Editorial

Advanced Practice Providers (APPs) in Hospital Medicine

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Hospital medicine groups grapple with the periodic need to adjust their structural and operational requirements, primarily determined by their stakeholders and local environmental factors evolving over decades. Since the term "hospitalist" was introduced into the healthcare domain, several local and national trends have led to ongoing operational changes.[1]

Initial gains in optimizing inpatient care with hospitalists led to the expansion beyond clinical activities into other healthcare domains such as case management/utilization review, operational efficiency, and Graduate Medical Education (GME). This expansion, in conjunction with increasing inpatient acuity, has contributed to the need for increased staffing to meet the demands of inpatient care. The same factors that provided inroads for physician inpatient care have led the way for increased use of APPs (Advanced Practice Providers) in hospital medicine. An aging physician workforce, demands of electronic medical records (EMRs), GME, work hour requirements, and declining insurance reimbursement have contributed to an increase in demand for APPs that include nurse practitioners and physician assistants.[2]

The increase in the use of APPs in hospital medicine is a relatively recent phenomenon. Physician assistants (PAs) have, for the past few decades, been attracted to procedure-oriented specialties, such as Orthopedics, Cardiothoracic surgery, and, more recently, Interventional Radiology. In contrast, NPs have been based more in the outpatient domain as primary care providers (PCPs) or assisting PCPs and other sub-specialties in Internal Medicine.

As with many other elements of our healthcare system, state regulations greatly influence the scope of practice for APPs. The primary difference is in the level of supervision, depending upon the state in which they practice. Nurse practitioners can practice independently and prescribe medications in many states. However, PAs always work under the supervision of a doctor.[3] In recent years, hospital Medical Executive Committees have added NPs as members, acknowledging the unique role that NPs play in the hospital, functioning as providers but with a deep appreciation of the nursing mindset and education, capable of bridging the gap between nursing and physicians in interdisciplinary teamwork.

For the purposes of hospital medicine groups, both categories of APPs can perform the following activities:

- Coordination of admissions and discharge planning
- Patient histories, physical examinations, diagnostic and therapeutic procedures (if duly instructed and garner required expertise)
- Medication orders
- Hospital committee tasks to improve processes of care.

The surge in opportunities for APPs over the past two decades is undeniable and presents both challenges and advantages. In the Society of Hospital Medicine (SHM) survey in 2007-2008, approximately 29% and 21% of hospital medicine practices utilized NPs and PAs. By 2014, about 50% of Veterans Affairs inpatient medical services deployed NP/PA providers, and the most recent data from the SHM reveal that approximately 63% of hospitalist groups use advanced practice providers (APPs).[4]

There is evolving growth and enthusiasm for NP/PAs in hospital medicine. However, reported increases in APP turnover are a concern that needs to be addressed to help maintain and develop this workforce and minimize disruptions to inpatient operations. Recent SHM data shows a high rate of turnover among NPs and PAs – about 19.1% per year. The rate for physicians was 7.4%,

which has been declining for many years.[5] The recently reported increase in turnover of APPs requires evaluation of current deployment models and the adoption of steps to enhance their professional growth and satisfaction.

There are many models for deploying NPs/PAs into Hospital medicine operations.

These models are based on the **clinical** roles of APPs in the hospitalist groups. Based on its operations, each practice may adopt one of the many options or create customized hybrid forms.

1. Dyad: Physician works with APP, and together they provide care to most, if not all, their assigned patients. The shared visit model for billing is used in most cases, and APPs bill for the service provided to the patients they see independently. This model may be used for new admissions, patient follow-up care, observation care or skilled nursing units, and routine consult follow-up care. There are concerns of under-utilization of APPs with this model if it is the predominant model. It certainly has a role as part of an onboarding program for APPs, new graduates, and early career APPs who have changed from one specialty to another. The expectation is that over time systems can accurately determine cases that APPs can handle independently to make maximum use of their skill sets and allow physicians to concentrate on clinical activities.
2. Independent: APPs work independently but under the supervision of the medical director or other specific physicians. Data indicates that having them work with a select few senior physicians facilitates knowledge diffusion and enhances patient care.[5] This model is not ideal for new graduates without experience in inpatient care or who are under a formal onboarding process. APPs see their assigned patients, including lower acuity patients, routine follow-up consults, and co-management roles. The advantage of this model is professional growth and job satisfaction. However, care needs to be taken to ensure that patients who develop higher acuity levels or those who develop complications can be seamlessly transferred to a physician's service.
3. Other clinical roles: APPs can be assigned other clinical roles based on the mandate of their hospitalist programs. Programs that have post-discharge clinics use this resource to enhance patient throughput and to bridge the gap between inpatient care and outpatient follow-up to help reduce readmissions. Hospitalist programs that incorporate post-acute-care activities also use APPs to see patients with relatively low acuity with the additional advantage of ensuring continuity of care and reducing hospital readmissions. In some academic hospitals, the APP service has also been used to facilitate patient transfers to address residency team census caps. With this model, transfers to APPs decompress the inpatient resident census, allowing patients with higher acuity to be assigned to teaching teams.

RECRUITMENT AND RETENTION STRATEGIES: THE FOUR C'S

In addition to the varying clinical models used for harnessing the APP resource, several team strategies must be adopted to promote recruitment and retention, thereby addressing the high turnover rate. An internal study of the turnover timing may indicate the most influential factors for an individual hospital medicine group. For instance, overwhelming clinical scenarios due to inadequate onboarding, account for a high turnover rate in the first year. High turnover after three years may indicate minimal professional growth and advancement opportunities. The strategies may be listed as the "Four C's" (**Figure 1**):

1. **Competence**: There should be a commitment to adequate and structured onboarding to build the initial confidence needed. Beyond the onboarding period, a commitment to ongoing education and supervision by assigned physicians is needed to achieve the desired level of independence of the APPs. Providing resources for active participation in professional societies and other educational activities yields the required results and creates opportunities for professional growth. In applicable cases, APPs should be encouraged to serve as preceptors of trainees in conjunction with their assigned physicians.
2. **Collegial relationships**: Steps should be taken to ensure APPs are integral to the group's operations. They should be encouraged to serve on hospital committees and take an active role within the hospitalist group. These relationships help to develop clinical expertise and enhance patient care. There should be no inhibitions on the part of APPs to review or discuss patient care concerns with any member of the hospitalist group.
3. **Culture**: APPs should be subject to the group's core missions and metrics. A culture of inclusivity ensures the buy-in required for the group's success. A thorough understanding of the group's mission and metrics must be promoted and re-emphasized. The strategic concept of fit is a critical success factor.[6]
4. **Compensation**: The fluctuating financial climate makes this an ongoing challenge for most hospitalist groups. The expectation is for the compensation to be based on local market analysis and commensurate with assigned duties and work experience. In addition, the use of some form of merit-based incentives helps to increase productivity. A mix of group-based and individual-based components to

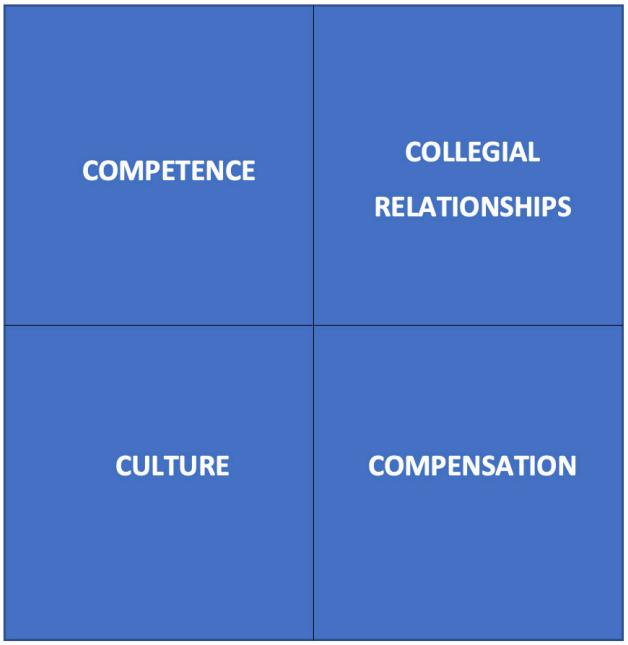

Figure 1. The 4C's of recruitment and retention strategies

merit-based incentives helps prevent internal competition, which may erode group cohesion and adversely affect patient care.

The varying acuity but increasing aspects of inpatient medicine requires the deployment of providers with varying skill sets. APPs do and will continue to have a unique role in this domain. Steps need to be taken to stabilize and promote this essential workforce in the realm of hospital medicine.

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The authors have no conflicts of interest to disclose.

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- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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