



# Low Compensation for Academic Pediatric Medical Specialists: Role of Medicaid, Productivity, Work Hours, and Sex

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The number of medical school graduates entering pediatrics has gradually declined in the United States and created a critical shortage of pediatric subspecialists.<sup>1</sup> One factor discouraging medical students from choosing pediatric medical specialties is low compensation.<sup>2</sup> The lifetime earning potential of pediatric specialists is lower than their adult counterparts, though their training duration is as long or longer. This manuscript compares academic salaries among pediatric and adult specialties and analyzes potential causes for these differences. Finally, we discuss possible avenues for addressing lower compensation in academic pediatrics.

We compared modified Association of American Medical Colleges benchmark salaries (using a 3-year average with inflation adjustment adopted by the UC Davis School of Medicine aligned funds flow methodology)<sup>3</sup> among pediatric and adult providers. The benchmark compensation for academic practice for 11 pediatric subspecialties (usually requiring 3 years of fellowship) is lower than that of general internal medicine (Figure 1). The lower compensation is relatively selective to medical subspecialties within pediatrics (ranging from 70% of adult values in gastroenterology, 83% in pulmonology, 90% in endocrinology, rheumatology, and infectious disease, and 95% in neurology). In contrast, child and adolescent psychiatry (102%), pediatric anesthesia (108%), and pediatric surgery (143%) benchmarks are above their adult counterparts.

Duration of training is usually linked to compensation. Specialties such as pediatric anesthesia require approximately 1 year of additional training (occasionally 2 years for pediatric cardiac anesthesia). Similarly, child and adolescent psychiatry and pediatric surgery require longer duration of training (usually 2 years). Most pediatric medical subspecialties also require 3 additional years of fellowship training. However, median salaries in nonprocedural and non-intensive care unit (ICU) specialties such as adolescent medicine, pediatric infectious disease, pediatric endocrinology, and pediatric rheumatology are lower than that of a general

pediatrician in academic settings. Such differences in salary lead to large differences in lifetime earning potential.<sup>2</sup> These disincentives can potentially discourage pediatric residents from entering such fellowships.

Four factors appear to play a role in lower compensation for academic pediatricians and medical specialists. The first factor is low Medicaid reimbursement for providers. Medicare and Medicaid are the most common federal payers for adults and children, respectively. Medicare is a federal insurance program and serves people over age 65 years primarily, whatever their income, and serves younger disabled people and dialysis patients.<sup>4</sup> Physician reimbursement is the same everywhere in the United States and it is run by the Centers for Medicare and Medicaid Services, an agency of the federal government. The amount Medicare pays per relative value unit (RVU) is called the conversion factor and is set at \$ 33.06 for 2023. Medicaid is an assistance program serving low-income people of every age.<sup>4</sup> Medicaid reimbursement varies from state-to-state and is usually lower than Medicare.<sup>5</sup> The Kaiser Family Foundation has published a Medicaid-to-Medicare fee index, a measure of each state's physician fees relative to Medicare fees.<sup>6</sup> The Medicaid data are based on surveys in 49 states and the District of Columbia that had the fee-for-service component in their Medicaid program. The Medicaid-to-Medicare fee index is a computed ratio of the Medicaid fee for each service to the Medicare fee for the same service in each state. A graph of this index based on data for year 2019 publicly available from Kaiser Family Foundation website is shown in Figure 2. The Medicaid-to-Medicare fee index is lower than 1 for most states in the United States. Low Medicaid reimbursement is the primary cause of low pediatric compensation.

Medicaid covers 42% of births in the United States<sup>7</sup> and public insurance covers 36.4% of children under age 19 years and only 16% of adults between age 19 and 64 years (based on the 2021 census). From a purely economic perspective, choosing not to accept Medicaid is feasible for general internal medicine providers and adult subspecialty practices and may be a potential option for some general pediatricians and procedure-based pediatric subspecialists. However, it is

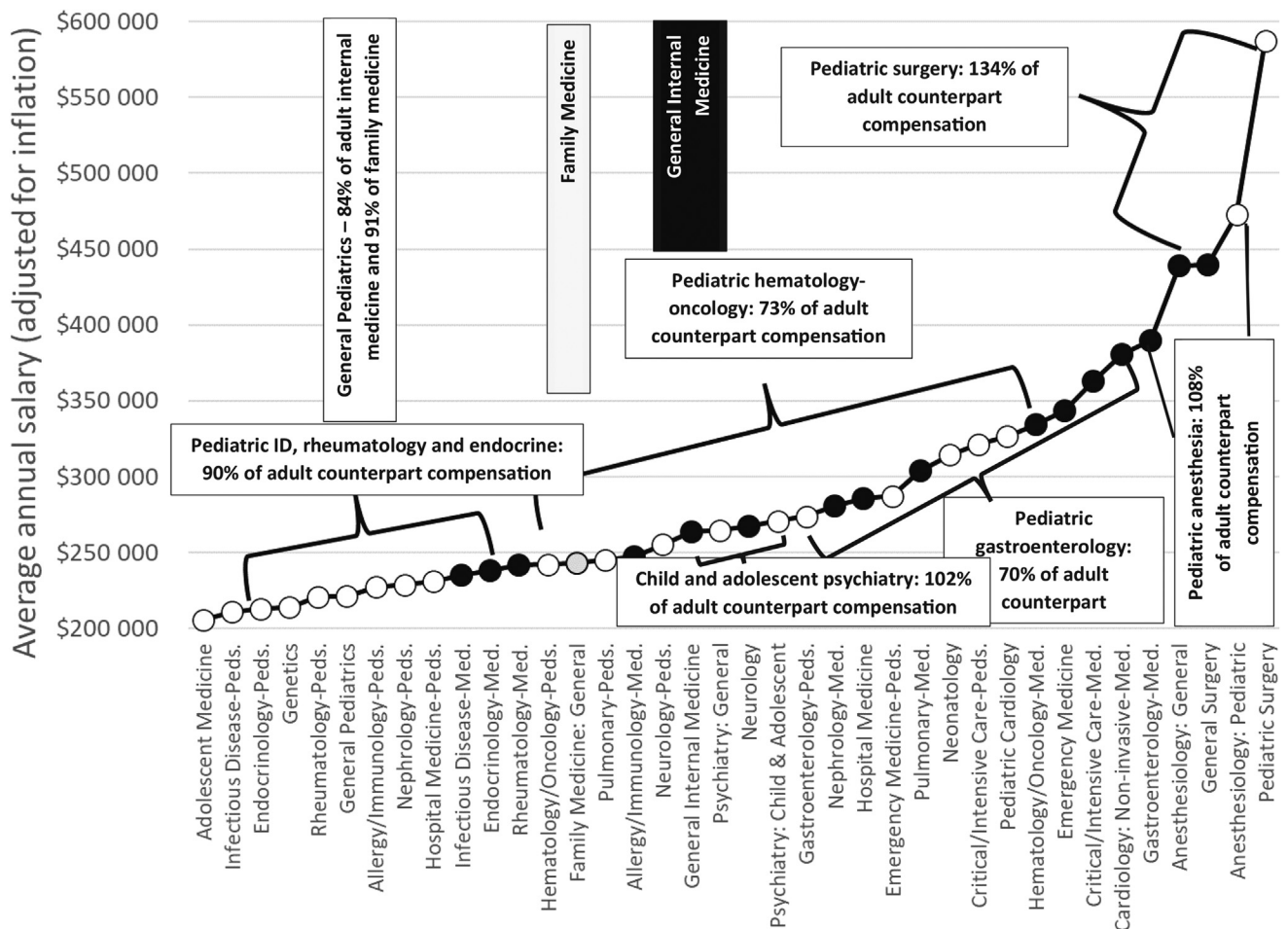
## Abbreviations

cFTE	Clinical full time equivalent
ICU	Intensive care unit
RVU	Relative value unit
wRVU	Work RVU
\$/wRVU	Dollars per wRVU

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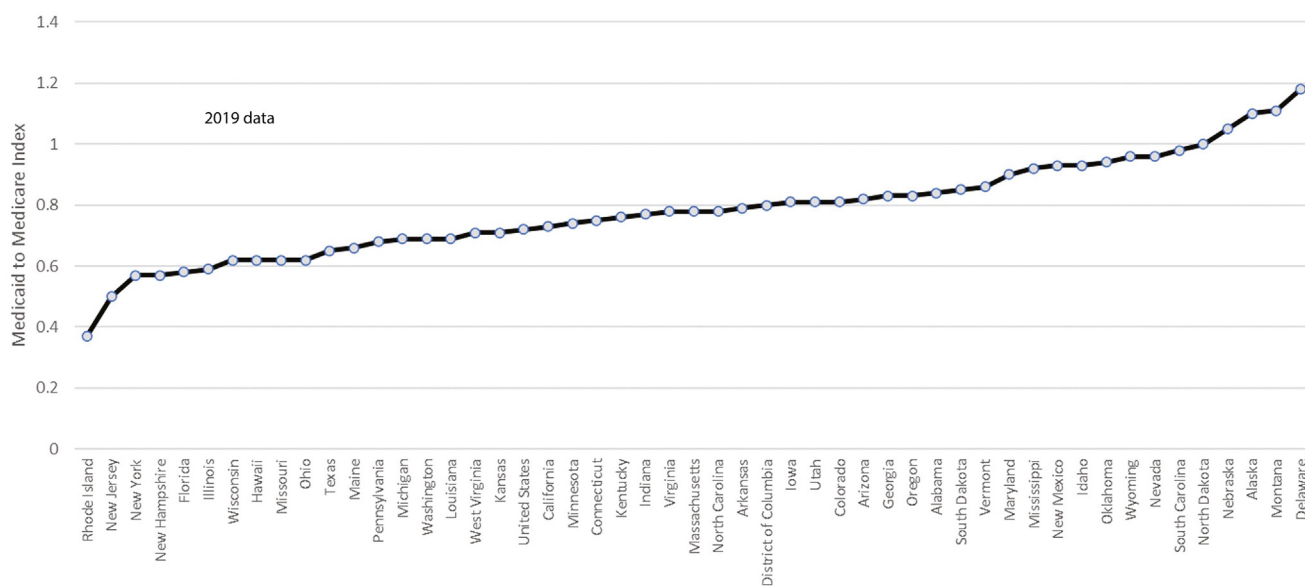
**Figure 1.** The average of assistant, associate, and full professor salary benchmarks using 3-year mean of Association of American Medical Colleges benchmarks adjusted for inflation for select pediatric and adult specialties used at University of California at Davis Health organized in the ascending order. Open circles are subspecialties related to child health. The boxes show the pediatric salaries expressed as a percentage compared with their adult counterparts.

difficult for nonprocedural pediatric subspecialists and many general pediatricians to thrive in a private practice model limiting Medicaid patients.

Second, the productivity benchmarks for pediatric subspecialties are often lower than their adult counterparts (Figure 3, A). The median productivity [work RVU (wRVU) per 1.0 clinical full time equivalent (cFTE)] is lower for several non-ICU pediatric medical subspecialists compared with their adult colleagues (Figure 3, A). The annual wRVU benchmarks for pediatric specialists are 47% of their adult counterparts in nephrology, 56% in gastroenterology, 65% in endocrinology, 76% in surgery, and 87% in neurology. We speculate that lower patient volumes, disease complexity, varying procedures in interventional cardiology<sup>8</sup> and gastroenterology, and added time for interaction with parents and guardians may potentially contribute to lower pediatric productivity.

Many pediatric subspecialists do not work in free-standing large children’s hospitals. The consult service for a large

free-standing children’s hospital can generate substantial RVUs given the high census of patients within a set specialty (eg, endocrinology, genetics etc). For smaller centers that are within an adult hospital system, the total number of pediatric beds does not allow a separate inpatient service for most specialties, so the consults are done in between a predominantly outpatient clinic schedule. In such smaller centers, the need for a person to be on-call after-hours more often is associated with less RVU-generating potential. For example, at UC Davis Children’s Hospital (120-bed pediatric facility located within an adult facility), dedicated inpatient service providers in pediatric endocrinology generated 1384 wRVUs and genomic medicine generated 543 wRVUs for fiscal year 2021-2022 (36.4% and 25% of 1.0 cFTE benchmark respectively) because of low inpatient consult volumes. Using national databases, the pediatric hospitalist annual wRVU benchmark is 63% of the adult hospitalist benchmark reflecting lower pediatric inpatient volumes compared with adults. The high cFTE needed to cover such inpatient services are



**Figure 2.** Medicaid-to-Medicare fee index from 2019 based on data from Kaiser Family Foundation website.<sup>6</sup> The index of 1.0 indicates parity between Medicaid and Medicare for a given procedure in that state.

associated with low wRVU productivity because of low pediatric volumes and reduce the overall annual wRVU productivity in pediatrics.

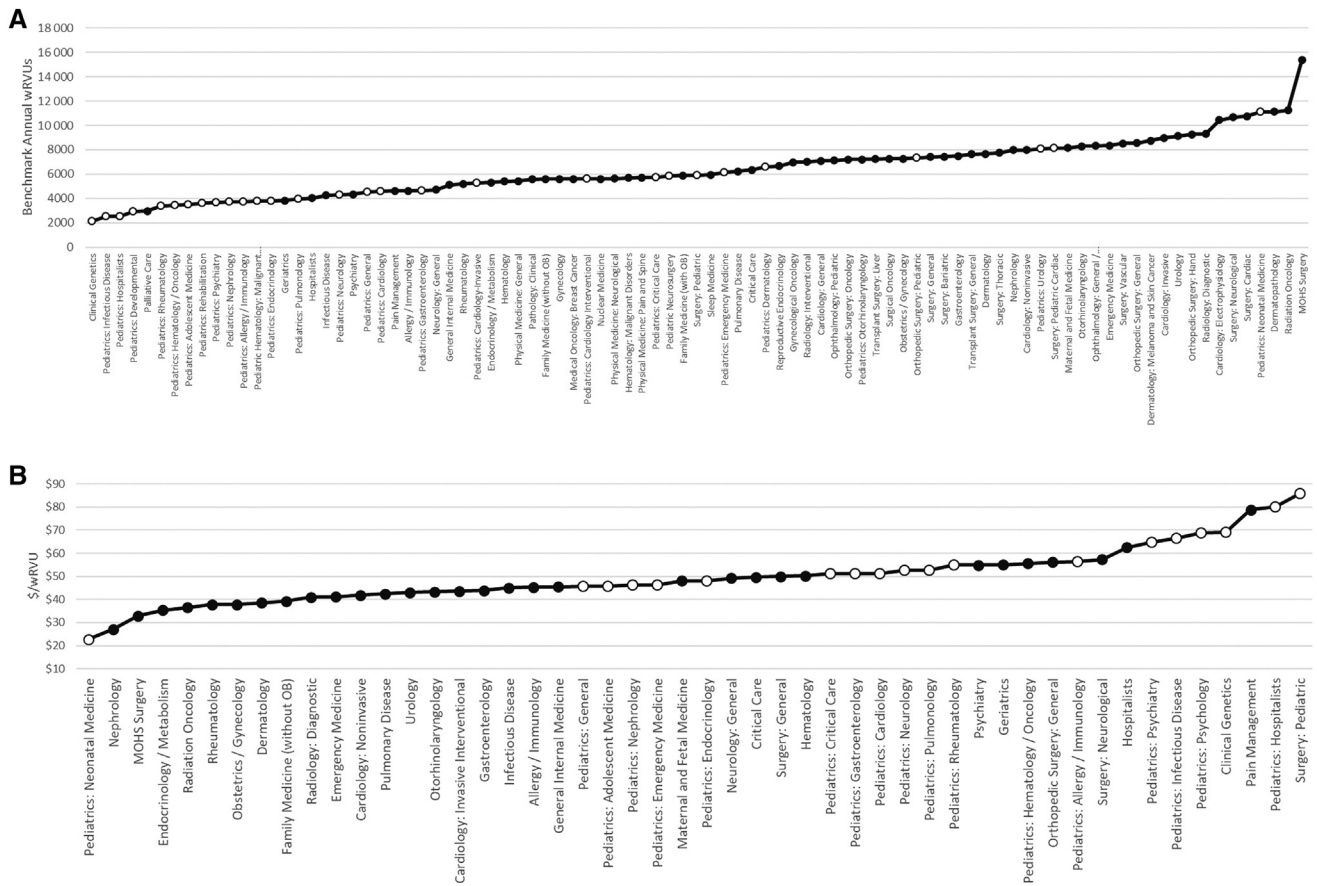
The dollars per wRVUs (\$/wRVU) calculated using national Association of American Medical Colleges benchmark salaries divided by Clinical Practice Solutions Center productivity wRVU benchmarks corrected for 1.0 cFTE are generally slightly higher for academic pediatric specialists compared with adult counterparts (Figure 3, B). The slightly higher \$/wRVU values in pediatric subspecialties (Figure 3, B) do not adequately compensate for the large differences in wRVU productivity in pediatrics (Figure 3, A). Neonatology is an exception with the lowest \$/wRVU value among all medical subspecialties. Neonatology contributes to a large proportion of wRVUs to academic pediatric departments and such low \$/wRVU in neonatology contributes to lower revenue to pediatrics departments using “aligned funds-flow” methodology.<sup>3</sup>

A third factor that may contribute to lower compensation of pediatric subspecialists is fewer work hours. Relative to family medicine, work hours including all medically related activities were lower for general pediatrics by -288 (95% CI -382 to -193) hours per year. However, work hours were higher for Neonatology (+564, 95% CI +307 to +820) hours/year but not different in other pediatric subspecialties (+117, 95% CI -90 to +324 hours/year compared with family medicine).<sup>9</sup> Pediatric work hours per year were 397 lower than internal medicine. Pediatric subspecialists worked a median of 329 work hours per year less than surgical subspecialists in the same study. This study is more than 12 years old

and much has changed in work schedules over the last decade. To our knowledge, a recent direct comparison of individual pediatric subspecialist work hours with their adult counterparts is not available.

Work hours are partly linked to compensation. Imposition of work hour limits for residents in 2003 led to a dramatic decline in resident work hours<sup>10</sup> and was subsequently associated with a reduction in nonresident physician work hours, especially among nonhospital based physicians <45 years of age.<sup>10</sup> Reduction in work hours was associated with a reduction in inflation-adjusted physician fee index.<sup>10</sup> The Medscape National Physician Burnout, Depression and Suicide Report 2019 (accessed on December 3, 2022) stated that 77% of physicians in general surgery, 60% in obstetrics and gynecology, 44% in internal medicine, 36% in family medicine, 28% in pediatrics, and 13% in emergency medicine reported working longer than 51 hours per week. These data indirectly suggest that pediatric work hours might be lower than adult counterparts. However, data specific to pediatric subspecialist work hours and compensation, especially after the COVID-19 pandemic and with recent respiratory viral surge needs further analysis.

The final factor is gender distribution among US providers (Figure 4). Active pediatric providers are predominantly female (64.3% in 2019) compared with family medicine (41.3%) and internal medicine (38.7%).<sup>11</sup> Sex inequities in salary are well known<sup>12</sup> and contribute to low compensation to pediatric providers. A comparison of median academic salaries superimposed on percentage of active female providers is shown in Figure 4. In general,



**Figure 3.** **A**, Benchmarks for productivity listed as wRVUs corrected for 1.0 cFTE for various specialties used by the aligned funds flow committee at University of California Davis. The benchmarks listed in clinical practice solutions center are the mean over the most recent 3 years and corrected for changes to wRVU based on Centers for Medicare and Medicaid Services in 2021. **B**, The \$/wRVU value using assistant professor median salary benchmark over 3 years corrected for inflation arranged in the ascending order. Open circles are subspecialties related to child health.

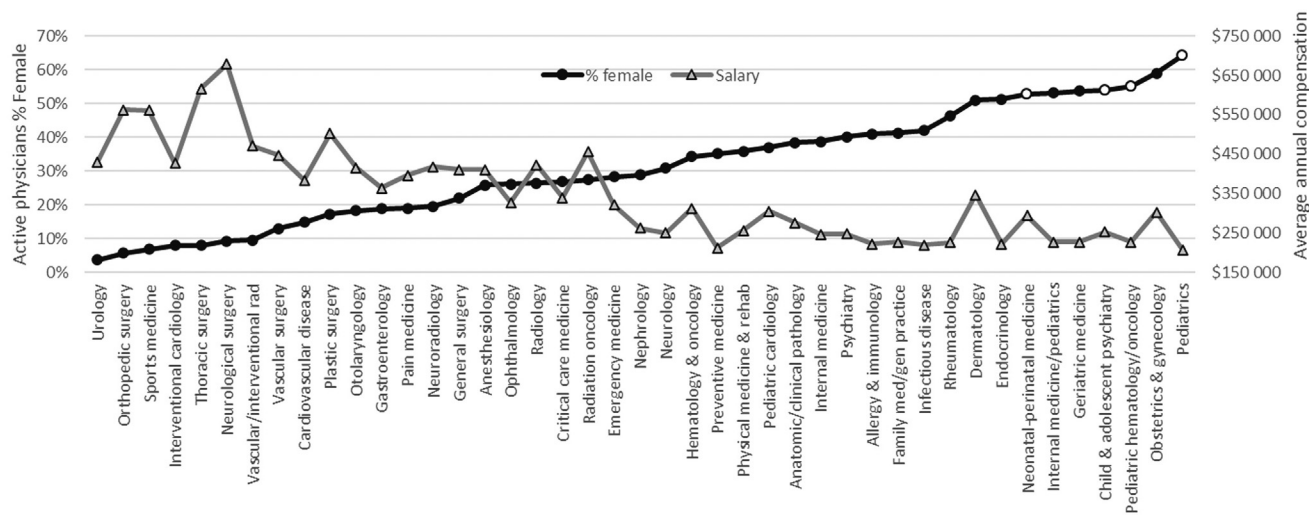
male-dominated specialists tend to be more surgical or procedure-based and are associated with higher compensation. Within internal medicine, procedural subspecialties were associated with higher sex gap in salary compared with nonprocedural subspecialties.<sup>13</sup> There is a general perception that female physicians earn less because they work fewer hours or see fewer patients exists, but even when adjusted for these factors, women physicians still earn less than their male peers.<sup>12,14</sup> Sex expectations differ with parents and patients expecting empathic listening and longer visits with female physicians.<sup>15</sup> Elderly hospitalized patients treated by female internists experience lower mortality and readmissions compared with those cared for by male internists possibly because of better communication, adherence to guidelines, and preventive care.<sup>16</sup> Similar trends in better care by female pediatricians may contribute to “low productivity” as measured by wRVU generation.

Based on the American Board of Internal Medicine website (accessed on December 3, 2022), the percentage of first year

fellows who are female is highest for endocrinology, geriatrics, rheumatology, and infectious disease and lowest in interventional cardiology. The compensation within internal medicine for infectious disease, endocrinology, and rheumatology is the lowest and interventional cardiology is the highest, suggesting an association between sex and compensation (Figures 1 and 4). The 2019 survey showed that within cardiology, 14.9% of actively practicing adult cardiovascular disease specialists were female compared with 37.1% of pediatric cardiologists (Figure 4). The higher proportion of female subspecialties in pediatrics compared with internal medicine may play a role in lower pediatric compensation.

It is interesting that in contrast to pediatric medical specialties, pediatric surgeons and anesthesiologists have higher reimbursement compared with their adult counterparts (Figure 1). Several factors appear to play a role in higher remuneration for pediatric anesthesiologists and pediatric surgeons. The productivity of pediatric surgeons (benchmark wRVUs/year) is 80% of general surgeons. One





**Figure 4.** The percentage of active female physicians in the United States in different specialties in 2019 based on Association of American Medical Colleges Physician specialty data report are shown in the ascending order. Open circles are subspecialties related to child health. Median compensation benchmarks for these specialties are also shown by the gray triangles on the secondary vertical axis.

potential factor that might play a role in higher compensation to pediatric anesthesiologists and pediatric surgeons is the prominent role these subspecialties play in enhancing hospital revenue through procedures and increased admissions to neonatal and pediatric ICUs. Performing rare, physiologically complex pediatric surgeries result in higher contribution margin per operating room hour compared with geriatric surgeries.<sup>17</sup> In addition, nonsubstitution by adult surgeons/anesthesiologists for procedures involving neonates, infants, and toddlers, and the importance of retention of pediatric surgical services leads to higher fair market value salaries and call-rates for pediatric surgeons/anesthesiologists.

Low compensation benchmarks set up a vicious cycle of lower expectations and productivity, and consequently lead to lower bonus payments and prevent upward adjustment of compensation benchmarks. Efficiency similar to adult counterparts is elusive to pediatricians due to systemic obstacles. Reliance on parents and guardians for information and communication is inherently inefficient. Similar phenomena are observed in geriatrics where communication occurs through caretakers and wRVU benchmarks are only 75% of general internal medicine (3839 vs 5125 wRVUs/year).

A discussion about Medicaid parity with Medicare is urgently needed to sustain the academic pediatric workforce in the United States. New measures being adopted by Centers for Medicare and Medicaid Services to enhance Medicaid and address certain health-related social needs will expand access to quality, affordable care but will need to consider enhancing provider reimbursement.<sup>18</sup> Similarly, increased pediatric representation on agencies that determine current procedural terminology coding and wRVU assignment to these codes is needed. A coordinated effort from physician leaders, patient

advocates, and political organizations to address comparatively low compensation among pediatric specialty physicians in academic health centers is direly needed to ensure an adequate pediatric subspecialty physician workforce to meet the needs of our nation’s children.<sup>3,19</sup> ■

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