

An Analysis of the Physician Faculty Compensation Model in a U.S. Academic Health System

by

Kristen Czajkowski

BS, Penn State University, 2018

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This essay is submitted

by

Kristen Czajkowski

on

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and approved by

Essay Advisor: Wesley Rohrer, PhD, Associate Professor Emeritus, Health Policy and Management, Graduate School of Public Health, University of Pittsburgh

Essay Reader: Jessica Merlin, MD, PhD, Associate Professor of Medicine with Tenure, Division of General Internal Medicine, School of Medicine, University of Pittsburgh

Essay Reader: Jennifer Dorazio, MBA, Executive Administrator, Division of General Internal Medicine, UPMC/University of Pittsburgh

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Abstract

Academic physician faculty compensation models are highly complex and have been evolving in U.S. healthcare systems. Physician faculty compensation models affect the success of a healthcare organization as well as the performance and satisfaction of its faculty. Through literature reviews, interviews, and surveys, this essay provides background on faculty compensation models, analyzes the current University of Pittsburgh Medical Center Division of General Internal Medicine Faculty Compensation Model, and proposes a recommendation for consideration. Physicians and advanced practice providers are the core of performance, safety, quality, and patient satisfaction, making it crucial for there to be mutual agreement on compensation and standards between faculty and their health systems. Having a fair and effective faculty compensation model is therefore directly related to patient care, making this topic of public health significance.

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1.0 Introduction

Academic physician faculty [faculty] compensation models are highly complex and have been evolving in U.S. healthcare systems. Faculty compensation models affect the success of a healthcare organization as well as the performance and satisfaction of its faculty.

Public Health Significance. Physicians and advanced practice providers are the core of performance, safety, quality, and patient satisfaction, making it crucial for there to be mutual agreement on compensation and standards between faculty and their health systems. Having a fair and effective faculty compensation model is therefore directly related to patient care and is a public health concern.

Objectives. The objectives of this essay are to (1) describe the background on the importance and structures of compensation models, what incentivizes faculty, and examples of alternative models, (2) to describe and analyze the current University of Pittsburgh Medical Center Division of General Internal Medicine (UPMC DGIM) Faculty Compensation Model, and (3) propose a recommendation for consideration.

2.0 Methodologies and Approach

In order to achieve its objectives, this paper used the following methodologies and approaches:

Literature Review. A literature review was conducted by the author between August, 2021 – March, 2022 aimed at compiling information on the significance, structures, components, and best practices for faculty compensation models, as well as examples of relevant alternative models. Information on alternative models came directly from the affiliated institution. The literature review was overseen by the author's preceptor, who has extensive background in faculty compensation models.

Interview with UPMC Executive Leadership. An interview was conducted in November, 2021 with the Executive Administrator of UPMC DGIM regarding the current faculty compensation model. The purpose of the interview was to understand the structure, strengths, and weaknesses of the current model from a leadership perspective. The interview guide is shown in Figure 1.

Survey of Physician Leadership. A survey was sent in March, 2022 to the Medical Director of UPMC DGIM clinics to gain an understanding of faculty perspectives of the current compensation model. Since permission to survey all UPMC DGIM faculty was unable to be obtained, it was determined that having responses from the Medical Director was sufficient to represent the overall perspectives of the faculty. The survey questions are shown in Table 1.

Figure 1. UPMC DGIM Executive Leadership Interview Guide

The following questions are to guide an interview with UPMC DGIM Executive Leadership on the UPMC DGIM Faculty Compensation Model:

1. Can you describe the make-up of UPMC DGIM faculty?
2. What is the structure of the UPMC DGIM faculty compensation model?
3. How is base salary determined?
4. From a leadership perspective, what do you see as the greatest strengths to the current compensation model?
5. From a leadership perspective, what do you see as the greatest weaknesses to the current compensation model?
6. What do you think are the most important components to be included in compensation models?
7. Do you think UPMC DGIM faculty compensation should be re-modeled?

Table 1. UPMC DGIM Physician Leadership Survey Questions

Domain	Question	Response Choices
Satisfaction	Overall, how satisfied do you believe DGIM faculty members are with the current compensation model?	<ul style="list-style-type: none"> • 1 – Extremely dissatisfied • 2 • 3 • 4 • 5 – Extremely satisfied
Understanding	Overall, how well do you believe DGIM faculty members understand the current compensation model?	<ul style="list-style-type: none"> • 1 – Extremely unwell • 2 • 3 • 4 • 5 – Extremely well
Motivation/Work Outcome	The current model motivates faculty to give more time or energy to the volume of clinical activities.	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly agree
Motivation/Work Outcome	The current model motivates faculty to give more time or energy to the quality of clinical activities.	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly agree
Satisfaction	The current model is competitive with those of other similar academic medical institutions.	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly agree
Due Process	The current model measures and rewards activities which are important to UPMC DGIM.	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly agree
Due Process	The current model distributes compensation and incentives fairly.	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly agree

3.0 Impact and Background of Faculty Compensation Models

The author's literature review compiled current information on details of faculty compensation models and three examples of alternative models from West Virginia University Department of Medicine, Boston University Department of Medicine, and Yale University Department of Pathology. The findings are described here.

3.1 Impact

A health care organization's faculty compensation model is the foundation for its culture and performance. It has the ability to impact the quality of patient care, faculty satisfaction, retention and recruitment, alignment towards organization mission and values, and financial stability.

Quality of care, health outcomes, and patient satisfaction are all directly impacted by faculty compensation models. Traditionally, compensation models have been centered around the relative value unit (RVU), a measurement that is part of the U.S. Centers for Medicare and Medicaid Services (CMS) reimbursement formula and designed to measure the value of services provided by physicians.¹ RVUs monetize services by accounting for clinical and related work, practice expenses, and malpractice costs.² Organizations use work RVUs (wRVUs) to associate a potential pay to clinical productivity. This method can overly incentivize volume while not accounting for quality of care, education, or research.³ As a result, patients' visits may be cut short, and care may be compromised because physicians' focus is on seeing the maximum number of

patients rather than maximizing the time needed with individual patients to ensure the best care.⁴ Further, volume-based models increase utilization of acute care, but the current population health need is an increased focus on chronic care.⁵ Recently, there has been growing discussion about integrating quality into RVU-based compensation models. Most physicians favor including quality measures, and cite them as resulting in better clinical outcomes and more positive patient experiences.⁶ Quality measures address many aspects of value-based care, including health outcomes, clinical processes, care coordination, patient perceptions and engagement, public health efficient use of healthcare resources, and patient safety.⁷

Physicians are significantly less satisfied when they feel that the quality of care that they are providing is being compromised, and when they feel that they are not contributing in other ways that they find valuable, such as precepting, teaching, attending conferences, or conducting research.⁸ Physicians experience higher incidences of burnout compared to other occupations,⁹ making it a priority for organizations to develop compensation models that are consistent with their values. Having mutual goals between providers and their healthcare systems improves satisfaction and decreases burnout, enabling better recruitment and retention of top talent.¹⁰ COVID-19 has resulted in exceptionally high rates of burnout, healthcare staffing shortages, and high labor costs,¹¹ making it timely for organizations to re-assess faculty's satisfaction with current compensation models.

The success of an organization involves it staying true to its mission and values. Effective compensation models can facilitate that alignment. They also can affect culture and diversity. Organizations must be aware of the ability of compensation models to create or re-enforce cultures that are disproportionately advantageous to different groups and therefore risk decreasing diversity among faculty at an organization.¹²

3.2 Structures for Compensation Models

Common structures for compensation models consist of base salaries, productivity incentives, qualitative incentives, and other non-clinical compensation.¹³ Organization leaders should depend upon on the CMS reimbursement structure, its mission, and its faculty's values when developing the structure for the compensation model.

Base salaries are guaranteed payment and can be based on individual rank and/or associated with a set of defined base expectations. For specialties such as family medicine, internal medicine, and surgery, the base expectations are commonly productivity-based using wRVUs. For specialties such as anesthesiology or emergency medicine, the base expectations are commonly shift-based.⁸ Salaries and productivity can be benchmarked using current market surveys, such as the Association of American Medical Colleges (AAMC) Medical School Faculty Salaries Survey or the Medical Group Management Association (MGMA) Physician Compensation and Production Survey.¹⁴

Productivity incentives help to ensure a stable patient volume and that an organization's financial goals are being met. Clinical days worked, wRVUs, or billable hours are examples of metrics used to determine productivity incentives.¹⁵

Qualitative incentives ensure patient satisfaction, quality of care, patient safety, and positive clinical outcomes. The Centers for Medicare & Medicaid Services (CMS) Healthcare Effectiveness Data and Information Set (HEDIS) and Physician Quality Reporting System (PQRS) are sources for metrics that can be used to measure qualitative incentives.¹⁶

Other non-clinical compensation accounts for academic effort (e.g., teaching), research effort (e.g., grant funding, publications), or administrative effort (e.g., leadership roles, precepting).

Organization leaders are responsible for determining the degree to which and methods for how each component is incorporated into the compensation model. Table 2 demonstrates structures for compensation model makeup.

Table 2. Compensation Model Structures

	Advantages	Disadvantages	Variability
Guaranteed Base	<ul style="list-style-type: none"> ▪ Clear ▪ Easy to implement 	<ul style="list-style-type: none"> ▪ Does not consider broader individual or organizational goals 	Highly Fixed
Base + Productivity incentives	<ul style="list-style-type: none"> ▪ Financially viable 	<ul style="list-style-type: none"> ▪ Quality is compromised ▪ Non-clinical work that faculty value is not considered 	
Base + Productivity incentives + Qualitative incentives + Other compensation	<ul style="list-style-type: none"> ▪ Aligns with emerging payment methods 	<ul style="list-style-type: none"> ▪ Difficult to measure 	Highly Variable

While a guaranteed base compensation model is easy for organizations to implement and provides physicians with financial security, it does not consider broader goals or encourage organizational or individual growth. This type of model also does not provide incentive for physicians to increase quality or productivity.

Using a Base + Productivity Incentives model can ensure financial viability for an organization by maintaining sustainable patient volumes.⁸ However, only measuring volume can lead to a lack in quality of care, doesn't encourage coordinated care, and doesn't value the importance of the patient-provider relationship.^{2,17}

CMS has been rapidly shifting to a quality-based reimbursement structure.¹⁸ Organizations that now have CMS reimbursement contracts heavily based on quality and value metrics are starting to shift to faculty compensation models consisting of Base + Productivity Incentives + Quality Incentives + Other Compensation.¹⁶ In addition to being a financially responsive option

to CMS reimbursement changes, these types of models also tend to correlate more positively with faculty satisfaction.¹⁹

3.3 Work Effort Allocation

Determining work effort allocation is a key step in developing faculty compensation models. Defining a 1.0 clinical full-time equivalent (cFTE) is usually the responsibility of department chairs, and it is influenced by an organization's funding sources. Either a "time-based approach" or a "funded approach" can be used when determining the definition for a 1.0 cFTE.²⁰

²¹ Time-based approaches are the predominant method for academic institutions, and work by either starting with a 1.0 cFTE and subtracting teaching, research, and administrative time, or by basing it on the number of clinical sessions per week.²² A funded approach may work by subtracting either funded effort or a blend of funded academic work effort/time from a 1.0 FTE.²²

Defining cFTE is a challenging task for academic institutions. Often, roles may have overlapping responsibilities, which can create risk for physicians' non-clinical effort adding up to more than 1.0 FTE before doing any clinical work.²² Additionally, cFTE models that are not properly defined could lead to providers using protected administrative time to deliver clinical services, resulting in higher than intended productivity incentives.²⁰ When too much significance is placed on the cFTE definition, providers could be incentivized even when meeting low levels of productivity.²² Due to these challenges, developing a clear definition for cFTE that is specific to an organization or department is a critical first step when creating faculty compensation models.

3.4 Benchmarking

Academic health systems often use survey sources that report national data on compensation and productivity as a method for benchmarking base compensation.²³ The data can be broken up by position type, specialty, region, organization size and type, etc. It is useful in ensuring that base compensation and expectations are comparable to market norms.^{14, 23, 24} Common survey sources are listed in Table 3.

Table 3. Benchmarking Survey Sources

Source	Surveys
Association of American Medical Colleges (AAMC) ²⁵	<ul style="list-style-type: none"> • Report on Medical School Faculty Salaries • Dean’s Office Staff Survey
Medical Group Management Association (MGMA) ²⁶	<ul style="list-style-type: none"> • Physician Compensation and Productivity Survey • Academic Practice Compensation and Production Survey for Faculty and Management
American Medical Group Association (AMGA) ²⁷	<ul style="list-style-type: none"> • Medical Group Compensation and Productivity Survey • Medical Group Operations and Finance Survey • Medical Group Telehealth Survey
Sullivan Cotter and Associates, Inc. ²⁸	<ul style="list-style-type: none"> • Physician Compensation and Productivity Reports

Recently, it has become increasingly common for organizations to set compensation targets below productivity expectations.²² The size of the gap between compensation and productivity targets is impacted by the extent to which cFTE influences compensation.²³ Benchmarking decision-making has the potential to negatively impact faculty satisfaction, especially when there is misalignment between compensation and productivity percentiles or lack of transparency.²⁹

3.5 Considerations for Compensation Models

The considerations described here are key for building compensation models that positively affect patient care, faculty satisfaction and alignment to organization mission and values, and organizational stability.

Consumer Considerations

Compensation models should be reflective of the patient population that an organization serves. Different patient populations vary in the types of visits, diagnostics tools, and treatment that is required, and compensation should reward quality of care specific to the patient population.⁴ Organizations should predict the distribution of in-person and virtual visits based on patient population preferences and access to care. Those predictions should be re-assessed and incorporated into the compensation model each year.²²

Academic institutions have been shifting towards a greater focus on population health. This adds additional consumer considerations for faculty compensation, such as including incentives for services that focus on care coordination or preventative care.³⁰

Organizational Considerations

Health systems should consider organizational culture and workforce preferences when building a compensation model for it to be well-received.¹⁷ Preferences can vary among faculty within a department based on demographics or time spent in the field, so it is critical to be aware of such diversity and to build a compensation model that is inclusive.³¹

Faculty satisfaction results in top talent being recruited and retained. Faculty are more satisfied with compensation models that have clear communication, transparency, understanding, and consistency.²⁹ A study on physician burnout reports that 30% of physicians cite lack of transparency and dissatisfaction with their organization's compensation model as the primary

contributor to burnout.³² Structure, work effort allocation, and benchmarking approaches should all be harmonized, and should be clearly communicated with faculty.²³ To ensure transparency, organizations should have methods in place to communicate any change in the compensation model. They should include the mode of communication that is best for the organization (i.e. meetings, email announcements, etc.), and changes to the model should be communicated by someone who is trusted by the physicians.⁸ The goal should be to foster an environment where physicians feel autonomy and the ability to contribute to and understand the compensation model.

Whether faculty compensation is handled at the institutional-level or the departmental/division-level should also be determined based on organizational considerations. Having a centralized, institutional-wide compensation model typically makes the most sense for organizations where there is low variation and few decision makers. These types of models are beneficial in that they maintain consistency across an organization and give greater ability to respond to reimbursement changes, but they lack physician engagement and may be less responsive to diversity and inclusivity.³³ Alternatively, compensation models at the department/division-level are less centralized and foster higher levels of faculty engagement and autonomy. However, they are more burdensome administratively, and can be a disadvantage for recruitment and retention because of the varying pay in different departments.³³

Stakeholder committees can help to ensure that a compensation model is tailored to be effective for its specific organization.³⁴ Committee members should include executive physicians and leaders from compensation/benefits departments, legal departments, and human resources.³⁴ Additionally, physician leaders should be involved to advise and facilitate understanding and acceptance of any changes to compensation models among faculty members.

Financial Sustainability

Organizations' CMS reimbursement models as well as relevant laws and regulations should be considered so that compensation models that are financially sustainable. For example, the CMS Physician Fee Schedule underwent significant changes in 2021 that resulted in an increase in wRVU values but a decrease in reimbursement.³⁵ Organizations will therefore need to consider if they will be able to support increasing compensation tied to wRVUs. Compensation models need to be flexible to shift with potential policy changes, while also being responsible for the current revenues available to an organization.³⁶

External Context

In addition to needing flexibility for policy changes, compensation models must also be able to adapt for unprecedented circumstances and changes that occur in the external environment. COVID-19 has challenged many organizations' ability to do so. The pandemic has resulted in decreased volume and revenue, increased expenses, and increased telehealth.³⁷ Organizations must structure compensation models so that they are able to withstand such drastic changes that are out of the control of the organization.

3.6 Alternative Model Examples

The following examples reflect a range of faculty compensation models from institutions or departments similar to UPMC DGIM.

3.6.1 West Virginia University Department of Medicine (WVU DOM)

WVU DOM consists of 177 full-time faculty and has 26 affiliated hospitals and institutes. The WVU DOM compensation model consists of a base compensation, a clinical productivity benchmark, and incentives.

The base compensation is determined by the Association of American Medical Colleges (AAMC) annual faculty survey reports. Productivity targets are determined using the 50th percentile target of the Medical Group Management Association (MGMA) benchmark data. Additionally, faculty may receive incentive compensation for meeting citizenship requirements, for promotion and retention, and for education, research, service, and scholarly accomplishments.

3.6.2 Boston University Department of Medicine (BU DOM)

The BU DOM is made up of over 700 clinical faculty, 14 sections, and 33 specialty clinical services and research centers. Unlike WVU DOM, which sets one compensation model for the whole department, the BU DOM compensation model varies between sections within the department. Each section's compensation model consists of a base salary, a department bonus and section bonuses.

Base salary and affiliated expectations are determined by section chiefs. Most sections set individual wRVU for productivity targets for faculty. When using wRVU targets, all sections within BU DOM must exceed the United Health Care median benchmarks by specialty and subspecialty. Other sections, such as the Section of General Internal Medicine, use panel-size target instead of a wRVU. The panel-size attributes a number of patients as a full-time productivity targets.

Fixed bonuses are determined if the DOM experiences an operational gain during the fiscal year. In these cases, the department creates a fixed bonus pool that is distributed to each section. Additionally, sections have the ability to distribute an additional variable bonus to the faculty. The variable bonus is determined by section chiefs and may be based on exceeding individual wRVU targets, quality/performance measures, service/committee effort, or teaching and research effort.

3.6.3 Yale University Department of Pathology (YU DOP)

Yale University School of Medicine is comprised of 29 departments. The School of Medicine uses a decentralized approach for compensation, where each department is responsible for building a compensation model that is best suited for its individual needs.

Yale University Department of Pathology (YU DOP) employs 132 faculty members. Its compensation model uses a percent effort approach that focuses on the effort devoted to each of its missions, rather than revenue generated. A primary motive for this type of model is that the department felt that wRVUs poorly correlate with actual effort. When developing the model, YU DOP appointed a board to assess what the faculty want and to determine what the key goals of the compensation plan should be.

In the percentage effort model, certain effort is assigned to clinical activities, research activities, administrative activities, academic activities, citizenship activities, and paid time off. A full-time YU DOP is expected to contribute 100% effort, with the percentage breakdown varying by individual. Faculty physicians who contribute greater than 100% effort have the opportunity to receive an annual bonus.

YU DOP reports that the percentage effort model has been successful in being an objective and unbiased way to evaluate faculty productivity while incorporating its overall mission. However, it lacks the ability to evaluate or motivate value-based effort.

4.0 UPMC DGIM Physician Faculty Compensation Model

The UPMC DGIM faculty compensation model is summarized here and is based on responses from the author's interview with the UPMC DGIM Executive Administrator.

4.1 About UPMC DGIM

UPMC DGIM is the largest of 11 divisions within the Department of Medicine at the University of Pittsburgh School of Medicine. DGIM's clinical activities focus on delivering high-quality and comprehensive care for the prevention of diseases, the management of chronic disorders, and the treatment of hospitalized patients. The division is extensively involved in continuous quality improvement efforts, and it provides up-to-date evidence-based care for diverse patient populations from Pittsburgh and the surrounding communities. The division's research focuses on nontraditional areas, such as health care outcomes, quality, and cost-effectiveness, prevention, health care disparities, mental health services, women's health, and substance abuse.

DGIM has 66 total clinical full-time equivalent (FTE) faculty. Of the total FTE time, approximately 28% is devoted to clinical work, with the remainder being devoted to research, academic, and administrative work. Demographic information specific to DGIM physician faculty is unavailable but is expected to be reflective of the overall demographic make-up of primary care clinicians throughout the UPMC network, which is shown in Table 4.

Table 4. UPMC Primary Care Provider Demographic Makeup

Gender	
Female	46%
Male	54%
Race/Ethnicity	
African American	5%
American Indian or Alaska Native	<1%
Asian	17%
Native Hawaiian or other Pacific Islander	<1%
Hispanic	6%

4.2 DGIM Current Model

The current DGIM faculty compensation model consists of base salary and Tier II variable salary. Faculty can negotiate payment in either category.

Base Salary

The DGIM current compensation model uses clinical work equivalents (CWE) for base salary. CWE's are calculated by combining physicians' inpatient time and outpatient time. An inpatient full-time CWE is considered thirty-two seven-day weeks in a year. An outpatient full-time CWE is considered forty-six weeks consisting of eight four-hour sessions. In-person and virtual sessions are weighted the same.

Each year a fixed salary pool is divided by the total work of the division to determine the salary tied to 1.0 full-time CWE.

Additionally, academic compensation is included in base salary. Faculty receive a set, annual compensation based on University of Pittsburgh School of Medicine appointed faculty rank, where associate faculty receive \$10,000/year and full professors receive \$15,000/year. This portion of base salary is paid for by the University of Pittsburgh.

Tier II Salary

Faculty who exceed their contracted obligation are eligible for Tier II Variable Salary Payment. These extra-contractual payments are calculated subtracting the value of any unfulfilled contractual work from the value of any work exceeding the contract. Notably, the compensation tied to extra-contractual work is less in value than the compensation tied to the contracted work.

5.0 Faculty Perspectives

The author initially intended on collecting survey responses from all UPMC DGIM faculty regarding perspectives on the current faculty compensation model, but executive leadership did not grant permission to distribute the survey for administrative reasons. Alternatively, it was determined that the UPMC DGIM Medical Director is positioned to provide responses that reflect the overall perspectives of UPMC DGIM faculty. A survey was sent to that individual and conclusions from the responses are summarized here.

Satisfaction and Understanding. UPMC DGIM faculty are neutral in their satisfaction with the current compensation model and disagree that it is competitive with those of other similar academic medical institutions. Additionally, faculty overall do not understand the current compensation model.

Motivation and Work Outcome. The current UPMC DGIM faculty compensation model does motivate faculty to give more time or energy to both the volume and the quality of clinical activities.

Due Process. UPMC DGIM faculty agree that the current faculty compensation model measures and rewards activities which are important to the division. They are neutral in their opinion on whether or not the current model distributes compensation and incentives fairly.

6.0 Analysis

Based on the information gathered, an analysis was conducted of the current UPMC DGIM faculty compensation model to determine its ability to positively affect patient care, faculty satisfaction and alignment to UPMC DGIM's mission and values, and financial viability.

6.1 Patient Care

A major limitation of the current UPMC DGIM compensation model is that it only uses productivity incentives and therefore does not provide motivation for enhancing the quality of patient care. As indicated by the literature review, compensation models that include value-based metrics result in better patient outcomes and high patient satisfaction.

6.2 Faculty Satisfaction and Organizational Alignment

The current DGIM compensation model includes components that can be unappealing to faculty. The fixed salary pool creates instability for individual salaries. This means that if the base salary for one physician changes, that would have an effect on all other base salaries in the pool. This could also be a contributor to UPMC DGIM faculty feeling neutral on whether or not compensation is distributed fairly, as indicated by the survey conducted for this paper. Another concern is that UPMC DGIM's base compensation is significantly under the AAMC median, making it difficult to be competitive for top candidates. As indicated by the survey results, UPMC

DGIM faculty do not agree that the current compensation model is competitive with those of other similar academic institutions.

While having the ability to negotiate parts of their salary can be beneficial for faculty satisfaction, it can also risk introducing inequities. Evidence suggests that women and minorities are less likely to and less successful in negotiating pay.^{38, 39}

6.3 Financial Viability

The current, productivity-based, model has made sense financially given the historic CMS reimbursement structure. However, as CMS is moving towards a more quality-based structure, it is better for organizations to begin to also include value-based metrics as a part of compensation. Additionally, faculty dissatisfaction may have a negative financial effect, especially if it leads to poor retention or inability to recruit top candidates.

7.0 Recommendation

Based on the analysis, the author recommends that UPMC DGIM faculty compensation be re-modeled. To do this, UPMC DGIM should consider how the plan can be improved to better meet the needs of the faculty, the organization, and the patients. The plan should aim to improve faculty satisfaction by ensuring security and fairness, while enabling and promoting self-esteem and professional achievement. It should maintain organizational values while also ensuring fiscal responsibility. Finally, the plan should motivate increasing the quality of patient care and incentivize favorable patient outcomes by including quality measurements in addition to volume measurements.

7.1 Build a Committee and Receive Buy-in

UPMC DGIM should first build a faculty compensation committee of stakeholders to lead the faculty compensation re-model. The advisory committee should consist of the division chief, a senior and a junior physician, an executive who has authority over faculty compensation, and executives from the division's human resources and legal departments. The goal of the committee should be to analyze the current model and the faculty's opinions on it, set objectives based on the external context (i.e. how UPMC is being reimbursed, how competitors' compensation models are being structured, and the patient population) and the values of UPMC DGIM and its faculty. The committee should identify physicians from within UPMC DGIM who can advise on the new

compensation model and act as liaisons. These physicians can help to ensure that voices are being heard, and that there is clear transparency and understanding of the new model.

After the compensation model is implemented, the committee should also be responsible for conducting annual equity reviews in order to maintain equity and fairness. Adjustments to compensation should be made accordingly in the following year. Further, the committee should develop guidelines to ensure that there is equity in faculty initiating and succeeding in compensation negotiations.

Additionally, it will be impossible to implement a new compensation model without some sort of system support and investment. This is critical to ensure that no faculty would be experiencing a decrease in compensation due to the re-model. The committee should work to understand the needs for obtaining buy-in from the UPMC Department of Medicine and finance department to ensure that the new compensation model is attainable.

7.2 Base Compensation Recommendation

Once a committee is formed, the faculty base compensation should be re-evaluated. To address a limitation of the current model, the new compensation model should have a base compensation that is stable and guaranteed. Expectations that are tied to the base compensation should be clearly defined and communicated with the faculty and should be grouped into the following categories: productivity, quality, and non-clinical (including research, teaching, and administrative expectations). The expectations should be developed with the intent of being the minimum standard that faculty must achieve in order to be eligible for incentive payments and to maintain that base compensation the following year. Additionally, UPMC DGIM should determine

a percentage of base compensation to be withheld if faculty underachieves any of the minimum expectations.

Because a portion of UPMC’s CMS reimbursement is determined by RVU’s, it is recommended that UPMC DGIM uses benchmarking to determine productivity compensation rather than CWE’s. One approach could be to use the AAMC or the MGMA market surveys to set a target benchmark (i.e., targeting the market median of the AAMC survey). There is considerable variability as to which market survey is best to rely upon for benchmarking faculty compensation. The committee should be responsible for identifying best target benchmarking strategy to ensure financial stability and equity.

It is recommended that new base compensation also include a target for quality-based compensation. The committee should determine which metrics and targets are used for measuring quality and value based on the current UPMC UPMC reimbursement model as well as faculty values and preferences. By including a value-based component, the new compensation model will increase in both financial viability and faculty satisfaction. Recommended options for quality metrics are shown in Table 5.

Table 5. Recommended Quality Metrics

Measure	Type
Access to Care	Patient-Reported Outcome-Based Performance Measure (PRO-PM)
Care Coordination	Process
Hospital Readmission Rate	Outcome
Emergency Department Utilization Rate	Outcome
Evaluation of Intervention for Risk of Opioid Misuse	Process
Flu Vaccinations for Adults Ages 18 to 64	Patient-Reported Outcome-Based Performance Measure (PRO-PM)
Patient Satisfaction with Care	Patient-Reported Outcome-Based Performance Measure (PRO-PM)

To mitigate any potential competition between faculty clinical and non-clinical work, minimum expectations for non-clinical work should also be defined in the new base compensation model. This could include scholarly work, teaching, committee work, citizenship, or administrative responsibilities, and it should be heavily centered around the values of the faculty and of UPMC.

7.3 Incentives Recommendation

In addition to defining what the minimum base compensation expectations are, the compensation model should also outline what the implications are when faculty exceed those expectations. The incentive plan should recognize and encourage faculty members' excellence and high performance, while also being financially viable to the organization. Incentives should have the ability to impact all faculty members, should have clear and measurable objectives, and should recognize diversity and success. Additionally, incentives should be paid for more than just exceeding productivity, as modeled in the current compensation plan.

UPMC DGIM should set incentive weights for each category included in the base compensation and should determine an incentive cap. Leadership should consider a cap of approximately 25% of base salary, but should ultimately base the decision on UPMC DGIM's current financial state. Different from the current model, incentive payments should not be valued less than base payments for equivalent work.

7.4 Additional Payments Recommendation

It is recommended that UPMC DGIM incorporate “extra-duty” payments into the compensation plan. These payments are for specific duties that are not recurring. These supplemental payments should be used to recognize unusual or unexpected activities performed by a faculty member, such as serving in an interim leadership role. Additional payments should be unrelated to and not impacted by base compensation or incentive payments.

8.0 Conclusion

Physician faculty compensation models in academic health institutions play an important role in patient care, faculty satisfaction, aligning organization mission and values, and financial stability. The analysis of the current UPMC DGIM faculty compensation model concludes that it should be re-considered due to its financial instability caused by the fixed salary pool, its uncompetitive base compensation, and its lack of quality or value-based incentive. Key recommendations for UPMC DGIM to remodel its current faculty compensation plan are to build a faculty compensation committee, to use benchmarking to make base salary more competitive, to include quality measures as a part of base compensation, and to be consistent in considering the patient population, faculty values, and financial viability when building the new plan.

Bibliography

1. Satarasinghe P, Shah D, Koltz MT. The Perception and Impact of Relative Value Units (RVUs) and Quality-of-Care Compensation in Neurosurgery: A Literature Review. *Healthcare (Basel)*. 2020;8(4):526. doi:10.3390/healthcare8040526
2. Luong P, Bojansky AM, Kalra A. Academic Physician Compensation in the United States: Should providers' work at academic medical Centres be judged by just one metric, the relative value unit (RVU)? *European Heart Journal*. 2018;39(40):3633-3634. doi:10.1093/eurheartj/ehy640
3. Satiani B. Use, misuse, and underuse of work relative value units in a vascular surgery practice. *Journal of Vascular Surgery*. 2012;56(1):267-272. doi:10.1016/j.jvs.2012.03.013
4. Garcia Mosqueira A, Rosenthal M, Barnett ML. The Association Between Primary Care Physician Compensation and Patterns of Care Delivery, 2012-2015. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2019/01/01 2019;56:0046958019854965. doi:10.1177/0046958019854965
5. Wilson M, Guta A, Waddell K, Lavis J, Reid R, Evans C. The impacts of accountable care organizations on patient experience, health outcomes and costs: a rapid review. *Journal of Health Services Research & Policy*. 2020/04/01 2020;25(2):130-138. doi:10.1177/1355819620913141
6. Drossman DA, Ruddy J. Improving Patient-Provider Relationships to Improve Health Care. *Clin Gastroenterol Hepatol*. Jun 2020;18(7):1417-1426. doi:10.1016/j.cgh.2019.12.007
7. Measures Management System. 2022. What is a Quality Measure? Centers for Medicare and Medicaid Services. .
8. Gee K. Rethinking Physician Compensation. Huron. Retrieved from: <https://www.huronconsultinggroup.com/insights/rethinking-physician-compensation>.
9. De Hert S. Burnout in Healthcare Workers: Prevalence, Impact and Preventative Strategies. *Local Reg Anesth*. 2020;13:171-183. doi:10.2147/LRA.S240564
10. Studer, Quint and Ford, George, MD, Healing Physician Burnout: Diagnosing, Preventing, and Treating, Fire Starter Publishing, 2015.

11. Søvold LE, Naslund JA, Kousoulis AA, et al. Prioritizing the Mental Health and Well-Being of Healthcare Workers: An Urgent Global Public Health Priority. Perspective. *Frontiers in Public Health*. 2021-May-07 2021;9doi:10.3389/fpubh.2021.679397
12. Vandello JA, Hettinger VE, Bosson JK, Siddiqi J. When Equal Isn't Really Equal: The Masculine Dilemma of Seeking Work Flexibility. *Journal of Social Issues*. 2013;69(2):303-321. doi:<https://doi.org/10.1111/josi.12016>
13. Abouleish AE, Apfelbaum JL, Prough DS, et al. The prevalence and characteristics of incentive plans for clinical productivity among academic anesthesiology programs. *Anesth Analg*. Feb 2005;100(2):493-501. doi:10.1213/01.Ane.0000146944.39874.02
14. Collier DA, Collier CE, Kelly TM. Benchmarking physician performance, Part 1. *J Med Pract Manage*. Jan-Feb 2006;21(4):185-9.
15. Butala NM, Hidrue MK, Swersey AJ, et al. Measuring individual physician clinical productivity in an era of consolidated group practices. *Healthc (Amst)*. Dec 2019;7(4)doi:10.1016/j.hjdsi.2019.02.001
16. Slater BJ, Collings AT, Corvin C, Kandel JJ. Value-based surgery physician compensation model - review of the literature. *J Pediatr Surg*. Jan 15 2022;doi:10.1016/j.jpedsurg.2022.01.009
17. Menacker M. Physician Compensation Methodology Must Change! *Am J Med*. May 2019;132(5):554-555. doi:10.1016/j.amjmed.2018.11.036
18. Measuring Progress: Adoption of Alternative Payment Models in Commercial, Medicaid, Medicare Advantage, and Traditional Medicare Programs. Health Care Payment Learning & Action Network. Retrieved from <http://hcp-lan.org/workproducts/apm-methodology-2019.pdf>.
19. Burwell SM. Setting Value-Based Payment Goals — HHS Efforts to Improve U.S. Health Care. *New England Journal of Medicine*. 2015/03/05 2015;372(10):897-899. doi:10.1056/NEJMp1500445
20. Fansler, D. Physician Compensation: Key Design Principles for the Independent, Health-System Sponsored, and Faculty Plan Platforms. Castling Partners. .
21. Medical Group Management Association (MGMA). Compensation and Production Survey Guide. FTE Demographics. .
22. 2020 AAMC/SullivanCotter Faculty and Community-Based Physician Compensation Methodologies in Academic Medical Centers.

23. Module 7. Measuring and Benchmarking Clinical Performance. Content last reviewed May 2013. Agency for Healthcare Research and Quality, Rockville, MD.
<https://www.ahrq.gov/ncepcr/tools/pf-handbook/mod7.html>
24. Soraya, P. What is Healthcare Benchmarking? ArborMetrix.
<https://www.arbormetrix.com/blog/intro-healthcare-benchmarking>.
25. Association of American Medical Colleges (AAMC). Peer Benchmarking & Data. Retrieved from: <https://www.aamc.org/professional-development/affinity-groups/coth/benchmarking-data>.
26. Medical Group Management Association. MGMA DataDive Provider Compensation Data. Retrieved from: <https://www.mgma.com/data/benchmarking-data/provider-compensation-data>.
27. American Medical Group Association. Benchmarking Surveys. Retrieved from: <https://www.amga.org/performance-improvement/best-practices/benchmarking-surveys/>.
28. Sullivan Cotter and Associates, Inc. Compensation Surveys. Retrieved from: <https://sullivancotter.com/how-we-help/compensation-and-rewards/compensation-benchmarking/>.
29. Friedberg, M., et al. Factors Affecting Physician Professional Satisfaction and Their Implications for Patient Care, Health Systems, and Health Policy. The RAND Corporation. Sponsored by the American Medical Association.
30. Gourevitch MN, Thorpe LE. Advancing Population Health at Academic Medical Centers: A Case Study and Framework for an Emerging Field. *Acad Med*. 2019;94(6):813-818. doi:10.1097/ACM.0000000000002561
31. Ortmeyer KA, Raman V, Tiko-Okoye CS, et al. Goals, organizational change, advocacy, diversity literacy, and sustainability: A checklist for diversity in cardiothoracic surgery training programs. *The Journal of Thoracic and Cardiovascular Surgery*. 2021;162(6):1782-1787. doi:10.1016/j.jtcvs.2020.11.112
32. Kane L. Medscape National Physician Burnout & Suicide Report 2020: The Generational Divide. Jan. 15, 2020. Available from: [wb.md/2Mfr14d](https://www.medscape.com/viewarticle/944144).
33. Burns KH, Borowitz MJ, Carroll KC, et al. The Evolution of Earned, Transparent, and Quantifiable Faculty Salary Compensation: The Johns Hopkins Pathology Experience. *Acad Pathol*. 2018;5:2374289518777463-2374289518777463. doi:10.1177/2374289518777463
34. Floyd P. ROADMAP FOR PHYSICIAN COMPENSATION IN A VALUE-BASED WORLD. *Physician Leadersh J*. Sep-Oct 2014;1(1):14-8, 20.

35. CY 2021 Medicare Physician Fee Schedule (PFS) Final rule. Centers for Medicare & Medicaid Services. .
36. Bohney, P., Hesselink, D., Hanscom, C. Navigating change: Implications of CMS's 2021 Physician Fee Schedule. *Cost Effectiveness in Health. Healthcare Financial Management Association.*
37. Colenda CC, Applegate WB, Reifler BV, Blazer DG, 2nd. COVID-19: Financial Stress Test for Academic Medical Centers. *Acad Med.* Aug 2020;95(8):1143-1145. doi:10.1097/acm.0000000000003418
38. Butkus R, Serchen J, Moyer DV, Bornstein SS, Hingle ST. Achieving Gender Equity in Physician Compensation and Career Advancement: A Position Paper of the American College of Physicians. *Annals of Internal Medicine.* 2018/05/15 2018;168(10):721-723. doi:10.7326/M17-3438
39. Program on Negotiation. 2020. Counteracting Negotiation Biases Like Race and Gender in the Workplace. Harvard Law School. .