Research project summary

# An innovative Trial Assessing Donor Sex on Recipient Mortality (iTADS)

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- Awarded $371,026 from the Canadian Institutes of Health Research (CIHR) in May 2017
- Summary reproduced from the CIHR website in the language provided

Transfusion of red blood cells is a necessary lifesaving intervention but is also associated with adverse events. With over 1.1 million units transfused each year in Canada, their use has a significant clinical and economic impact on our health system. Adequate screening of potential blood donors is important to ensure the safety and clinical benefit of blood products. Some adverse transfusion reactions have been shown to be related to donor factors (e.g. lung injury or allergies related to donor sex) whereas other adverse outcomes have been theoretically related to donor factors (mortality, cancer rate, increased infection risks). Our clinical trial will test an important blood donor characteristic - donor sex - to see whether male donor blood leads to a greater benefit for transfusion recipients compared to female donor blood. We have designed an innovative multi-center pragmatic randomized trial that will allocate transfusion recipients to receive either only male or only female donor transfusions. We will enroll 8000 adult patients requiring at least one transfusion in 4 academic hospitals over a 2-year period. Randomization and allocation will occur in the blood bank prior to release of the units of blood for transfusion. Any adult patient requiring at least one transfusion will be eligible. Our primary outcome will be 2-year survival. The trial will help determine how we can tailor the selection of blood donors based on donor characteristics (e.g. sex) to further improve the safety and optimize the clinical benefit of blood products in Canada. We will also develop innovative and efficient infrastructure and capacity to conduct further transfusion trials and advance the practice of transfusion.

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