1-17-2018

Impact of Deferral for Low Hemoglobin on Donor Return

Ashley Aiken  
*UVM Larner College of Medicine*

Alexander Disciullo  
*UVM Larner College of Medicine*

Cyrus Jalai  
*UVM Larner College of Medicine*

Nektarios Konstantinopoulos  
*UVM Larner College of Medicine*

Tyler Oe  
*UVM Larner College of Medicine*

*See next page for additional authors*

Follow this and additional works at: https://scholarworks.uvm.edu/comphp_gallery

Part of the [Community Health and Preventive Medicine Commons](https://scholarworks.uvm.edu/comphp_gallery), and the [Health Services Research Commons](https://scholarworks.uvm.edu/comphp_gallery)

**Recommended Citation**

Aiken, Ashley; Disciullo, Alexander; Jalai, Cyrus; Konstantinopoulos, Nektarios; Oe, Tyler; Fung, Mark; Carney, Jan; and Lamping, Jenny, "Impact of Deferral for Low Hemoglobin on Donor Return" (2018). *Public Health Projects, 2008-present*. 256.  
https://scholarworks.uvm.edu/comphp_gallery/256
Authors
Ashley Aiken, Alexander Disciullo, Cyrus Jalai, Nektarios Konstantinopoulos, Tyler Oe, Mark Fung, Jan Carney, and Jenny Lamping

This book is available at ScholarWorks @ UVM: https://scholarworks.uvm.edu/comphp_gallery/256
IMPACT OF DEFERRAL FOR LOW HEMOGLOBIN ON DONOR RETURN

Aiken A., Disciullo A., Jalai C., Konstantinopoulos N., Oe T., Lamping J., Carney J., Fung M.
Larner College of Medicine at the University of Vermont and American Red Cross

Introduction

Conversion of first-time blood donors into repeat donors is fundamental to ensure a continued supply of blood products. Donor deferral subsequent to a low hemoglobin level can impede this endeavor. Despite preliminary investigations into demographic characteristics of donors deferred for low hemoglobin (Hb), larger nationwide studies discerning those donors returning at short and extended follow-up intervals are required to optimize blood collection agencies’ protocols.

The loss of donors deferred for low hemoglobin is a significant strain on the total donor pool, particularly due to the cost and time investment dedicated to donor recruitment and follow-up by blood centers. It has been previously estimated that deferred donors subsequently donate 29% less blood over the ensuing 4-5 year period than would have been originally the case.

Purpose

The purpose of this project is to begin to articulate reasons why some donors deferred due to low Hb returned rather than others, with particular emphasis the value of educational materials provided after deferral and actions taken by donors to address low hemoglobin levels.

Methods

Online, anonymous surveys were randomly distributed to American Red Cross blood donors 18 years of age and older who had been deferred for low Hb. Two target populations of 10,000 persons each were identified. Each population consisted of either active or inactive donors. Donor activity status was determined by whether the donor had donated blood within the past year (Active, n = 722) or not (Inactive, n = 102). The survey consisted of eighteen questions that assessed donor attitudes, experiences and preferences regarding their deferral of either active or inactive donors. Donor activity status was then compared to the following survey questions:

- Greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- As part of the Active donor survey, deferred donors displayed low (33.7%) to moderate (25.3%) interest in receiving educational materials on how to raise Hb levels (Table 2).

- A greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

Table 1

<table>
<thead>
<tr>
<th>Educational Materials Provided Post-Deferral?</th>
<th>Active (n=722)</th>
<th>Inactive (n=102)</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided information on how long to wait after low Hb deferral?</td>
<td>No</td>
<td>41.4%</td>
<td>46.1%</td>
</tr>
<tr>
<td>Yes</td>
<td>58.6%</td>
<td>53.9%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Interest In Receiving Educational Materials about Low Hb in the ensuing 4-5 year period than would have been originally the case.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active (n=722)</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Not Interested</td>
</tr>
<tr>
<td>Interested</td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>How Interested</th>
<th>Active (n=722)</th>
<th>Inactive (n=102)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would You Be In Receiving...</td>
<td>1 - Uninterested</td>
<td>244</td>
<td>33.7</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>38</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>3 - Neutral / Unsure</td>
<td>183</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>140</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>5 - Very interested</td>
<td>106</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Table 4

<table>
<thead>
<tr>
<th>In what ways did you address your low hemoglobin? (multiple choices allowed)</th>
<th>Active (%)</th>
<th>Inactive (%)</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I did not do anything</td>
<td>14.8</td>
<td>25</td>
<td>0.0144</td>
</tr>
<tr>
<td>Talked to a healthcare provider</td>
<td>20.3</td>
<td>28.5</td>
<td>0.055</td>
</tr>
<tr>
<td>Started using iron &amp; vit. suppl.</td>
<td>53.7</td>
<td>39.4</td>
<td>0.009</td>
</tr>
<tr>
<td>Changed my diet</td>
<td>43</td>
<td>31.7</td>
<td>0.033</td>
</tr>
<tr>
<td>Donated less frequently</td>
<td>14.5</td>
<td>19.2</td>
<td>0.204</td>
</tr>
<tr>
<td>Used oral contraceptives to reduce monthly bleeding (for women)</td>
<td>2.2</td>
<td>4.8</td>
<td>0.169</td>
</tr>
</tbody>
</table>

*Bonferroni correction for multiple correction is P < 0.01 for statistical significance.

Results

- Greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- As part of the Active donor survey, deferred donors displayed low (33.7%) to moderate (25.3%) interest in receiving educational materials on how to raise Hb levels (Table 2).

- A greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- Greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- A greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- Greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

- Greater percentage of active donors (52%) recalled receiving educational material on a low Hb deferral compared to inactive donors (35%), but with no difference in receiving information on how long to wait after deferral (Table 1).

Additional Results

- Additional significant difference between Active (A) and Inactive (I) donors included:
  - Started using iron & vit. Suppl (A: 54%, I: 40%)
  - >30 minute distance traveled to donate blood (A: 6%, I: 16%)
  - Difference in age > 45 years (A: 62%, I: 42%)
  - Difference in knowledge of blood type (A: 3.3%, I:12%)

- Active (A) and Inactive (I) donors were similar (p>0.05) for the following survey questions:
  - Prior history of anemia (A: 18.4%, I: 25.5%)
  - Distribution of female gender (A: 86.6%, I: 91.2%)
  - Lack of anxiety surrounding cause of low Hb deferral (A: 82.8%, I: 79.4%)
  - Prevalence of vegans (A: 5.7%, I: 6.9%)

Conclusions

- Alternative methods of communication should be considered given the varying levels of interest in receiving educational materials.
- However, active donors were more likely to take iron & vit. supplements in response to a low hemoglobin deferral.
- Inactive donors were younger and required further travel to donation site, which may have impacted likelihood to return to donation.
- These factors could be targeted by the ARC to improve donor retention.

Acknowledgements

We would like to thank the American Red Cross staff, volunteers, Nadav Rindler, and the blood donors.

References


