

Problem Definition

Transfusions provide benefit to many patients in many settings but may be complicated by transfusion reactions (TR). There are no evidence-based studies to support premedicating patients that have not previously experienced a TR(1). Premedication with acetaminophen and diphenhydramine are associated with potential risks and cost implications over time(2). Premedications may also mask the symptoms of TR such as a fever or itching/hives, preventing the identification of a more severe TR in a timely manner.

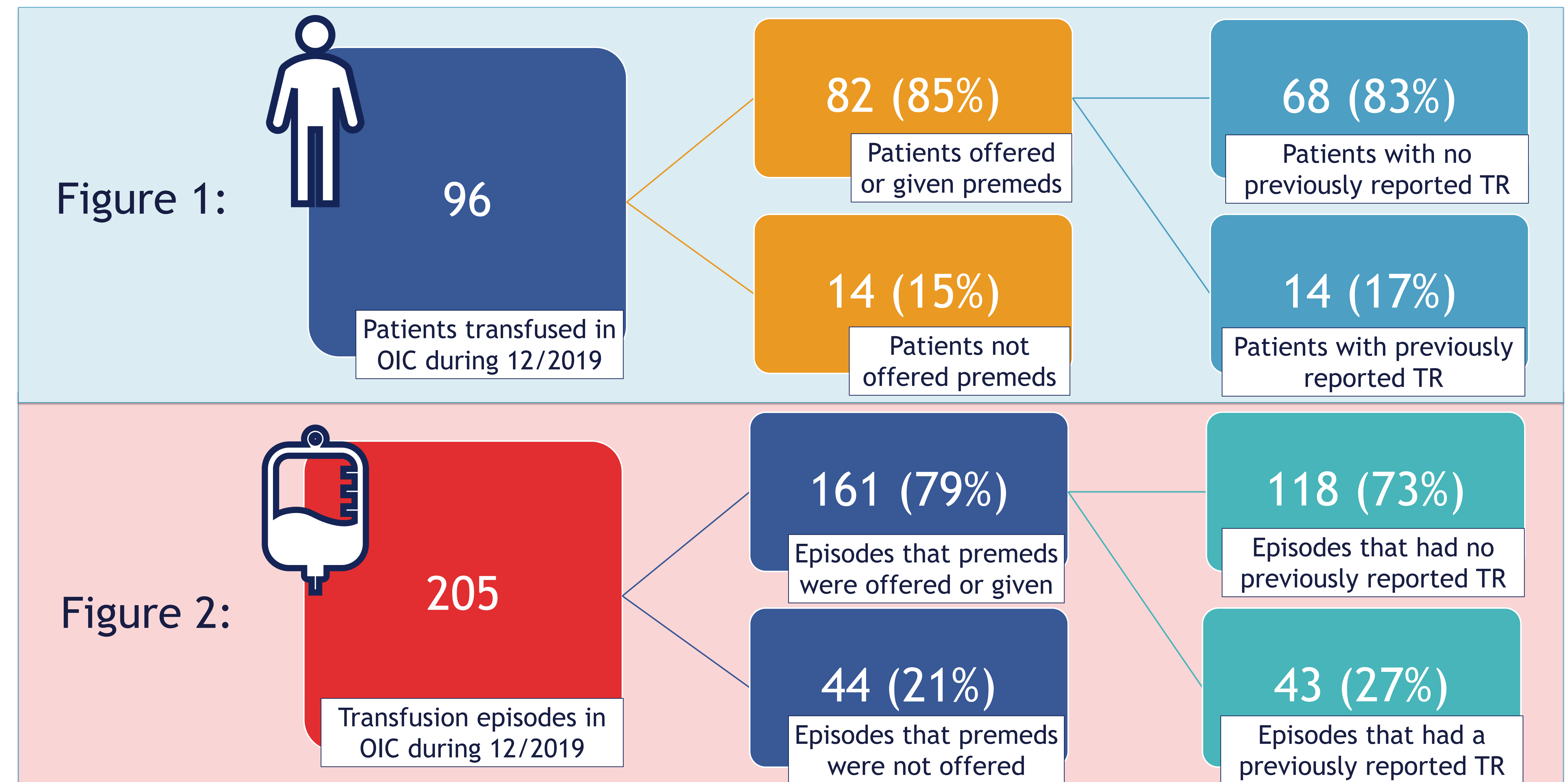
Data Collection

We gathered transfusion data from our outpatient infusion centers (OIC): 925 Chestnut Street, the Bodine Center, and JHN Infusion Center. In December 2019, 96 unique patients were transfused blood products with a total of 205 transfusion episodes. Of the 96 patients transfused, 82 (85%) were given or offered premedications, of which only 14 (17%) patients had a prior TR reported (figure 1). When reviewing individual transfusion episodes, we noted that during 161 (79%) of 205 transfusion episodes, patients were given or offered premedications (figure 2). If this trend were extrapolated over one year, more than 1000 patients are likely to be affected.

Proposed Intervention

To eliminate premedications, we plan to:

- Hang informational pamphlets in the OIC
- Create an in-service course for OIC staff detailing proper transfusion history documentation and disadvantages of premedications
- To ensure ongoing compliance, we can create a myJeffHub-Learning course that will be mandatory for new OIC staff as well as a required annual refresher



Aims For Improvement

Our aim is to eliminate premedication prior to outpatient transfusions in patients without a prior transfusion reaction by 75% within 1 year.

Implementation Plan

The faculty mentors for this project will be Dr. Julie Karp and Dr. Alexis Peedin. This project will be an interdisciplinary collaboration between Transfusion Medicine, Medical Oncology, and nursing education. Our upcoming Transfusion Medicine fellow, Dr. Yuanzheng (Andrew) Gao, will take the lead of this project as of July 1, 2020. We expect the implementation of this program to begin on July 1st and continue on an ongoing basis.

We estimate a budget of no more than \$2000 to:

- cover the expenses of educational material
- myJeffHub-Learning course creation
- refreshments for live courses

Measurement Strategy

We will track the transfusion episodes after educational material has been distributed at the infusion centers. For each episode, the patient's chart will be reviewed for premedication orders, the provider who placed the order, and documentation of a previous TR. We may publish individual provider and team metrics to track progress and encourage compliance.

We will follow progress every 3 months after implementation. If we do not achieve our expected results, we plan to identify the group(s) involved and aid in re-educating them.

References

1. Ning, S *et al.* *Transfusion* 12, 3609–3616 (2019), PMID: 31670424.
2. Geiger, TL *et al.* *Transfus. Med. Rev.* 1, 1–12 (2007), PMID: 17174216.