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Measuring Faculty Contributions

The accounting of faculty activities and effort is an integral part of the mission-based management process. The following annotated bibliography is a comprehensive overview of the literature on faculty productivity assessment. These works include case studies and reports on the creation of teaching, research, and clinical metrics, essays about the benefits and challenges of such systems, and other materials that administrators and faculty will find useful and thought-provoking.

Annotated Bibliography of Works on Faculty Productivity

Albanese, M. "Rating Educational Quality: Factors in the Erosion of Professional Standards." *Academic Medicine*, 1999. 74: 652-658.

Although this article devotes much time to the problems of evaluating and rating medical students, the first section discusses the research on rating systems in general. The article may have applicability to those considering some type of rating instrument for determining faculty effectiveness.

Angell, M. "Publish or Perish: A proposal." *Annals of Internal Medicine*, 1986. 104: 261-262.

This short commentary proposes reforms to the evaluation of scholarly publications for promotion and funding. The author decries what she sees as an emphasis of quantity over quality in publication. Her primary solution is to set a ceiling on the number of publications that could be considered for promotion or funding.

Bardes, CL, Hayes, JG. "Are the teachers teaching? Measuring the educational activities of clinical faculty." *Academic Medicine* 1995, 70: 25-28.

This article develops the idea of a relative value scale in teaching (RVST) as a way to monitor and evaluate the degree of teaching activity in medical schools. The authors propose a methodology that quantifies the levels of teaching according to intensity of task, preparation time, degree of responsibility, and educational value.

Bardes, CL, Hayes, JG, Falcon, DJ, et al. "Measuring teaching: a relative value scale in teaching." *Teaching and Learning in Medicine*, 1998, 10: 40-43.

A continuation of the discussion of the relative value scale in teaching that the authors raised in *Academic Medicine*. The authors report on the implementation of the RVST at Cornell Medical Center.

Barondess, JA. "The academic health center and the public agenda: Whose three-legged stool?" *Annals of Internal Medicine*, 1991, 115: 962-967.

The author argues, through historical perspective, that the missions of academic health centers have become distorted, emphasizing research and clinical care to the detriment of teaching.

Bland, CJ and Ruffin, MT. "Characteristics of a productive research environment: Literature review." *Academic Medicine*, 1992. 67: 385-397.

This article investigates the environmental factors at the institutional and departmental levels that stimulate and help maintain research productivity. Among those characteristics include a distinctive culture, decentralized organization, shared governance, and effective leadership.

Carey RM, Munsey SW, and Reynolds RE. "Evaluating faculty clinical excellence in the academic health sciences center." *Academic Medicine*, 1993. 11: 813-817.

The authors propose an evaluation system to recognize and reward excellence in clinical care, based on their experiences at the University of Virginia Health Sciences Center. The system uses both objective assessment and subjective evaluation measures.

Chin DC, et al. "The Relation of Faculty Academic Activity to Financing Sources in a Department of Medicine." *New England Journal of Medicine*, 1985: 312: 1029-34.

This article summarizes the findings from a study at the department of medicine at Stanford Medical School, which sought to determine if faculty activities can be accurately categorized and how those activities related to sources of individual and departmental income. The study found that, on average, a full-time faculty member worked 62 hours per week, over 60 percent of those activities were "joint products" (i.e. representing two or more categories), and research generated more income than clinical practice.

D'Alessandri, RM, et al. "Measuring Contributions to the Clinical Mission of Medical Schools and Teaching Hospitals." *Academic Medicine*, 2000. 75: 1231-1237.

This is the report of the expert panel convened by the AAMC's mission-based management program to examine metrics in evaluating clinical productivity. The report outlines advantages and disadvantages of several different metrics, divided into those that are based on revenue information and those based on measured activity. The article provides a useful starting point for institutions to develop clinical productivity metrics of their own.

Doellefeld, Steven F. (1998). *Faculty Productivity: A Conceptual Analysis and Research Synthesis*. Unpublished doctoral dissertation: University at Albany, State University of New York.

The author discusses the most commonly used indicators of teaching productivity: classroom/student credit hours, faculty contact hours, class size, and the teaching portfolio. The most commonly used methods of determining research productivity are peer recognition, citation indices/score, curriculum vitae, weighted indices/summaries, and publication record.

Ellwein, LB, Khachab, M, et al. "Assessing research productivity: Evaluating journal publication across academic departments." *Academic Medicine* 1989, 64: 319-325.

This article may be useful to faculty and administrators who want to establish a system to measure research productivity. This study used journal publication as a proxy for research productivity. The authors aimed to determine if

productivity rankings, as measured by journal publication, were influenced by the quality of the journal and the position of author byline.

Fox, MF. "Publication productivity among scientists: A critical review." *Social Studies of Science*, 1983. 13: 285-305.

A review and assessment of productivity studies. The author divides the literature into individual-level studies (those that attempt to explain productivity based on personal characteristics and behavior) and environmental studies (those that investigate the effects of institutional characteristics).

Fye, WB. "The origin of the full-time faculty member: Implications for clinical research." *JAMA*, 1991, 265: 1555-1562.

This article offers an historical perspective on the development of the full-time clinical faculty system. The main goal of the full-time system was to stimulate research by removing the incentive to focus energy on clinical care. Given the financial constraints of the modern clinical research system, this article offers important historical context to the current situation.

Garson, G, Strifert, K, et al. "The metrics process: Baylor's development of a report card for faculty and departments." *Academic Medicine*, 1999, 74: 861-70.

The authors, all administrators and faculty and Baylor College of Medicine, chronicle their institution's process of implementing a metrics system to measure faculty contribution to teaching, research, clinical care, and service missions.

Glasscock, RJ and Ramsbottom-Lucier, M. "Financing medical student education in departments of internal medicine." *American Journal of Medicine*, 1999. 106: 269-272.

The authors outline the development of a relative-value unit system for educational effort at the University of Kentucky department of medicine. In addition to an explanation of the system and its benefits, the authors offer cautions about developing a RVU system that is overly complex. Their advice is to keep it simple and easy to understand.

Hilton C, Fisher W., et al. "A relative value-based system for calculating faculty productivity in teaching, research administration, and patient care." *Academic Medicine*, 1997. 72: 787-93.

The department of medicine at the Louisiana State University School of Medicine designed a system of calculating faculty productivity in teaching, research, administration, and patient care. This article describes their methodology and results. Their goal, using a relative-value schema, was to produce a system in which high productivity in one area would produce similar results to high productivity in another area.

Holmes, EW, et al. "Measuring contributions to the research mission of medical schools." *Academic Medicine*, 2000. 75: 303-13.

This is the report of the expert panel convened by the AAMC's mission-based management program to examine metrics in evaluating research productivity. The report identifies four areas in which measures can assess contributions to the research mission: grants and other revenue-generating activities,

publications, national service and reputation, and support to the general research mission of the school. The article also notes several concerns about the use of productivity metrics in research.

Holmes, EW. "Incentivizing research faculty biomedical research in academic departments of internal medicine: challenges and solutions." APM Fall Symposium, 1996.

Brief summary of several different types of financial and non-financial incentives for faculty to pursue research. This article may offer a number of ideas to faculty and administrators who are considering ways to boost research at their institutions.

Jacobs, MB. "Faculty status for clinician-educators: Guidelines for evaluation and promotion." *Academic Medicine*, 1993. 68: 126-128.

This short commentary argues for the adoption of Ernest Boyer's redefinition of scholarship—scholarship of application, teaching, integration, and discovery—as a means to evaluate and promote clinician-educators.

Jennings, John D. (1997). *Faculty Productivity: A Contemporary Analysis of Faculty Perspectives*. Unpublished doctoral dissertation. Stanford University, CA.

Interesting findings: (1) faculty belief that their activities cannot easily be measured; (2) the typology of teaching, research, and service doesn't accommodate some tasks; (3) faculty don't think productivity is an appropriate construct; (4) how faculty members define productivity varies widely, even within the same department.

Joint Commission on Accountability Reporting. "An Introduction to Faculty Workloads."

Created in 1994 by three higher education associations, the Joint Commission on Accountability Reporting (JCAR) was established to develop common ways of presenting easy-to-understand comparable information. This document provides a list of the types of work done by faculty. It may be helpful to campus committees that are framing their measurement systems of faculty contributions to education, research, and clinical care.

Kaplan, P, Mysiw, WJ, and Pease, WS. "Academic Productivity in Physical Medicine and Rehabilitation." *American Journal of Physical Medicine and Rehabilitation*, 1992. 71: 81-85.

A study of departmental academic productivity, as measured by the number of publications in ten peer-reviewed journals. The authors found wide variation in departmental productivity, but does not assess the factors underlying the findings.

Kaplan, PE, Granger, CV and Huba JC. "Development of an academic productivity scale for departments of physical medicine and rehabilitation." *Arch Phys Med Rehabil* 1997. 78: 938-941.

As part of a multi-year study, the authors developed an instrument to measure departmental influences on academic productivity in departments of physical medicine and rehabilitation. The survey instrument of 28 question items is not included in the article, but can be obtained from the first author.

Kastor, JA, et al. "The salary responsibility program for full-time faculty members in an academic clinical department." *Academic Medicine*, 1997. 72: 23-29.

The authors relate their experience of establishing a salary-reduction program in the Department of Medicine at the University of Maryland School of Medicine in 1995-96. Their development of a time-based method to measure faculty members' productivity will be of interest.

Knight Higher Education Collaborative. "The Data made me do it." *Policy Perspectives* 9, 2 (March 2000). Philadelphia: Institute for Research on Higher Education, University of Pennsylvania Graduate School of Education.

This essay suggests ways that colleges can use data more strategically in campus decision making. It argues that universities must build a culture of data, where the campus community understands the context in which data is presented.

Lombardo, J. "Using modern information technology to profile faculty activities." *Academic Medicine*, 1998. 73: 1267-73.

Reflections on implementing a faculty information database system at the Johns Hopkins School of Medicine. This may be a useful article to representatives from schools who need to upgrade their data collection capabilities for tracking information on their faculty.

MacDougal, B, Ruedy, J. "Linking budgets to desired academic outputs in Dalhousie University." *Academic Medicine*, 1995. 70: 49-54.

This article presents one method of linking budget allocation to faculty productivity using a relative value system. The article is based on the authors' experience at Dalhousie University Faculty of Medicine in Canada during a severe budget cutback in 1993, at which time they devised a relative value resource-allocation model.

Mallon, W. T. and Jones, R. F. "How do medical schools use measurement systems to track faculty activity and productivity in teaching?" *Academic Medicine*, 2002 (February). 115-123.

The authors describe their findings from a study that (1) identified 41 medical schools or medical school departments that used metric systems to quantify faculty activity and productivity in teaching and (2) analyzed the purposes and progress of those systems.

Middaugh, Michael F. *Understanding Faculty Productivity: Standards and Benchmarks for Colleges and Universities*. San Francisco: Jossey-Bass Publishers, 2001.

This book uses the results of several national studies on faculty productivity and workloads to address how faculty productivity is defined, how it is measured, and how schools can use both quantitative and qualitative benchmarks. The book is geared to the broadest higher education audience, but medical colleges will find many of the ideas and discussion applicable to their own settings.

Monson, DE. "Managing and Improving Faculty Productivity." *Academic Clinical Practice*, 1998. Accessed at <http://www.aamc.org/members/gfp/acp.htm>

The author, a former director at CSC Healthcare consultants, argues that

schools of medicine need to develop better methods of managing faculty productivity as a means of preserving the schools' academic mission. He outlines a process to improve faculty productivity and link it to compensation.

Nutter, DO, et al. "Measuring faculty effort and contributions in medical education." *Academic Medicine*, 2000. 75: 199-207.

This is the report of the expert panel convened by the AAMC's mission-based management program to examine metrics in evaluating faculty performance in education. The report classifies educational activities into four categories: teaching, development of educational products, education administration and service, and scholarship in education. The Nutter Report, in addition to the D'Alessandri Report on metrics in clinical affairs and the Holmes Report on research productivity (see references above), offer an examination of the various methods of measuring faculty and departmental contributions to the academic enterprise of medical schools.

Public Higher Education and Productivity: A Faculty Voice. A Statement on Productivity from the Leaders of the Faculty Senates and Faculty Unions of the State University of New York and the California State University. *Chronicle of Higher Education*.

The faculty leaders at SUNY and CSU—the two largest public university systems in the country, issued this joint statement in February 1997. They define essential components of productivity in educational institutions and call for regular evaluation of faculty accomplishments in teaching, scholarship, and service.

Reiser, SJ. "Linking excellence in teaching to departments' budgets." *Academic Medicine*, 1995. 70: 272-275.

The author notes the "unbundling" of medical school income by mission and calls for an increased support for the teaching role. To focus more attention on the teaching mission and create a shared purpose among department faculty, he proposes a two-track merit-based compensation system. In his plan, half of the merit resources are awarded based on individual faculty performance. The other half is allocated based on department merit, determined by the dean.

Scheid, DC, Hamm, RM, and Crawford, SA. "Measuring Academic Production—Caveat Inventor." *Academic Medicine*, 2000: 75: 993-995.

In this brief commentary, the authors outline their concerns with developing a relative value system for measuring academic activity, based on their experiences at the University of Oklahoma College of Medicine. Among their concerns are the validity and acceptability of the relative value schema in the academic setting.

Thomas, AL. "Reporting of faculty time: An accounting perspective." *Science*, 1982: 215: 27-32.

The author examines the concerns with having faculty report 100 percent of time. Discusses the interaction effect when two activities (e.g. research and teaching) occur simultaneously. His solution is to treat ordinary interactions as part of the main activity: "an investigator's time should be assigned to individual activities by such naïve, rebuttable presumptions as that when Professor X is in the classroom she is teaching, when she is in a particular laboratory area she is working on the related grant, and the like... Since our allocations must be arbitrary, the least we can do it keep them simple."

Watson, RT et al. "Moving a graveyard: how one school prepared the way for continuous educational renewal." *Academic Medicine*, 1998. 73: 948-55.

This article presents a case study of curriculum change at the University of Florida College of Medicine. It presents a synopsis of key events of and approaches to the change process, and summarizes factors that promoted or impeded change. This article would be interesting to readers who have or are considering curricular revisions at their own institutions.

Watson, RT. "'Managed education': an approach to funding medical education." *Academic Medicine*, 1997. 72: 92-93.

In this brief commentary, the author explains reasons for undertaking mission-based budgeting at the University of Florida College of Medicine. Because of decreasing clinical revenues, cross-subsidization of the education mission is no longer viable. Mission-based budgeting offers a solution to this dilemma by creating mission-specific budgets.

Watson, RT and Romrell, LJ. "Mission-based budgeting: removing a graveyard." *Academic Medicine*, 1999: 72: 627-40.

The University of Florida College of Medicine implemented a mission-based budgeting process in 1994. This article describes that process, especially the school's development of its faculty productivity measurement system. Florida's system includes a process for measuring quality of effort in the education mission; 20 percent of a department's budget allocation is based on assessment of quality.