GME Funding – What We Need To Know As Medical Students

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The average U.S. undergraduate medical student is as overburdened by the learning curve of a medical residency as they are unaware of the byzantine nature of the way graduate medical education is funded. This article seeks to act as a broadly-researched, simplified guide to assist medical students in understanding the current state of graduate medical education (or medical residency) by answering the important question: ‘How does a hospital pay a resident’s salary?’ This question involves breaking down the payments into Medicare and Medicaid contributions, and quickly looking at other contributions, as well as looking into the historical and political climate. Then the questions of how resident financing may change are explored, such as: ‘What is the SGR? Why do I care?’ and ‘What is the residency cap?’ to provide a context for the current political landscape for medical advocacy. While this article may become dated years after its publication, the advent of sweeping changes for healthcare under the Patient Protection and Affordable Care Act (ACA) make it timely to synthesize literature in a format that is digestible in a single study break. Additionally, it is the hope of the authors that this article may serve as a call to action for medical students to engage with their elected officials in meaningful debate on this issue. While attempting to present as complete a picture as is reasonable for an article designed with medical students in mind, the authors acknowledge that our position is that action should be taken, and we give several suggestions in the conclusion for ways to take up the issue. Nearly all citations are from freely available reports or online articles to help empower the individual medical student researcher in developing a deeper understanding of graduate medical education.

Who Pays for Graduate Medical Education?

For many of the non-medical graduate education programs in the U.S., part of the incentive for students is the indelible shift from one who pays to learn, to one who is paid to work. In most graduate programs, students begin working for their university (as a teaching assistant or lecturer) in conjunction with taking their required course load while being paid a stipend in the form of a tuition waiver or payment for living expenses. Medical education deviates from other graduate programs in that the student pays for the four years of education before obtaining their degree with the promise of payment guaranteed only after matching into a residency. But who pays a resident’s salary? Traditionally, teaching hospital beds have been filled primarily

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by uninsured, Medicaid, or Medicare patients, and so it is assumed that the salary received by residents for participating in the care of these patients is appropriately paid in part by Medicare and Medicaid. The exact formula varies for every hospital, but the components to this reimbursement will be explained in detail to follow.

U.S. Health Care Delivery – Historical Context

In the United States, private, competitive, group insurance has made up the vast majority of the health care market since the 1950’s, but there do exist centrally-mandated insurance programs for the elderly (Medicare), and for the poor (Medicaid). After the recent Supreme Court decision upholding most of the Affordable Care Act, Medicaid will be left to the states to choose eligibility, but the ruling did not change eligibility for Medicare. The rest of the paper will focus on the part that is a centrally mandated solution from the federal government and that is a matter of historical record. In 1965, when Medicare was established as part of Lyndon B. Johnson’s ‘Great Society’ social service programs, Congress declared:

“Educational activities enhance the quality of care in an institution, and it is intended, until the community undertakes to bear such education costs in some other way, that a part of the net cost of such activities (including stipends of trainees, as well as compensation of teachers and other costs) should be borne to an appropriate extent by the hospital insurance program.”

In short, Medicare pays for their fair share of the costs related to training residents to teaching hospitals. However, not all patients (i.e. those younger than 65) are eligible for Medicare, which means other programs must also contribute to training costs, which will be discussed after Medicare’s fair share is defined.

DGME – Direct Graduate Medical Education (Medicare)

The method for DGME payments are made on the basis of a per resident amount (PRA), determined years ago as part of the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985, and the PRA is increased by a measure of inflation annually thereafter. The PRA is calculated by dividing a hospital’s allowable DGME cost for a base period that is specific to each hospital (usually between 1983 and 1984, before the law was passed), by its number of residents in that same period. This links the DGME payment directly to what the costs were for the hospital per resident in that original period, unique to each hospital. Defining the range of allowable DGME costs is beyond the scope of this paper, but DGME costs are meant to include the cost of training a resident. The PRA is then multiplied by the full time equivalent (FTE) residency ‘cap’ or the number of residents at the hospital for the current year, and then multiplied by the ratio of the in-patient days from Medicare patients to the total number of in-patient days. In 2010, this DGME payment worked out to $3 billion.

IME – Indirect Graduate Medical Education (Medicare)

The DGME is meant to cover per resident costs, but it is understood that there are additional costs associated with patient care that may not be accounted for by the DGME payment or the resident’s contribution to care. This is often referred to residents ‘learning by doing,’ or the inefficiencies from resident mistakes (additional labs, longer hospital stays, etc…). These inefficiencies are thought to result in extra costs at teaching hospitals when compared to non-teaching hospitals. To account for these costs, there exists an IME payment as seen in Equation 1. The IME payment is calculated based on a hospital’s ratio of residents to beds (r), and a multiplier (c), set
by Congress as the percent increase in payment for every 10 percent change in the resident to bed ratio \( (r) \). Since 2003, \( c \) has been set at 1.35. The exponent, 0.405, is meant to indicate the estimate of the effects of teaching residents on cost of every discharge according to a Center for Medicare and Medicaid Services report.\(^5\) Last year, this worked out to a total of $6.5 billion.\(^4\)

**Equation 1:** \[ 
IME \text{ Payment} = c \times ((1 + r)^{0.405} - 1) 
\]

**Diagnosis-Related Group and Disproportionate Share Payments**

The diagnosis-related group (DRG) is the basis for payment of the volume of work completed by the diagnosis given and is an attempt to classify the ‘products’ of medical care delivered by the hospital based on the patients diagnoses, complications, and co-morbidities.\(^6\) The DRG is the basis for reimbursement for non-residents and residents alike, but it is not adjusted for the additional costs associated with teaching residents (as is handled by the IME payment). Similar to the IME payment, the fact that teaching institutions are assumed to have higher costs than other institutions due to extra tests and procedures performed for teaching purposes, as well as the treatment of more serious cases, an additional payment was thought to be needed. In particular the Disproportionate Share (DSH) payment is considered to account for the costs related to caring for the uninsured or indigent patients. Accordingly, the DRG payments for these hospitals are increased by a percentage based on the ratio of physicians to hospital beds. DSH payments are also required to be made by Medicaid programs, and are now significantly reduced under the ACA based on the assumption of Medicaid expanded coverage to the uninsured.\(^7\)

**Medicaid: Payments to Graduate Medical Education**

The DGM and IME payments are used to cover the direct costs of residents caring for patients, in addition to the indirect costs of teaching residents on the hospital, and are presumed to make up a resident’s salary as described by former President Johnson in the earlier excerpt from the Medicare announcement. But what about the portion of care residents deliver to non-Medicaid patients? A snapshot of Medicaid contributions to GME in 2012 shows that 42 states and the District of Columbia (DC) made GME payments within their Medicaid program. How these payments are made from Medicaid (a program described earlier as being state-by-state) varies, as can be expected in a state-to-state program. Forty Medicaid payments relating to resident training are truly tailored toward the individual states. Of the 23 making GME payments in Medicaid managed care, only 14 states and DC made direct payments to teaching hospitals, while the other nine included such payments in managed care organization capitation rates. The Medicaid payments to GME also cover other professions, such as graduate nursing students (nine states), paramedical students (Indiana), and lab personnel (South Carolina).\(^8\) The state-by-state variation represents the freedoms individual states have to tailor their programs to the needs of their constituents, but makes a whole country analysis challenging. While the variation makes analysis challenging, the scope is wide—in total, Medicaid payments amounted to $2 billion in total payments across the US.\(^4\)

**Other Sources of GME Funding**

Other than Medicare and Medicaid funding, the remaining sources of support for residency programs come from miscellaneous state funding sources, the Department of Defense, Veterans Affairs, Health and Human Services (Health Re-
sources and Services Administration), the National Institutes of Health, and to some degree the private insurance agreement with teaching hospitals. These funding sources differ greatly in their contributions to GME, and would be worthy sources of inquiry for those seeking to establish GME programs unique to their state.⁸

What Is the SGR and Why Do We Care?

Having spent the first part of the discussion on a general outline of the ways medical residents are paid, it remains to be discussed how that might change. That change could be in the way that U.S. physicians are paid through Medicare, and that change is important enough that every medical student needs to know about it. Historically, the Balanced Budget Act of 1997 included a formula to replace the Medicare Volume Performance Standard (MVPS) for adjusting the payments made to physicians to account for the changing costs of medical care to the Sustainable Growth Rate, or SGR.⁹ The SGR adjusts physician payments from Medicare based on:

1. The estimated percentage change in fees for physician’s services.
2. The estimated percentage change in the average number of Medicare fee-for-service beneficiaries.
3. The estimated 10-year average annual percentage change in real gross domestic product (GDP) per capita.
4. The estimated percentage change in expenditures due to changes in law or regulations.

Previously, physicians had been paid via the MVPS against a certain expected ‘volume of care.’ The SGR has roots in the attempt through legislative efforts by the federal government to reward ‘value-based’ care instead of ‘volume,’ an issue of healthcare policy still being discussed today. Unfortunately, the 1997 formula began to inaccurately predict Medicare spending a few years after its inception, resulting in scheduled physician service payments well below a sustainable market value. Congress realized this mismatch in funding, and since 2003 has provided short-term ‘doc fixes’ to shore up the missing reimbursement. The regularity of these fixes has been particularly important as of early 2013 due to the budget sequestration reducing all Medicare reimbursement by 2%.¹⁰ The practical political ramifications to the SGR issue are obvious, placing physicians at the goodwill of Congress to pass the ‘doc fix’ each year creates an urgency that reduces other political efforts elsewhere, and organized physician groups (such as the AMA) consider repealing the SGR a top legislative priority.

In the spring of 2014, it was announced that a bill to repeal the SGR had been agreed upon by both House and Senate Committees as well as the Doctors Caucus and was introduced in the House as HR 4015.¹¹ Given that repealing the SGR is a top legislative priority for the AMA, HR 4015 has been greeted with enthusiastic support. The implications of the Merit-Based Incentive Payment System (MIPS), as released by summaries from House and Senate, are to consolidate the incentives from multiple existing performance incentive programs for those physicians practicing according to the metrics created and approved in the following areas: quality, resource use, meaningful use of Electronic Health Records (EHRs), and clinical practice improvement activities.¹² As in any complex system, changes to Medicare reimbursement performance incentives are challenging to align, and there is always concern for unintended consequences that may stem from a shift towards paying for value instead of volume. The creation of a consolidated list of approved performance measures means the performance measures will be able to evolve with practice patterns—and most importantly for medical students, clearing room for more advocacy devoted to expanding the residency cap.
How Are Residencies Allocated? What is the Cap?

The same Balanced Budget Act of 1997 that created the SGR also created a ‘cap’ on the number of residencies, which will be counted for the purposes of DGME and IME (see above) payments made to teaching hospitals based on 1996 levels. This means that there are no payments made for residents at teaching hospitals in excess of the number that the hospital had in 1996. However, for hospitals designated as rural, the Balanced Budget Refinement Act of 1999 increased the limit of fundable resident spots to 130% of the 1996 levels. As could be predicted, there are more medical students today than there were in 1996— additionally, the AAMC last spring released a report predicting a 30% increase from 2002 to 2017. For medical students, this means that the nightmare of not matching is becoming statistically more likely with every passing year. The current trend of increasing numbers of graduating medical students without a concomitant rise in residency slots is a cause célèbre among medical students, though it is considered secondary to repealing the SGR by physician advocacy groups, perhaps because of who is at risk.

What Can We Do?

Empowered with the basic lexicon and a rough knowledge of the pressing topics facing medical students in regard to the GME crisis, the obvious call to action would be to get involved. Do not assume that others with more time or knowledge will solve these problems for us— in fact we can use history as our guide to see that some solutions (such as the SGR) can be more disastrous than the previous iteration. There is an equal burden upon all of us to ensure that when it comes time for medical students to become residents, there are residencies to be had. Join your local gathering of organized medicine, whether it is a state society, a national group, a campus-wide advocacy group, or a lunchtime talking circle.

As medical students who will become residents, we cannot forget the challenges that lay before the next class of students simply because we’ve made it through ourselves.

REFERENCES