

The Stem Cell Club: Modelling Stem Cell Donor Recruitment on Campus

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Introduction

- Stem Cell Club is a student-run non-profit organization (founded in 2011) that works to recruit Canadians as unrelated stem cell donors
- We are a community partner with OneMatch Stem Cell and Marrow Network of the Canadian Blood Services, and we have a Service-Level Agreement to run our own stem cell drives
- At these drives, we guide registrants to provide informed consent and a tissue sample (buccal swab) for HLA typing
- We have 10 active chapters at campuses across Canada (affiliated with five Canadian medical schools)
- Through targeted recruitment of the most needed donors, we aim to improve the quality of membership on Canada's donor database and improve the chances that patients in need of an unrelated donor will find a match for transplant

Recruiting the Ideal Donors

Stem Cell Club targets recruitment of potential donors who are:

Young² - younger donor age improves outcomes and survival of transplant recipients

Male² - male donors decrease the risk of recipients developing the post-transplant complication chronic graft-versus-host disease

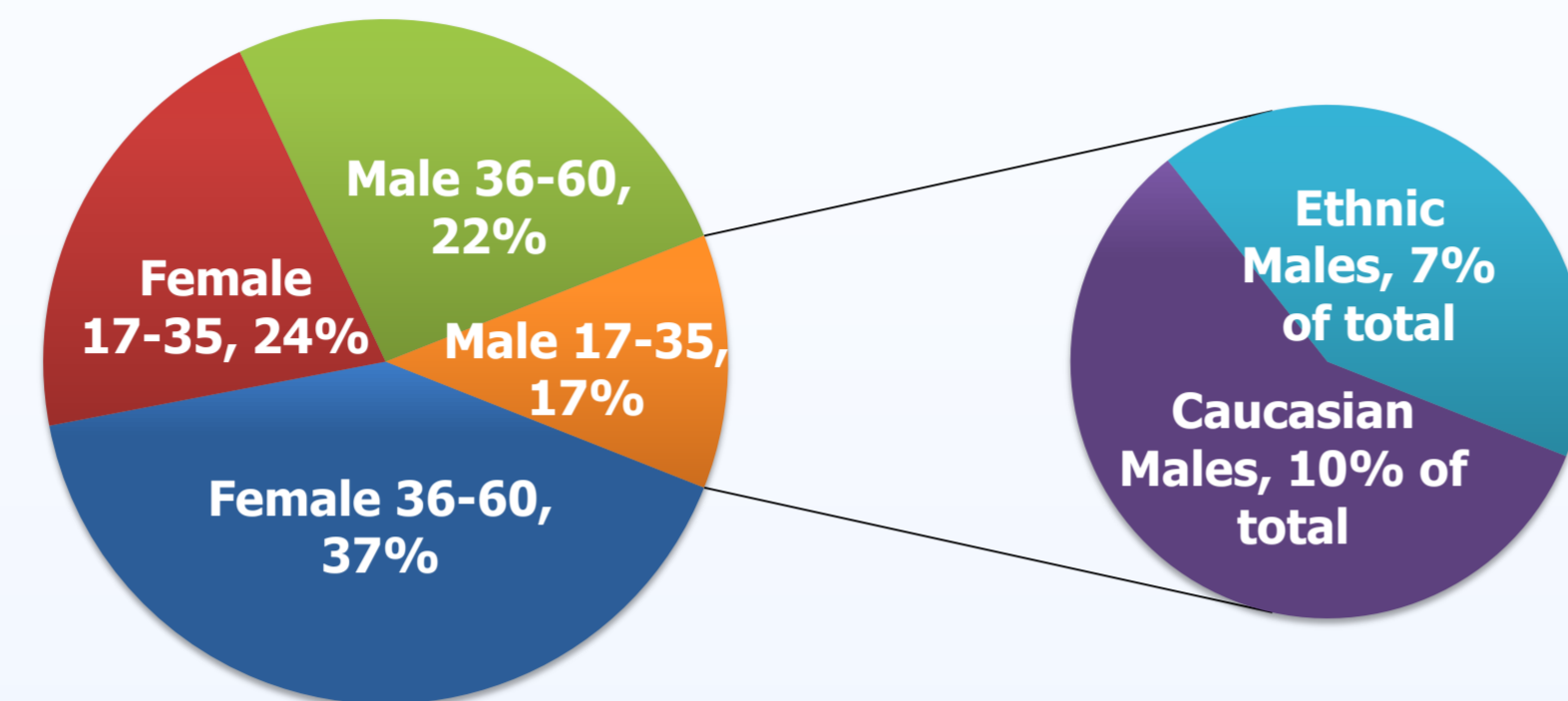
- Younger and male and are both less likely to be deferred for medical reasons³ or to experience complications with donation⁴

Ethnically Diverse⁵ - patients are more likely to find a genetic match from within their own ethnic community; also, certain ethnic groups are more genetically heterogeneous with respect to HLA

Informed and Committed⁶ - donors who are informed and committed to help anyone in need at time of registration are less likely to withdraw when asked to donate

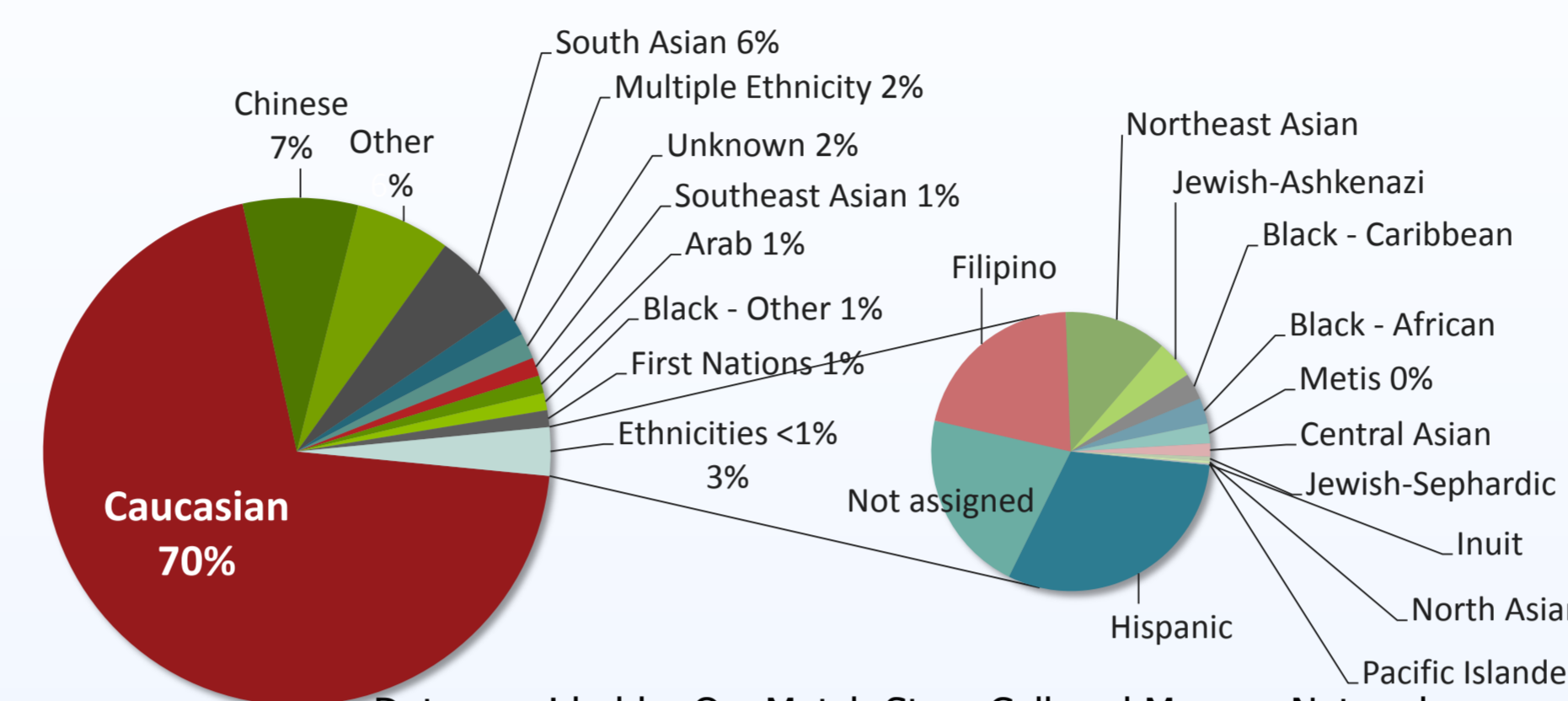
Canada's Stem Cell Donor Database Needs Improvement

Age Composition of OneMatch Database, January 2015



Data provided by OneMatch Stem Cell and Marrow Network
Males under 35 only represent 17% of the current Canadian donor-database; only 7% is ethnic males

Ethnic Composition of OneMatch Database, December 2015



Data provided by OneMatch Stem Cell and Marrow Network
Non-Caucasian registrants are underrepresented on Canada's current donor database

Results

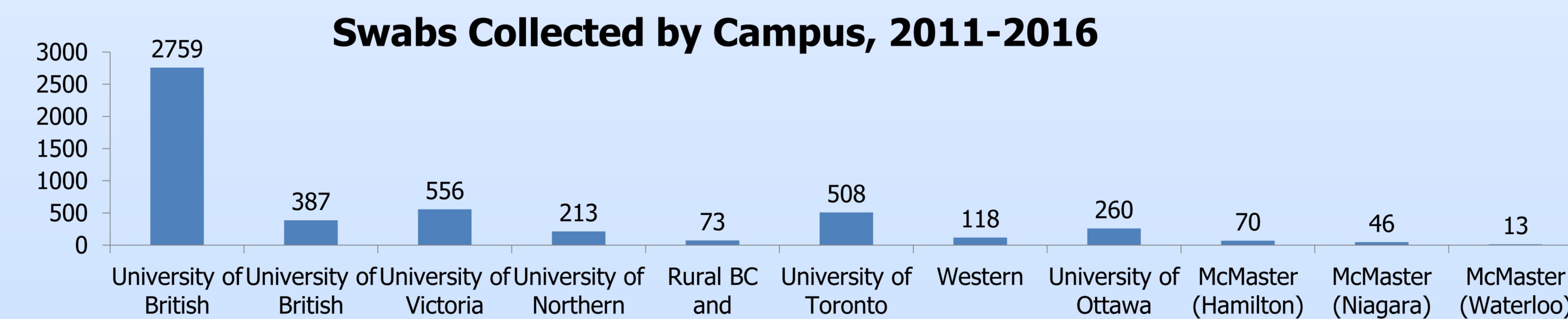
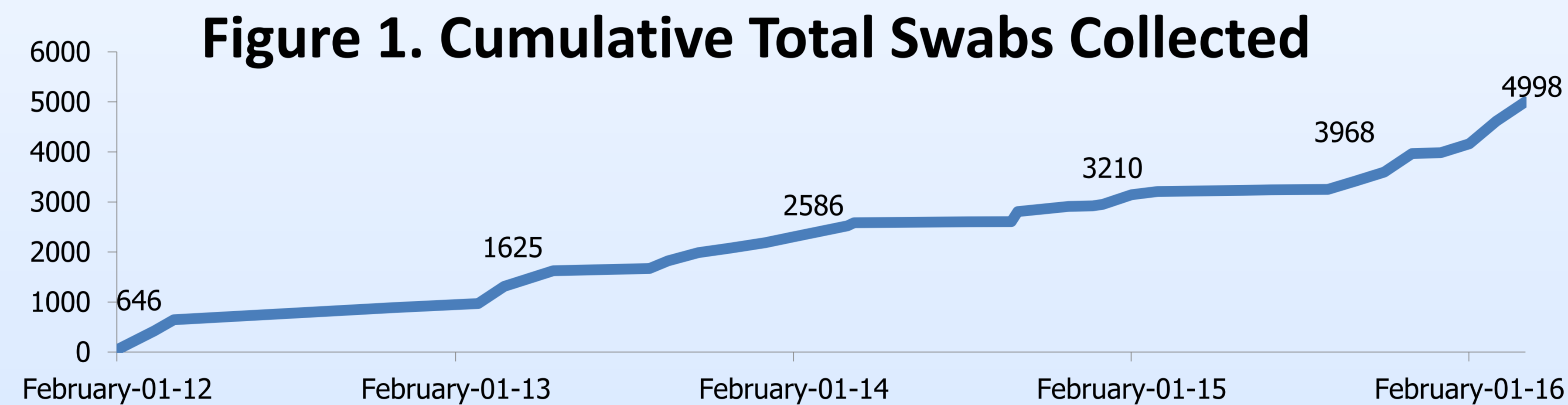


Figure 2. All drives took place on campus, except at University of Toronto, which had two in the community, and at University of British Columbia, which had 7 drives in the community. Rural stem cell drives were conducted as part of medical student rural electives at University of British Columbia.

Male/Female Breakdown

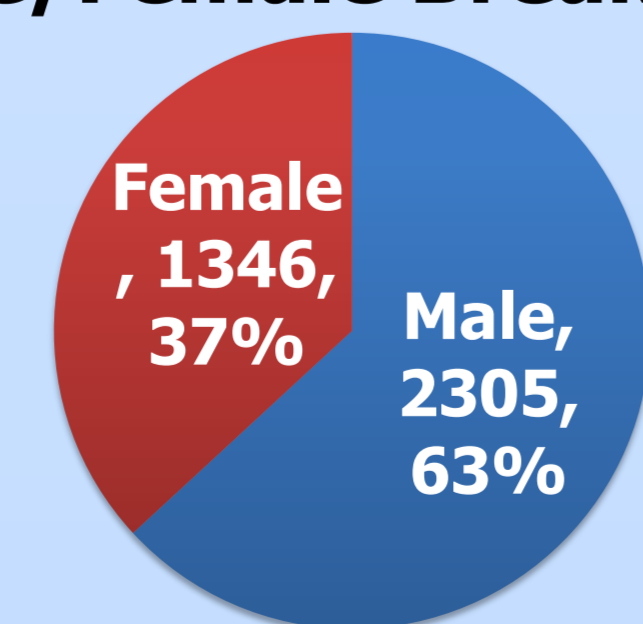


Figure 3. Data from all Stem Cell Club drives across Canada from 11/12-04/16 at which outcomes were collected

Breakdown of Male Registrants by:

Ethnicity

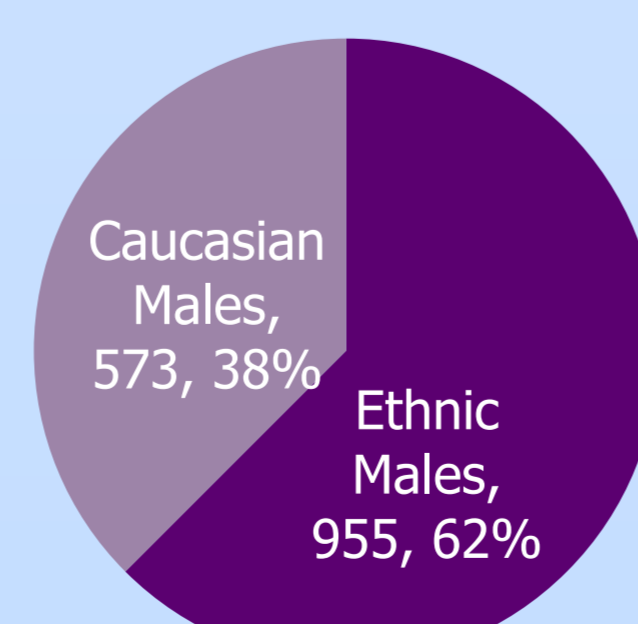
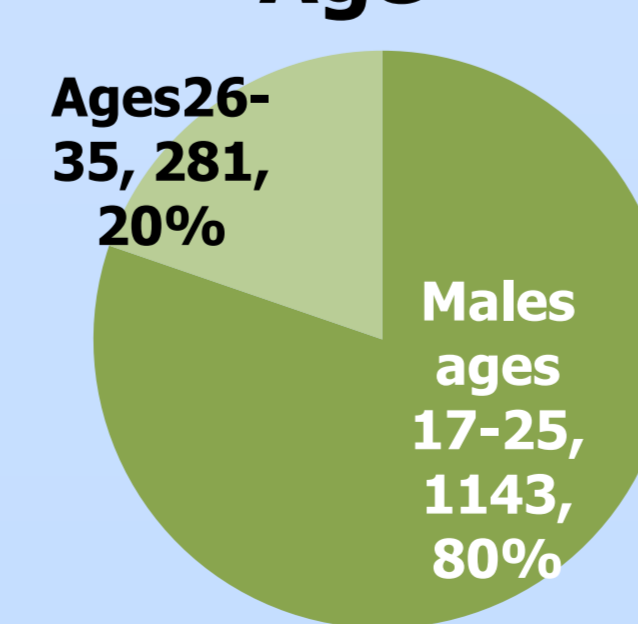


Figure 4. Male registrant self-reported ethnicity (left) and age (right) from stem cell drives 08/13-04/16 at which outcomes were collected

Age



Recruitment of Aboriginal Males Ages 17-35

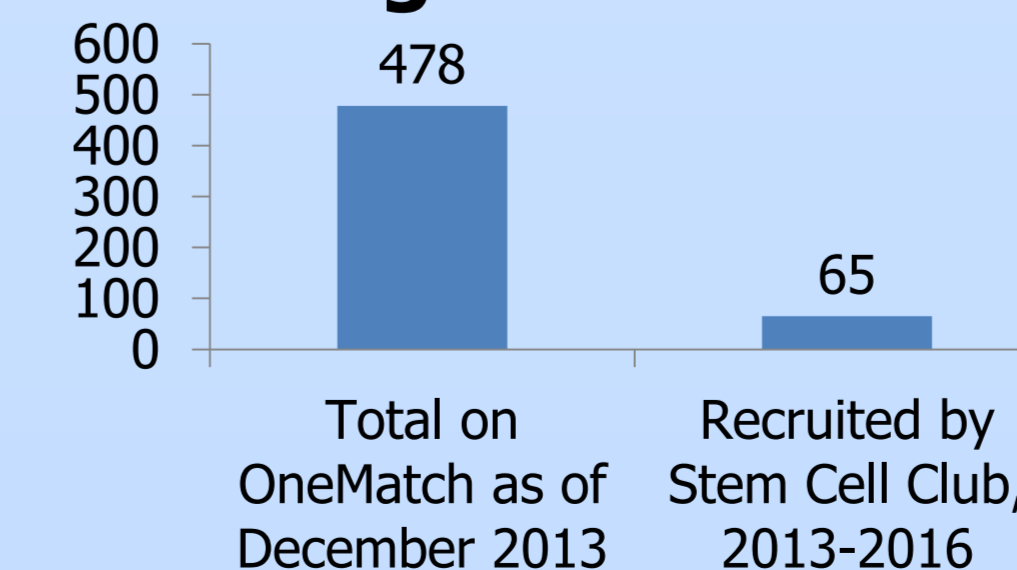
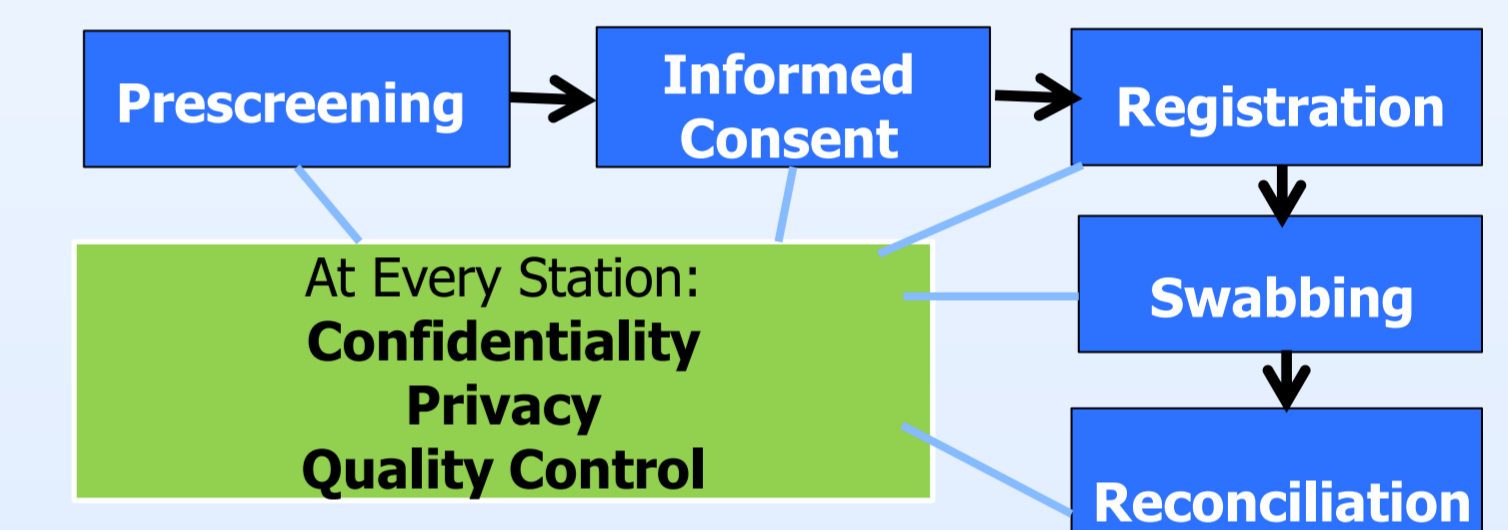


Figure 5. Aboriginal Males ages 17-35 recruited at drives at which outcomes were reported, 2013-2016, compared to all members of this demographic on Canada's OneMatch database

Methods

- Teams of medical students were recruited to launch stem cell clubs at four University of British Columbia medical school affiliated campuses in 2011
- In 2015, chapters were launched at University of Toronto, University of Ottawa, McMaster University (London, Niagara, and Waterloo campuses), and Western University
- Club leaders underwent Stem Cell Club's online training program, which covers how to volunteer at, lead, and organize a stem cell drive. This was followed up with in-person workshops
- Teams were connected with Canadian Blood Services territory managers, and equipped with supplies. They applied for local funding and club status
- Our stem cell drives feature five stations, each with its own locally developed checklist⁷⁻⁸

Stem Cell Drive Stations⁸



- Outcomes were obtained from post-event reports, which log number of registrants recruited as well as their sex, age, and self-reported ethnicity

Conclusions

- The Stem Cell Club recruits students as well as the general public in Canada to become stem cell donors
- We report the successful launch of Stem Cell Clubs at four Ontario medical schools
- Based on our results in 2015-2016, we estimate that we have established a capacity to sustainably recruit over 1750 stem cell donors per year (~5% of annually recruited donors in Canada), of which the majority are ethnically-diverse males
- Our results support Stem Cell Club as a model for stem cell donor recruitment that can be applied to university campuses across Canada

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Acknowledgements

The authors would like to acknowledge the Stem Cell Club members for their ongoing work in planning and running stem cell drives. Thank you to Dr. Tanya Petraszko, Dr. David Allan, and Dr. Hans Messner for their supervision and mentorship. This work was supported by the 2015 Canadian Blood Services BloodTechNet Competition.