Published in final edited form as:

Transfusion. 2015 December ; 55(12): 2826–2834. doi:10.1111/trf.13247.

Blood donor deferral for men who have sex with men: the Blood Donation Rules Opinion Study (Blood DROPS)

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Abstract

Background—In the US, any man who discloses having had sex with another man (MSM) even once since 1977 is currently deferred from donating blood. A study was conducted to assess noncompliance with the policy at four geographically dispersed blood centers.

Methods—Male donors 18+ years of age with email addresses were randomly selected and invited to complete a confidential online survey between Aug – Oct 2013. No additional recruitment emails were sent. Survey content included: demographics, sexual history, donation history, compliance with the policy, and opinions about current and modified policies.

Results—Response rate was 11.5% overall but varied by center (6.3 to 21.7%). Of 3183 completed surveys, 2.6% of respondents (95% Confidence Interval 2.1 – 3.2%) reported donation

All authors report no conflicts of interest.

The NHLBI Recipient Epidemiology Donor Evaluation Study - III (REDS-III), domestic component, is the responsibility of the following persons: Hubs: A.E. Mast and J.L. Gottschall, BloodCenter of Wisconsin (BCW), Milwaukee, WI

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after male-male sex. Noncompliance was not statistically different among the centers [$p=0.1$], but was related to age with 5.7%, 4.6%, 2.5%, and 1.0% of donors 18-24, 25-34, 35-54, and 50+ years of age, respectively, reporting noncompliance [$p<0.001$]. Of all respondents, 6.8% reported 6 female sex partners and 0.3% reported 6 male sex partners in the last five years. Opinions about the current MSM policy were mixed with noncomplying donors more supportive of change than complying donors. About half of noncompliers indicated they would adhere to a 1-year deferral policy.

Conclusion—Noncompliance with the MSM policy is evident and may be increasing compared to earlier data. It is expected that any change from the current policy will require close monitoring to determine whether it affects residual risk of HIV in the US blood supply.

Introduction

The policy currently in effect for blood donation in the US in early 2015 with respect to males who have sex with other males (MSM) is that any man who discloses having had sex with another man since 1977 (MSM77) is deferred indefinitely from donating. This policy was implemented in 1985. In December 2014, the USA FDA announced the intention to change the policy to a 1-year deferral from last sexual contact¹ and recently Draft Guidance for Industry was released.² Donor compliance with MSM deferral, whatever the specific policy is, has been shown to be one of the key factors that will influence the risk of HIV in the blood supply.³⁻⁸

A recent surveillance study of risk factors in donors who donated HIV positive units conducted by the Retrovirus Epidemiology Donor Study-II (REDS-II) found MSM behavior to be the primary risk factor for 60% of male donors with HIV, but not for HBV, HCV, or HTLV.⁹ In the same study, the prevalence of MSM behavior among male donors without any infection was 1.7%; these donors had to deny risk factor(s) on the donor history questionnaire to be able to donate but subsequently reported MSM behavior on the research survey. Historically, as part of the first Retrovirus Epidemiology Donor Study (REDS), when anonymously surveyed by two different mailed paper surveys, 0.7% and 1.2% of male blood donors reported MSM behavior.^{10,11}

The reasons underlying why MSM donate blood under the current policy when they should have been excluded are complex and may include:^{10,12} (1) denial about risk behaviors; (2) a personal belief or knowledge that one is healthy and therefore one's blood is safe for others; (3) knowledge that all blood is tested for HIV and belief that testing will identify any risk to transfusion recipients; (4) failure to read or fully comprehend the screening questions or associated instructions; (5) desire to obtain HIV test results irrespective of the potential risk presented to blood recipients; and/or (6) a belief that the policy is unfair and that non-compliance in protest is acceptable.

While many scientists and ethicists have expressed opinions in support of or against modification of the MSM policy for blood donation,¹³⁻²⁴ there is a paucity of data that directly addresses important aspects of this policy debate. Both motivating factors and compliance with the policy, as well as intent to comply with a modified policy, are unstudied aspects of the larger issue. In this article, we report on the findings from the Blood

Donation Rules Opinion Study (Blood DROPS). One part of Blood DROPS was a survey of male blood donors to assess compliance with the current deferral policy along with related topics, including sexual histories of donors and opinions about MSM donation policy.

Materials and Methods

This study was coordinated by the UCSF Center for AIDS Prevention Studies (CAPS) and Blood Systems Research Institute, San Francisco. The study was conducted at the four Recipient Epidemiology and Donor Evaluation Study (REDS-III) blood centers: the American Red Cross, Connecticut; Blood Centers of the Pacific, San Francisco; Blood Center of Wisconsin, Milwaukee, and the Institute for Transfusion Medicine, Pittsburgh. Three phases of Blood DROPS examined motivations for donating blood out of compliance with MSM77 and the potential impact of changes to the deferral policy on MSM blood donation behavior. During the first phase, focus groups were held with MSM across the 4 sites to assess common themes and opinions about blood donation and the MSM77 policy. Next, two surveys were conducted, a survey of male blood donors at the REDS-III blood centers and, for comparison, a sample of MSM recruited via lesbian, gay, bisexual, transgender, and queer (LGBTQ) organizations and social networks. In the third phase, 40 qualitative telephone interviews (20 identified through the male donor survey and 20 through the LGBTQ community survey) explored motivations for non-compliance and potential impacts of a modified deferral period. Results of the 40 qualitative interviews with MSM blood donors are reported (see Hughes et. al *submitted*).

For the male donor survey, email addresses were randomly selected from among all allogeneic male blood donors 18 years of age or older who, according to blood center records, donated at least once in the period August 2012 through July 2013 and provided an email address. From August to October 2013 male blood donors were recruited by email. A sample of 3200 male blood donors (800 per center) was considered sufficient to estimate a prevalence of current undisclosed MSM behavior in male donors of 1.2% (last estimate reported in 1998 in the US)¹¹ with a 95% CI of 0.85 – 1.64% (0.57 – 2.22% per center).

Based on previous web-based surveys with donor populations showing a 10% response rate, it was estimated that each center would need to randomly select up to 8000 email addresses to achieve 800 survey responses from each center. The web-based survey was conducted in waves by sending out batches of 1000 – 1200 recruitment emails. Once a center achieved the planned number of survey responses, new waves were not released to recruit additional donors from that center. Each recruitment email included a unique uniform resource locator (URL) hyperlink that only the designated participant could access to obtain more information on the purpose of the study, provide consent to participate, and complete the survey. SurveyGizmo (Boulder, CO) was used. Participating respondents and responses were not known to blood center staff. Each participant who completed the survey received a participation incentive in the form of a \$10 gift code redeemable at Amazon.com. Individual survey responses were only accessible to study investigators at UCSF CAPS. Analyses were conducted by CAPS statisticians.

Survey content included demographic characteristics, blood donation history, history of male-male sexual contact before blood donation, hetero- and homosexual contact frequency and history, opinions about the MSM policy and possible alternate policies, and likelihood of compliance with revised MSM deferral policies among those reporting a history of homosexual contact. The primary objective was to determine the overall rate of non-compliance and associated confidence interval. Site and demographic differences in prevalence of non-compliance were assessed using a chi-square statistic (with p-values for determining the statistical significance of post hoc pairwise comparisons adjusted using the Benjamini-Hochberg procedure).²⁵ In order to accommodate small group sizes, Fisher's exact test was computed when exploring for site differences within demographic subgroups defined by age, race, Hispanic ethnicity, and donation history. Fisher's exact test was also used to assess differences in sexual behavior between complying and non-complying donors. For this survey, sexual behavior was defined as vaginal, oral or anal sex regardless of condom use. Additional analyses focused on identifying differences in opinions, as assessed by chi-square statistics, and attitudes toward the MSM deferral policy (and whether and how it should be changed) by current compliance with the policy. Tests of dependent proportions were used to assess differences in proportion of agreement between four possible alternative deferral policies separately for complying and non-complying respondents.

This study was cleared by the Office of Management and Budget (OMB Control No. 0925-0669) and approved by IRBs at each of the participating blood centers and UCSF.

Results

There were 3895 respondents who accessed the unique emailed survey URLs. Of these, 472 terminated the survey before providing consent, 57 did not consent, and 181 started but did not complete the survey. A total of 3185 male blood donors with email addresses at the participating REDS-III blood centers provided consent and completed the survey (Figure 1). Overall response rate was 11.5%, but the varied substantially by blood center: 21.7% for Milwaukee, 13.0% for San Francisco, 11.4% for Connecticut, and 6.3% for Pittsburgh.

Although the demographic characteristics of the participants appear to be generally similar to the male blood donor population at the REDS-III centers during the survey period (Table 1), all tests comparing sample proportions to donor population prevalence were statistically significant except for percent of cases who were non-donors (and presumably deferred) plus two racial categories: American Indian/Alaska Native and Native Hawaiian or Other Pacific Islander. Thus, the sample includes more 25-54 year olds than the REDS-III male donor population and proportionally fewer men above and below those age thresholds; more whites and fewer African American, Asian, or other-/multi-race men; fewer Hispanics; and more donors with multiple lifetime donations.

Participants were asked if they had ever donated blood after male-male sex in or after 1977. Two respondents did not complete this question and were not included in further analyses. Overall, 83 (2.6%, 95% CI 2.1 – 3.2%) respondents out of 3183 indicated they had donated after male-male sex. These donors were classified as non-compliers with the current

MSM77 policy. The proportion of non-compliers ranged from 1.9 to 3.9% by blood center (Table 2), but did not statistically differ ($\chi^2=6.21$, $df=3$, $p=0.102$). Fisher's exact test was used to determine whether prevalence of non-compliance varied by site within each of the four age group categories, by white and non-white, by Hispanic and non-Hispanic, and by first-time and repeat donor status. A significant site effect between centers was found among non-whites ($p=0.017$). Prevalence of non-compliance among non-white donors was 15.4% (4/26) for Pittsburgh, 7.7% (3/39) for Connecticut, 2.5% (4/163) for San Francisco, and 0% (0/23) for Milwaukee. However, post hoc tests reveal that only the Pittsburgh-San Francisco comparison was statistically significant. Other comparisons were not significantly different based on two-tailed Fisher's exact tests.

Comparison of self-reported demographic and donation characteristics between complying and non-complying donors revealed that non-complying donors were more likely to be younger, with 5.7% of donors 18-24, 4.6% of donors 25-34, 2.5% of donors 35-54, and 1.0% donors of 50+ years of age reporting noncompliance, $p<0.001$ (Table 3). In both complying and non-complying donors more than 96% of respondents reported having donated two or more times, with over 60% of non-complying donors reporting more than 10 donations. With regard to sexual orientation, 45.8% of non-complying MSM donors defined themselves as being gay/homosexual/queer or bisexual, while 0.6% of complying donors did, $p<0.001$. Thus, more than 50% of non-complying donors defined themselves as heterosexual/straight.

As part of the survey, we inquired about last sexual contact and number of female and male sexual partners. Complying males were significantly more likely to report sex with a woman in the last year (80.6%), but a majority of non-complying males also reported having sex with a woman or women in the last year (61.4%). Some male donors reported high numbers of female sexual partners with 6.6% of complying and 14.4% of non-complying males reporting 6 female sexual partners in the last five years. Five complying male donors did report MSM behavior after donation, but the vast majority (99.8%) reported no history of same-gender sex. Of non-complying donors, 36.1% reported having sex with a man in the year before donation. Some male donors reported high numbers of male sexual partners with 9.6% of non-complying donors reporting 6 male sexual partners in the last year.

We also asked donors their opinions about the MSM77 and potential alternate blood donation policies for MSM as well as use of donation for reasons outside of altruism, such as test-seeking. Approximately 80% of both complying and non-complying donors felt it was a misuse of voluntary blood donation to donate to be tested for HIV (Table 4). When asked about awareness of the MSM77 policy, significantly more complying (74.7%) compared to non-complying (61.4%) respondents said they were aware of the deferral ($p=0.028$). In addition, a majority of non-complying male donors favored a change in the policy to a 5-year, 1-year, deferral for MSM in non-monogamous relationships, or allowing MSM to donate regardless of the last time a man had same-gender sex. In contrast, the majority of complying donors only favored a change to a 5-year MSM deferral.

Although prevalence of agreement differed between complying and non-complying male donors for all four policy alternatives, when ranked by proportion of donors who agreed

with the specific policy option, the order is the same for both groups: 5-year deferral followed by non-monogamy deferral, then 1-year deferral, and finally a policy of no deferral based on same-gender sexual behavior. Pairwise comparisons of the proportions agreeing to each policy alternative within complying and non-complying groups run separately for the four policy alternatives were all statistically significant with the exception of the comparison between a non-monogamy deferral policy and a 1-year deferral policy among non-complying donors.

Non-complying donors were asked additional questions to assess how a policy change might affect their blood donation behavior. Half (50.6%) indicated they would follow a 1-year deferral. However, 65.1% of non-complying donors indicated on a separate question that a change in policy would make no difference in whether or not they give blood.

Discussion

The topic of MSM and donation has received new attention in the last 5 years as many jurisdictions have sought to re-examine indefinite deferral of MSM.²⁶ During this period multiple jurisdictions, including the UK, New Zealand, and Canada have modified MSM donation policies to specified shorter time-limited deferrals. This now includes the USA, in which the FDA plans to transition to a 1-year deferral. Some jurisdictions such as Italy, South Africa, and Spain determine donation eligibility based on the number of and recency with which new sexual relationships have started regardless of the gender of the donor's sex partner(s).

Model-based analyses examining the risks associated with indefinite deferrals and modified policies have been conducted in many settings. Some of these analyses have been published in peer-reviewed literature. In France, as in the US, MSM are currently indefinitely deferred from donating blood, but a study showed this MSM policy may not be optimally effective.⁷ Pillonel and colleagues estimated the fraction of current risk of HIV that could be attributed to MSM under the indefinite deferral policy, and then constructed a mathematical model that used behavioral and epidemiological survey data to assess the impact of a new strategy. Under the modeled strategy MSM would be deferred if they reported more than one sexual partner within the last 12 months. The authors suggest that some MSM may not properly self-report their sexual activity or abstain from blood donation because they feel that the policy is discriminatory. Overall, the authors concluded that a change in policy with a relaxed MSM donor eligibility criterion may increase the risk of HIV by a small amount. However, they suggested that this finding did not consider the possibility that MSM could find the new policy more acceptable and self-defer, thus actually reducing the risk.

In 2013, the United Kingdom reported what may be the only population-based assessment of non-compliance. The study conducted in 2009-2010 used a household survey design followed by qualitative interviews. Grenfell and colleagues report that 10.6% of MSM in the population in Britain donated blood while ineligible under the indefinite deferral policy, and that 2.5% had engaged in male-male sex within a 1-year period before blood donation.⁵ Davison and colleagues reported that if prevalence is the only factor affected by a reduced deferral in the UK then the increased risk of HIV is probably negligible. If compliance stays

the same or worsens the risk is expected to increase because of more incident infections in MSM who donate blood.²⁷

Canadian regulators approved an MSM policy modification from an indefinite to a 5-year deferral in 2013. Analyses of the expected gain in additional donated units show modest increase in the quantity of blood available, and an exceptionally small increase of one new HIV infected donation expected every 1072 years if the observed rate of non-compliance before the policy change remains the same afterward.⁴ At the AABB annual meeting in 2014 O'Brien and colleagues reported early post-implementation data of HIV rates in donors following the change in policy with no statistical evidence so far of an increased HIV risk after implementation of the new policy.²⁸

Noncompliance in Australia with the current policy of 1-year deferral since last male-male sexual contact is much lower than reported for jurisdictions that have or had indefinite deferral of MSM. In a large survey, Seed and colleagues found a noncompliance proportion of 0.23% (95% CI: 0.16-0.33%).⁸ The context for donation in Australia is different than in the US, which may partially explain the much lower noncompliance. Donors in Australia (and other jurisdictions) sign a witnessed consent form with notably stronger reference to legal implications of inaccurate or incomplete disclosure of information as part of the donor eligibility assessment. Noncompliance coupled with modeling studies indicates the residual risk of HIV in the blood supply in Australia remains lower than in the US. Even so, the experience in Australia is important for what it shows about the risk of HIV in donated blood following a policy change. Germain and Delage have recently compared projected impact of time-limited deferral to actual observed HIV rates in donors using published models developed to assess the impact of an MSM deferral policy change. Most mathematical models would have predicted significant increases in the prevalence of HIV in male donors, yet the actual prevalence of HIV among Australian male donors remained very low and unchanged, suggesting that available models include assumptions that may not be borne out by observed donation behavior following a policy change.²⁹ In settings where indefinite deferral is still in place, it is possible that modification of the deferral will lead to no change in or even lower rather than higher HIV rates in donors.

While the majority of complying and non-complying donors believe it is a misuse of blood donation to be tested for HIV, approximately 14% of respondents in both groups did not agree and 6% didn't know. We did not assess HIV test-seeking as a motivation to donate, but these findings suggest a need for improved pre-donation education, particularly because alternate testing venues are available if HIV testing is the primary reason for donating. Perhaps the only encouraging aspect of this result is that even non-complying donors have a lower level of belief that HIV testing at the blood center is acceptable than does the general US population. A publication from the National Community Health Survey, a telephone survey of 9859 US adults, reported 33.5% of felt that it was acceptable to use blood centers for HIV testing, while 9.1% believed that it was okay to donate even with risk behaviors for HIV.³⁰

The noncompliance proportion observed in Blood DROPS is higher than in the two previous anonymous mailed REDS survey studies of 0.7 to 1.2%,^{10,11} or 1.7% of male control donors

without infection from a recent risk factor study.⁹ International studies have reported noncompliance proportions ranging from the low proportion observed in Australia to 0.8-1.4% in Canada, and 2.3% in Hong Kong, respectively, which had at the time or currently has an indefinite donor deferral policy for MSM in place, respectively.^{8,31,32} Our findings suggest less awareness of the policy among non-compliers (compared to compliers), and that the proportion of noncomplying male donors may be increasing over time with younger male donors particularly less likely to comply. At the specific-person level, it is unclear whether these young males are the same sub-population with increasing rates of HIV acquisition.^{33,34} Donor awareness, self-assessment of risk, and nondisclosure are suboptimal for blood centers and subvert the purpose of the donor health history questionnaire. If noncompliance is increasing in the younger male donor population, this suggests a wider need for educational outreach not only to inform donors of the policy, but also to explain the purpose of the questions donors are asked when assessed for eligibility to donate. Research in this area could be extended to include efforts to re-evaluate the Donor History Questionnaire with the objective of optimizing risk disclosure.

Our survey findings highlight that for currently non-compliant male blood donors, a change to a 1-year deferral might not necessarily change blood donation behavior. About half of such donors said they would adhere to such a policy change. This result is not surprising because these are currently non-compliant donors. Furthermore, some donors would become compliant simply based on time since last MSM contact rather than a willingness to specifically adhere to the policy. However, the increasing proportion of noncompliance reported by younger donors highlights the growing importance of the issue within the context of the MSM77 policy. Policy change may improve future compliance. Persons who have yet to donate out of compliance may be more willing to follow a 1-year deferral period because it is consistent with other deferrals related to higher risk sexual exposures.

There are several limitations to our study. The overall response rate was lower than expected for traditional paper or mailed surveys. Web-based questionnaires generally have lower response rates than mailed questionnaires, but they are less prone to social desirability bias than other methods of data collection, making them very suitable for research on sensitive topics such as sexual behaviors, weight, and illicit drug use.³⁵ In our study, we were intentionally limited to not sending reminder emails to potential participants because the blood centers did not know who had or had not completed the survey. For this reason our response rate was lower, but consistent with observed rates from other emailed surveys of blood donors (personal communication, Natalia Hellems, BCP). Even so, the characteristics of non-compliers identified in this study should reflect those of all non-compliers regardless of the response rate.

A further limitation is that the web-based survey may have resulted in a sample biased toward male donors interested in this topic who were more motivated to participate than other donors. However, the inherent anonymity of the web-based survey may have also provided a greater level of disclosure of sexual history than on previous studies. There is no way by which we can compare participation in this survey to other surveys of blood donors to assess the potential for bias in either direction. Given observed differences in

demographic characteristics, our results may not be representative of the entire male donor population of the REDS-III blood centers.

Finally, comparisons between results from this survey and previous REDS surveys also must be viewed cautiously due to variations in the blood centers that participated, sampling approaches, data collection mode, and instrumentation. Nevertheless, all three REDS studies include geographically diverse sites representing a non-trivial percentage of blood units collected annually in the US. Consequently, we believe that estimates derived from data aggregated over the multiple sites can reasonably be extrapolated to the population of male blood donors in the US.

Ultimately, the focus of infectious disease blood safety is on minimizing the risk of transfusion-transmission to persons who receive transfusion. The US FDA has developed Draft Guidance for Industry following the announcement in late 2014 of the intent to modify the policy to allow MSM with no other deferrable behaviors to donate if the last sexual contact was a year or more before donation. FDA has made known that an infectious disease monitoring program is being established to track rates of infections in donors, assess risk factors in donors with any HIV infection or newly acquired HBV or HCV infections, and conduct genetic typing of donations testing positive for these infections. Over 50% of all blood donations in the US will be represented. This monitoring system will not be able to directly assess compliance with the 1-year deferral, but is intended to assess if the infectious disease marker prevalence or proportion of newly acquired HIV, HBV, and HCV infections in donated blood are changing after the new MSM blood donation policy is implemented. If the results from Blood DROPS are reflective of the larger donor population with MSM history, the policy change may lead to increased future compliance. It is certain that the revision of policy will be closely monitored to assess whether meaningful changes in prevalence or incidence of HIV in the US blood supply are evident.

Acknowledgments

We thank Dan Hinds and Anne Guiltinan of Blood Systems Research Institute for their important contributions to this study.

Funding: This study was funded by the US FDA and the NHLBI REDS-III program.

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Figure 1.
Blood DROPS survey recruitment, consent, early termination, and completed surveys.

Table 1

Demographic characteristics of the male blood donor population during the survey period at the four REDS-III centers and the Blood DROPS survey respondents.

Characteristic	Male blood donor survey respondents* N=3185 (%)	REDS-III male blood donors during survey period N=95,960 (%)
Age		
18-24	298 (9.4)	10,816 (11.3)
25-34	521 (16.4)	11,088 (11.6)
35-54	1182 (37.1)	33,047 (34.4)
55+	1183 (37.1)	41,009 (42.7)
Race		
White/Caucasian	2934 (92.1)	78,354 (81.7)
Black/African American	30 (0.9)	2388 (2.5)
Asian	131 (4.1)	3123 (3.3)
American Indian/Alaska Native	11 (0.3)	303 (0.3)
Native Hawaiian or Other Pacific Islander	7 (0.2)	146 (0.2)
Other (other & more than one race)	72 (2.3)	11,647 (12.1)
Hispanic/Latino/Spanish ethnicity	126 (4.0)	4386 (4.6)
First Time Donor/Repeat Donor**		
No previous donation§	4 (0.1)	0
One donation	51 (1.6)	7132 (7.4)
More than one donation	3105 (97.5)	88,828 (92.6)

* Missing responses not shown in table;

* 1 age, 25 donation history,

** 7 donation history,

§ presumed to be donors who were deferred.

Table 2

Compliance and non-compliance with the MSM77 deferral policy by center.

REDS-III Blood Center	Yes n	No n (%)	Confidence interval for %
Pittsburgh *	560	23 (3.9)	(2.6 – 5.9)
Connecticut	870	17 (1.9)	(1.2 – 3.1)
San Francisco *	852	24 (2.7)	(1.8 – 4.1)
Milwaukee	818	19 (2.3)	(1.5 – 3.5)
Overall	3100	83 (2.6)	(2.1 – 3.2)

* 2 respondents (1 each in Pittsburgh and San Francisco) missing data for compliance

Table 3

Age, blood donation and sexual history among complying and non-complying donors.

Characteristic		Comply with policy n=3100, n (%)	Do not comply n=83, n (%)	p value *
Age	18-24	279 (9.0)	17 (20.5)	<0.001
	25-34	497 (16.0)	24 (28.9)	
	35-54	1152 (37.2)	30 (36.1)	
	55+	1171 (37.8)	12 (14.5)	
Donation Frequency	None	4 (0.1) **	0	0.325
	1 time	48 (1.6)	3 (3.6)	
	2-5 times	262 (8.5)	13 (15.7)	
	6-10 times	365 (11.9)	15 (18.1)	
	>10 times	2396 (77.9)	52 (62.7)	
Sexual orientation	Gay/homosexual/queer	4 (0.1)	20 (24.1)	<0.001
	Bisexual	16 (0.5)	18 (21.7)	
	Heterosexual/straight	3066 (98.9)	45 (54.2)	
	Other/Don't know	14 (0.5)	0	
Last sex with a woman?	< 6 months	2304 (74.5)	46 (55.4)	0.001
	6-12 months	163 (5.3)	4 (4.8)	
	Within last 12 months	24 (0.8)	1 (1.2)	
	1-5 years	348 (11.3)	17 (20.5)	
	Within last 5 years	5 (0.2)	0	
	5-35 years	104 (3.3)	3 (3.6)	
	Before 1977	4 (0.1)	0	
	Never	139 (4.5)	12 (14.5)	
Sex with how many women last 5 years?	None	247 (8.0)	15 (18.1)	<0.001
	1	2108 (68.6)	32 (38.6)	
	2-5	514 (16.7)	24 (28.9)	
	6-10	81 (2.6)	7 (8.4)	
	More than 10	122 (4.0)	5 (6.0)	
Last sex with a man?	< 6 months	5 (0.2)	21 (25.3)	<0.001
	6-12 months	0	7 (8.4)	
	Within last 12 months	0	2 (2.4)	
	1-5 years	0	12 (14.5)	
	Within last 5 years	0	0	
	5-35 years	0	41 (49.4)	
	Before 1977	44 (1.4)	0	
	Never	3051 (98.4)	0	

Characteristic		Comply with policy n=3100, n (%)	Do not comply n=83, n (%)	p value *
Sex with how many men last 5 years?	None	3095 (99.8)	41 (49.4)	<0.001
	1	3 (0.1)	19 (22.9)	
	2-5	1 (0.0)	15 (18.1)	
	6-10	0	2 (2.4)	
	More than 10	1 (0.0)	6 (7.2)	

* Fisher's exact test;

** Presumed to be donors who were deferred.

Table 4

Opinions about blood donation, current rules and possible alternative MSM deferral policies comparing complying and non-complying male donors.

Survey Question/Content	Complying male blood donors N=3100, n (%)			Non-complying male blood donors N=83, n (%)			p value
	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know	
Blood centers use tests that are no better at correctly identifying who has HIV as tests used at other testing locations	496 (16.0)	646 (20.8)	1958 (63.2)	10 (12.0)	28 (33.7)	45 (54.2)	0.025
Using blood centers as a way to be tested for HIV is a misuse of blood donation	2526 (81.5)	432 (13.9)	142 (4.6)	66 (79.5)	12 (14.5)	5 (6.0)	0.82
Aware that any man who has had oral or anal sex with another man, even once, since 1977 is not eligible to donate	2316 (74.7)	526 (17.0)	258 (8.3)	51 (61.4)	23 (27.7)	9 (10.8)	0.028
Policy should be amended so that a man who last had oral or anal sex with another man more than five years ago should be allowed to become a blood donor	1696 (54.7)	1094 (34.5)	310 (10.0)	76 (91.6)	4 (4.8)	3 (3.6)	<0.001
Policy should be amended so that a man who last had oral or anal sex with another man more than one year ago should be allowed to become a blood donor	1320 (42.6)	1522 (49.1)	258 (8.3)	66 (79.5)	13 (15.7)	4 (4.8)	<0.001
Policy should be amended so that a man who has had sex with another man should be allowed to become a blood donor regardless of when the sexual contact occurred	837 (27.0)	1916 (61.8)	347 (11.2)	51 (61.4)	28 (33.7)	5 (4.8)	<0.001
Policy should be amended so that a man who has had sex with only one other man in the last year and is in a truly monogamous relationship should be allowed to become a blood donor	1520 (49.0)	1296 (41.8)	284 (9.2)	68 (81.9)	10 (12.0)	6 (6.9)	<0.001
Men who have, or have had, oral or anal sex with other men donate blood despite the current rule that does not allow it	1785 (57.6)	384 (12.4)	931 (30.0)	38 (45.8)	41 (49.4)	4 (4.8)	<0.001
Would follow a policy placing a temporary ban on blood donations if had sexual contact with another man in a one-year period before donating blood	Only asked of those donors reporting MSM			42 (50.6)	26 (31.3)	15 (18.1)	
Because blood donations are screened, I believe it's safe for me to give blood and I would do so regardless of the rules				53 (63.9)	26 (31.3)	4 (4.8)	
If the rules were changed, I'd be more likely to give blood because the rule that men who have sex with men can never give blood has put me off in the past.				43 (51.8)	25 (30.1)	15 (18.1)	
A change in the rule would make no difference as to whether I give blood				54 (65.1)	21 (25.3)	8 (9.6)	
The rules about who can give blood are clear and easy to understand	2859 (92.2)	203 (6.5)	38 (1.2)	64 (77.1)	18 (21.7)	1 (1.2)	<0.001
The rule that excludes men who have had sex with another man since 1977 should not be changed	1438 (46.4)	1343 (43.3)	319 (10.3)	8 (9.6)	71 (85.5)	4 (4.8)	<0.001
Blood centers need to provide more information and explanation about who can and can't give blood	1686 (54.4)	1289 (41.6)	125 (4.0)	43 (51.8)	35 (42.2)	5 (6.0)	0.67