

LETTER

Transfusion services operations during the COVID-19 pandemic: Results from AABB survey

INTRODUCTION

In December 2019 several cases of atypical pneumonia were reported in the province of Wuhan in China, but it was not until 7 January 2020 that the novel coronavirus (SARS-CoV-2) was identified as the causative agent. The virus has spread throughout the world, with more than 1.7 million confirmed cases and more than 100 000 deaths.¹

This unprecedented situation has had an impact upon the community, hospitals, transfusion services and blood collection facilities.² The AABB (formerly known as the American Association of Blood Banks) submitted a weekly questionnaire to their hospital membership to capture information regarding strategies to prevent blood shortages, decrease wastage, organize staff, and plans to use convalescent plasma. The responses help characterize

changes in transfusion practice when the blood supply is challenged by a pandemic. The questionnaire was developed by the authors and distributed weekly (3/23, 3/30, 4/6, and 4/13) through email.

RESPONSE RATE AND RESPONDENT CHARACTERISTICS

The survey was sent to 887AABB hospital members. Hospitals belonging to hospital systems were allowed to respond as a system instead of individual hospitals. The number of responses was 132, 132, 115, and 101 for the first, second, third, and fourth weeks, respectively. Across 4 weeks, the majority of the respondents were from California, Massachusetts, Minnesota, Pennsylvania, Texas, Florida, New York, and Virginia.

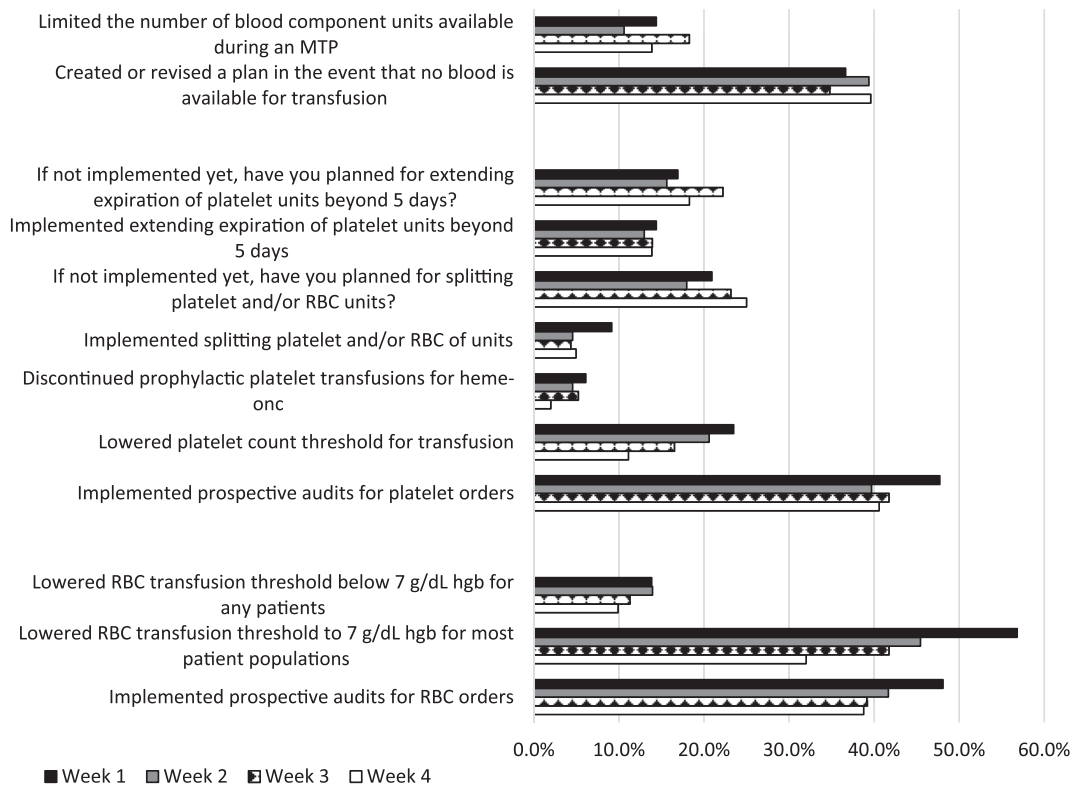


FIGURE 1 Strategies implemented by blood banks to mitigate the risk of blood shortages

BLOOD BANK CHANGES IN RESPONSE TO COVID-19, STAFFING ISSUES, AND ELECTIVE PROCEDURES

Several institutions implemented prospective audits of red blood cell and platelet orders. For RBC transfusions, the majority of the institutions lowered the hemoglobin

threshold to 7 g/dL, but only a minority decreased the threshold to less than 7 g/dL (Figure 1). For platelet transfusions, only a minority of institutions: lowered platelet count thresholds for transfusion; or discontinued prophylactic transfusions; or implemented process changes such as splitting units or extending expiration from day 5 to day 7. Between 60 and 76% of the institutions implemented more than one strategy.

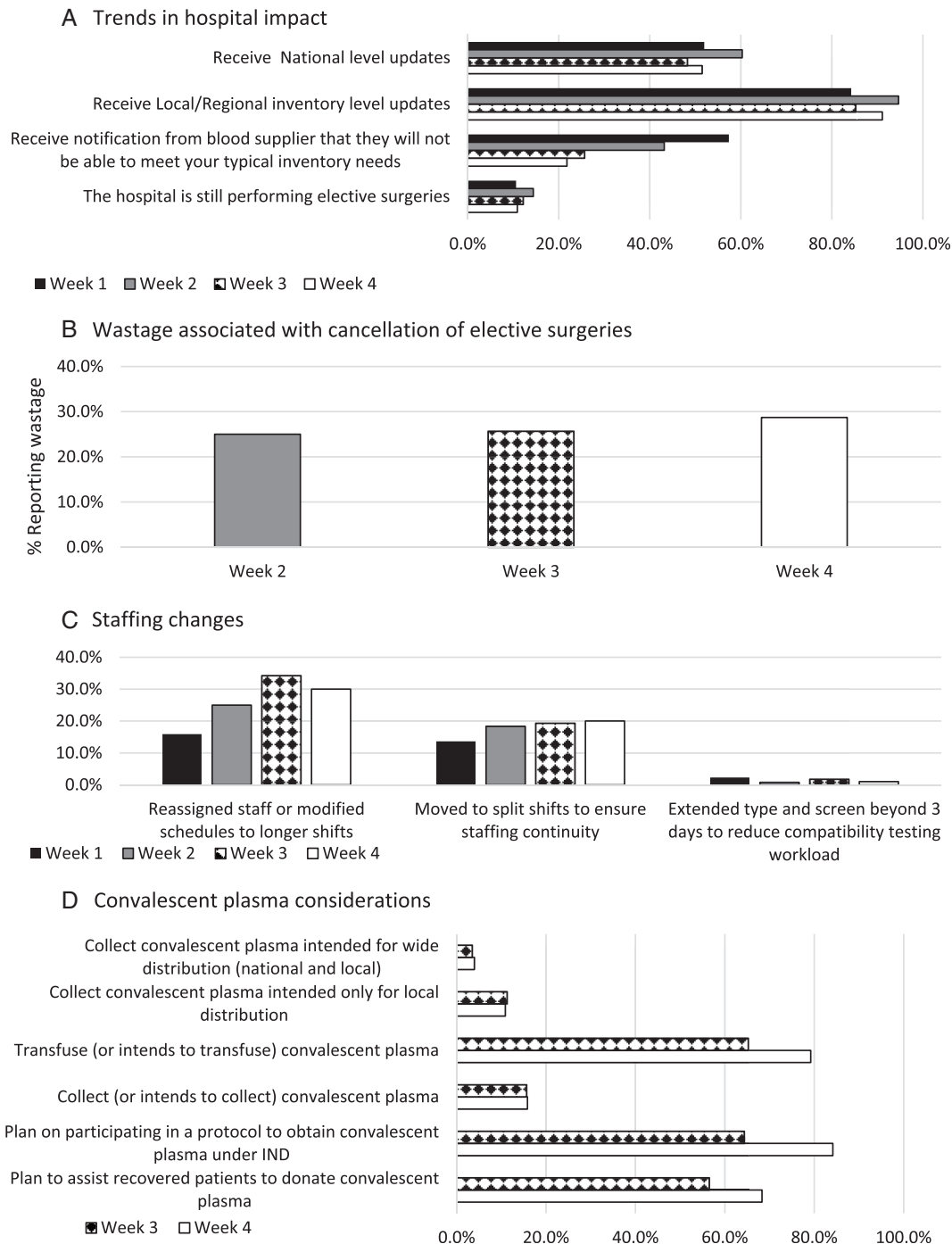


FIGURE 2 A, Trends in hospital impact. B, Wastage associated with cancellation of elective surgeries. C, Staffing changes. D, Convalescent plasma considerations

The number of institutions alerted by their blood supplier about challenges in meeting inventory needs decreased from week 1 to 4, suggesting adequate supply to meet the demand. (Figure 2) The majority of hospitals had developed a plan to deal with blood shortages by week 1. Only a minority of institutions limited the number of units in a massive transfusion protocol (MTP). Only 10% of institutions continued to perform elective surgeries, and 25% of institutions reported having increased wastage secondary to cancelled procedures. Only a minority of respondents reassigned staff or modified schedules to ensure sufficient coverage. Less than 2% of respondents extended the allowable type and screen interval beyond 72 hours to decrease workload.

The vast majority of institutions intended to participate in a protocol and obtain an IND (investigational new drug) to transfuse convalescent plasma, and a majority also planned to assist recovered patients to donate convalescent plasma.



DISCUSSION

Hospital transfusion services must ensure an adequate blood inventory for patients in need. In the setting of a pandemic in which routine community activities and hospital operations are disrupted, blood utilization and supply is uncertain. Transfusion services implemented several strategies to mitigate the risk of shortages, and the vast majority of institutions discontinued elective surgeries to ensure resources are available for more acute and urgent needs. The combination of these strategies resulted in less utilization, which could have contributed to the gradual increase in wastage observed throughout

the weeks. Although the therapeutic efficacy of convalescent plasma is still unknown, most of the institutions are interested in making this product available for transfusion, obtaining an IND, and plan to assist in educating recovered patients about donating plasma.

CONFLICT OF INTEREST

The authors have disclosed no conflicts of interest.

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