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ORIGINAL ARTICLE

A Prescription Refill Intervention to Improve Patient and Physician Satisfaction

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Abstract

Background: Physician burnout has been increasing over the past decades. This phenomenon is found throughout the world and is multifactorial. Some causes are easily identified and treatable. Of the remedial causes, improved practice efficiency is one that deserves attention. Time spent directly with patients will always be a core component of health care. Provider time spent away from direct patient care is often a cause of frustration and should be minimized. High quality communication between patients and providers should always be a priority and will necessitate medication prescribing. Despite technologic advances to facilitate prescribing there is often frustration in this process. Reasons for this include more complicated prior authorization processes, larger and more inaccurate medication lists, automated processes in which physicians are involved with every prescription refill, and difficulty in cancelling prescriptions.

Methods: We conducted interventions in primary care medical practices that augmented staffing and changed the prescription refill process so that medication refills were addressed more comprehensively and for longer durations by non-providers.

Results: Our interventions minimized provider input of the prescriptive process which resulted in time saved for providers, the need for fewer medications and improved patient satisfaction.

Conclusions: We demonstrated that simple interventions can be used to improve patient and provider experiences. Interventions like these should be implemented to decrease provider turnover, improve patient outcomes and lower overall health care costs.

Keywords

Prescribing efficiency, Improved outcomes, Physician burnout

Abbreviations

EHR: Electronic Health Record; AMA: American Medical Association; PA: Prior Authorization; SGIM: Society of General Internal Medicine; ePA: Electronic Prior Authorization

Introduction

Burnout in healthcare professionals is well described, increasing in frequency, and highest amongst physicians [1,2]. In the United States burnout prevalence among physicians is not only much higher than the general population but also has been shown to be increasing disproportionally [2]. Burnout can be broken down into three separate components; emotional exhaustion, depersonalization and a feeling of low personal accomplishment [3]. Burnout is associated with greater health care costs, lower patient satisfaction and worse patient outcomes [4,5].

Burnout is distinct from related problems such as job dissatisfaction, fatigue, occupational stress and depression [6]. Physician burnout impacts patients and health care organization, as it has been linked to poorer health care quality for patients [7]. Provider burnout is also linked to physician attrition, compromising access and continuity for patients [8].

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There was hope that the introduction of the Electronic Health Record (EHR) would lead to improved efficiency saving provider time and money. While benefits of the EHR exist, there is evidence that the introduction of this technology has not helped protect but actually contributed to physician burnout [9,10]. Time-motion studies in the era of EHRs have shown that for every hour physicians spend with patients they spend one to two hour additional hours finishing notes, documenting phone calls, prescribing medications and other uncompensated activities [11]. One of the potential advantages of the EHR was that it would simplify the prescription process. Unfortunately, the workload associated with prescribing medications has not decreased in the last decade. The greater ease of communication between providers, patients and pharmacies has contributed to the increased the number of prescriptions. Part of the enhanced workload is due to automated systems that lead to more prescriptions being viewed electronically by the prescribing physician. While technology has certainly made it easier to initiate a prescription, pharmacies frequently require extra steps to cancel a prescription. Accumulation of prescriptions on patient's medication lists has led to overprescribing at worse or at least added time needed to reconcile medication lists. Not surprisingly insurers have responded to the increased volume of medications prescribed by trying to place hurdles in the prescribing process. This is especially true for the more expensive medications which increasingly require cumbersome prior authorization (PA) processes [12].

More than 80% of office visits to primary care physicians involves the use of medications. Additionally, primary care physicians on average refill prescriptions for over 10 patients daily who did not have an in person encounter on the day of the request [13]. Prescription refill burden has been identified as a contributing factor to physician burnout, particularly when combined with other administrative and regulatory burdens in primary care practices [14].

The amount of time physicians spend with formularies to get approval for medications was under 2 hours a week for primary care physician when measured in 2009 but now over 90% of physicians feel the amount of time spent on prior authorization has increased over the past 5 years and practices average almost 30 prior authorizations per week per physician [12,15].

The additional burdens in the prescribing of medications have had a negative impact in the practice of medicine. There are however some success stories in addressing these obstacles. In 2015, the Department of Family Medicine at the University of Colorado instituted a team-based model of ambulatory care. In this system, medical assistants were responsible for reconciling medications among other activities and coached patients on their medications. This required a significant investment in medical assistant staffing. Within 6 months of this implementation burnout rates among clinicians dropped 53% to 13% [16].

The American Medical Association (AMA) in conjunction with the Society of General Internal Medicine (SGIM) has initiated a program as part of their Steps Forward practice improvement initiative called Synchronized Prescription Renewal. Synchronized Prescription renewal is a 3-step process for renewing each of a patient's stable chronic medications for the typical maximum duration of 12 to 15 months. The first step is to refill all medications for chronic illnesses at the maximum duration allowed by state law at an annual comprehensive care visit. The second step is to include instruction for the pharmacy on all prescription modifications and renewals as applicable allowing the pharmacy to update their list of the patient's current prescriptions. This lessens the chances that patients will fill both old and new prescriptions. The final step is to renew each of the patient's prescriptions for chronic conditions when any prescription renewal is requested. Following these 3 steps is calculated to save over 300 hours of provider and staff time for a 1000 patient practice in which patients take on average 5 medications [17]. There are also several electronic prior authorization (ePA) products that are available which have been shown to streamline this process and save time.

Methods

Prior to the initiation of our study, prescription refills were handled by physicians and advanced practice providers (APPs) in our primary care practices. Process errors such as refills being forwarded to the wrong providers, commonly resulted in delays of care that frustrated both providers and patients. The triage nurses that worked in our practices lacked the time to refill prescriptions. We wanted to examine whether changes in refill protocol policies that minimized prescription refills and the addition of staff to remove this responsibility from physicians and advanced practice providers (APPs) would improve productivity, provider and patient satisfaction and reduce the total number of refills and work after hours.

Rush University Medical Group (RUMG) is a multi-specialty academic medical practice affiliated with the Rush Medical College and Rush University Medical Center. RUMG has over 600 physicians who practice at more than 15 practice sites and include more than 40 different medical specialties. The division of General Internal Medicine lies within the Department of Internal Medicine. Within this division, Internists practice at 9 practices sites.

For our study we used 6 of our General Internal Medicine practices and matched practice pairs with randomization within the pairs for a total of 3 practice

pairs. In determining our pairing, we utilized a cluster randomized control design. Our goal was to assess whether the addition of an RN to process all medications refills along with the implementation of the AMA protocol would improve outcomes, compared to our usual care control practices. The outcomes we measured included the number of prescriptions, patient and physician satisfaction, after hour work time, and provider productivity by work relative value units (wRVU's). The first intervention, the introduction of an RN to take over the responsibility of refilling prescriptions, was applied to one of the practice pairs. The second intervention was the use of the AMA's protocol for prescription refills (When a request for a refill for any medication was made by a patient this would trigger a review for the need for a refill of all prescribed medications. If this was the case a refill for all medications would be given for 1 year) [17]. The second intervention was used for two of the practice pairs, of which one also had the use of the triage nurse. The practice pair that had RN prescription helps in addition to following the AMA protocol was considered the double intervention group. We started our study in June of 2019 and measured outcomes for 6 months and planned to measure for another 6 months after initiation of the interventions in December of 2019. We had to shorten the post-intervention period to 3 months ending in March 2020. In the middle of the 4th month after the interventions, we had to completely revise our clinical operations due to the onset of the COVID-19 pandemic. Most of our faculty discontinued providing in-person ambulatory care during that time making our interventions less meaningful.

The specific metrics we used to assess our intervention are listed below:

a) Total number of prescriptions filled daily.

b) Patient satisfaction with provider and practice group as measured by Press Ganey survey scores.

c) Time physicians spend on the electron medical record after normal work hours. (Outside of 8A-5P).

d) Provider burnout as measured by the Mini Z burnout assessment questionnaire.

e) Individual and group productivity as measured by work RVUs.

Results

There was a reduction in the total number of prescriptions for each of the practice pairs. The greatest was found among the double intervention group (3.1 refills by provider/day), followed by the single intervention group (2.2 refills by provider/day) and the control group (1.7 refills by provider/day). These differences did not achieve statistical significance unless we combined the two the groups that followed the AMA refill intervention policy. There was a statistically significant decrease in prescription refills for the combined refill intervention change compared to the control group (p = 0.01). In this case the combined double and single intervention group saw a decrease of 2.6 refills by provider/day compared to 1.7 refills in the control group (Table 1).

With regard to patient satisfaction as measured by Press Ganey scores, we found that in the practices that had the RN refilling prescriptions, patients had greater satisfaction as demonstrated by being more likely to recommend the practice (p = 0.03). There were no statistically significant differences between the groups for the other provider Press Ganey patient satisfaction scores.

We found an increase in the amount of time spent on the electronic medical record after hours following the intervention in the control group (2.4 minutes per provider per week). For the double intervention and the single intervention there was a decrease in the amount of time after the intervention. The decrease was greater for the single intervention group (-10.6 minutes per week) than for the double intervention group (-1.4 minutes per week). By combining the single and double intervention groups we found that changes were close to but did not achieve statistical significance (p = 0.07) (Table 2).

The results of the Mini Z burnout assessment demonstrated that compared to the single intervention and control group the baseline Mini Z score was higher in the double intervention group prior to the intervention. The total Mini Z score for the double intervention group did not change after the intervention (31.6 at both baseline and after intervention). For the combined, control, and single intervention group the total Mini Z score went down slightly. For the double intervention group the subscale 1 score (supportive work environment) improved from 18.5 to 19.1 and the subscale 2 score (work pace and EHR stress) improved from 12.1 to 12.5. For the combined control and single intervention group the subscale 1 score increased slightly from 16.1 to 16.3 and the subscale 2 score decreased from 12.7 to 12.5. None of these differences achieved statistical significance.

Table 1: Reduction in prescription refills by provider per day.

Control	Single Intervention	Double Intervention	Combined (Single and Double)
1.7	2.2	3.1	2.5

Note: p = 0.01 for combined vs. control.

Table 2: Changes in time spent after hours (minutes per week per provider).

Control	Single Intervention	Double Intervention	Combined (Single and Double)
2.4	-10.6	-1.4	-7.5

Note: p = 0.07 for combined vs. control

Table 3: Increase in wRVUs (by percentage).

Control	Single Intervention	Double Intervention
3.3	1.3	4.1

This did not reach statistical significance.

We found an increase in wRVUs for each of the groups. The greatest percent increase was found in the double intervention group (4.1%), followed by the control group (3.3%) and then the single intervention group (1.3%). None of these changes reached statistical significance (Table 3).

Discussion

There were some notable successes in our study interventions. We were able to integrate a well-received registered nurse as a medication refill manager. We found that the change in the AMA refill protocol resulted in a significant decrease in prescription refills and that overall patient satisfaction with the practice was increased with the introduction of a refill nurse. We found that physician time spent on the electronic medical record hours was tending towards a statistically significant decrease with the change in prescription refill protocol prior to the premature cessation of the intervention. We suspect that if we were able to finish the study, we would have had the power to demonstrate that there was time saved with the implementation of the refill protocol. We were not able to demonstrate an improvement in our providers satisfaction with work. There are many factors that impact work satisfaction but anecdotally there was certainly appreciation that our institution was trying to help with the workload of the providers in our general internal medicine practices.

We hoped that our interventions would demonstrate improvement in efficiency, patient and provider satisfaction and productivity, but unfortunately our post-intervention study period was decreased from 6 to 3 months due to the Covid-19 pandemic limiting the power of our study. In March 2020, which would have been the 4th month after our intervention, we were forced to deploy most of our providers to non-ambulatory clinical activity. In March ambulatory patient visits were cancelled and replaced with video or telephone visits. Our ambulatory clinical activity dropped to less than 30% of normal for the next month. Many of our physicians were deployed to work in the emergency room or in the hospital. Our APPs and some of our physicians were moved to field on-demand phone calls. A small portion of our physicians fielded video and phone visits from our existing patients. This diversion of clinical activity and drop in ambulatory visits made it very difficult to meaningfully measure differences in time spent on the electronic medical record, physician wellness, clinical productivity and patient satisfaction by practice.

Conclusion

Likely our patients will continue to require a significant number of prescription medications in the future. The complexity and risks of medication puts both providers at risk for burnout leading to worse health outcomes for patients and greater costs. We need to implement and invest in ways to mitigate these challenges. Increasing the role of non-physician staff in the prescribing process will be essential. Synchronized prescription renewal as developed by the AMA Steps Forward process can save a practice considerable time through the 3-step process and thousands of hours annually for larger practices. This intervention had a positive impact on our patients and providers.

Encouraging adoption of ePA technology is just one component of a broader strategy to improve prior authorization workflow for physicians and patients. Other advocacy resources include initiatives that will encourage principles for PA reform including more transparency on PA requirements, public reporting of insurers' PA program statistics and timely processing of PA requests by insurance companies.

Based on our experience, we expanded the registered nurse refill role to each of our practices. Institutionally there was a growing appreciation that saving provider time is incredibly important in making the job of a primary care provider sustainable. There is an expectation that this will lead to less turnover, greater productivity and improved patient and provider satisfaction.

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Statement of Equal Authors' Contribution

Both authors in this manuscript submission contributed to its completion. Both authors were involved with data collection and organization of the study. Additionally, both authors were involved in the writing of the manuscript.

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