Published in final edited form as:

J Am Geriatr Soc. 2014 March ; 62(3): 553–557. doi:10.1111/jgs.12698.

The Relative Value Unit in Academic Geriatrics: Incentive or Impediment?

Neil M. Resnick, MD, AGSF^{*,†} and Nichole Radulovich, MEd, CRA^{*,†,‡}

^{*}Division of Geriatric Medicine, University of Pittsburgh, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

[†]Aging Institute, University of Pittsburgh, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

[‡]Pittsburgh Older American's Independence Center, University of Pittsburgh, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

Abstract

Although the number of older adults is rapidly expanding, the number of healthcare professionals trained in geriatrics is small and declining. The reasons are multifaceted, but because responsibility for training such professionals resides largely in academic health centers (AHCs), their support for geriatrics is critical. As AHCs face increasing financial pressure, many are seeking metrics to measure productivity and the Relative Value Unit (RVU) may be the one most commonly selected. Yet little is known about the RVU's effect on geriatric programs. Review of the literature and a survey of the leaders of the Association of Directors of Geriatric Academic Programs suggest that the advantages of an RVU-based metric are likely eclipsed by its negative impact on the care of older adults, the ability of academic geriatrics to accomplish its mission, and even the survival of geriatrics. If the RVU is to continue to be used as the index of productivity, it should be modified—by reweighting its codes (or by adding new ones)—and complemented by interventions to ensure patient access, care quality, and efficiency. Because an alternative metric, such as a Patient-based Value Unit may be preferable, this article describes the principles on which one might be based. Regardless, urgent action is required by all stakeholders to address this issue. Without it, the future of academic geriatrics—and with it the innovative care models, research, and training the nation needs to improve care and bend the cost curve—will be difficult if not impossible to sustain.

Keywords

Relative Value Unit; geriatrics; productivity measures; geriatrics workforce; quality measures; compensation models

Address correspondence to Neil M. Resnick, 3471 Fifth Avenue, Suite 500, Pittsburgh, PA 15213. resnickn@pitt.edu.

Conflict of Interest: The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this paper.

Author Contributions: Both authors made substantial contributions to the article's conception and design; acquisition, analysis, and interpretation of data; and writing and final approval of the version published.

Sponsor's Role: None.

Most of the people who have ever lived to age 65 are currently alive, and their numbers are growing at an unprecedented pace. By 2030, the number of Americans aged 65 and older will be more than double the figure reported in 2000,¹ with the most rapid growth occurring among those aged 80 and older.² These facts, combined with the rapid escalation in medical advances and costs, suggest that the greatest challenge facing the U.S. healthcare system will be how to provide older adults with high quality care at an affordable price. Emerging data indicate that this is possible, that care of older adults guided by geriatricians—as well as by the innovative care models that they are developing—may result in better outcomes and lower costs.^{3–10} Nevertheless, although the number of older adults is increasing, the number of geriatricians is small; in 2010, there was one geriatrician per 10,000 adults aged 65 and older and one per 2,775 adults aged 75 and older.¹ Moreover, the number of geriatricians is declining.^{1,11}

Many reasons for the geriatrician shortage have been proposed,^{12,13} including the lack of reimbursement commensurate with caring for such complicated individuals. However, little attention has been paid to the effect of methods used to assess clinical productivity in geriatric practices, especially those based in academic health centers (AHCs). This group is particularly important. The majority of geriatric-specific practices are affiliated with AHCs, and AHC faculty are not only spearheading the models needed to improve senior care, but are also responsible for training all physicians involved in such care and for recruiting and training the nation's future geriatricians. Thus, an examination of current methods used to assess clinical productivity is important, especially because such metrics may be contributing to the shortage of geriatricians, the viability of AHC geriatrics, and the ability to deliver efficient, high quality care to America's elderly adults. Although the emergence of accountable care organizations may diminish the importance of such volume-based metrics in the future, the inherent challenges in assessing productivity will remain, and a discussion of this issue is timely.

The first part of this article reviews the origin, role, and limitations of the Relative Value Unit (RVU), because it is probably the most commonly used tool to assess clinical productivity. But because of the inherent limitations of any volume-based metric, however, and because use of the RVU probably has an adverse effect on the future viability of academic geriatrics, the second part of the article explores factors that may be useful in devising a more-appropriate measure. The focus is on primary care geriatrics because more than 75% of the care that academic geriatricians provide is in the outpatient setting.¹ Finally, although the challenges raised may be most acute for academic geriatricians, who disproportionately care for complex and frail older adults, it is likely that these challenges are relevant for many other physicians as well, especially primary care providers.

THE MISSION OF ACADEMIC GERIATRICS

To assess the potential effect of an RVU-based system on academic geriatrics, it is first important to articulate the mission of geriatrics, which seems to encompass four elements: define and deliver state-of-the-art, quality care congruent with patient values and goals; teach geriatrics to trainees of all levels and inspire more to enter the field; expand the

knowledge base so that tomorrow's care of older adults is better than today's; and foster development of system-based improvements in geriatric care.

CLINICAL PRODUCTIVITY AND THE RVU

Every responsible organization must measure its productivity. The question is how to define it, because the metrics selected will affect the product. For years after creation of the Medicare program, physicians collected "usual, customary, and reasonable" fees for their services. In turn, clinical productivity was assessed according to charges, collections, and number of encounters. However, by the 1980s, this method was considered to be cumbersome and administratively complex, to foster inappropriate billing practices, and to provide incentives to physicians to enter highly paid specialties, practice in inpatient settings, and avoid practice in underserved rural areas.¹⁴ The Resource- Based Relative Value Scale was created to address many of these concerns. The RVU established a way to pay clinicians for the agreed-upon time, complexity, and expertise required per encounter as exemplified by brief vignettes for each specialty.¹⁴ An RVU Update Committee, currently comprising 29 members from most medical specialties, was established to update the values regularly.¹⁵

POTENTIAL EFFECT OF THE RVU-BASED METRIC ON GERIATRIC PRIMARY CARE

To assess the potential effect of using an RVU-based system, a literature review was performed (Appendix). It revealed that few if any geriatrics cases or geriatricians were included in development of the RVU; that no studies of the effect of the RVU system on geriatrics practice have been published; and that, until 2012, no geriatricians held any of the RVU Update Committee seats.¹⁵ To further assess the effect of RVUs on geriatrics, the Association of Directors of Geriatric Academic Programs (ADGAP) conducted a brief, informal survey of the nation's 102 academic program leaders in spring 2012. More than 70% of the 46 respondents reported that (excluding their Veterans Affairs efforts) they use RVUs as their measure of clinical productivity and rely on benchmarks provided by Medical Group Management Association or University Health System Consortium, although only 19% of respondents thought that RVUs accurately reflected clinical productivity. Specific concerns that the survey highlighted, as well as those expressed at a retreat of ADGAP leaders held in January 2012, are summarized below.

Clinical and Operational Implications

Leaders felt that RVU weightings fail to account adequately for the time or effort required to care for multimorbidity, which affects more than 75% of older adults.¹⁶ RVUs also fail to account for other important patient characteristics such as mental, physical, and affective impairment, as well as socioeconomic challenges and caregiver availability. When combined with multimorbidity, these factors greatly increase the time and complexity involved in care planning and management. Nor do RVUs adequately incorporate time devoted to other activities that are essential to high-quality care of frail older adults: understanding their values and goals, conducting family meetings, completing forms, and communicating with

multiple agencies and consultants. The time needed to care for complex older adults reduces the number of patients a geriatric practice can accommodate in a day. The resulting impact on revenue is exacerbated by the increased costs associated with the higher staffing ratios required, and it is magnified in a geriatric practice by a lack of procedure and laboratory-based reimbursement to offset the higher costs. As a result, ADGAP leaders worried that, as financial pressures continue to mount, AHCs might be tempted to avoid complex older adults. Incentives to fill provider schedules with more-stable patients, rather than risk having empty slots or slots filled with new patients whose care entails additional poorly reimbursed effort, might further impair access. Perhaps the greatest concern that ADGAP leadership cited was the lack of quality metrics in the RVU reimbursement system.

Academic Implications

ADGAP leaders also expressed concern about the adverse effect of RVUs on their academic mission. An unpublished analysis revealed that the Division of Geriatric Medicine (University of Pittsburgh) faculty spends as much time documenting and coordinating care before, after, and between visits as they spend during the visit; another analysis found that care between visits required an additional ⁷ minutes for every 30 minutes spent in face-to-face care.¹⁷ Such time comes at the expense of teaching, research, administration, and developing new care models. Leaders also expressed concern that the current RVU-based system impedes their ability to educate trainees. RVUs do not account for teaching. Although AHCs receive a Graduate Medical Education subsidy for teaching, the adverse effect of teaching on clinical productivity may be greater for AHC geriatrics than for other AHC disciplines in which trainee involvement may save as much time as faculty members spend teaching them. Many of the leaders surveyed felt that the trade-off was less balanced in ambulatory geriatrics because good care of complex older adults relies less on the results of tests and procedures than on an informed clinical encounter with a seasoned expert. Thus, trainee involvement may exacerbate the clinical and financial pressures described above. Many leaders worried that these factors would generate further faculty frustration and increase the risk of faculty burnout. To the extent that this would make faculty members less attractive as role models, it would also hamper the ability to attract more trainees into geriatrics.¹⁸ The RVU-based system also contributes to the low salaries of geriatricians, which are lower than salaries of primary care physicians.¹⁹ Lower salaries further detract from the appeal of geriatrics because trainees are attracted to fields that meet their compensation expectations.^{20,21} The effect of the current RVU-based system, which provides incentives to trainees to choose specialty fields rather than careers in geriatrics and primary care,²² is particularly ironic because one of its original justifications was to encourage physicians to enter primary care.¹⁴ In summary, there is reason to believe that use of the current RVU-based metric to assess clinical productivity may adversely affect not only geriatric practice, but also the ability of AHC geriatrics to accomplish much of its academic mission. Its adverse affect may also extend to primary care of the older adult more generally since its effect on care and financial viability may lead nongeriatrician primary care providers to limit their exposure to Medicare beneficiaries.

EVIDENCE TO JUSTIFY THE CONCERNS?

A literature review revealed minimal and conflicting evidence to refute or confirm the concerns described above, with virtually none derived from geriatrics practices. Yet the depth and breadth of ADGAP leaders' concerns, combined with the continued waning of interest in geriatrics¹ and questions about geriatrics' viability,¹² suggest that it is worth considering alternatives to the RVU—or any volume-based parameter—as the sole gauge of clinical productivity.

POSSIBLE ALTERNATIVES TO THE RVU-METRIC TO ASSESS CLINICAL PRODUCTIVITY

Even in the business world, productivity connotes more than just volume. Quality and efficiency are also central to any successful business model. Businesses are increasingly adopting lean and Six Sigma technologies—which emphasize waste reduction, efficiency, and quality—and these are also being applied to health care. Widgets that are defective or excessively priced will reduce “effective productivity” because they are not as valuable as those that are defect-free and less expensive. The challenge in health care is to devise a system that will provide incentives to healthcare professionals to provide high-quality, efficient care to more people. Given these considerations, a multifaceted measure seems best suited to assess productivity. There are two broad options. One is to retain the RVU system but to modify it both by reassessing the weighting of existing codes (or to add new ones) and by complementing it with interventions to ensure patient access, care quality, and efficiency. Another option, described below, is to replace the RVU metric with an integrated one, one that is based on a different measure of volume and that also incorporates measures of quality and efficiency: the Patient-centered Value Unit (PVU).

Volume

A disadvantage of using visits as the volume metric is that visits are not necessarily tied to clinical need, efficiency, effectiveness, or the number of people served. The size of a physician's clinical panel may better address each, and the size of a physician's panel—provided care is of high quality—would be a good measure of volume and efficiency because one could not increase panel size and still deliver quality care in the absence of efficiency. Unlike the RVU system, which reimburses only for time spent in face-to-face care, panel size also helps to adjust for the time spent between visits in addressing acute and maintenance care issues.¹⁷ However, if panel size is used, it will be important to adjust for panel complexity, perhaps using a measure such as Hierarchical Condition Categories (HCCs).²³

Quality

Methods are currently available to assess quality processes and outcomes. Many measures, such as patient access, and rates of emergency department visits, hospitalizations, rehospitalizations, and hospital-acquired conditions, may be appropriate for older adults. However, consensus is lacking on how best to assess quality even for disease-specific outcomes, especially for adults aged 75 and older, for whom evidence and guidelines are

generally weak. For instance, American Diabetes Association guidelines for diabetes mellitus exclude adults aged 75 and older, as do most cancer guidelines, and guidelines that do not exclude people on the basis of age generally do not account for remaining life expectancy, patient goals, or quality of life. Nor do they account for the physiological, pathological, and pharmacological changes that come with age and often result in altered risk:benefit ratios in older adults with multimorbidity.

Given these limitations, any measure of quality must ensure that people understand their care and that their providers have worked collaboratively with them or their caregivers to ensure that the care plan is congruent with their values and goals. For individuals who are neither depressed nor incompetent, it could even be argued that providing care that meets their values and goals is the ultimate measure of quality, although it is not clear how best to assess these measures of quality administratively. Goal attainment scales are one promising method,²⁴ and the advent of electronic medical records and research focused on this issue may provide others. Regardless, the measure of clinical productivity might then be based on the number of patients in whom this goal—the PVU rather than the RVU—was achieved.

Patient satisfaction should also be incorporated. The limitations of current evidence-based medicine make it all the more important for patients to feel that their physicians understand their needs and are doing their best to meet them. Current instruments may need to be modified because many, other than the Care Transitions Measure,²⁵ focus simply on whether the physician explained the cause of the symptoms rather than whether the physician effectively worked with patients to define a care plan that best meets their needs.

Efficiency

Several studies suggest that care that geriatricians provide results in better physical and mental function and lower healthcare use.^{3–10} To ensure that such benefits are afforded to as many people as possible, the clinical productivity metric proposed must incorporate efficiency. The PVU model may do so because it rewards clinicians for providing high-quality care to as large a panel as possible. This would provide incentives to clinicians to become more invested in promoting efficiency, not only by traditional means such as scheduling and staffing, but also by advocating for access to other professionals such as behaviorists; by greater use of community-based programs; and by using new models of care such as group visits, advanced access, and telemedicine, as well as broader-based models such as Geriatric Resources for Assessment and Care of Elders, Acute Care of the Elderly Unit, Program for All inclusive Care of the Elderly, Hospital Elder Life Program, Guided Care, and others.⁶

POTENTIAL ADVANTAGES OF MODIFYING OR REPLACING THE RVU METRIC FOR CLINICAL PRODUCTIVITY

Whether the current RVU metric is modified or replaced, incorporation of quality and efficiency has the potential to generate better and more cost-effective care. Greater efficiency would also afford the benefits of such care to more people. Moreover, benefits could accrue to the U.S. healthcare system as well, owing to lower costs resulting from fewer

hospitalizations, adverse drug events, hospital acquired conditions, and readmissions, as well as shorter lengths of stay.^{3–10} If so, savings could be invested in freeing up geriatricians' time to facilitate their participation in and leadership of critical hospital- and system-based initiatives to improve safety and to develop and implement more-innovative models of care. Given the system-wide effect of such interventions, such involvement would allow geriatricians to have a far greater impact on patient care than they ever could have by solely seeing patients. The result would be a greater increase in geriatricians' clinical productivity and a much greater contribution to their system's ability to provide high-quality, cost-effective, patient-centered care. In turn, this would reduce much of the insecurity that currently exists in the field and, by providing a new way to showcase its value, could make geriatrics far more appealing to trainees and possibly lead to a reversal in the declining numbers of geriatricians.

CHALLENGES

Just as the current volume-based RVU metric presents challenges, there will be challenges for any substitute measure, including the example presented above. As mentioned, there is still not a consensus on measures of quality, and even after one is reached, there will be a need to devise ways to operationalize and easily monitor such measures. Additional research will be needed to improve current methods of risk adjustment for illness severity and panel complexity, as will research on the measures' effect on cost when they are applied more widely. In addition, because the model relies on clinicians working collaboratively with patients to ensure that patients know their options, it will be critical for clinicians to better understand the possibilities and limitations of geriatric care so that they can provide accurate information. The need for education is all the more important because most of the healthcare workforce has received limited instruction in geriatrics, many schools of the health professions still lack teaching of geriatrics and gerontology, and the efficacy of continuing medical education remains a concern.²⁶

CONCLUSION

Thirty years ago, the RVU system was created to address many of the problems that have again resurfaced, including inflated physician charges, fee rigidity, inequities between specialties, and incentives for inappropriate treatment plans and procedures.¹⁴ The system is again ripe for reform, and RVUs are no longer the only solution. To position America to better care for its vulnerable aging population, a new model and reimbursement system is urgently required, either one that complements the current RVU system or one that, like a PVU-based system, replaces it. Immediate action is required by all stakeholders, perhaps best led by the Institute of Medicine. Without such a change, primary care physicians will find it increasingly less attractive or even feasible to care for older adults, and without it, the future of academic geriatrics—and with it the innovative care models, research, and training the nation needs to improve care and bend the cost curve— will be difficult, if not impossible, to sustain.

Acknowledgments

This work could not have been done without funding by the John A. Hartford Foundation, support from the members and staff of ADGAP, and input from several anonymous reviewers.

References

1. Geriatrics Healthcare Workforce. [Accessed April 2, 2012] American Geriatrics Society [on-line]. Available at http://www.americangeriatrics.org/advocacy_public_policy/gwps
2. MEDPAC. A Data Book: Healthcare Spending and the Medicare Program. Washington, DC: Payment Advisory Commission; 2010.
3. Stuck AE, Siu AL, Wieland GD, et al. Comprehensive geriatric assessment: A meta-analysis of controlled trials. *Lancet*. 1993; 342:1032–1036. [PubMed: 8105269]
4. Rizzo JA, Bogardus ST Jr, Leo-Summers L, et al. Multicomponent targeted intervention to prevent delirium in hospitalized older patients: What is the economic value? *Med Care*. 2001; 39:740–752. [PubMed: 11458138]
5. Cohen HJ, Feussner JR, Weinberger M, et al. A controlled trial of inpatient and outpatient geriatric evaluation and management. *N Engl J Med*. 2002; 346:905–912. [PubMed: 11907291]
6. Boulton C, Green AF, Boulton LB, et al. Successful models of comprehensive care for older adults with chronic conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" report. *J Am Geriatr Soc*. 2009; 57:2328–2337. [PubMed: 20121991]
7. Ellis G, Whitehead MA, Robinson D, et al. Comprehensive geriatric assessment for older adults admitted to hospital: Meta-analysis of randomised controlled trials. *BMJ*. 2011; 343:d6553. [PubMed: 22034146]
8. Ellis G, Whitehead MA, O'Neill D, et al. Comprehensive geriatric assessment for older adults admitted to hospital. *Cochrane Database Syst Rev*. 2011; (7):CD006211. [PubMed: 21735403]
9. Rubin FH, Neal K, Fenlon K, et al. Sustainability and scalability of the Hospital Elder Life Program at a community hospital. *J Am Geriatr Soc*. 2011; 59:359–365. [PubMed: 21314654]
10. Sorbero ME, Saul MI, Liu H, et al. Are geriatricians more efficient than other physicians at managing inpatient care for elderly patients? *J Am Geriatr Soc*. 2012; 60:869–876. [PubMed: 22587852]
11. Karvounis, N. Taking Note. Century Foundation; 2008. The Geriatrician Shortage. [on-line]. Available at <http://takingnote.tcf.org/2008/08/the-geriatricia.html> [Accessed February 26, 2012]
12. Golden AG, Silverman MA, Mintzer MJ. Is geriatric medicine terminally ill? *Ann Intern Med*. 2012; 156:654–656. [PubMed: 22547474]
13. Leipzig RM, Hall WJ, Fried LP. Treating our societal scotoma: The case for investing in geriatrics, our nation's future, and our patients. *Ann Intern Med*. 2012; 156:657–659. [PubMed: 22547475]
14. Hsiao WC, Braun P, Yntema D, et al. Estimating physician's work for a resource-based relative-value scale. *N Engl J Med*. 1988; 319:835–841. [PubMed: 3412414]
15. [Accessed April 2, 2012] RUC Members. 2012. [on-line]. Available at <http://www.ama-assn.org/resources/doc/rbrvs/ruc-members-current.pdf>
16. Tinetti ME, Fried TR, Boyd CM. Designing health care for the most common chronic condition—multimorbidity. *JAMA*. 2012; 307:2493–2494. [PubMed: 22797447]
17. Farber J, Siu A, Bloom P. How much time do physicians spend providing care outside of office visits? *Ann Intern Med*. 2007; 147:639–698. [PubMed: 17975187]
18. Torrible SJ, Diachun LL, Rolfson DB, et al. Improving recruitment into geriatric medicine in Canada: Findings and recommendations from the Geriatric Recruitment Issues Study. *J Am Geriatr Soc*. 2006; 54:1453–1462. [PubMed: 16970658]
19. MGMA. Academic Practice Compensation and Production Survey for Faculty and Management: 2012 Report Based on 2011 Data. Franktown, CO: Glacier Publishing Services, Inc; 2012.
20. Bodenheimer T, Berenson RA, Rudolf P. The primary care-specialty income gap: Why it matters. *Ann Intern Med*. 2007; 146:301–306. [PubMed: 17310054]

21. Loewenstein G, Volpp KG, Asch DA. Incentives in health: Different prescriptions for physicians and patients. *JAMA*. 2012; 307:1375–1376. [PubMed: 22474198]
22. Goodson JD. Unintended consequences of resource-based relative value scale reimbursement. *JAMA*. 2007; 298:2308–2310. [PubMed: 18029836]
23. Pope GC, Kautter J, Ellis RP, et al. Risk adjustment of Medicare capitation payments using the CMS-HCC model. *Health Care Financ Rev*. 2004; 25:119–141. [PubMed: 15493448]
24. Reuben DB, Tinetti ME. Goal-oriented patient care—an alternative health outcomes paradigm. *N Engl J Med*. 2012; 366:777–779. [PubMed: 22375966]
25. Coleman EA, Smith JD, Frank JC, et al. Development and testing of a measure designed to assess the quality of care transitions. *Int J Integr Care*. 2002; 2:e02. [PubMed: 16896392]
26. Institute of Medicine. *Retooling for an Aging America: Building the Health Care Workforce*. Washington, DC: National Academies Press; 2008.

APPENDIX

The authors searched MedLine for articles published in English between 1985 and the present using the following search terms: resource-based relative value scale, RVUs, geriatric RVUs, panel sizes, relative value schedule, clinical productivity, physician compensation models, wages, salary, stay lengths, hospitalizations, readmission/hospital, patient readmissions, hospital readmissions, medical record/electronic, electronic health record, patient satisfaction, satisfaction/patient, medical practice building. From the thousands of articles that emerged, promising ones were identified by reviewing the titles and reading the abstracts. One hundred twenty-four articles were reviewed to assess their relevance to the use of the RVU as a productivity metric for predominantly or exclusively geriatric practices. Original articles cited by Hsaio et al. for the derivation of the RVU were reviewed as well.¹⁴