



**American
Red Cross**

From First Donation to Repeat: Do Rare Donor Welcome Packets Make a Difference?

Jennifer Jung, MLS(ASCP)SBB^{CM}

April 14, 2026



"You're the travel guide, taking us from point A to point B!"

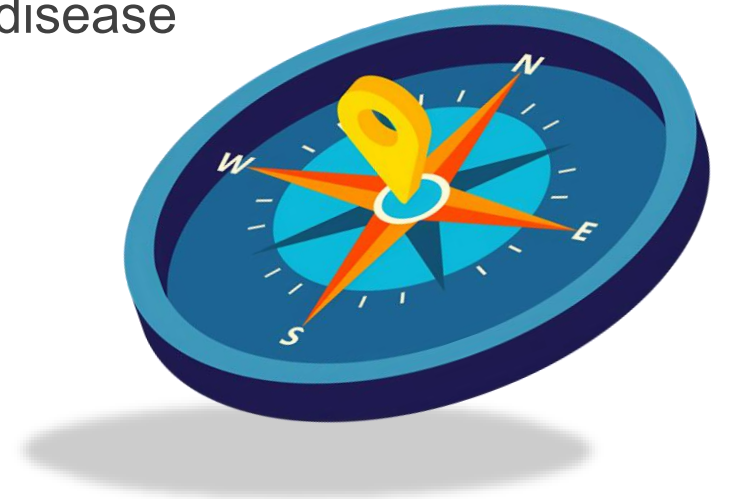
— My Instructor

From First Donation to Repeat: Do Rare Donor Welcome Packets Make a Difference?

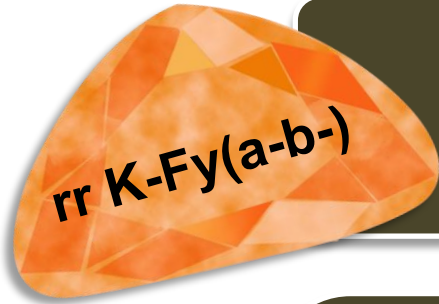


Introduction – Setting our Course

- First-time donors (FTDs) contribute over one-fourth of the blood supply
- Nearly 50% of first-time donors do not return
- American Red Cross (ARC) traditionally screened only repeat donors for rare status
- 2021 initiative launched to support patients with sickle cell disease
- FTDs of African descent are now screened for rare status

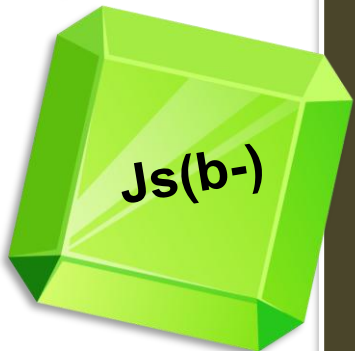


Discovering Hidden Treasures: Rare Donors Unveiled



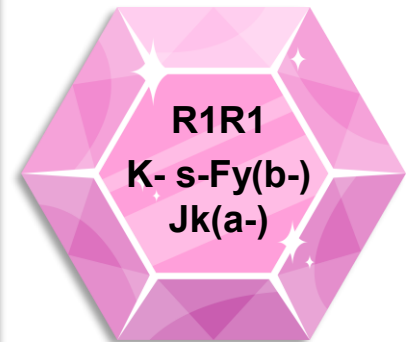
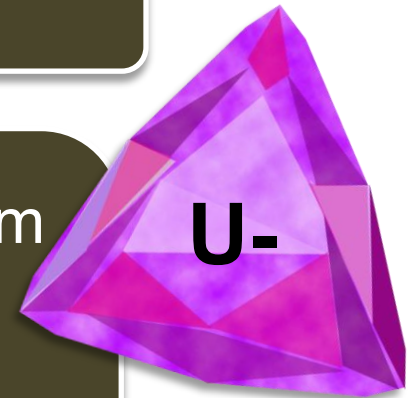
Rare donor defined, AABB Technical Manual

- Antigen-negative for high prevalence antigens (<1:1000)
- Negative for a combination of many common antigens



Rare Donor Defined, American Rare Donor Program (ARDP)

- High prevalence antigen negative (HiPrev)
 - Includes Exquisitely Rare Phenotypes (ERPs) = fewer than 10 in ARDP system
- Multiple Antigen Negative (PhenoRare)
- RH variant alleles lacking high prevalence antigens and/or encoding partial antigens (RH Allele)
- Absolute IgA deficiency (algA def)



Discovering Hidden Treasures: Rare Donors Unveiled

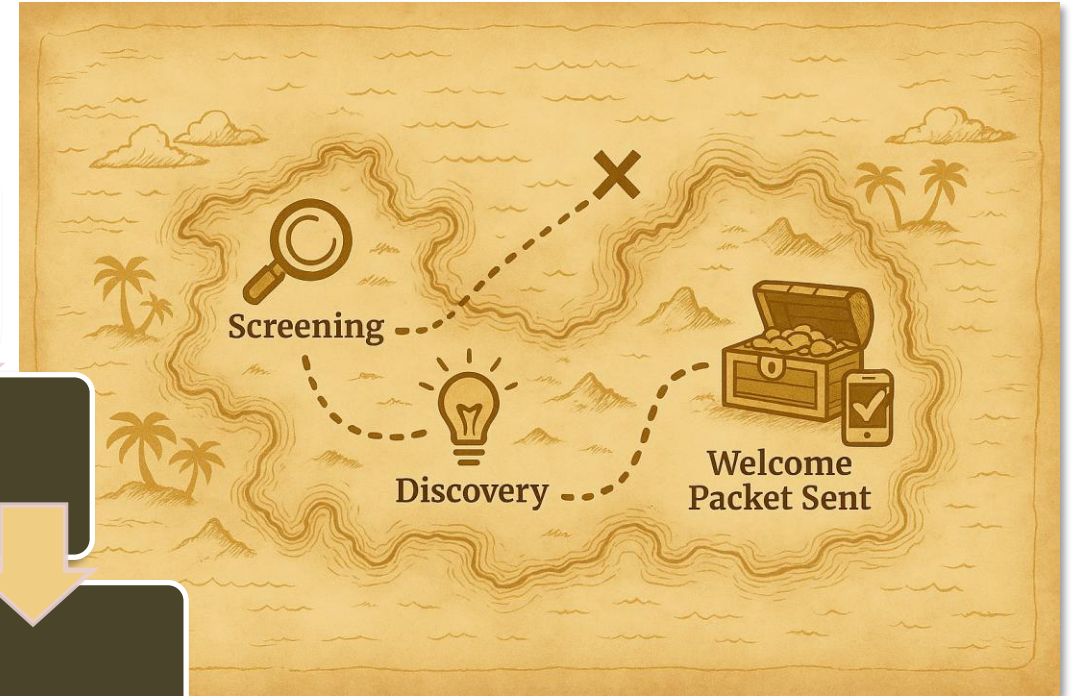
Identified using serologic and molecular testing

Managed nationwide via ARDP

2023 ARDP App automates submission and outreach

Donor Welcome Packet (DWP) includes letter, card, and follow-up form

Notifies donor of rare status and encourages future donations



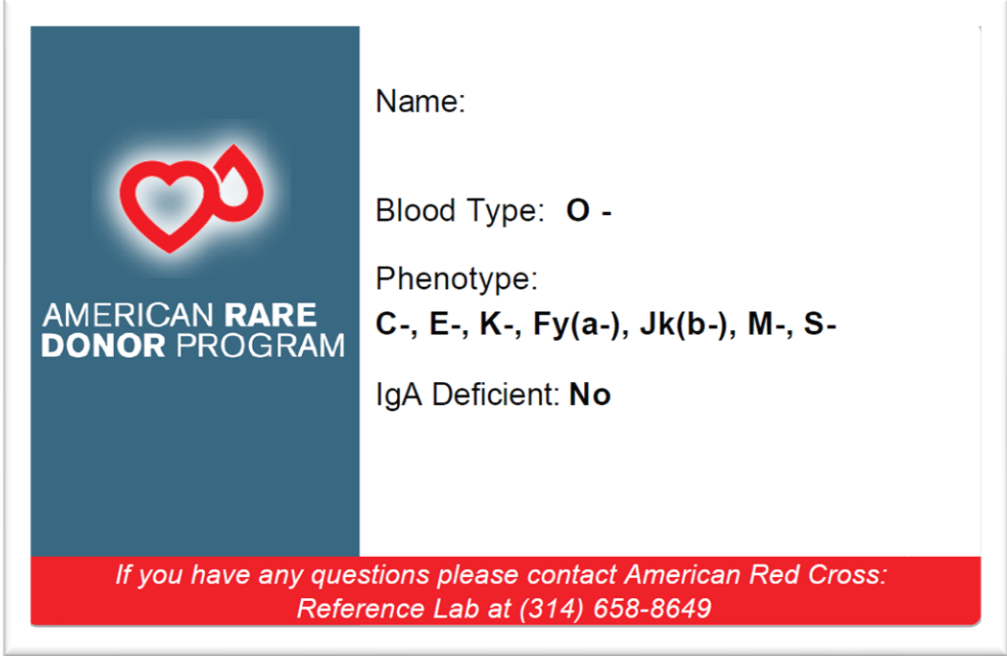
Study Objective – Navigating the Path to Discovery

Does receiving a Rare Donor Welcome Packet make a first-time donor more likely to return compared to a non-rare first-time donor?

Study aim: Compare return donation rates of ARDP rare FTDs and non-rare FTDs

Deeper Dive:

- Donor group characteristics
- Examine the impact of DWP timing
- Assess repeat donation patterns



The image shows a sample of an American Rare Donor Program (ARDP) welcome packet. It features a blue header with a red heart logo and the text "AMERICAN RARE DONOR PROGRAM". To the right of the header, there is a white section with personal information fields. At the bottom, a red banner contains contact information for the American Red Cross Reference Lab.

Name:	
Blood Type:	O -
Phenotype:	C-, E-, K-, Fy(a-), Jk(b-), M-, S-
IgA Deficient:	No

If you have any questions please contact American Red Cross:
Reference Lab at (314) 658-8649

Materials and Methods - Mapping the Route

Study Design: Retrospective matched-cohort analysis

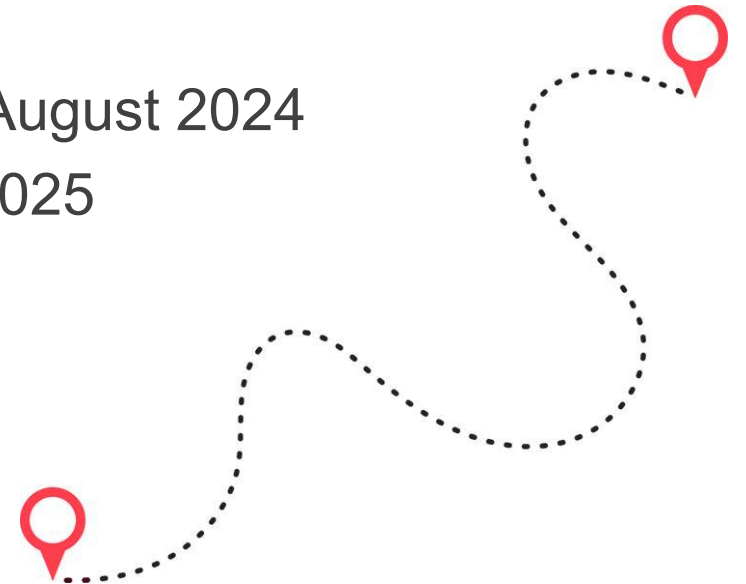
Population: First-time donors at ARC Immunohematology Reference Laboratories (IRL) in the Southwest and Rocky Mountain Division (SWARM)

Control Group: Non-rare FTDs matched 1:1 by donation site and date

Data Sources: ARDP App and ARC Blood Establishment Computer System (BECS), stored & organized in Microsoft Excel

Analysis Timeline: Donor App entries from August 2023 to August 2024
Repeat donation tracking through April 2025

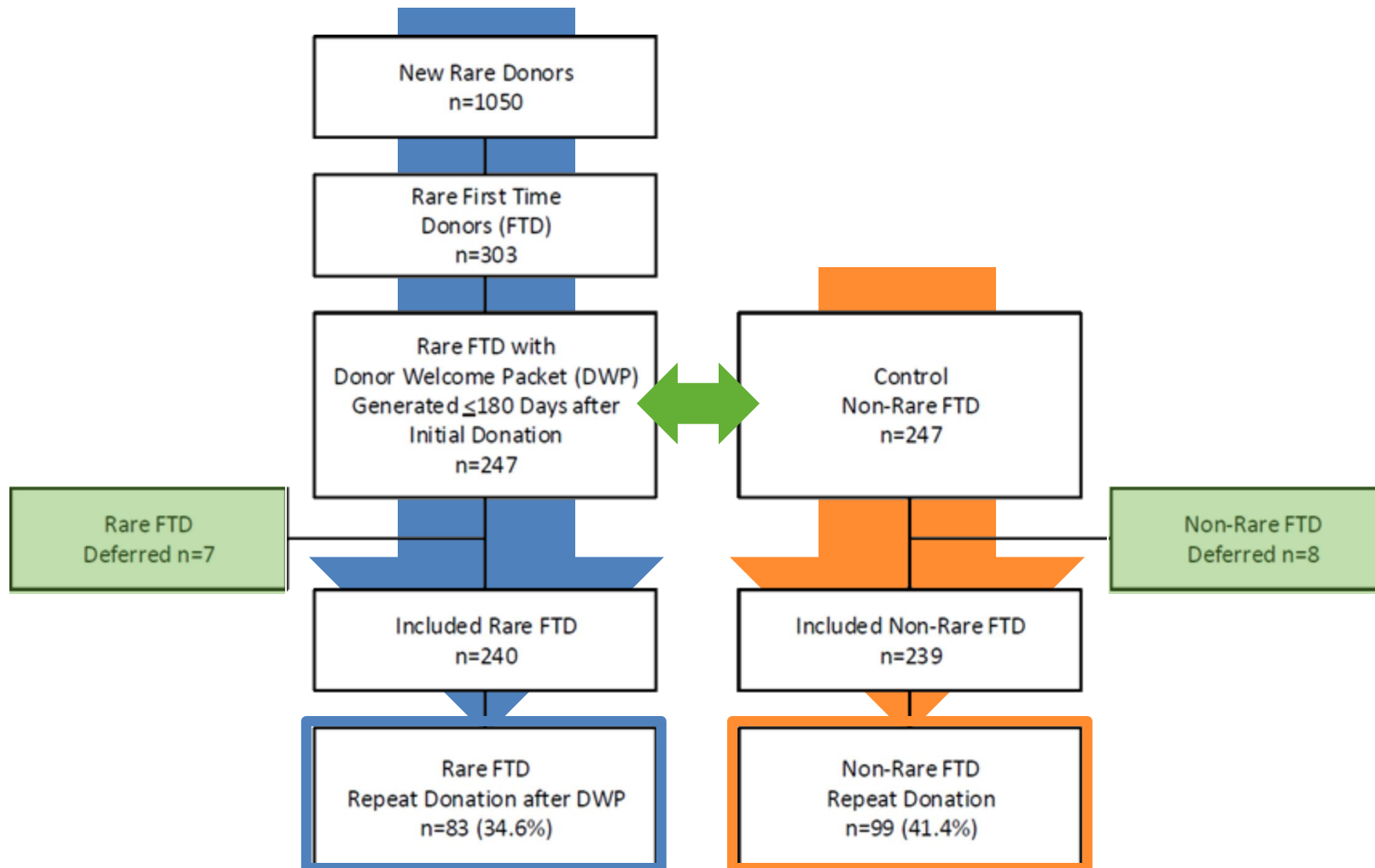
Exclusions: DWP generated >180 days post initial donation
Deferrals preventing repeat donation in timeline



Data Analysis - Decoding the Map

Data Collected	Evaluation Techniques	Interpretive Goals
Donor Demographics (Sex, Blood Group, Age, Race)	Descriptive statistics (Totals, Percentages, Means)	Explore influencing pattern
Return Donation (Binary)	Yes/No outcome variable	Return percentage
Return Timing	Time in days between first and next donation	z-test to analyze timing variations across donor groups
DWP Timing Impact	Return rates tied to DWP intervals	Trend analysis by contact frequency; timing influence
Cumulative Repeat Donations	Number of repeat donations	Visualize donation habits across donor categories

CONSORT Diagram – Passenger Check





Results - Donor Demographics Island

Characteristic	Rare First Time Donors						Non-Rare First Time Donors			
	All (n=240)		Returned (n=83)				All (n=239)		Returned (n=99)	
	n	%	n	%			n	%	n	%
Sex										
Male	137	57	43	52		106	44	41	41	
Female	103	43	40	48		133	56	58	59	
Race										
African American	236	98.3	82	99		73	30.5	29	29	
Asian	0	0	0	0		10	4.2	5	5	
Caucasian	3	1.2	0	0		131	54.8	52	53	
Hispanic	0	0	0	0		18	7.5	10	10	
Mix	0	0	0	0		4	1.7	2	2	
Native American	0	0	0	0		2	0.8	1	1	
Other	1	<1	1	1		0	0.0	0	0	
Prefer not to answer	0	0	0	0		1	0.4	0	0	



Results - Donor Demographics Island

Characteristic	Rare First Time Donors				Non-Rare First Time Donors			
	All (n=240)		Returned (n=83)		All (n=239)		Returned (n=99)	
	n	%	n	%	n	%	n	%
Sex								
Male	137	57	43	52	106	44	41	41
Female	103	43	40	48	133	56	58	59
Race								
African American	236	98.3	82	99	73	30.5	29	29
Asian	0	0	0	0	10	4.2	5	5
Caucasian	3	1.2	0	0	131	54.8	52	53
Hispanic	0	0	0	0	18	7.5	10	10
Mix	0	0	0	0	4	1.7	2	2
Native American	0	0	0	0	2	0.8	1	1
Other	1	<1	1	1	0	0.0	0	0
Prefer not to answer	0	0	0	0	1	0.4	0	0



Results - Donor Demographics Island

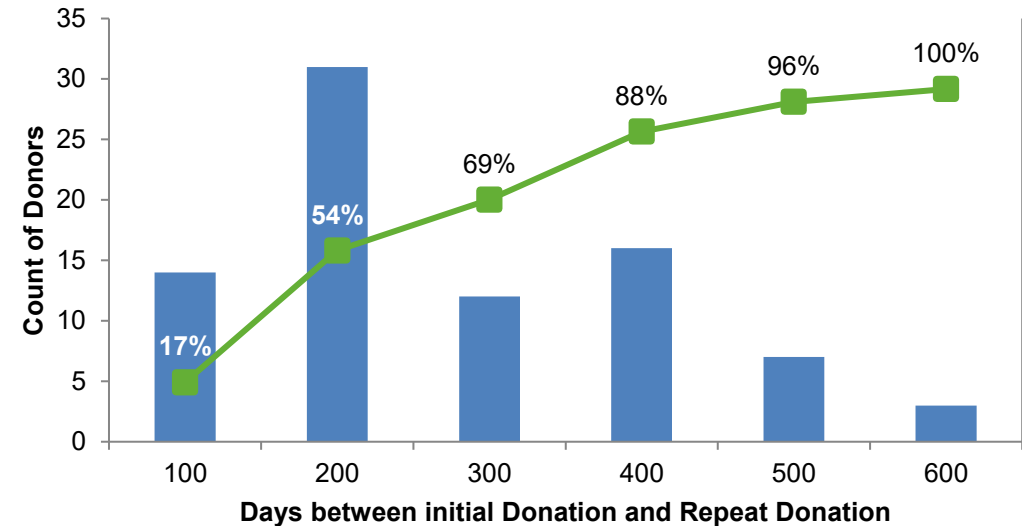
Characteristic	Rare First Time Donors				Non-Rare First Time Donors			
	All (n=240)		Returned (n=83)		All (n=239)		Returned (n=99)	
	n	%	n	%	n	%	n	%
Sex								
Male	137	57	43	52	106	44	41	41
Female	103	43	40	48	133	56	58	59
Race								
African American	236	98.3	82	99	73	30.5	29	29
Asian	0	0	0	0	10	4.2	5	5
Caucasian	3	1.2	0	0	131	54.8	52	53
Hispanic	0	0	0	0	18	7.5	10	10
Mix	0	0	0	0	4	1.7	2	2
Native American	0	0	0	0	2	0.8	1	1
Other	1	<1	1	1	0	0.0	0	0
Prefer not to answer	0	0	0	0	1	0.4	0	0

Results - Return Isle

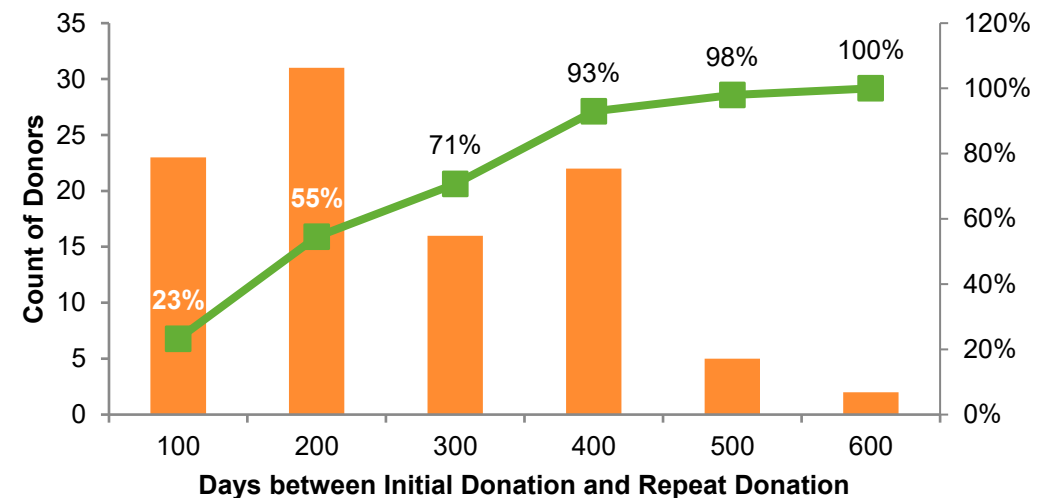


- Average time to return:
 - Rare donors: 232 days
 - Non-rare donors: 215 days
- Two-tailed z-test compared return timing between donor groups
 - p-value ≈ 1.00 $\rightarrow$ no statistically significant difference
- Similar timing patterns across both types

Rare Donors



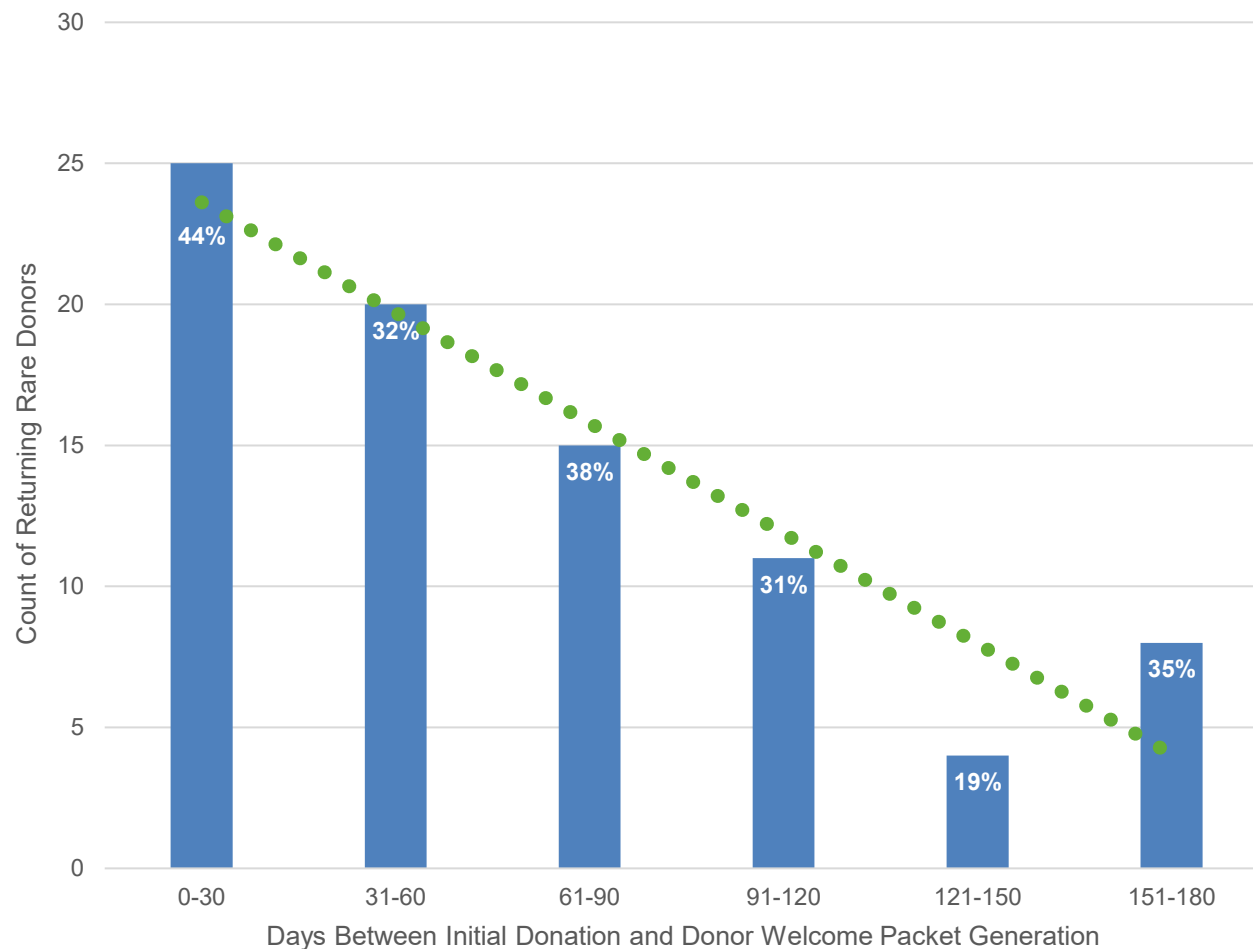
Non-Rare Donors





Results – Packet Point

Timing of Outreach and Donor Return



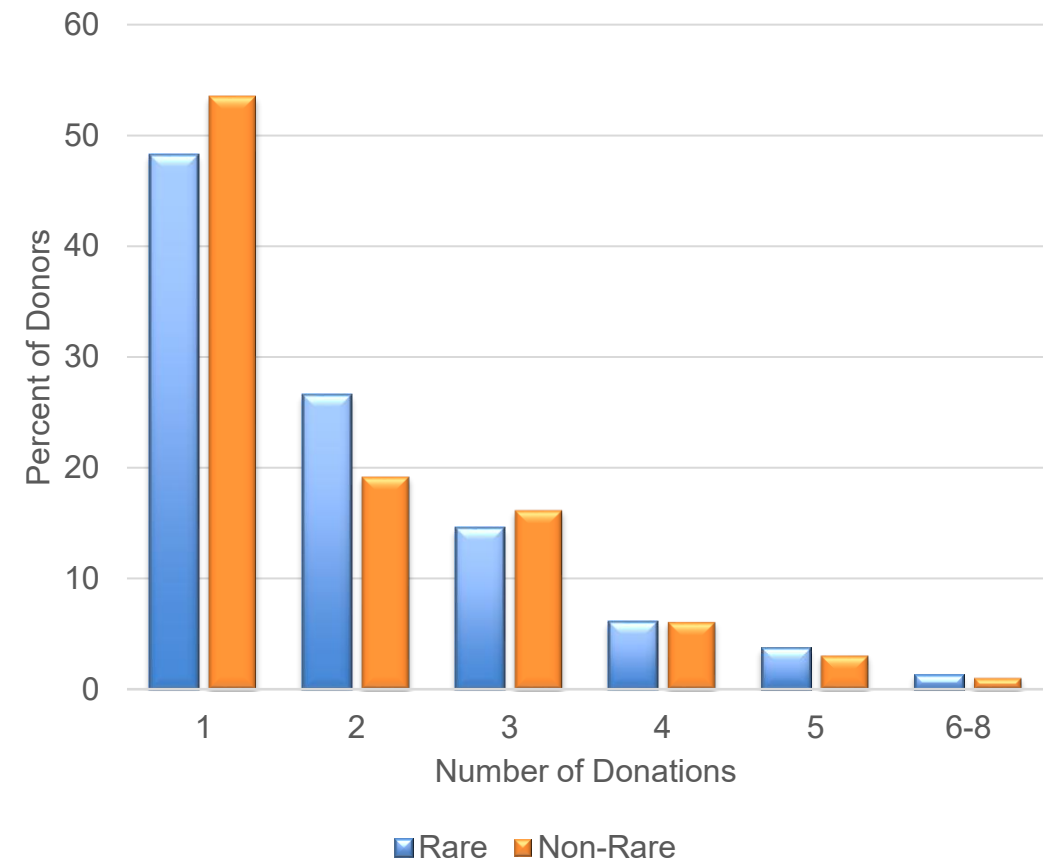
- Highest return rate (44%) when packets sent 0–30 days post-donation
- Return rates declined with longer intervals: lowest 19% at 91–120 days
- Modest rebound to 35% at 151–180 days
- Green trendline shows overall decrease in donor engagement with delayed outreach



Results – Repeat Shores

Patterns of Long-Term Donor Engagement

- Rare donors more likely to donate multiple times once they return
- Rare donors demonstrated stronger repeat behavior at two (25%) and five (5%) donations
- Rare donors maintained higher representation at mid-to-high frequencies
- Repeat engagement suggests greater long-term value among rare donors



Strengths & Limitations – Hidden Caves

Strengths

- 1:1 matched donor groups by site and date for controlled comparison



Strengths & Limitations – Hidden Caves

Limitations

- Only DWP generation tracked, assumed mailed, delivered & received
- Age was comparable between groups, but one third of FTDs are less than 20 years old
- Possible untracked donations at outside blood centers
- Design limited to one division and donors identified 08/23 to 08/24 window with follow-up through 04/25
 - Modest sample size & single geographic area
 - Follow-up window does not capture long-term return behavior
- Donor motivation & external factors not assessed



Discussion - Deeper Waters: Interpreting the Findings

Rare donors didn't return at higher rates, but timing of DWP affected behavior

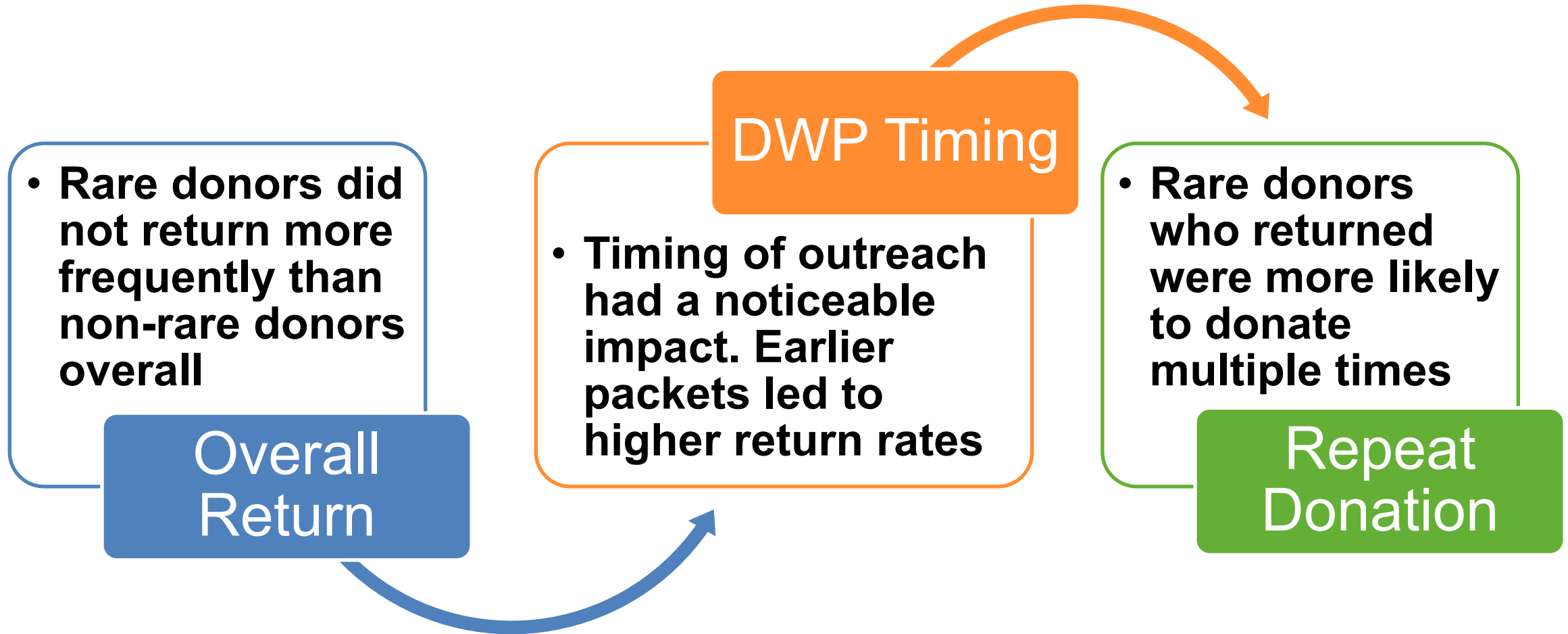
Early DWP generation linked to improved return rates

Rare donors who returned tended to donate more frequently

Communication depth and timing play a critical role in retention

Outreach methods (mail vs. digital) may influence effectiveness

Insights and Conclusion - Travel Advice



Questions – The Dock



References - Fellow Navigators of Insight

- Schreiber GB, Sanchez AM, Glynn SA, Wright DJ. Increasing blood availability by changing donation patterns. *Transfusion*. 2003;43(5):591–597. doi:10.1046/j.1537-2995.2003.00388.x
- Kracalik I, Sapiano MRP, Wild RC, Chavez Ortiz J, Stewart P, Berger JJ, et al. Supplemental findings of the 2021 National Blood Collection and Utilization Survey. *Transfusion*. 2023;63(S4):S19–S42. doi:10.1111/trf.17509
- O'Connor J, Er LS. Identification of antibodies to red cell antigens. In: Cohn CS, Delaney M, Johnson ST, Katz LM, Schwartz J, editors. *AABB technical manual*. 21st ed. Bethesda, MD: AABB; 2023. p. 405–445.
- Keller MA, Nance ST, Maurer J, Kavitsky V, Babariya SP. The American Rare Donor Program: 25 years supporting rare blood needs. *Immunohematology*. 2024;40(3):100–121. doi:10.2478/immunohematology-2024-015

Thank you



**American
Red Cross**