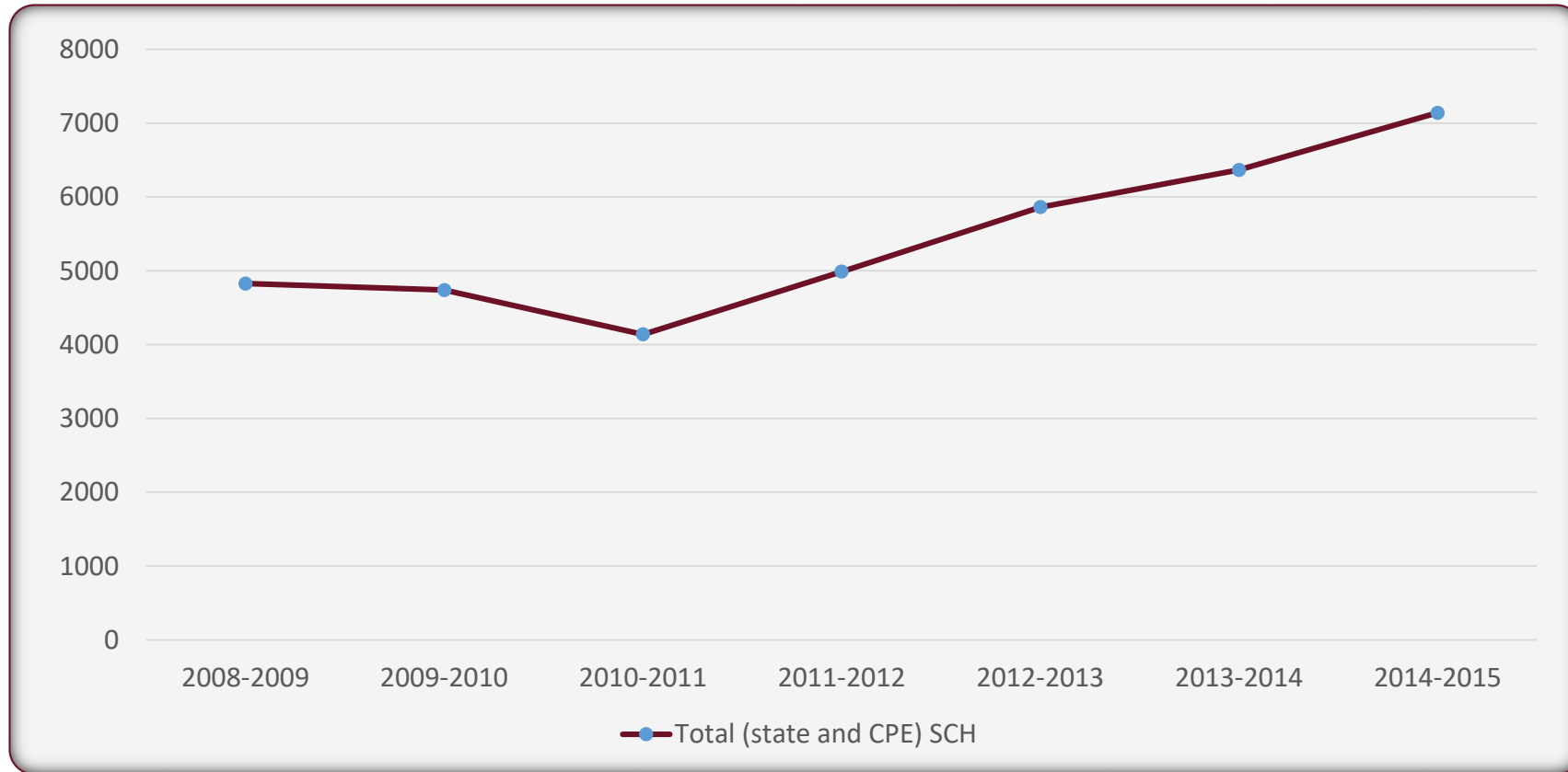
# Faculty

FT Tenure System and FT Non-Tenure System



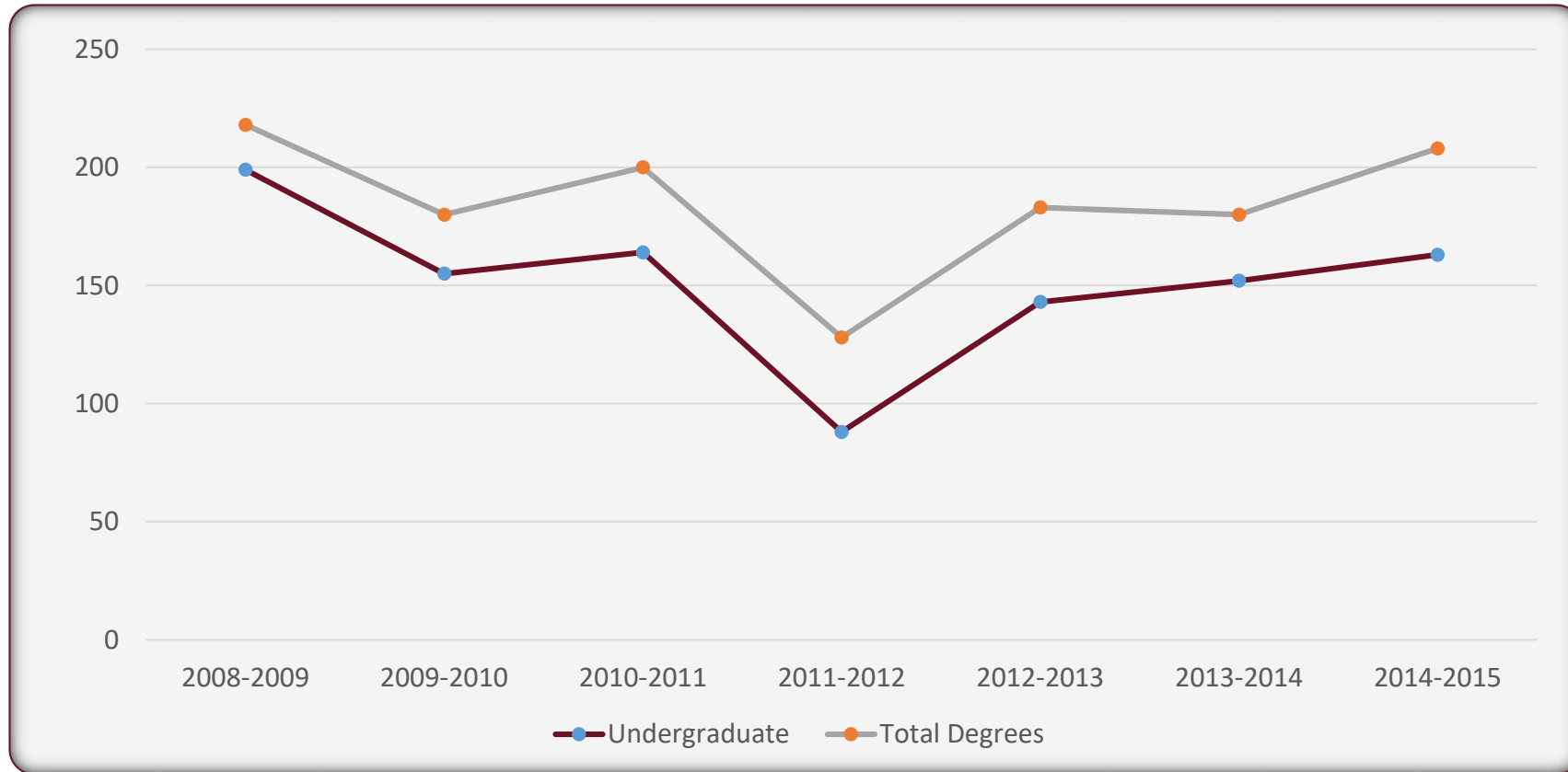
# Instruction to Majors and Non-Majors

Student Credit Hours (SCH)



- Credits earned from all students sources e.g. out-of-state

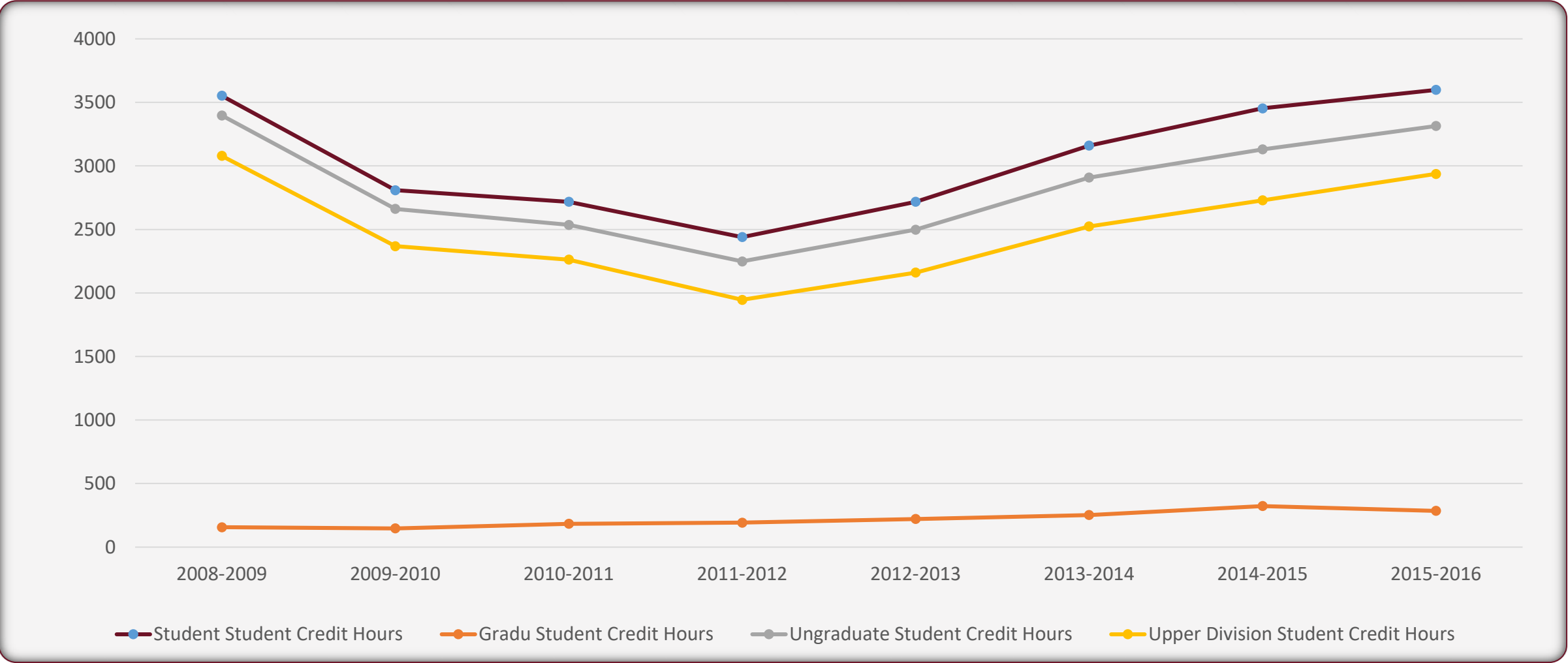
# Degrees Awarded



- Managing student growth and revenue generation

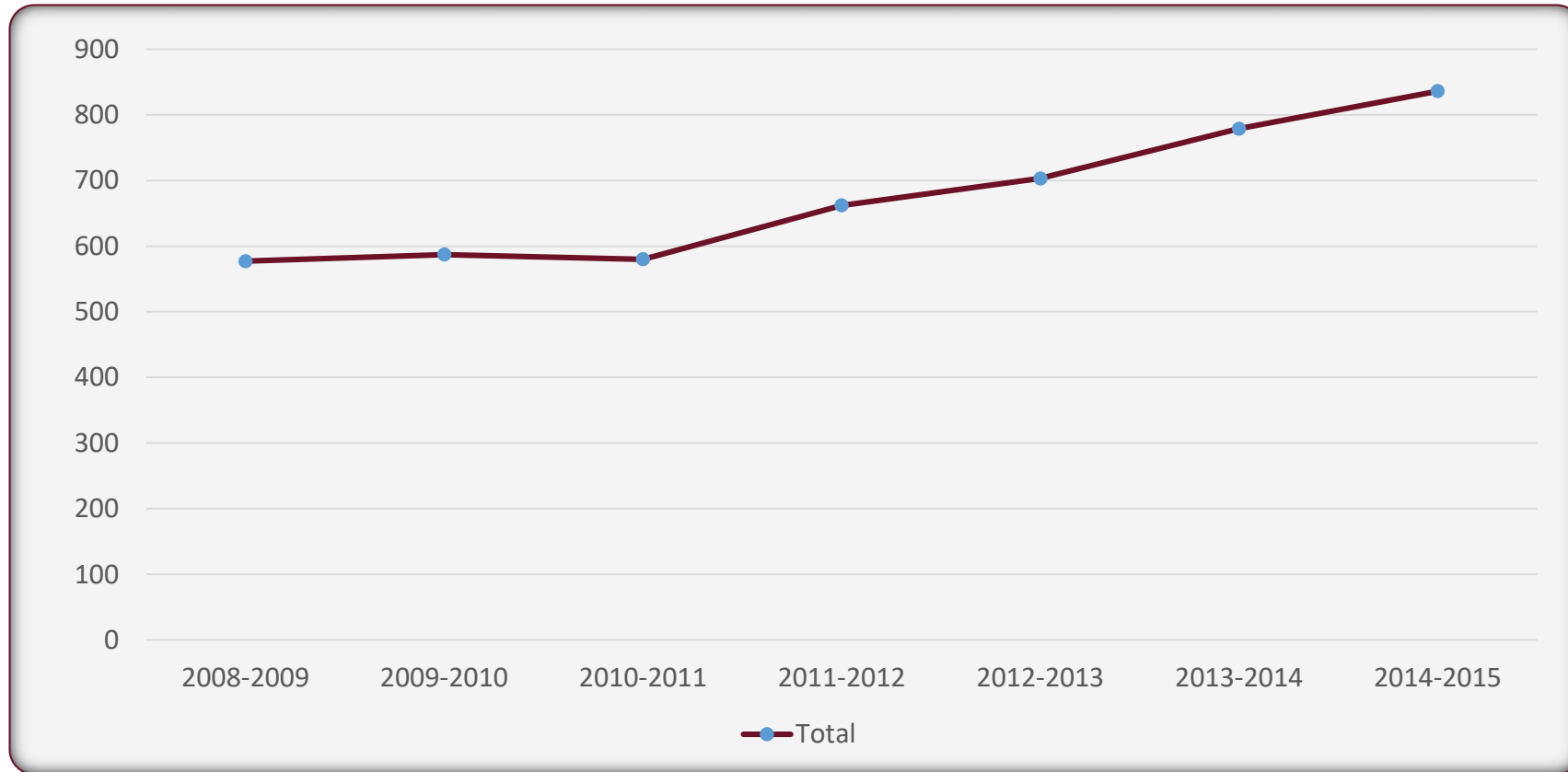
# Student/Faculty Ratios

Instructional FTE and Student Credit Hours by Course Level



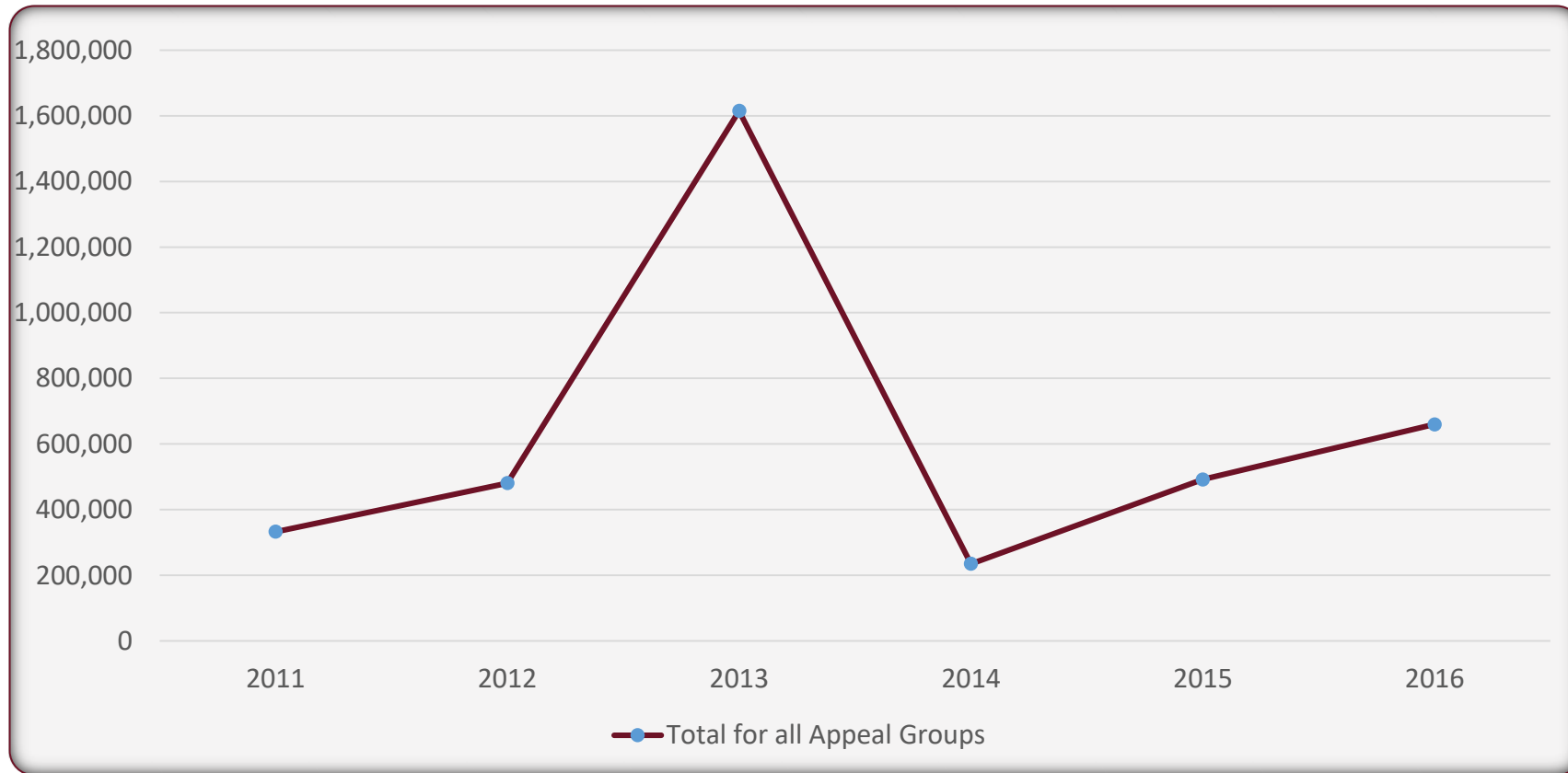
# Undergraduate and Graduate Enrollment

Headcount Student Majors



- Combined undergraduate and graduate student growth

# Development Income (\$US)



Excludes planned giving shows impact of a capital campaign

# Strategies to Increase Research Productivity

- Major research Grant Successes to Date
  - 3 grants submitted (2011); 28 submitted (2016)
  - Technology for Breast Cancer Survivors' Health Developed with Komen Grant
  - SBIRT grant to develop a program to train student nurses in screening, brief intervention, and referral to treatment.
  - P20 Grant to Study Sleep and Fatigue using handheld or wearable sensors and/or other advanced technologies
  - The "Changing Minds, Changing Lives" project with nurses working with student athletes and the Athletics Department

# Strategies to Increase Research Productivity

- Additional Metrics
  - Tenure Density: 1:48 (2011); 1:22 (2016)
  - All tenure track hires have had post-doctoral training
  - University collaborative teams: 1 (2011); 8 (2016)
  - Nursing leads the campus-wide Center for Health Monitoring Core
  - Endowed Professorship in Social Justice and Nursing



# Strategies to Increase Research Productivity

- The Future
  - Targeted PhD recruitment into the 4 research areas
  - Plan a program of formal post-doctoral in areas of strength
  - Increase corporate and industrial development work and look to partner with companies to embed nursing in R&D processes
  - Increase campus-wide collaborative leadership initiatives
  - Create a university Institute for Healthy aging
  - Plan to decrease the tenure density levels even further

# Strategies to Increase Research Productivity

- Questions or Comments