

Innovation Partnership
Procurement by Co-Design

Falls Prevention in Hospital:
Development of a novel decision support
medication stewardship application

Challenge Brief



Contact name

Calvin Poon

Response deadline

October 20, 2017

Phone number

647-688-0811

Challenge Brief reference #

NHS2017

E-mail

c4poon@gmail.com

Maximum procurement budget

\$ 50,000

Note: this does not obligate provider to procure any solution

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 desianchallenge@marsdd.com.

Project Team

Calvin Poon - Pharmacy Coordinator, Niagara Health Systems)

Susan Cubelic - Director of Pharmacy, Niagara Health Systems

Zeau Ismail - Director, Interprofessional Practice, Ethics & Research, Niagara Health Systems

Falls Steering Committee - Niagara Health Systems

Niagara Health Systems, Complex Continuing Care Unit Pharmacists

Nurse practitioners and Physicians

Nursing staffs

IT support

Decision Aid department

The Challenge

Maximum of 1200 characters (with no spaces)

Falls remains a common problem for patients in the hospital. 15.3% of patients will experience a fall within 30 days and approximately half of these patients will fall at least once per year.

Medications are a significant contributor to falls. Certain medications can cause unintentional sedation (e.g. opioids), confusion (e.g. antipsychotics), and excessive low blood pressure or blood sugar.

Falls is national problem across all hospitals and long-term care facilities. Currently, there are no standardized decision support tool (DST) to help clinicians assess falls and medication stewardship. Falls is a systemic and national problem but without a standardized DST to ground our approach, efforts largely remain localized and ineffective.

There is solid evidence supporting the role of a pharmacist in conducting medication stewardship and reducing falls. Zermansky et. al. in 2006 demonstrated a medication review by a pharmacist significantly reduced the number of falls from 1.3 to 0.8 per patient ($P < 0.0001$). Browne et. al. in 2014 studied the effects of a medication review by a pharmacist for falls review. In this study, each patient was on average taking 4.8 high risk falls medications and the pharmacist successfully identified 20% of cases where these high risk medications can be safely intervened.

The aim of this project is to reduce the falls rate at Niagara Health Systems by 20% within 3 months with a focus on medication stewardship.

This project will involve the development of a standardized DST to help clinicians with their assessment and medication stewardship. There is tremendous amount of literature supporting best practice and medication stewardship for falls prevention but the literature needs to be summarized in a usable DST for widespread adoption. This project will have great national potential to lead the efforts to standardize a system for falls medication review.

Desired Outcomes

Maximum of 3 outcomes based specifications (OBS)

OBS #1: The Complex Continuing Care units at Niagara Health System will aim to reduce falls rate by 20% within 3 months through a medication stewardship approach.

OBS #2: We will aim to decrease the incidence of repeated falls in the Complex Continuing Care units by 25% within 3 months.

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 (30%)

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 (10%)

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 (30%)

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 (20%)

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 (10%)

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.

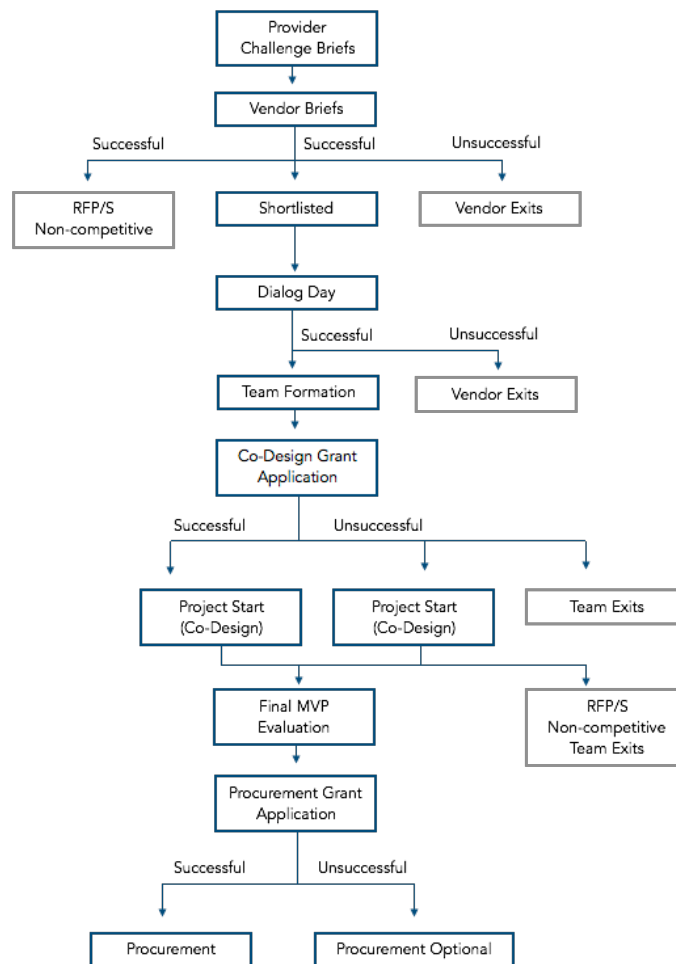
Key Dates	Milestones	Duration
Sept 28, 2017	<i>Program launch, providers invited to download and complete a Challenge Brief</i>	2 weeks
Oct 16 - 20	<i>All challenges posted online, vendors begin to respond with Innovator Briefs</i>	1 week
Oct 23 - 27	<i>Vendors have all submitted Innovator Briefs. Providers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