

Appendix 2: Studies excluded from the review because they did not report on the effects of the strategies introduced to assess the productivity of faculty in academic medical centres

Study	Types of Productivity	Compensation of productivity	Notes
Albritton 1997 ¹ • Department of Medicine, Medical College of Georgia, Augusta, GA, USA	<ul style="list-style-type: none"> • Clinical • Teaching 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Proves that relative value units (RVU's) can be used to measure faculty clinical but not teaching productivity. • Current Procedural Terminology (CPT4) codes were used to calculate RVUs
Alderson 2003 ² • UK Cochrane Centre, NHS R&D Programme, Oxford, UK	<ul style="list-style-type: none"> • Research 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Displays results of nationwide survey about the faculty skills in 'evidence based medicine'
Anema 1992 ³ • School of Nursing, Tennessee State University, Nashville, TN, USA	<ul style="list-style-type: none"> • Research • Teaching • Administrative 	<ul style="list-style-type: none"> • Uses a specific weighted formula to calculated the merit increase in pay according to each area of productivity 	<ul style="list-style-type: none"> • Describes a computer based approach to calculate faculty merit increase. • Example of merit increase in table 2
Ashar 2007 ⁴ • Division of General Internal Medicine, Johns Hopkins School of Medicine, Baltimore, Maryland, USA	<ul style="list-style-type: none"> • Teaching 	<ul style="list-style-type: none"> • Faculty receive 19% salary support per year 	<ul style="list-style-type: none"> • Evaluation of quality of teaching rather than "productivity"
Bardes 1995 ⁵ • Department of Medicine, Cornell University, New York, NY, USA	<ul style="list-style-type: none"> • Teaching 	<ul style="list-style-type: none"> • Promotion, tenure, and salary support depending on the RVU scale 	<ul style="list-style-type: none"> • Includes a table detailing the weight of each variable used for calculating relative value units for teaching activities of clinical faculty
Bell 1984 ⁶ • Department of Allied Health Sciences, Southwestern Texas University, San Marcus, Texas, USA	<ul style="list-style-type: none"> • Clinical • Research • Teaching • Administrative 	<ul style="list-style-type: none"> • Faculty assessment to reach administrative decisions about merit, promotion, and tenure 	
Bland 1992 ⁷ • Department of Family Practice & Community Health, University of Minnesota Medical School, Minneapolis, MN, USA	<ul style="list-style-type: none"> • Research 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Identifies a consistent set of 12 characteristics that are usually found in research-conducive environments
Bland 2002 ⁸ • Department of Family Practice and Community Health, University of Minnesota School of Medicine, Minneapolis, Minnesota USA	<ul style="list-style-type: none"> • Clinical • Research • Teaching • Administrative • Other: professional outreach, self-development 	<ul style="list-style-type: none"> • A final merit rating is calculated according to a points assigned for each area of productivity, and this determines the distribution of faculty rewards such as salary raises, bonuses, travel funds, and other, non-monetary types of recognition 	<ul style="list-style-type: none"> • A standard 10-point scale with specific criteria listed to define levels of accomplishment • Table 2 lists example of merit ratings for an individual faculty member evaluated by the Merit-review System

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Ceriani 1992 ⁹ <ul style="list-style-type: none"> Department of Neonatology, Harvard Medical School, Boston, Massachusetts, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Total compensation based on 2 components: a base salary determined by basic methods/surveys, and an incentive component that is formula driven 	<ul style="list-style-type: none"> Uses the Association of Administrators in Academic Pediatrics (AAP) survey to assess level of salaries Table 1 shows example of break-even analysis Table 2 shows time and effort analysis
Chambers 2003 ¹⁰ <ul style="list-style-type: none"> Department of Academic Affairs & Scholarship, School of Dentistry, University of the Pacific in San Francisco, CA, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Describes the development of a system for annual evaluation of faculty
Coleman 2003 ¹¹ <ul style="list-style-type: none"> Department of Veterans Affairs, Yale University School of Medicine, New Haven, Connecticut, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> None 	
Collier 2006 (Part 1 and Part 2) ^{12,13} <ul style="list-style-type: none"> Department of Management Sciences, Ohio State University, Columbus, OH, USA 	<ul style="list-style-type: none"> Clinical 	<ul style="list-style-type: none"> Total compensation based on 2 components: a base salary determined by basic methods/surveys, and an incentive component that is formula driven. 	<ul style="list-style-type: none"> Uses Relative Value Units (RVU's) as an input variable Describes "Data Envelopment Analysis" (DEA) efficiency scores to measure productivity. Table 1 & 2 (in part 2) show "Base Physician Performance Data" and "Typical Physician Performance Ratios"
Crouch 1989 ¹⁴ <ul style="list-style-type: none"> Pharmacy Services, The Moses H. Cone Memorial Hospital, Greensboro, NC, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Promotion to pharmacist II, implying substantial raise in salary (10%), greater autonomy and possibility to pursue research and projects of special interest 	<ul style="list-style-type: none"> Point-based system; if 50 points are accumulated over 2 years, promotion to "pharmacist II category" is granted (Point values listed in Appendix of paper)
Curtright 2000 ¹⁵ <ul style="list-style-type: none"> Department of Endocrinology, Metabolism, Nutrition, Mayo Clinic, Rochester, Minnesota, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Describes the concept of a "balanced scorecard" or "dashboard report" to assess productivity and monitor how well the organization achieves its performance goals Uses RVU's
D'Alessandri 2000 ¹⁶ <ul style="list-style-type: none"> Clinical Panel of the Mission based Management Program of the Association of American Medical Colleges (AAMC), Washington DC, USA 	<ul style="list-style-type: none"> Clinical 	<ul style="list-style-type: none"> States the importance of clinical productivity measures in recognizing and rewarding faculties and departments performance. 	<ul style="list-style-type: none"> Describes a method of calculating standardized clinical full-time equivalents (FTEs) using different clinical metrics: <ul style="list-style-type: none"> Relative Value Units (RVUs) Total Patient-care Gross Charges Total Net Fee-for-service Revenue Total Volume per CPT Code by Service Category

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Dahllof 1999 ¹⁷ <ul style="list-style-type: none"> Department of Pediatric Dentistry, Odontological Toxicology, and Surgery, Karolinska Institutet, Stockholm, Sweden 	<ul style="list-style-type: none"> Clinical: Research (scientific) Teaching (pedagogical) Administrative (Leadership, development, and work-place relations) 	<ul style="list-style-type: none"> Defines the “appointment profile” that is used in new appointments and promotions, guidelines of improving self proficiency, and a basis for determining individual salary rates. 	<ul style="list-style-type: none"> Qualification portfolios available online on http://ki.se/merit.se.html . Table 2 lists an example of scoresheet for evaluation of one type of productivity
Devos 2003 ¹⁸ <ul style="list-style-type: none"> Department of Biostatistics, University Hospital, Lille, France 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> The method describes allows to compare candidate profiles for assignment to research posts 	<ul style="list-style-type: none"> Describes a full-Web prototype tool that allows for immediate analysis of publication for a researcher or a research team
Efferth 2001 ¹⁹ <ul style="list-style-type: none"> Virtual Campus Rhineland-Palatinate, Mainz, Germany 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Promotion of talented young researchers to associate professors 	<ul style="list-style-type: none"> Assesses all types of productivity using quality management panel of instruments.
Holmes 2000 ²⁰ <ul style="list-style-type: none"> Research Panel of the Mission-based Management Program of the Association of American Medical Colleges (AAMC), Washington, DC USA 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> The measures described help university administrators make decisions about allocating institutional resources to particular researchers 	<ul style="list-style-type: none"> Describes general guidelines for the development and use of a metric system to assess contributions to the research mission
Holcombe 2010 ²¹ <ul style="list-style-type: none"> Division of Hematology/Oncology, University of California at Irvine, Orange, California, USA 	<ul style="list-style-type: none"> Clinical Research Teaching 	<ul style="list-style-type: none"> Benchmarks are calculated using the percent effort spent on each mission 	<ul style="list-style-type: none"> Academic and clinical incentives are apportioned on the basis of the percent effort of an individual faculty member for the specific missions. The faculty define and review annually the incentives for possible modification
Howell 2002 ²² <ul style="list-style-type: none"> Department of Pathology, University of California, Davis School of Medicine, Davis, California, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> The summary report card multiplies the “evaluation score” by the “activity score” to achieve a single “quantity/quality product” for each mission. The mission products are then summed to obtain a single “summary score” for each faculty member, which is used in the promotion process and faculty reward. 	<ul style="list-style-type: none"> Describes of a “Web-based mission-based” “self-reporting” (MBR) system
Joiner 2004 ²³ <ul style="list-style-type: none"> Department of Investigative Medicine, Yale University School of Medicine, New Haven, Connecticut USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Comparing 2 types of incentive salary plans 	<ul style="list-style-type: none"> Describes 2 incentive plan models: The Expense Model and the No Expense Model

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Jokic 2000 ²⁴ <ul style="list-style-type: none"> National & University Library, University of Zagreb, Zagreb, Croatia of 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Documents the scientific productivity of 91 projects in the field of biology that were funded by the Ministry of Science & Technology in Croatia during the 1991-96 period comparing them using the total number of publications and the scientific impact of each publication.
Kaplan 1992 ²⁵ <ul style="list-style-type: none"> Department of Physical Medicine, The Ohio State University, Columbus, Ohio USA 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Describes research productivity using number of scientific publications as a measurement instrument in different departments.
Karras 2006 ²⁶ <ul style="list-style-type: none"> Department of Emergency Medicine, Temple University School of Medicine, Philadelphia, PA USA 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Describes a survey of research directors that describes the association of research productivity with the characteristics of clinical faculty.
Kearl 1993 ²⁷ <ul style="list-style-type: none"> Department of Family Practice, University of Kentucky College of Medicine, Lexington, Kentucky USA 	<ul style="list-style-type: none"> Clinical Teaching 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Proves that teaching does not have an effect on clinical productivity
Kratz 2005 ²⁸ <ul style="list-style-type: none"> Department of Anesthesiology, Penn State Milton S. Hershey Medical Center, Hershey, PA, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Annual incentive payment was weighted 60% for clinical activities and 40% for activities in other areas. 	<ul style="list-style-type: none"> Description of adjustment process of Motivation/Incentive/Professional Evaluation Plan (MIPE); 50% goal-based and 50% based on performance standards
Krumland 1979 ²⁹ <ul style="list-style-type: none"> Department of Health Management, Baylor College of Medicine, Houston, Texas USA 	<ul style="list-style-type: none"> Research 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Assesses research productivity by evaluating the quality of the article as compared to the articles in that journal the article is cited.
McHugh 1994 ³⁰ <ul style="list-style-type: none"> John Hopkins School of Medicine, Baltimore, Maryland, USA 	<ul style="list-style-type: none"> Research Teaching 	<ul style="list-style-type: none"> Describes 3 different pathways for faculty promotion 	<ul style="list-style-type: none"> This article was a "Letter of Experience" that described the decision-making process of the Professorial Promotion Committee in John Hopkins School of Medicine
Osborne 1995 ³¹ <ul style="list-style-type: none"> Department of Counselor Education, The University of North Carolina at Greensboro, Greensboro, NC USA 	<ul style="list-style-type: none"> Teaching 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Describes a model for faculty peer review focusing on education and teaching

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Schindler 2002 ³² <ul style="list-style-type: none"> Department of Surgery, Northwestern Healthcare & Northwestern University Medical School, Skokie, Illinois USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Recognition dinner and rewards 	<ul style="list-style-type: none"> Describes a simple system that uses a point scale that assigns each activity or contribution a certain value
Schwiebert 1988 ³³ <ul style="list-style-type: none"> Department of Family Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, USA 	<ul style="list-style-type: none"> Mostly Clinical 	<ul style="list-style-type: none"> Faculty receive a base salary for research & teaching 	<ul style="list-style-type: none"> Uses patient care revenue as a funding source Table 1 gives examples of productivity calculator In addition to faculty, discusses other variables to maximize productivity including residents, staff, and practice environment variables.
Taylor 2001 ³⁴ <ul style="list-style-type: none"> Department of Radiology Children's Hospital, Boston, Massachusetts, USA 	<ul style="list-style-type: none"> Clinical Research 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Uses relative value units (RVUs) per full-time equivalents (FTEs) to determine clinical productivity. Concludes that increase in workload negatively affects academic productivity
Willis 2004 ³⁵ <ul style="list-style-type: none"> Department of Family Medicine, Indiana University, Indianapolis, IN, USA 	<ul style="list-style-type: none"> Clinical Research Teaching Administrative 	<ul style="list-style-type: none"> Compensation system based on activities in 5 categories (A to E) reflecting different aspects of work activity (partly RVU based) including achievement of department goals 	<ul style="list-style-type: none"> Development of an incentive system that rewards individual and corporate productivity
Wright 2010 ³⁶ <ul style="list-style-type: none"> Johns Hopkins University School of Medicine, Baltimore, Maryland, USA 	<ul style="list-style-type: none"> Clinical 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> The researchers report developing a metric to appraise academic physicians with respect to clinical excellence

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