cancer patients, including hematology/oncology attending physicians, nurses, secretaries, and social workers. The group is cofacilitated by a palliative care expert, a medical oncologist, and a clergyman.

The group meets on average 6 times per year. In addition to sharing stories and experiences about responses to patient loss and grief, participants routinely dedicate time to reflection on self-care strategies. Sessions will sometimes commence with mindfulness meditation exercises encouraging self-awareness by focusing exclusively on the process of gentle breathing. Participants are then invited to voice whatever work-related personal experiences are on their minds. Feelings of frustration, anger, loss, isolation, and insecurity often emerge in a setting that is nonjudgmental and supportive. At the end of each 1-hour session, a moment of silence is observed in remembrance of patients who have recently died, and the opportunity to remember and honor a patient who has died by saying his or her first name is offered.

Over the past few years, we have witnessed each other’s tears and laughter—all while confidentially discussing our day-to-day impressions about, and personal reactions to, patients, their families, treatments, and death. This approach allows oncology staff and trainees to systematically share their loss and grief with others who have common experiences and values.

While providers of oncology care can certainly experience their losses and grief in isolation, studies such as this one by Granek et al reveal the potential for withdrawal from other dying patients, distraction, and self-doubt. Ongoing study and development of optimized coping strategies for oncologists not only to survive but also to potentially experience personal growth from their work are needed, but experiences such as our oncology support group seem to be a big step in the right direction.

Michelle Shayne, MD
Timothy E. Quill, MD

Published Online: May 21, 2012. doi:10.1001/archinternmed.2012.2035

Author Affiliations: Divisions of Hematology Oncology (Dr Shayne) and Palliative Care (Dr Quill), University of Rochester Medical Center, Rochester, New York.

Correspondence: Dr Quill, Division of Palliative Care, Hematology Oncology, University of Rochester Medical Center, 601 Elmwood Ave, PO Box 704, Rochester, New York 14642 (timothy_quill@urmc.rochester.edu).

Financial Disclosure: None reported.


Physician Perception of the Impact of Productivity Measures on Academic Practice

Over the last 40 years, financial pressures and incentives have reshaped health care delivery in the United States. One important recent change is the implementation of measures to quantify and incentivize physician work.1-3 Although implementation of productivity targets has been shown to increase physician work, the impact of these changes on the academic missions of teaching, research, and patient care has not been adequately studied.

See Invited Commentary

Methods. We surveyed physicians in the department of medicine at a large academic medical center to determine the impact of recently implemented work targets on attitudes and behaviors toward teaching, research, and clinical care (response rate 64%, n = 137). Responders were asked 29 questions about the impact of work targets on their performance of various academic activities in the years before and after introduction of this policy. Data were analyzed using STATA statistical software (StataCorp LP) and the Prism software (Prism Software Corporation). The t test was used for data that were normally distributed, and the Wilcoxon Rank Sum was used for data not distributed normally. We compared proportions between groups using χ2 tests.

Results. Nearly half of physicians described themselves as being more inclined to take on clinical activities after work targets were measured (47%) (Figure). However, increased focus on clinical duties was associated with changes in the ways physicians carried out these activities. Physicians reported being less willing to perform curbside consultations and more likely to continue consulting on a patient after the initial active issue was addressed. Forty-three percent perceived that time spent per patient in the clinic decreased; this effect was much more pronounced among physicians providing primarily evaluation and management (E&M) visits rather than procedures (50% vs 17%) (P = .03). Over half felt that (1) quality of care declined; (2) the number of tests and/or procedures increased; and (3) patients were worse off after work was measured. Physicians in procedure-based specialties (gastroenterology, pulmonology, and cardiology) reported that they were more likely to perform a procedure for which there was only a marginal indication (23.2% after vs 15.6% before target measurement) (P = .05).

The impact of work targets on nonclinical activities was unfavorable: 86% of physicians reported being less inclined to perform activities that did not count toward work targets. Some 75% of physicians reported a decrease in time spent teaching. Almost half of physicians reported a decrease in interest in research-related activities (48%), and this was particularly true for physicians who derived more than half of their salary from clinical activities (61% vs 34%) (P = .01).
Finally, satisfaction with practicing academic medicine decreased after implementing work targets. Eighty-nine percent of physicians said that they had been satisfied with practicing medicine in the years before work was measured, but only 16% described themselves as satisfied after productivity was measured. Many respondents wrote in comments about the model's harm to physician morale, collegiality, and job satisfaction. Importantly, these findings do not appear specific to this institution, since many respondents stated that colleagues at other institutions, who work in a similar system, have mentioned a negative impact of work targets on their practice. Finally, 94% of physicians were pessimistic about the future of academic medicine under a work-productivity model.

Comment. This study shows that measuring physician work has intended and unintended consequences. While our results confirm previous reports that physicians are more inclined to perform clinical duties,4-6 we also found changes in the ways physicians performed their clinical duties—including some behaviors that boosted measured productivity (decreased curbside consultations, increased up-coding) and others that were possibly not in patients' best interests (eg, more tests and procedures).

It is troubling that physicians providing primarily E&M visits were much more likely to report drops in physician time per encounter than were physicians performing procedures. This may signal that the productivity metric used at this medical center has the effect of perpetuating the often-criticized undervaluation of physicians' cognitive services found in both UCR (usual, customary, and reasonable) and RBRVS (resource-based relative value studies) fee schedules.7

Another important finding of this study was the unfavorable impact of productivity measures on teaching and research. Eighty-six percent of physicians admitted being less inclined to perform activities that did not count toward productivity targets. Physicians made it very clear that they were less willing to teach. This was evident from both direct questioning and written comments. Of 86 physicians providing commentary, 35% mentioned a concern over the impact on medical education (n=30). If our findings hold true, medical schools and training programs should begin to monitor trainees to ensure that quality of education is not being harmed.

Satisfaction with practicing medicine decreased dramatically after work was measured. Although we are unable to determine why physicians were so dissatisfied, we suspect that it relates to the way productivity is monitored and enforced; perceived concerns over effects of increased clinical productivity on quality of care, teaching and research, and other factors.

This study is limited. It is a single-center study, so findings may not be applicable to other academic medical centers. It was restricted to the department of medicine, so findings may not apply to physicians in other specialties. The response rate was 64%. While this is an excellent response rate for a nonincentivized physician survey, it is possible that those most affected were more likely to reply, and higher response rates might yield different results.

In conclusion, results indicate that setting work targets does not simply increase clinical productivity but also has many unintended consequences that affect all 3 missions of academic medical centers. As one physician

---

**Figure.** Physician perception of the impact of productivity measures on clinical and nonclinical activities.
respondent put it, “while the RVU [Relative Value Units] system undoubtedly increases productivity, it is an anti-intellectual exercise that is anathema to the academic mission.” We believe it would be wise for leaders of academic institutions to closely monitor the impact of work targets on the performance of physicians’ vital clinical and nonclinical tasks.

Ross Summer, MD  
Renda Soylemez Wiener, MD, MPH  
Dan Carroll, BS  
Alan Sager, PhD

**Author Affiliations:** The Pulmonary Center, Boston University School of Medicine, Boston, Massachusetts (Drs Summer and Wiener and Mr Carroll); Center for Health Quality, Outcomes, and Economic Research, Edith Nourse Rogers Memorial Veterans Hospital, Bedford, Massachusetts (Dr Wiener); and Boston University School of Public Health, Boston (Dr Sager).

**Correspondence:** Dr Summer, The Pulmonary Center, Boston University School of Medicine, 715 Albany St, R304, Boston, MA 02118 (rsummer@bu.edu).

**Author Contributions:** Study concept and design: Summer, Wiener, and Sager. Acquisition of data: Summer and Carroll. Analysis and interpretation of data: Summer, Wiener, and Sager. Drafting of the manuscript: Summer and Sager. Critical revision of the manuscript for important intellectual content: Summer, Wiener, Carroll, and Sager. Statistical analysis: Summer and Wiener. Administrative, technical, and material support: Summer and Carroll. Study supervision: Summer.

**Financial Disclosure:** None reported.


**INVITED COMMENTARY**

**Academic Practice—Against All Odds**

Medicine has evolved dramatically over the past half century. We have witnessed the emergence of the National Institutes of Health as a driver of the research enterprise, the advent of Medicare and Medicaid paying for care that used to be either nonexistent or deemed charity care, the development of “big pharma,” large hospital companies, venture capital investment in health care, and other similar developments. How has this new reality of health care—the medical industrial complex1—altered the world of academic medicine and the nature of faculty positions?

The idealized “triple threat” academic physician of long ago has ceased to be a viable model.2 Barzansky and Kengy2(263) describe the evolution of the full-time clinical faculty member, noting as follows:

In the 100 years since the Flexner Report, clinical faculty have become “full-time” and “salaried.” However, instead of deriving their salaries from the nonclinical resources of the medical school, such as tuition and income from endowment, they are significantly contributing to the institutional financing through their practices.

The new reality of academic practice is one in which faculty are “slotted” into primary research positions, clinical positions, or for a few, primary educational positions. The new multibillion-dollar academic medical complexes have emerged precisely because they have leveraged their clinical income to both expand research and develop more clinical programs. At the academic medical complexes’ associated medical schools, the same focus has developed, with fully 38% of all revenue in 2009 derived from faculty practice plans.3 Increasingly the flow of dollars determines the nature of faculty positions and has contributed to the explosive growth of nontenured clinical faculty positions.

An issue in academic medicine has always been the opportunity cost for clinical faculty pursuing a faculty position vs private practice.3 This issue was as true at the time of Flexner as it is today. However, the inherent trade-off of salary for academic engagement—teaching, research, and perhaps a more measured lifestyle—is becoming, like the concept of the triple threat, a fading memory. The expansion of clinical faculty relative to medical students and the work-hour restrictions for residents have further decreased the opportunities for all faculty to be involved in teaching. As the perks of academic medicine have decreased, there is more need for approximating the financial returns realized in private practice. As a consequence, many centers have embraced objective, clinical, productivity-based compensation models.

Lee Goldman, MD, formerly the Chair of the Department of Internal Medicine at University of California at San Francisco and now the Executive Vice President and Dean of the Medical School at Columbia University, described what he called the “cold hard facts of academic economics 101”5(p13):

There are four categories of faculty: (1) “Taxpayers,” who generate more than they cost and help fuel the academic mission; 2) “Hired Workers,” who get paid to do a job that many people might like to do; (3) “Loss Leaders,” who get short-term investments in the expectation that they will become successful “Taxpayers;” and (4) “Welfare Recipients,” faculty with the most tenuous status. Bottom line, you should strive to be a “Taxpayer.” If you are a “hired worker,” you should strive to be better than the others who would like your job.

The current focus on productivity-based compensation is a natural extension of the hired worker–taxpayer academic positions. Faculty in this category are hired to provide clinical care while generating revenue for their schools and hospitals, with the “opportunity” (as long...