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Medication prior authorization in pediatric hematology and oncology

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Abstract

Background: Medication prior authorization (PA) is a commonly occurring requirement, particularly for medications used for rare conditions. Based on standard definitions, cancer and many blood disorders affecting children are rare. The study aims were to describe the relative frequency of PA requests and their association with payers and medications in order to identify opportunities to improve system efficiency.

Procedure: Requests for medication PA were logged prospectively for patients seen at a single institution over a 7-month period. Period prevalence was used to estimate the relative frequency of PA requests. Descriptive statistics summarized the relationship among payers, medications, and approvals relative to the frequency of PA requests.

Results: For the study duration of 150 clinic days, there were 5,583 patient visits. A total of 142 medication PA requests were received resulting in a period prevalence rate of 2.5% patient visits. Of the 137 medication PA requests with available outcome data, 135 (98.5%) were ultimately approved with additional provider efforts. The median clinic staff time spent per request was 46 min with an interquartile range of 25–80 min. There was striking process heterogeneity among different payers.

Conclusion: Virtually no medication PA request in pediatric hematology and oncology (PHO) leads to alterations in care. Medication utilization management strategies in PHO fail to provide benefits reported in other areas of medicine and have unmeasured negative effects on timeliness of care and parenteral psychological/emotional health. There is opportunity for increasing efficiency through payer and provider collaboration on the creation of prescribing standards for PHO patients.

KEYWORDS
health-care cost, payer policy, prior authorization

1 | INTRODUCTION

The prior authorization (PA) process is one method utilized by the payer system for regulation and cost containment. Medication PA policies were initially shown to reduce medication expenditures in the primary care setting for patients with hypercholesterolemia and hypertension.[1–3] While these studies demonstrated effectiveness at cost reduction, the clinical consequences of policy-induced drug switching were never analyzed. In a more recent large analysis of type 2 diabetes mellitus medications, PA did not lead to an overall cost savings.[4] Moreover, a subset of diabetic patients needing medication PA never filled their prescriptions, which led to an overall downstream increase in payer-paid costs. For antibiotic stewardship, the PA process showed benefit to patients by reducing broad-spectrum antibiotic usage.[5,6] In the field of psychiatry, PA requirements were associated with an increase in mental illness in the criminal justice system.[7] Independently of direct patient-specific financial and clinical outcomes, the PA process adds a burden and expense to the health-care system as a whole. The cost estimate associated with resource utilization for claims processing is between $1 and $31 billion U.S. dollars.[8–10]

Triggers for medication PA typically include high medication cost, frequent off-label use, high toxicity, and potentially harmful drug interactions, all common in pediatric hematology and oncology (PHO).[11–14]

Abbreviations: GDP, gross domestic product; PA, prior authorization; PHO, pediatric hematology and oncology

Therefore, it is reasonable to suspect that the PA process is commonly encountered in this subspecialty. No published information exists regarding the relative frequency of PAs and consequent impact on overall costs, burden of care, and clinical outcomes in PHO. The primary purpose of this analysis was to determine the relative frequency of medication PA requests in a pediatric hematology oncology practice, the clinic staff time required to manage these requests, and the outcome of the PA (medication approval). Secondarily, we examined associations between PA request frequency and the relationship with medication categories and payer policies in order to identify potentially targetable approaches to enhance cancer care delivery efficiency.

2 | METHODS

Data were collected from all patients seen between September 1, 2014 and March 31, 2015 by the Division of Pediatric Hematology/Oncology and Bone Marrow Transplantation at the Helen DeVos Children's Hospital, a member of Spectrum Health (Grand Rapids, MI). No disease-specific conditions were excluded. Medications requiring PA were logged into a database at the time of occurrence in order to provide for clinical follow-up. Summary statistics were calculated using the name of the medication, the payer, the total clinical staff time spent on each PA request, and the payer decision outcome of PA request (approval vs. denial). Period prevalence was used to represent the relative frequency of medication PA requests and was calculated by dividing the number of requests in the study time frame by the total number of clinic visits. No patient required more than one PA per visit. This investigation was reviewed and approved by the Spectrum Health Institutional Review Board.

3 | RESULTS

The study period included 150 clinic days and 5,583 patient visits. A total of 142 medication PA requests were received yielding a period prevalence rate equal to 2.5% of patient visits. Medications subject to PA requests represented a broad range of PHO practice (Fig. 1). The
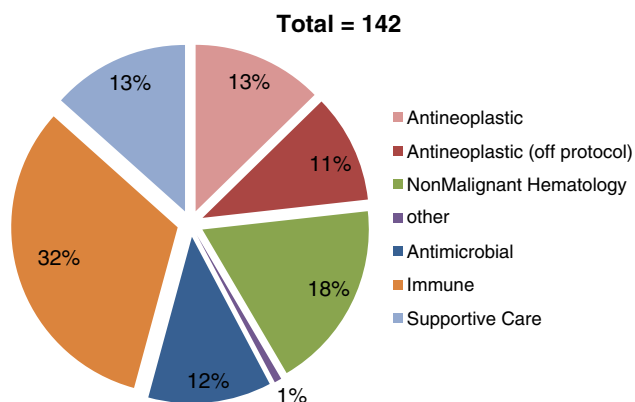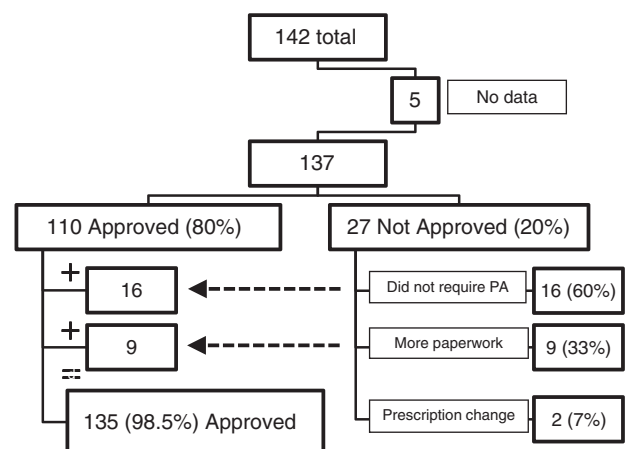
largest proportion of PA requests (32%) was generated by prescriptions for immune system support. In this category, most PA requests were generated by intravenous immunoglobulin followed by filgrastim. Table 1 provides a complete listing of all medications that required a PA during the study period. Medications used as antineoplastic agents represented the next largest category (24%). Within the antineoplastic category, roughly half of all prescriptions were for medications generated from standard National Cancer Institute approved Children's Oncology Group therapeutic protocols.

The nonmalignant hematology category represented 18% of all PA requests and included medications used for a variety of indications. Rituximab®, hydroxyurea, and enoxaparin represented the most common medication PA requests in this category. Supportive care medications requiring PAs (13% of total) included a variety of prescriptions, but most commonly was the antiemetic, ondansetron. Within the antimicrobial category, which represented 12% of the total, PA requests were encountered most often for medications commonly used for infection prophylaxis including fluconazole, dapsone, and cefpodoxime.

Once a medication PA was requested by the payer, the outcome of that request was monitored and reported in Fig. 2. Data were unavailable for five of 142 patients. In 110 of 137 (80%) PA requests, the medication was approved after the first response from the medical provider team. This usually involved providing the payer with additional supporting documents. For the remaining 27 of 137 (20%) PA requests, the medication was not approved after the first attempt. During the appeals process, our staff was informed through subsequent discussions with the payer that 16 of 27 (60%) of the original medication PAs were generated erroneously. For nine of 27 (33%) appeals, the medication was approved after additional supportive documentation was provided. In two cases (7%), the prescription was changed. One was for an antibiotic and one for a proton pump inhibitor. The clinical staff tracked total time spent on each medication PA request. Data were available for staff time for 134 of 142 cases. The median time spent working on each medication PA request was 46 min with an interquartile range of 25–80 min.

Total = 142

- Antineoplastic — 13%
- Antineoplastic (off protocol) — 11%
- NonMalignant Hematology — 18%
- other — 1%
- Antimicrobial — 12%
- Immune — 32%
- Supportive Care — 13%

FIGURE 1 Proportion of prior authorization requests by medication class

142 total
5 No data
137
110 Approved (80%)
27 Not Approved (20%)
16 ← Did not require PA — 16 (60%)
9 ← More paperwork — 9 (33%)
Prescription change — 2 (7%)
135 (98.5%) Approved

FIGURE 2 Description of the analysis cohort for medication PA requests

TABLE 1 Medications requiring prior authorization by class

Medication category	Total = 142
Antineoplastic	
Thioguanine	3
Cytosine arabinoside	9
Chemo admission	1
Dexamethasone	1
Temozolomide	4
Antineoplastic-off protocol	
Everolimus (Afinitor®)	2
Celecoxib (Celebrex®)	4
Crizotinib (Xalkori®)	1
Dasatinib (Sprycel®)	1
Peginterferon alpha-2b (PegIntron®)	3
Procarbazine	1
Suldinac	1
Thalidomide	1
Vorinostat	1
Other	
Alglucosidase alfa (Lumizyme®)	1
Non-malignant hematology	
Aminocaproic acid (Amicar®)	1
Desmopressin acetate (Stimate®)	1
Enoxaprin (Lovenox®)	4
Rivaroxaban (Xarelto®)	2
Heparin flush	1
Rituximab (Rituxan®)	8
Deferasirox (Exjade®)	1
Sodium ferric gluconate (Ferrlecit®)	1
Hydroxyurea	5
Epopoetin alfa (Procrit®)	1
Eltrombopag (Promacta®)	1
Supportive care	
Ondansetron (Zofran®)	5
Ativan liquid	1
Vicodin	1
Pregabalin (Lyrica®)	2
Amlodipine	1
Aquaphor	1
Lidocaine	1
Compounded diaper cream	1
Esomeprazole (Nexium®)	1
Famotidine (Pepcid solution®)	1
Lansoprazole (Prevacid solutab®)	1
Folic acid	1
Peptamin feeds	1
Potassium phosphate tabs	1
Immune	
Intravenous immunoglobulin	32

TABLE 1 (Continued)

Medication category	Total = 142
Granulocyte macrophage colony-stimulating factor	1
Pegfilgrastim (Neulasta®)	2
Filgrastim (Neupogen®)	11
Antimicrobial	
Azithromycin	1
Ciprofloxacin	1
Ciprofloxacin/dexamethasone (Ciprodex Otic®)	1
Dapsone	3
Fluconazole	6
Griseofulvin	1
Vancomycin	2
Cefpodoxime (Vantin®)	2

To elucidate the frequency of PA requests across different payers, we identified payers with each occurrence. Our data show great variability in payer policy. Almost half of all medication PA requests were generated by two payers, while others generated only a single request. In order to determine whether or not this difference simply represented the proportion that these insurance companies represented in our payer mix, a comparison chart was generated with representation of the payer's prevalence in our mix and the percentage of PA requests (Fig. 3). There appeared to be no relationship between the payer's prominence in our patient mix and the number of medication PA requests generated by the payer.

4 | DISCUSSION

The "business as usual" approach to U.S. health-care expenditures (HCE) has been deemed economically disastrous. Experts predict that without change, HCE could reach or exceed 20% of the total U.S. gross domestic product (GDP) by the year 2020.[15,16] The latest available data (2014) indicate that total U.S. HCE is roughly $3 trillion dollars,
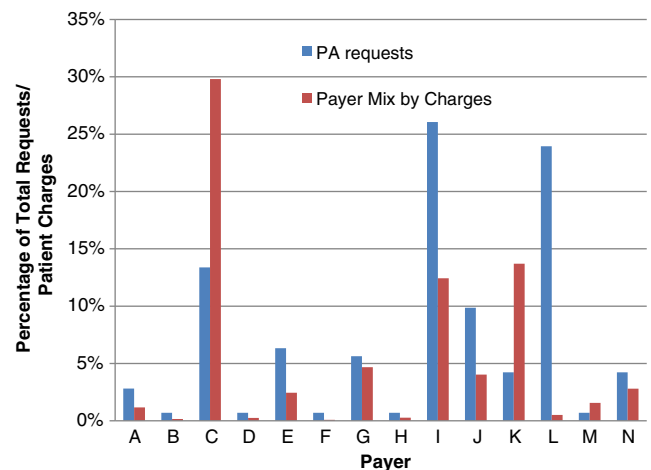
FIGURE 3 Comparison between different payers and the frequency of prior authorization requests

representing 17.5% of the total U.S. GDP.[17] In 2011, Berwick and Hackbarth analyzed the burden of waste in the United States as a means to reduce payments or services. Failures of care delivery and coordination, overtreatment, administrative complexity, pricing failures, plus fraud and abuse amounted to a midpoint estimated $910 million dollars of expenditures. Given that 98.5% of medication PA requests in the current study were ultimately approved and involved medications were considered standard by the medical community, the medication PA process in PHO represents one such area of waste. Moreover, the potential negative clinical and psychosocial impact of the PA process in PHO remains unknown.

There are a number of limitations for our analysis. It is unclear how the experience at a single institution at one moment in time will apply to other institutions as payer policies can vary by company, state, and over time. There are additional data needed to inform policy makers and advocates, such as estimated economic costs and the impact of medication PA policies on patient access to care and psychologic/emotional burdens. It is possible that not all PA requests were captured, as the event required staff to log the information into the database manually. PA requests for other services such as radiology or laboratory testing were not evaluated. Therefore, the overall burden of PA policy is underrepresented by our results. In order to address these limitations, national multi-institutional collaborative studies are urgently needed to enhance and inform policy making.

Payer policies indicate that PA is used to ensure that patients get the right medication for the right situation. Existing references used by the payer industry to make this determination (National Comprehensive Cancer Network, American Hospital Formulary Service-Drug Information, the American Medical Association Drug Evaluations, and the United States Pharmacopoeia-Drug Information) have been silent in PHO disciplines. Until cures in PHO are more universal and less toxic, establishing standards of care (which are then used to establish medical necessity) will remain a challenge as PHO standards are continually evolving. In order to improve efficiency in pediatric cancer care delivery by alleviating the waste associated with PA in PHO, the PHO medical/scientific community should collaborate with payers, hospitals, and patient advocates to establish accepted therapeutic and supportive care guidelines for therapeutic interventions. Subsequent prospective studies comparing alternate PA strategies are needed that measure not only financial consequences but also the impact of patient, provider, and system factors such as delays in care, decreased access, increased patient/family stress, and deviations in physician prescribing patterns.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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