Clinical pharmacists are highly trained professionals who provide comprehensive medication management across a majority of health care settings. These clinicians have numerous responsibilities, which may include teaching, administrative, and scholarly responsibilities in addition to patient care activities. Many clinical pharmacists report a high degree of burnout and stress. In addition, practice models with limited options for buy-downs or stipends (eg, for committees, projects, or residency program director roles), inability to generate revenue for services provided, public perception, and little upward mobility for career advancement have led to a perceived trend of clinical pharmacists leaving practice to pursue careers removed from patient care that favor work-life balance. The purpose of this review is to summarize factors associated with premature attrition of clinical pharmacists, call attention to this trend, and provide suggestions for improvements.

KEYWORDS
attrition, burnout, pharmacist, provider status

1 | INTRODUCTION

Clinical pharmacists are highly trained professionals tasked with providing comprehensive medication management across a majority of health care settings. Pharmacy education consists of undergraduate pre-pharmacy coursework along with graduate school to obtain a Doctorate of Pharmacy (Pharm.D.). For those practicing within the hospital or ambulatory clinical setting, 1 to 2 years of postgraduate residency training or equivalent experience is typically required, especially for specialized areas providing direct patient care. Upon meeting eligibility criteria, board certification by the Board of Pharmacy Specialties (BPS) is also commonly required across a range of clinical practice areas.

Regardless of the practice area, most clinical pharmacists have numerous daily responsibilities. A majority of time is spent on patient care activities aimed at ensuring that medications are safe, effective, evidence-based, cost-effective, and meet the individual patient’s health care needs. In patient care, the model of pharmacy practice differs from that of physicians significantly. Medical doctors typically have a maximum number of patients on a given service each day, the opportunity to take on leadership roles that include time buy-downs or stipends (eg, for committees, projects, or residency program director roles), inability to generate revenue for services provided, public perception, and little upward mobility for career advancement have led to a perceived trend of clinical pharmacists leaving practice to pursue careers removed from patient care that favor work-life balance. The purpose of this review is to summarize factors associated with premature attrition of clinical pharmacists, call attention to this trend, and provide suggestions for improvements.
Beyond bedside care, clinical pharmacist responsibilities can include the following: both prospective and retrospective order verification, precepting trainees (eg, pharmacy residents and students), hospital or clinic committee participation, research and scholarship, and involvement in national and local organization leadership, guideline, protocol, and medication use process development, among other unit and pharmacist-specific roles. These activities translate in to numerous benefits, including optimization of medications, decreased medication errors, improved patient outcomes, and significant cost avoidance.

Although multiple studies have demonstrated the benefit of clinical pharmacists, little exists describing the typical “lifespan” of this group. Many clinical pharmacists are reporting high rates of burnout, with variable systematic barriers and contributing factors at play. Anecdotally, we have observed a trend of clinical pharmacists leaving practice to pursue careers removed from patient care that favor work-life balance. There is a dearth of contemporary data specifically addressing this question in the United States. A recent survey in New Zealand, which has a robust clinical pharmacy model, demonstrating that pharmacists who left the profession or were considering leaving in the next 5 years cited dissatisfaction with professional environment, inadequate remuneration, and perceived lack of career pathways or promotion opportunities. The purpose of this review is to summarize factors associated with premature attrition of clinical pharmacists, call attention to this trend in order to promote future research on this issue, and provide suggestions for improvements.

2 | BARRIERS TO RETENTION AND CONTRIBUTORS TO ATTRITION

2.1 | Burnout

The Maslach Burnout Inventory is a validated tool widely used to evaluate the concept of “burnout” among various groups of individuals who provide work that is aimed at providing a service to others. Burnout specific to health care workers is a mental process caused when an individual is trying to positively impact the lives of others and they become overcome or frustrated by unanticipated professional stressors. Responses on the 22-item questionnaire are expressed in terms of the frequency that a respondent has specific feelings. Responses from all questions are tabulated and tied back to three domains: emotional exhaustion, depersonalization, and personal accomplishment. Each domain is assessed on the levels of “high,” “moderate,” and “low” according to validated score ranges used to define burnout specific to various health service groups, with most studies using these thresholds to dichotomize the outcome of “burned out” vs “not burned out.” Currently, no evidence has evaluated factors influencing clinical pharmacists’ decisions to leave bedside practice within the first decade of their career. However, we postulate that burnout may be related premature attrition. A recent survey evaluated factors associated with burnout in 974 clinical pharmacists practicing in the inpatient hospital. The majority of respondents were young practitioners (<40 years of age) who had practiced a median of 8 years. Burnout rate was 61.2% and was higher in those who worked more hours, maintained a BPS certification, had too many nonclinical duties, and increased administrative activities. Interestingly, working with difficult physician colleagues did not influence rate of burnout; however, working with difficult pharmacist colleagues increased the odds of burnout by 110%. Burnout was not influenced by area of pharmacy practice, suggesting this problem may be ubiquitous within the pharmacy profession. This was reinforced in two recent surveys, one of emergency medicine (EM) pharmacists and one of hematology-oncology pharmacists. The EM pharmacist survey found high rates of burnout (67.1%-69.8%) that was associated with younger age, more trauma center designation, patient volumes, and direct patient care time. The hematology-oncology pharmacist survey found that those with a high degree of burnout were more likely to report concern they had made a major medication error within the past 3 months and expressed intent to leave their current job within 2 years. Other studies have validated the high rates and predictors of burnout among clinical pharmacists. Factors related to workflow (meetings, short staffing, and email fatigue), control over external factors (change, technology, shortages, and interruptions), and community (coworkers, poor communication, and stress from home) were observed.
in one study as the greatest contributors to stress. Among pharmacy residents, that some of the factors that contribute most to burnout include fear of error, publication pressure, and the variability of expectations throughout the year (Table 1).

Interestingly, studies reported that burnout was less likely in those who had children and were of older age, potentially demonstrating the benefit of experience and a strong area of focus outside of pharmacy. A “single” relationship status was a strong predictor of burnout in one study. This suggests that factors outside the workforce may substantially influence how a person perceives challenges and work-associated stress, which in turn may influence burnout and longevity within clinical pharmacy. While having a significant other or child(ren) may help shift the focus on other aspects of life outside of work, there is a point where work may negatively impact family life and lead to new forms of stress that have not been captured in current research. Furthermore, this could be due to generational characteristics that are difficult to identify via survey methodology.

The focus on wellbeing has also led to the development and validation of the Professional Fulfillment Index, which evaluated burnout and professional fulfillment over the 2 weeks prior to a survey was distributed. A random sample of 96,000 US pharmacists were asked to take the survey electronically, of which 4716 had usable responses. A regression analysis indicated higher burnout with younger age, female sex, working more hours, and working in community pharmacy. Higher professional fulfillment was associated with men and working in noncommunity settings. Though a minority of these respondents (25.9%) worked in an institutional setting and it is unknown how many were clinical pharmacists, this tool sheds some light on contributing factors to both burnout and personal fulfillment.

Clinical pharmacists help to mitigate burnout among physicians by reducing their workload and improving medication use. The presence of a clinical pharmacist on a medical team or in a clinic setting may provide an additional resource that reduces burnout of others; however, is the effect the same when that pharmacist themselves becomes burned out or when the expectations of the individual pharmacists vary substantially between institution? More insight is needed to properly answer this question. Finally, it is unclear how the COVID-19 pandemic has changed or accelerated burnout amongst pharmacy professionals as all these studies were published prior to its inception.

2.2 Revenue generation

While research demonstrating the benefit of clinical pharmacy services has been conducted for decades, the problem remains that health care is driven by revenue generation. The presence of clinical pharmacists undoubtedly leads to a high level of cost avoidance. However, this does little to generate actual revenue, as clinical pharmacy services are not typically reimbursable. This potentially leaves pharmacists at risk when budgetary constraints arise. This was apparent in a 2020 survey conducted by the American Society of Health-System Pharmacists (ASHP), which found that two-thirds of the 258 pharmacists surveyed reported a reduction in staff, either through decreased hours, furloughs, or reducing positions, due to the COVID-19 pandemic, highlighting the vulnerability of nonrevenue generating positions. While it is unclear if pharmacists were disproportionately affected compared with other health care professions, the ability to generate revenue would undoubtedly provide more stability in the setting of financial turbulence.

Provider status for pharmacists, which would allow for reimbursement of services, remains a hotly contested topic, though some states have recently passed laws pertaining to reimbursement via collaborative practice agreements. Despite recent strides, professional physician organizations (eg, the American Medical Organization) oppose widening the scope of pharmacist practice, posing future challenges to widespread change. The impact of provider status on job stability and satisfaction remains to be determined.

The absence of provider status and inability to generate revenue may leave clinical pharmacists feeling that their practice has to include a focus on the tritflecta of patient care, teaching, and research in order to prove themselves as valuable health care providers. This may create unsustainable goals, leading clinical pharmacists to spread themselves too thin, ultimately leading to burnout and stress. This problem is multifaceted: those who truly do desire to excel in all professional areas (patient care, teaching, and research) have a self-inflicted drive to achieve. Simultaneously, institutions may not provide pharmacists with adequate time, educational, or clinical resources to facilitate this success, leading to a self- and organizationally-driven cycle toward burnout. Both situations represent different facets of the clinical pharmacy profession—being pulled in too many directors and not having the resources to achieve one’s desired goals. Do we set standards for other members of the profession that are unattainable and in turn create a challenging work environment to sustain?

2.3 Practice models

Pharmacy practice models nationwide vary greatly, creating another challenge to maintaining a long career in clinical pharmacy practice. At some institutions, clinical pharmacists rarely participate in distributive duties and their time is largely dedicated to patient care, research, and teaching. At others, distributive and clinical roles are integrated, with one pharmacist performing all of these duties for designated patient care units. There are also variable pharmacist to patient ratios, productivity metrics, administrative duties, and nonpharmacist resources used to aid in care. While ambiguity exists in other areas of medicine, including physician practice, we are unaware of any institution that offers their regularly scheduled time “off-service” for administrative and scholarly activities for clinical pharmacists. Some institutions may offer “project days,” although a single day to accomplish all these additional tasks likely does not provide adequate time to succeed. This continuous clinical responsibility may lead to the high levels of burnout and stress observed across clinical pharmacists.
2.4 | Public perception

Despite pharmacists having long-standing tenure atop the Gallup Honesty and Ethics of Professions Ranking, pharmacists are commonly absent or overall have a poor public portrayal in the American media. A review of US film and television footage from over four decades found that pharmacist characters are rarely incorporated into fiction in medical-themed television shows. When they are covered, the majority of the coverage paints the pharmacist in a negative viewpoint, with only 13% of portrayals in a positive light. In addition, the average pharmacist is white (75%), male (76%), and overwhelmingly in a retail pharmacy setting (88%) in the media. With pharmacists in the hospital setting only representing 4% of total appearances, it is reasonable to discern that the average American is unaware of the role clinical pharmacists play in the hospital and most commonly associate pharmacists with dispensing medications. A survey study on the public perception of pharmacists found that their role was largely reduced to that of dispenser of medications. Few respondents (11%) considered pharmacists a health consultant. There is a paucity of data on the perception or knowledge of clinical pharmacists’ roles in the media or general public. Though perhaps this plays a minor role in the premature attrition of clinical pharmacists, enhancing the public perception of clinical pharmacists may be a factor in mitigating burnout.

2.5 | Training standards

Clinical pharmacists and associated professional organizations may set too high of standards for ourselves. This is exemplified in how residency standards approach scholarly activity compared with our physician colleagues. The Accreditation Council for Graduate Medical Education internal medicine residency requirements state that all residents should participate in scholarly activity. This requirement is met if 50% of a program’s residents are engaged in only two activities from a list that includes grand rounds presentations, posters, workshops, quality improvement work, peer review activities, publications, committee service, or clinical research. In contrast, the PGY1 pharmacy residency competency areas require that every single resident participates in significantly more activities that fall under the same definition as scholarly work in the physician standards. Each pharmacy resident must prepare a drug class review, monograph, treatment guideline, or protocol. They must also complete a medication use evaluation, complete and implement a quality improvement or research project, and present at least one project orally and in writing in a single year. These requirements undoubtedly help increase the level of performance of pharmacy residency graduates; however, one is left to wonder if they promote unsustainable expectations for postresidency life. Based on the available literature, it appears that residents and practicing pharmacists experience burnout for similar reasons and at similar rates, suggesting that life postresidency is not as stress-free as many residents perceive it may be.

In our opinion, the current model of clinical pharmacy practice, including our training standards, contribute to the, sometimes self-inflicted, belief that pharmacists must essentially be able to do it all. When one cannot, the system is not viewed as being too demanding, but instead the individual is viewed as not resilient enough. We believe this occurs in part because pharmacy organizations have largely focused on promoting resilience skills amongst the profession, instead of focusing on identifying and fixing some of the systemic issues within the profession that may lead to premature attrition of clinical pharmacists. In fact, a recent commentary even suggested that schools of pharmacy should consider creating favorable admissions criteria for former college athletes. The authors believed this cohort possessed advanced abilities in stress management, wellness, and teamwork and may be more capable of meeting the expected demands placed on pharmacists. This shows the desire to recruit a more resilient workforce may cause us to place the problem on clinicians rather than the often-un sustainable systems in which we operate.

2.6 | Career advancement opportunities

An additional contributor to premature attrition of health-system clinical pharmacists is a perceived or actual lack of career advancement. A 2005 survey conducted by the American College of Clinical Pharmacy focused on career advancement from the perspective of both front-line clinical pharmacists (n = 830) and managers/administrators (n = 296). The majority of respondents were from community teaching hospitals or academic medical centers. In this survey, 70% of front-line clinical pharmacists and 63% of the managers/administrator stated they did not have defined criteria for career advancement. Only 15% intended to pursue advancement within their own institution and 12% intended pursue advancement at another institution. A minority of respondents reported interest in industry, tenure-track or nontenure track academic position, or other roles. Even with a defined pathway for advancement, most of the front-line pharmacists did not regard a position in management as an attractive career option. A survey published in 2021 indicated nearly 90% of health-system pharmacists surveyed (n = 404) believed that requirements for promotion are not clearly outlined. Thus, this creates a situation where pharmacists are not aware of advancement opportunities or feel a management track that does not personally appeal to them may be their only option. There are limited published data on pharmacists’ perceptions and value related to opportunities to pursue leadership roles with and without retention of some degree of direct patient care activities. Limited opportunities for advancement may lead clinical pharmacists to leave practice in order to achieve growth, financial incentives, or work-life balance.

Having an advancement pathway, or knowledge of an advancement pathway, alone is not enough prevent premature attrition. The culture, vision, and advancement rewards and opportunities must align with the clinical pharmacists. In the aforementioned 2005 survey, the clinical pharmacists cited the following as the most important
motivators for satisfaction: increased time for clinical practice (90%), increased autonomy in the workday (89%), work-life balance (87%), funding to support additional education and training (85%), and a more favorable work schedule (82%). These factors were ranked higher than increased time for clinical research (58%), time off for speaking engagements (56%), or opportunities for advancement to pharmacy management (23%). Likewise, 45% of the clinical pharmacists denoted work-life balance was the most important factor in achieving career success, followed by a challenging position (22%), opportunities for professional development (22%), and a good salary and benefits (10%). In contrast, the managers surveyed underestimated the importance that clinical pharmacists place on work-life balance and favorable work schedules (89% vs 79%, \( P < .001 \)). Furthermore, only one-third of both clinical pharmacists and managers indicated the pharmacy department structure and staffing models were designed to support a clinical vision. Importantly, 70% of pharmacists’ respondents stated these motivators had an important impact on career choices. This highlights that organizations with a culture or vision that support the pharmacists’ motivations may be able to mitigate pharmacists leaving practice. While these motivators are critical and have been measured, there could also be other indicators of institutional culture, which could lead to pharmacists leaving clinical practice. These include a practice or institution that fosters and supports diversity, inclusion, and equity or condone work-place civility and condemns hostility. No data have properly assessed these motivators in relation to the clinical pharmacists’ attrition.

### 3 | STRATEGIES TO MITIGATE AND PREVENT PREMATURE ATTRITION

Currently, there are no direct studies evaluating strategies to mitigate premature attrition of health-system pharmacists. All available information in the literature is drawn directly from burnout and stress reduction strategies, as it is assumed that these are two of the main contributors of premature attrition. Methodologies associated with reduction or prevention or burnout focus on two main contributors, individual factors and organizational factors (Table 1). Often, a combination of these factors contributes to an individual’s burnout. An introspective evaluation is key in determining steps to take to reverse, minimize, or prevent the burnout weighing on health care professions.

#### 3.1 | Individual factors

Individual factors may be implemented to significantly improve burnout. A major benefit of individual factor changes is that they are almost entirely within a person’s control. An almost universal symptom of burnout is exhaustion. This often manifests as not only physical fatigue, but also emotional and cognitive fatigue. High demands from the organization and self, over long periods of time contribute to this factor, and this exhaustion often starts the cycle of inefficiency. The physical exhaustion contributes to a lack of energy and coupled with the cognitive exhaustion, and the already overwhelming amount of work quickly grows even larger. There are several strategies to combat these individual factors of burnout. The first is taking advantage of earned time off. While this may seem counter-intuitive, the rest and relaxation gained by stepping away from a stressful work environment can assist with the physical and emotional exhaustion that may be an effect of burnout. A dead battery will not start a car, no matter how many times the key is turned. This time away may also allow an opportunity to reframe and reflect on the situation causing burnout. Reframing may allow a better understanding of which elements of the job are controllable vs other aspects that will require the individual to adapt. Is there a way to reduce exposure to a stressor, or the effort an individual puts into a situation that causes stress? Or can the individual work to develop strategies to manage these inevitable situations in a manner that causes less stress?

As described above, a factor that can potentially lead to premature attrition is striving toward work-life balance. In the aforementioned survey of clinical pharmacists experiencing burnout, those with a positive work-life balance had half the rate burnout compared with those without good balance. While there are definite organizational factors that contribute to poor work-life balance (eg, work-life conflict), individuals should seek to minimize stressors outside of work that can contribute to stress at work. Having a social support community outside of work can assist with minimizing burnout. Does an individual have friends to socialize with, a hobby, or other activities to look forward to, and to take one’s focus off work?

Mindfulness is another individual contributor, defined as a mental state that allows an individual be focused on the present moment, while being able to calmly accept the feelings and thoughts of a situation. Practicing mindfulness has demonstrated improved ability to handle stressful situations by controlling emotions in a way that does not contribute negatively to one’s mental state. This allows individuals to more quickly and completely move on from stressful situations to other aspects of their life, and has shown improvements in quality of life and productivity. Many organizations also offer various mindfulness resources. Similar to mindfulness, exercise has been shown to increase well-being, sense of personal accomplishment and decrease stress. Incorporating a regular exercise routine into an already busy schedule may again seem counter-intuitive, but shifting the emphasis toward self-care and personal health may mitigate attrition. Adequate sleep is another important factor that may improve cognition and performance. Finally, communicating with other co-workers, managers or mental health care provides can help to mitigate burnout and build resiliency.

Finally, mentorship may have positive influence on burnout. Identifying individuals with which a positive, professional relationship can be developed, can be an effective way to combat burnout, especially when an individual’s burnout is driven by cynicism. Individuals should seek to have a variety of mentors in their professional lives. A mentor within the same organization can help frame organizational behavior, culture, or politics that may be surprising or stressful for an individual. A mentor within the same industry, but at a different organization can be extremely helpful to give an individual perspective
across the industry. Finally, a mentor outside of the industry may allow clinical pharmacists to gain a new or different perspective. Lastly, serving as a mentor for others is potentially beneficial, especially in breaking the cynical, negative cycle associated with burnout.

3.2 | Organizational factors

There are many organizational factors that can directly contribute to attrition, and steps organizations can take to combat burnout amongst its employees. Organizational changes have a larger impact on burnout than individual interventions, especially given the large number of individuals that can be impacted within a given organization. The difficulty with organizational change is that it is almost completely outside an individual person’s control. However, organizations that have committed to minimize burnout have shown significant improvements across many disciplines and over time.

Organizational factors that influence burnout include both motivation factors and hygiene factors. Motivational factors that directly influence clinical pharmacists include recognition, involvement in decision-making, and a sense of importance to the organization. The frequent need to provide justification of clinical pharmacist positions could significantly contribute to burnout through the lack of perceived recognition of the role to the organization. Hygiene factors include salary, work conditions, company policy and administration, supervision, working relationships, and status and security. Irregular work hours and practice models in health care can be a major contributor of burnout and premature attrition. In addition, lack of support for travel and other professional development opportunities at many organizations lead to a perceived lack of monetary compensation for a clinical pharmacist’s contribution to the healthcare team. To address these organizational factors ASHP recommends each health-system organization identify and assess retention factors by regular evaluation of the unique aspects of the department or organization. A committee should routinely gauge factors important to retention of pharmacists, including, but not limited to: training and staff development, intent to stay, job satisfaction, pay and benefits, performance management, management style, recognition and awards, promotion opportunities, job design, peer relations, kinship responsibilities, and environmental scan of outside opportunities as comparison. Information from this assessment should be reviewed and action plans developed by a committee broadly representing the pharmacists of varying type and others in the organization to improve retention.

While not in the pharmacy realm, an example of an ideal model to improve retention based on feedback and assessment is the Stanford School of Medicine and Medical Center faculty time banking model. They devised a system to track participation in credit-earning activities (e.g., nonrevenue generating but important tasks like mentoring trainees, servicing on committees, etc.). Faculty logged activities in an online tool. This promoted transparency and promoted both accountability and sense of recognition. Credits would be redeemed for services at home (e.g., housecleaning, meal delivery, etc.) or work (e.g., grant writing, manuscript editing, and laboratory management). The goal of recognizing teaching, services, or clinical work with practical rewards led to measurable accomplishments. This project demonstrated increased productivity and output, including successful grant funding, during the period of program launch compared with prior time periods where the program was absent.

Evidence continues to grow demonstrating the importance of “team” in a healthy work environment. Even within organizations and departments, the day-to-day team that an individual work with is often the most important contributor to their engagement, and therefore potential burnout. From the perspective of a clinical pharmacist, this team is often the multidisciplinary patient care team as opposed to the pharmacy department team. This presents challenges as the staffing model, patient care responsibilities, and other responsibilities (e.g., guideline development, committee involvement, residency/precepting responsibilities, etc.) are at the direction of the department of pharmacy. In addition, conflicts within the multidisciplinary team may involve individuals from several disciplines, so managing this conflict from a formal Human Resources perspective can be extremely difficult for the clinical pharmacist’s supervisor. Regardless of the structure of the immediate work-unit team the pharmacist is a part of, departments should have an intentional, robust onboarding, and training program to help new pharmacists integrate into their role and the organization. This is helpful for two reasons: first, pharmacists feel a part of their team; and second, it sets expectations of the role, so it is clear to the pharmacist how the organization will define their success in the role.

Finally, professional networks provide a support community outside of work that can attenuate attrition. They allow for pharmacists to have professionally enriching engagement outside their organization and can assist in identifying potential mentors. In addition to social engagement, they offer a variety of benefits, including professional development opportunities like leadership roles, scholarship and research, and speaking engagements.

3.3 | Unknown factors

Realistically, it may be difficult to pinpoint why the lifespan of a clinical pharmacist is potentially shorter relative to other medical professionals. With little research into this area, we are left with areas of speculation until more work is done to help understand this complex subject. First, there is no question the COVID-19 pandemic has impacted all areas of health care. At this time, there is no published data describing how COVID has or will affect the attrition of clinical pharmacist (and health care practitioners as a whole). Exact data related to the number of health-system clinical pharmacists who have made changes to other professional settings as a result of the pandemic is unknown, but warrants research. In addition, the focus of pharmacy professional organizations on seeking provider status may overshadow the need to advocate for enhanced workforce standardization. To our knowledge, no major professional pharmacy organization has made an effort to further study this complex subject or to help generate results with a more comprehensive sample. Instead, the
emphasis on resiliency shifts the focus off the systematic failures that may be causing part of the problem. As previously discussed, some of the challenges faced by the current clinical pharmacy workforce may in fact be a result of one's own doing. The feeling that many pharmacists they must “do it all” (eg, teaching, scholarship and research, administration, and patient care) may also be self-induced, starting early on from residency training. More work is needed to clearly define expectations from both the organizational and self-viewport. Finally, it is unclear of the role that pharmacy residency accreditation standards have on premature attrition. Although these standards were developed with the intention of ensuring consistent profession competence in the delivery of patient-centered care and pharmacy services between programs, the detailed requirements of program directors, often without dedicated administrative support, create additional burden for sustainability of directors and programs. Comparatively, the standards also are far more complex than the training standards of our physician colleagues and we are left to wonder if these standards also promote the unrealistic expectation many clinical pharmacists place on themselves.

4 | CONCLUSION

Clinical pharmacists are highly trained, valuable members of the interdisciplinary team who improve patient care outcomes. There are several factors identified contributing to premature attrition of clinical pharmacists, including burnout, inability to generate revenue for services, current practice models, career advancement, and the pandemic. These factors may be mitigated by individual and institutional factors.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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