

Preventing Complications of High Dose Steroids for Patients at the Orlando VA Healthcare System

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Background

- High-dose steroids are the mainstay of therapy for a wide variety of conditions.
- However, it has been well established that systemic steroids are associated with an increased risk of multiple adverse effects.
- Guidelines exist from a multitude of specialties regarding prophylaxis of steroid-induced adverse events for patients on prolonged high-dose steroid therapy.
- However, there is a paucity of data regarding the practice patterns among providers who prescribe prolonged high-dose steroids.

Objective

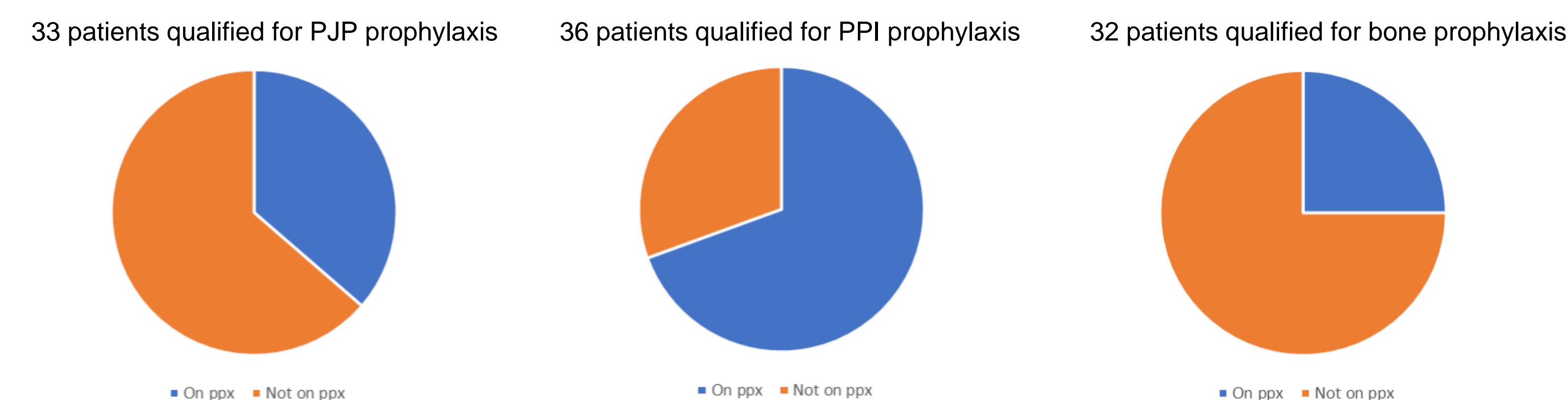
- Assess provider prophylaxis prescription practices among patients receiving long-term glucocorticoid therapy, with a focus on *Pneumocystis jirovecii* pneumonia (PJP) prophylaxis.
- To increase the percentage of patients on appropriate PJP prophylaxis from 35% to 50% by 1/1/24.
- To ensure providers are considering proton pump inhibitors (PPIs) and bone prophylaxis for patients on high dose steroids.

Methods

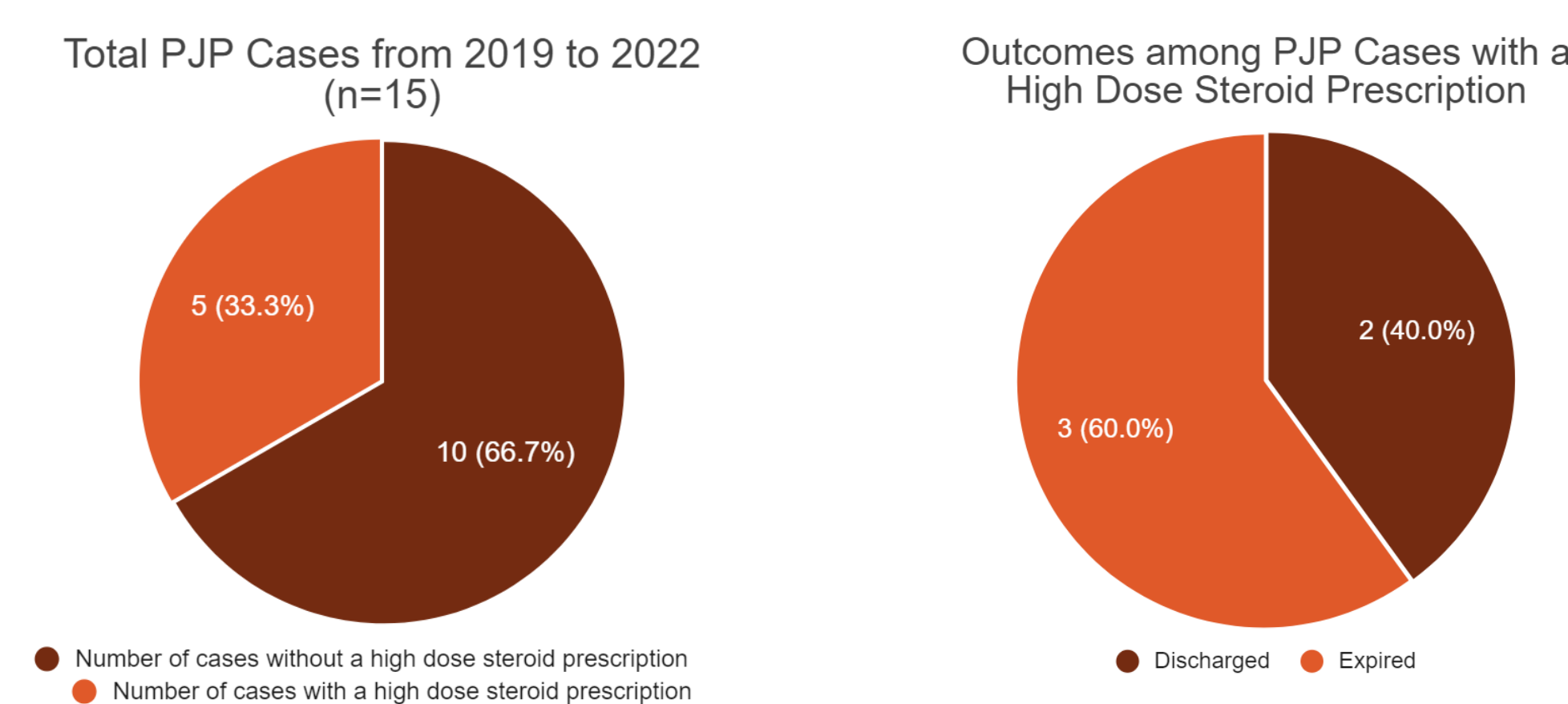
- A retrospective chart review was conducted in CPRS among all patients prescribed prednisone from January to December 2022 in the Orlando Veteran Affairs (VA) Healthcare System.
- Inclusion criteria for appropriate prophylaxis was based on current guidelines and literature.^{1,2,3}
 - PJP criteria: Prednisone or dose equivalent of > 20mg with other immunosuppressives or > 30 mg a day for > 30 days
 - PPI criteria: patients with previous peptic ulcer disease (PUD), heavy smokers, heavy alcohol users, patients > 65 years of age, and patients taking other medications that may increase the risk of PUD
 - Bone fracture prophylaxis criteria: Prednisone or dose equivalent of > 30mg for > 30 days
- Cases of PJP from 2019 to 2022 were reviewed to identify if high dose steroids may have been prescribed prior to infection.
- Statistical analysis comparing practices of medicine and non-medicine specialties was performed using R Statistical Software version 4.3.1.

Results

Number and Distribution of Patients Who Qualified for PJP, PPI, and Bone Prophylaxis While On A High Dose Steroid Prescription

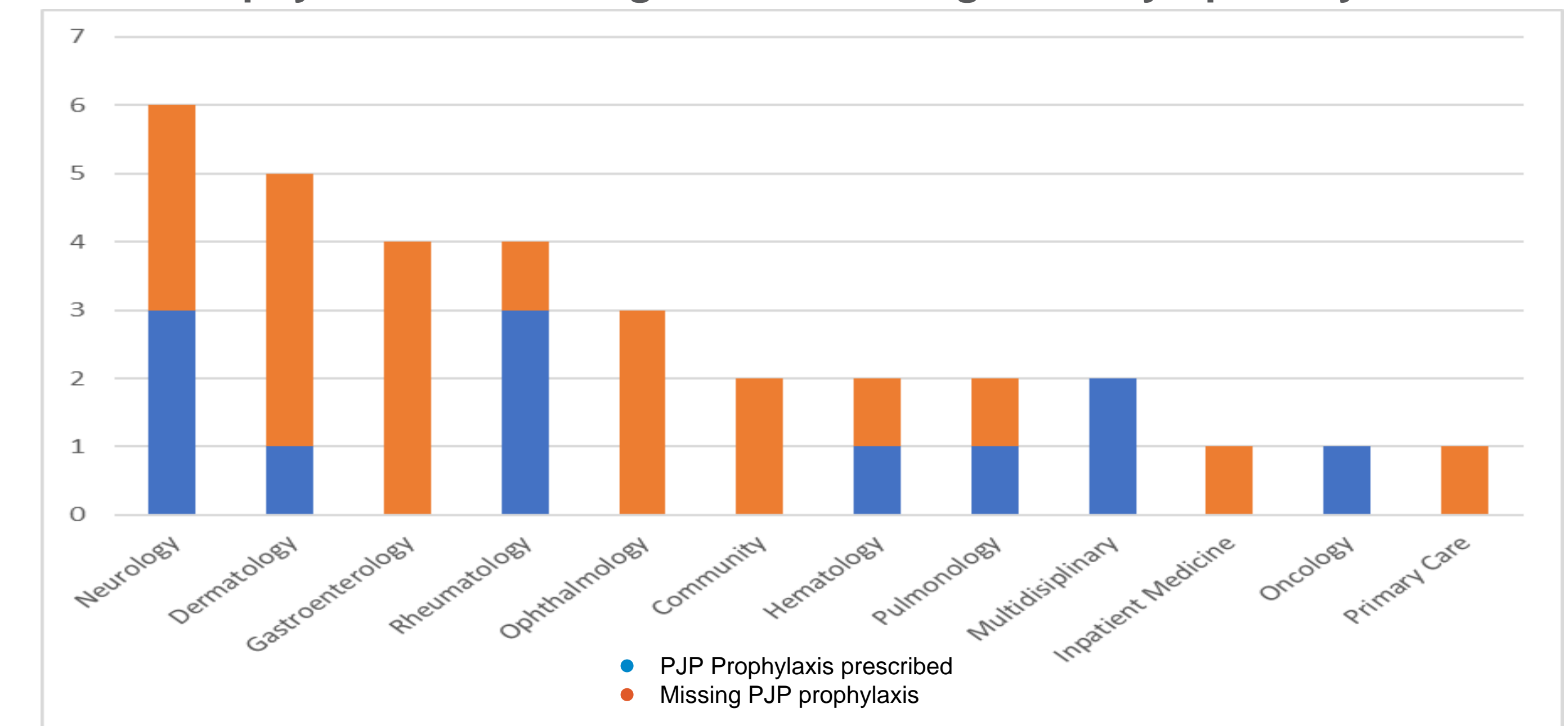


Analysis of PJP Cases from 2019 to 2022 at The Orlando VA

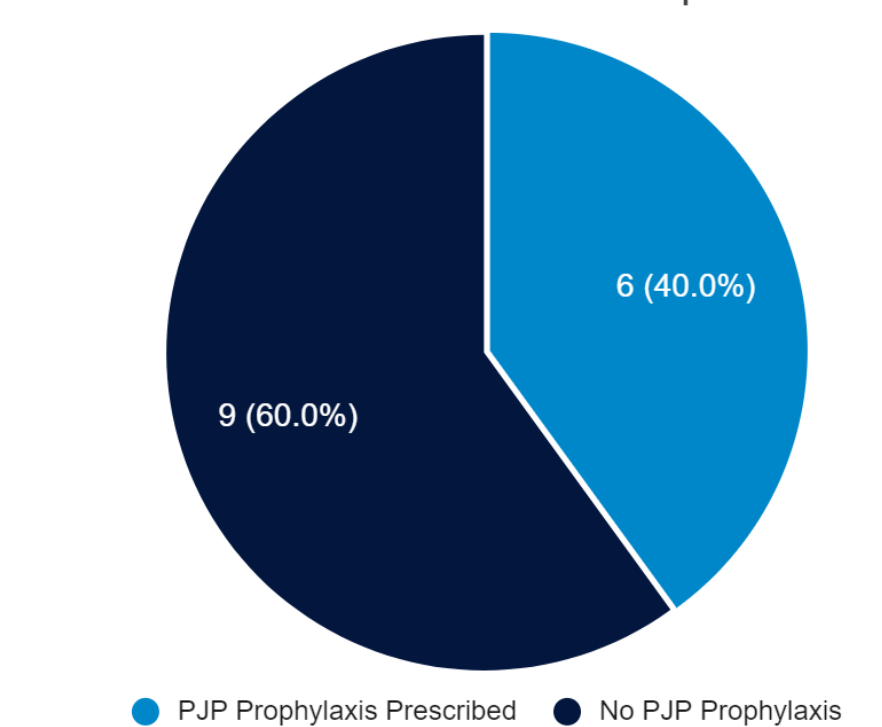


*All cases of PJP with high dose steroid prescriptions required hospital admission and were given by community providers outside the VA Healthcare System

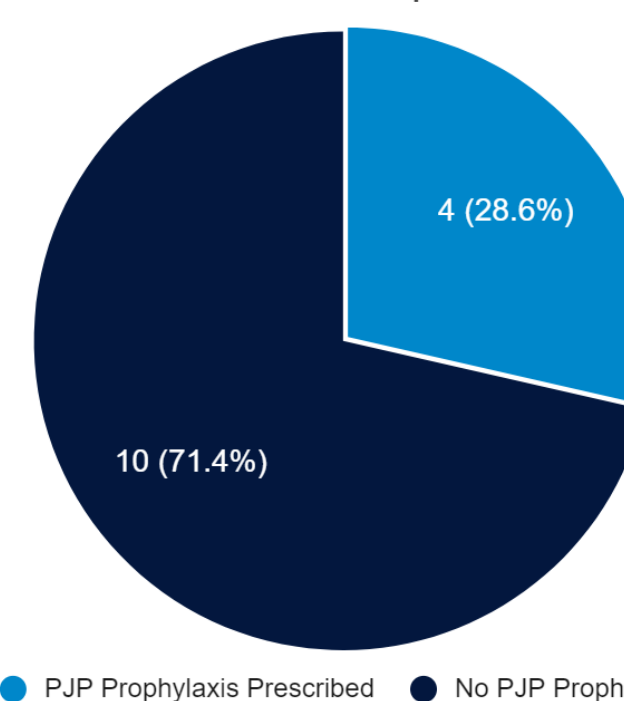
PJP Prophylaxis Prescribing Practices Categorized by Specialty Service



Internal Medicine and Sub-Specialties



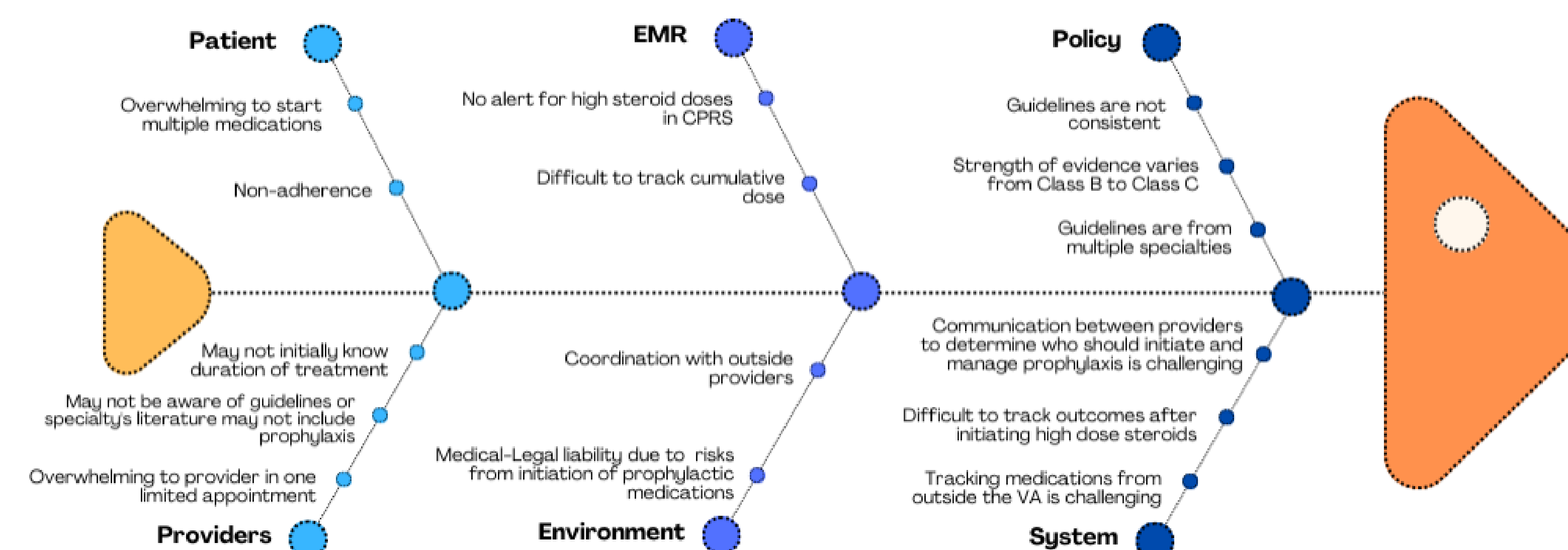
Non-Medicine Specialties



Odds Ratio comparing PJP Prescribing Practices of Internal Medicine and Medicine Subspecialties vs Non-Medicine Specialties: 1.62
95% Confidence Interval: 0.34 - 8.61 Fisher's exact p-value: 0.6999

Conclusions and Clinical Implications

Fishbone Diagram of Prophylaxis for Patients on High Dose Steroids



- Our review demonstrates wide provider variability in prescribing PJP, PPI, and bone prophylaxis despite existing national guidelines.
- Internal Medicine and Medicine Subspecialties are more likely to prescribe prophylaxis for high dose steroids, but this was not statistically significant.
- There is room for possible improvement on placing patients on appropriate prophylaxis.
- However, there are several challenges shown in the fishbone diagram which may explain the variability.
 - Overall, the number of cases of PJP, especially PJP associated with high dose steroid prescriptions, was found to be low.
 - There is also varying comfort with prescribing medications such as trimethoprim/ sulfamethoxazole, which has its own risk of adverse effects, including Steven-Johnson Syndrome.
 - At our institution, it seems that many providers considering the risks and benefits of PJP prophylaxis tend not to prescribe prophylaxis.

References

