Strategies to Increase Research Productivity in a College of Nursing

Stephen Cavanagh, RN PhD MPA FInstLM FACHE FAAN
Dean and Professor
University of Massachusetts, Amherst, USA
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\textsuperscript{th} (tie) public university by US News & World Report
• The College of Nursing is ranked 13\textsuperscript{th} (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)
Instruction to Majors and Non-Majors

Student Credit Hours (SCH)

• Credits earned from all students sources e.g. out-of-state
• Managing student growth and revenue generation
• Combined undergraduate and graduate student growth
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