

Innovation Partnership
Procurement by Co-Design

Sunnybrook: Improving prosthetic care for
patients with lower limb amputation

Challenge Brief



Contact name

Dr. Amanda Mayo

Response deadline

October 20, 2017

Phone number

416-226-6780

Challenge Brief reference #

10132017

E-mail

Amanda.mayo@sunnybrook.ca

Maximum procurement budget

\$ 50 000

Note: this does not obligate provider to procure any solution

Project Team

Dr. Amanda Mayo – clinical champion, amputee rehab specialist physician
Dr. Sander Hitzig – project manager, senior rehab scientist
Shane Glasford – procurement officer, prosthetic manager and Prosthetist
Dr. Larry Robinson – Senior management support, Director of Rehab Research and Rehab Medicine at Sunnybrook
Prosthetists (Daniel Maassen, Wilson Cisneros), Sunnybrook Amputee patients - End users

All vendor responses must be made via completion of an “Innovator Brief” template and forwarded to the above contact via email by the response deadline, with a cc to designchallenge@marsdd.com.

The Challenge

Maximum of 1200 characters

Challenge: “How might we improve the process of lower limb prosthetic socket fabrication and prosthetic fitting in regards to cost and timeliness”

Currently, we use inefficient laborious manual plaster casting and prosthetic fabrication techniques. Our prosthetists must travel between two sites to make prostheses and fit patients with their devices. Prosthetic fitting and patient rehab is delayed due to resource constraints, travel and manufacturing times. Delays put patients at higher risk for functional decline, contractures, pressure sores and falls. In order to improve prosthetic care for lower limb amputees, we want to assess the use of new prosthetic socket fabrication techniques. Specifically, we want to determine if: 1) new techniques of fabricating prosthetic sockets can provide better quality care in regards to cost, timeliness, and accessibility; and 2) if new technology can enable prosthetic fabrication and patient care on one single site. If successful, the findings from this work can provide an innovative approach for facilitating prosthetic fitting. We hope to find a solution that provides significant healthcare cost savings, making the process more efficient and optimizing clinical outcomes.

Desired Outcomes

Maximum of 3 outcomes based specifications (OBS)

OBS #1: Decrease the fabrication time of prosthetic sockets from the current manual fabrication process which is 5-7 days to ideally under 3 days

OBS#2: Decrease the cost in fabrication of prosthetic sockets from current manual fabrication process with reduction of labor costs, material costs and length of rehab length of stay by at least 15%

OBS#3: Single site solution for prosthetic fabrication and fitting that eliminates the need for Prosthetist and patient travel between two sites

Evaluation Criteria

Criteria to be used for vendor selection (NOT to evaluate solutions).

IMPORTANT: Below are evaluation categories for provider's use. Please modify according to your needs by adding any sub-criteria and weights if necessary.

Company

Has the company demonstrated the competency to act as partner? Do they have an innovative vision? Do they have a strong leadership team? Do they have strong references?

Proposed approach

Is the proposed approach to the challenge innovative? Do you agree that it can solve the challenge proposed? Will it have a significant impact on the end user (staff, patients, etc)?

Ability to execute

Has the company demonstrated the ability to deliver a solution to other complex challenges? What has been the outcomes of solutions they have implemented?

Ability to produce validation data

Has the company demonstrated their ability and expertise to produce validation data? Have they shared an example of data they have produced for any of their products or prototypes? Is the quality of that data sufficient enough to make a procurement decision?

Experience of project team

Does the team have experience working on innovative solutions? Did the company propose the right type of project team to take on this engagement?

Key Dates

The following is a summary of key dates in the RFP process. Program sponsor (MaRS) and provider may change any of the dates below, in its sole discretion and without liability, cost, or penalty.

Key Dates	Milestones	Duration
Sept 28, 2017	Program launch, providers invited to download and complete a Challenge Brief	2 weeks
Oct 16 - 20	All challenges posted online, vendors begin to respond with Innovator Briefs	1 week
Oct 23 - 27	Vendors have all submitted Innovator Briefs. Providers shortlist vendor selection.	1 week
Nov 6	Dialog day. Each provider will hear their selected vendor pitches. Final vendor selection completed.	1 day
Nov 7 - 10	Teams prepare and submit co-design grant application.	1 week
Nov 13 - 17	External judging panel reviews grant applications. Meets on 17th to make final decision. Co-Design grant winners announced.	1 week
Nov 20	Co-Design Workshop #1: Discovery. Teams sign collaboration agreements.	1/2 to 1 day
Nov 20 - Dec 15	Teams work on discovery phase.	4 weeks
Jan 15, 2018	Co-Design Workshop #2: Ideation & Concept testing	1/2 to 1 day
Jan 15 - Mar 3	Teams work on ideation and concept testing phase.	8 weeks
Mar 5 - 8	Design review sessions. 1 - 2 hour sessions with each team to review learnings from discovery and concept testing results.	1 week
Mar 9	Co-Design Workshop #3: MVP prototyping and evaluation framework.	1/2 - 1 day
Mar 9 - Jun 15	Teams work on MVP development and evaluation phase.	14 weeks

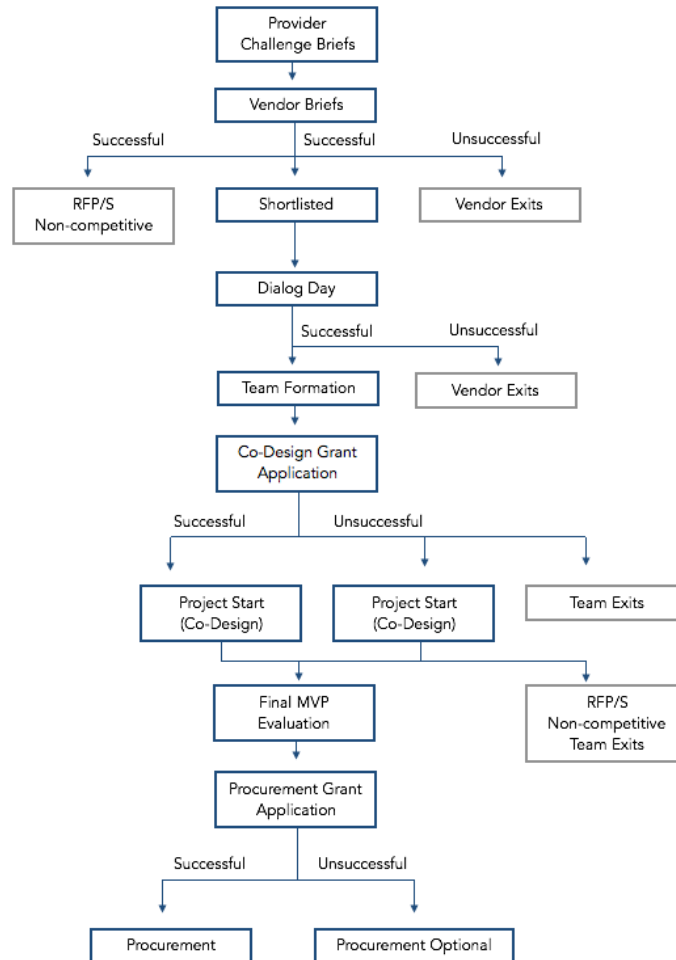
Jun 18 - Jul 5	Teams make procurement decision and formalize agreements.	3 weeks
Jul 9 - 13	External judging panel conducts site visits.	1 week
Jul 20	Final solutions day. Judges award up to \$50k for procurement.	1 day

Terms and Conditions

1. The “Innovation Partnership: Procurement by Co-Design” program may or may not lead to a procurement. There is no requirement for procurement at the end of the program, and procurement is at the discretion of the Provider. There are a number of potential outcomes from participation in this program (see figure below).
2. This Design Challenge document is issued to invite vendors who are able to develop solutions within the program timelines or have existing solutions that require refinement or validation, to respond and partner with the Provider to solve the proposed challenge.
3. The process will be in four phases:
 - a. Phase 1: Challenge Brief
 - i. Proponents prepare a submission in response to OBS
 - ii. Providers evaluate submissions based on evaluation criteria published in Challenge Brief, and generate a short list of qualified proponents
 - b. Phase 2: Dialogue Day
 - i. Short listed proponents are invited to present on submissions
 - ii. Providers evaluate presentation/discussion based on published criteria (to be made available to short listed proponents) and a proponent is selected. There are now two possible outcomes:
 1. Proponent may find an ideal solution and decide to pursue an RFP/S or non-competitive procurement strategy
 2. Proponent may form a team to pursue co-design
 - c. Phase 3: Co-Design
 - i. Selected proponent and provider form a team to co-design a solution and evaluate a minimum viable product, and decide whether to apply for the co-design grant. There are now three possible outcomes:
 1. Co-design moves forward with grant funding
 2. Co-design moves forward without grant funding
 3. Co-design does not move forward
 - d. Phase 4: Procurement
 - i. Providers evaluate success of the minimum viable product based on published desired outcomes

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- ii. Providers determine whether to move forward with a procurement, and whether to request the additional grant from IPPCD. There are now three possible outcomes:
1. Procurement moves forward with grant funding
 2. Procurement moves forward without grant funding
 3. Procurement does not move forward



4. Questions related to the Challenge being proposed must be directed to the Provider, and questions that modify the Challenge will be posted publicly for all potential proponents. Questions related to the Innovation Partnership: Procurement by Co-Design Program must be directed to MaRS (designchallenge@marsdd.com)
5. Submission requirements (mandatory requirements; proponents who do not meet the mandatory requirements will be disqualified)
 - a. Interested proponents must respond via submission of an Innovator Brief document, available online on <https://www.marsdd.com/systems-change/procurement-co-design>
 - b. The Innovator Brief document must be submitted directly to the Provider by the due date listed on the cover page of this document, with a cc to designchallenge@marsdd.com.
 - c. The submission must include proof of necessary licenses.

Bid disputes must be directed to

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