

Invitation to Tender: Evaluation of MediShout in the Cambridgeshire and Peterborough region



About Eastern AHSN (Academic Health Science Network)

Our purpose is to turn great ideas into positive health impact.

We were established by the NHS to convene all partners in the health sector, to develop and deliver innovative solutions in health and care. Our focus is the East of England, but we are part of a national network which enables us to deliver at scale.

We believe citizens, academia, health services and industry will achieve more working together than they will in isolation. Our job is to make this happen. We do this by helping innovators to navigate complex systems, generate value propositions and connect stakeholders to overcome challenges together.

Introduction

This is an invitation to tender for evaluation services to determine the impact of the MediShout digital platform and app on operational efficiencies in a hospital setting.

Eastern AHSN is seeking a suitably qualified supplier to provide economic evaluation services for this project.

The following table sets out the intended timetable for the submission of bids, their assessment and the conclusion of the contractual arrangements.

Deadline	Milestone
10/08/2022	ITT published and issued to known suppliers
31/08/2022	12pm deadline for applications to be received
07/09/2022	Scoring of applications conclude, applicants notified by email, preferred supplier/s notified and due diligence begins
14/09/2022	Due diligence concludes, preferred supplier identified and Eastern AHSN sign MoU

This document sets out the lot available, the expected criteria suppliers should address in their bids, along with the timescale, methodology and process for submission, scoring and award.

Questions regarding this lot can be directed to katherine.jones@eahsn.org

Background

Infrastructural and logistical problems in hospitals such as faulty IT, missing equipment, and estates and infection control issues can negatively impact staff and service user experience, as well as cause delays and create inefficiencies in service delivery. MediShout aims to address these impacts by delivering what is understood to be the world's only App for healthcare staff to report and resolve any operational issue. The App is supported by chat-bot and QR code technology, whilst AI algorithms enable prediction of future issues. MediShout integrates with existing service helpdesks and provides real-time feedback to staff. The platform is recognised by the NHS Innovation Accelerator and Microsoft for Startups Accelerator and is being used in several NHS England Trusts.

An economic assessment carried out by Health Enterprise East in 2020 found that £13.04 could be saved per issue rectified based on assumptions around time savings, reduced delays and cancellations avoided. Based on each hospital trust receiving around 20,000 calls for reported issues per year, the evaluation suggests that MediShout has the potential to save around £206,140.52 per hospital.

However, due to limited data the initial modelling was based on a few assumptions and savings were heavily extrapolated. This project provides the opportunity to conduct a time and motion study to meaningfully assess efficiency savings generated by MediShout, who will deploy novel QR codes for staff and patients to report estates and facilities issues. MediShout has recently submitted a study to an academic journal using a time and motion approach to assess efficiencies gained in the event of a broken endoscope when using MediShout. The study found that a missing endoscope was associated with nine hours of wasted clinical staff time; the authors suggest this inefficiency could be halved with the use of MediShout.

Eastern AHSN has partnered with MediShout to evaluate the intervention at an NHS hospital in the Cambridgeshire & Peterborough region. Eastern AHSN aims to facilitate implementation and evaluation of MediShout as a novel approach to estates and facilities management and wayfinding, developing the evidence base on the value of novel digital technology for improving operational workflow in a hospital setting.

MediShout solution

Inefficient reporting of issues within the hospital estate may lead to wasted clinical and non-clinical staff time, poor infection control, a hazardous environment for patients and staff and poor patient experience. MediShout's QR code technology aims to address these risks by making QR codes available to hospital staff, patients and visitors to instantly report problems such as spillages, full bins, empty hand gel or soap. It is possible that the technology may have further potential as part of delivering Green Plans for environmental sustainability. Additionally, QR codes will allow patients to find their way through the hospital ('wayfinding').

The questions, assumptions, and responses that MediShout have identified are:

a) Domestic

Question 1.1

Will staff, patients and visitors use QR technology to report spillages, cleaning and dispense replenishment in a hospital setting?

Question 1.2

Will the use of QR technology reduce the time taken for spillages, cleaning and replenishment tasks to be completed?

Assumption

Spillages, cleaning and dispenser replenishment (hand sanitisers, soaps and paper towels) are currently being communicated using bleeps and paper-based processes, which are slow. Patients and visitors have no formal channel to report issues they see.

Response

MediShout will implement QR code technology across identified public areas (up to 300 QR codes), which allow visitors and staff to report the following:

- A spillage
- A toilet requires cleaning
- A dispenser needs replenishing (gel, hand towels, toilet paper)
- A cleaning issue (rubbish on floor, hand basin, bodily fluid)

b) Waste Management

Question 2

Will the use of QR technology improve segregation of waste into the correct disposal bin?

Assumption

Waste bin issues such as emptying, cleaning and management of waste products going into the right disposal bins (i.e., recycling, sharps bins) can be difficult to report to facilities management teams and impact clinical safety.

Response

QR code technology will be placed on appropriate waste bins, with work in collaboration with the waste management team

c) Wayfinding

Question 3

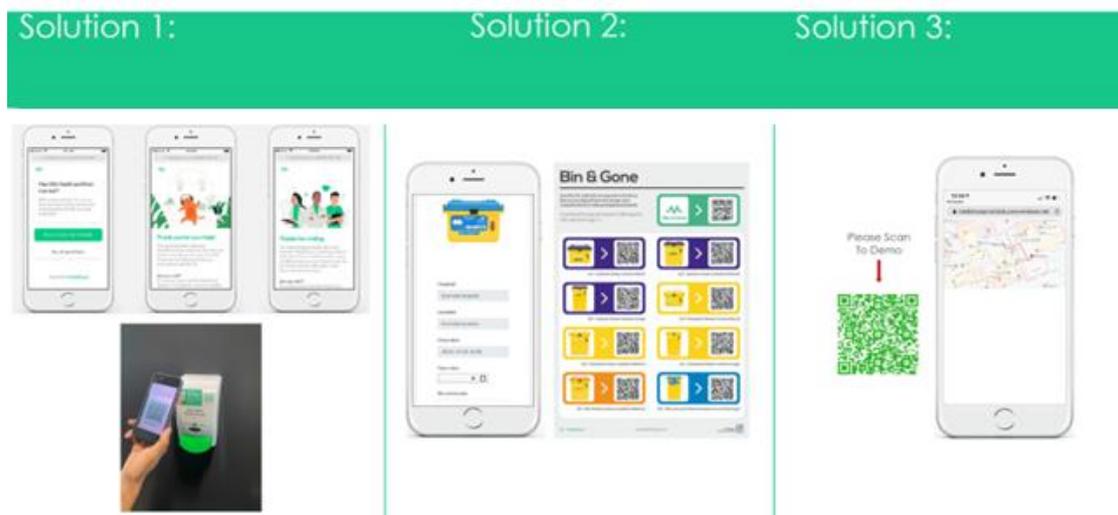
Will staff and visitors use QR technology to navigate around the hospital?

Assumption

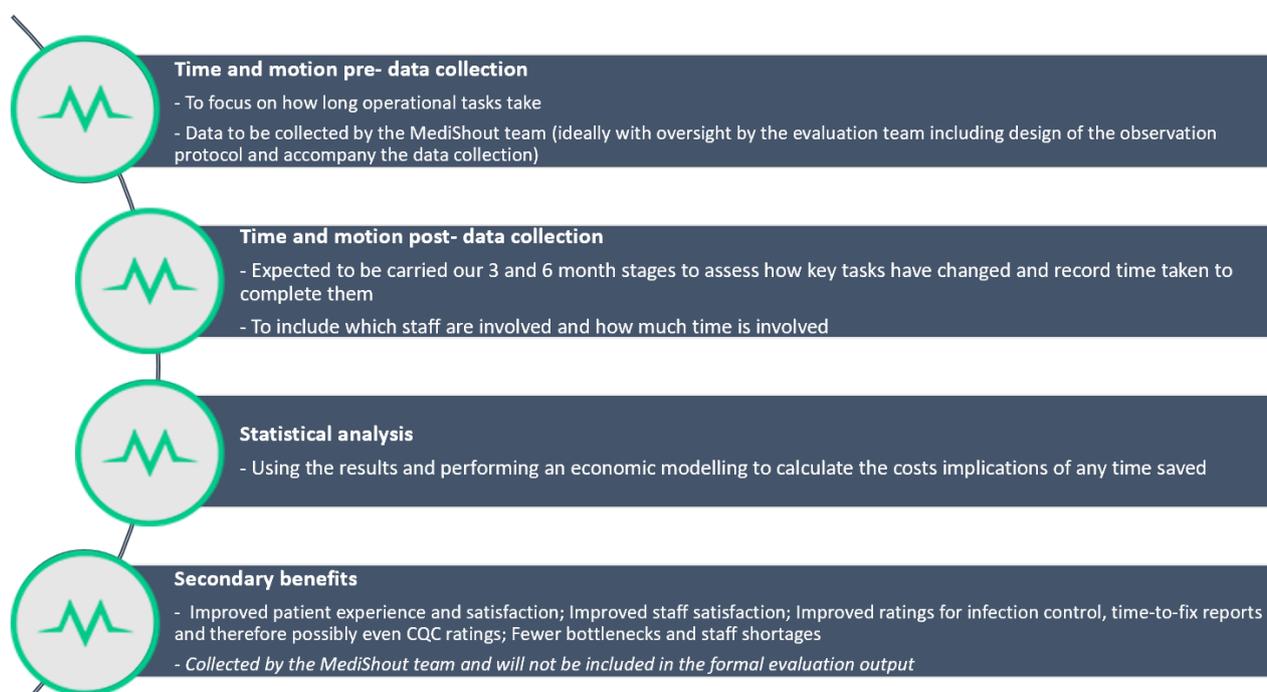
Staff and visitors often get lost as the hospital site is huge and sprawling. Maps and signage are also not always clearly displayed, which makes it a challenge to navigate around the hospital.

Response

MediShout will implement QR codes which provide staff, patients and visitors with clear routes between sites, such as the Emergency Department to Urgent Care Centre.



Deliverables



The evaluation will assess the extent to which MediShout addresses the problems outlined above, in line with the following key milestones:

Milestone 1: Perform time-motion studies (August, October 2022 & January, March 2023)

MediShout will perform time-motion studies over two weeks to capture data on current processes, such as mapping out current ways of reporting and the time burden to frontline staff and helpdesks (see protocol for time-motion study at Annex A). Baseline data and follow-up data at multiple time points during the year will be compared to assess the effects of implementing MediShout.

Milestone 2: Launch Domestic QR codes on Floor 2 public areas (August 2022)

MediShout will deploy QR codes on one floor only, ensuring staff, public and patients don't experience any problems with the messaging, instruction or reporting. This will be closely

monitored by a member of MediShout's customer success team, and the wider MediShout team will be on hand to make any necessary changes to the technology.

Milestone 3: Evaluation framework agreed (September 2022)

MediShout will review an evaluation framework with the Evaluation team and Eastern AHSN to include completion of a logic model for the pilot.

Milestone 4: Launch QR codes on remaining floors of hospital public areas (September 2022)

Once the early QR codes have been deployed on Floor 2 successfully, upon review and agreement by the hospital trust, a full deployment of QR codes on the remaining floors will take place.

Milestone 5: Customise software for Wayfinding (October 2022)

The second phase of the pilot will begin in October 2022, as MediShout begin to customise the technology for wayfinding. The MediShout team will work closely with hospital representatives to ensure the technology best meets the needs of staff and patients.

Milestone 6: Launch Wayfinding QR codes for five areas (November 2022)

Five key wayfinding areas will be identified, and MediShout will launch the QR code technology in these critical areas, for staff, patients and public to use.

Milestone 7: Data delivered to Evaluation team for mid-point and end-point analysis (December 2022 and April 2023)

The MediShout team will visit the hospital to do further data gathering so that mid-point analysis of benefits can begin to be drawn up. MediShout data will be analysed, as well as trends in the number of reports being made, and qualitative data from users to gather satisfaction data. The evaluation team will complete an economic evaluation of the costs and benefits, and demonstrate whether the project objectives have been met.

MediShout will also produce and share monthly analytic reports with the hospital and project team from September 2022.

Proposed methodology

MediShout will carry out a time and motion study focusing on how long operational tasks take pre and post-implementation of the solution. These data will be collected via observations carried out primarily by the MediShout team. However, the evaluation team would be expected to review the observation protocols and accompany the MediShout team on a sample of observations to ensure data are being collected accurately and appropriately. Key tasks to focus on will be decided iteratively, based on the first round of observations.

MediShout will complete follow-up observations to be carried out at 3 and 6 months from the project start (July 2022) to assess how key tasks have changed and record time taken to complete them, including which staff are involved and how much of their time they are investing.

This Invitation to Tender seeks to appoint an independent evaluation partner to carry out statistical analysis of MediShout's results, and economic modelling to calculate the cost implications. The evaluation partner will be responsible for any ethics applications required for completion of their evaluation. The evaluation partner will also be expected to complete a declaration of interests form to support transparency and independence in the evaluation process. We expect the results from the evaluation to be written up and submitted for publication in an academic journal.

Additional metrics, including the level of engagement with the QR codes by location as well as patient and staff satisfaction, will be collected by the MediShout team and will not be included in the formal evaluation output.

This should result in:

- A final report delivered by June 2023. This should be copy-edited and ready for publication.
- A slide-deck and infographic summarising methodology and key findings.

Risks, assumptions and dependencies

Project risks

Risk description	Mitigation strategy
MediShout requires connection to the internet which devices may not have access to	Ensure public and staff Wi-Fi options available in the locations that the MediShout posters are
Lack of engagement	MediShout has experience deploying QR code technology and ensuring successful digital integration, and engagement with estates and facilities teams.
IT infrastructure can block technology e.g. service or firewall issues	QR code scanning is frictionless and doesn't require a login. Thus firewalls or IT barriers should not prevent the technology from working
Poor communication during implementation and dissemination of the evaluation may risk low uptake and sustainability of MediShout	Ensure clear communication with all parties throughout the project including the hospital trust, Eastern AHSN, and the evaluation team
Posters may cause an infection control risk at the hospital	Ensure any posters/designs adhere to the hospital trust estates and facilities infection control guidelines
Effects of the coronavirus pandemic may lead to restrictions and therefore reduced footfall throughout the hospital, resulting in a lower usage of MediShout	Acceptance of lower footfall and reflection of this built into any evaluation report

Project assumptions

- Most people will have devices and are happy to report domestic and waste management needs
- All people will be happy and confident in understanding how to use QR-codes
- The hospital trust will support the integration of the MediShout system into the estate and facilities management system

Project dependencies

- The hospital trust will want to scale the pilot up from the initial first floor, to additional floors, which will enable further data collection

- The hospital trust’s Estates & Facilities management core and wider team will be supportive of using MediShout and integrate the technology into normal operating procedures to ensure full use during the 12 months
- MediShout integrates into the hospital trust’s reporting system allowing ‘Shouts’ to be sent seamlessly

Value

A budget of **£15,000** (excluding VAT) is available for this work. It is anticipated that Eastern AHSN would be invoiced on completion of the work. Precise funding agreements will be determined based on evaluation of the initial bid, and agreement of outcomes and deliverables.

Timetable

Below is an approximate outline timetable for this programme.

Milestone	Month
Project start	July 2022
Evaluation framework agreed including logic model	September 2022
MediShout baseline data collection completed	August 2022
MediShout follow up data collection completed	March 2023
Statistical analysis completed	April 2023
Economic modelling completed	May 2023
Final report delivered	June 2023

Reporting

During the project, the bidder will be required to report on the following areas:

- Early results as and when they arise
- Spend to date against projected spend
- Risk reporting, and,
- Progress reporting against anticipated milestones and key deliverables including via regular project meetings.

Assessment Criteria

You are required to respond to all of the quality criteria below using the response to tender form. 90% of the marks will be assigned against the quality criteria with the remaining 10% allocated against the financial proposal.

Scoring Methodology

0	The Provider is unable to fulfil the requirement or no response is received
1	The Provider is only able to partly fulfil the requirement
2	The Provider is able to fulfil the requirement
3	The Provider exceeds fulfilment of the requirement

Quality – weighted at 90% of total score	
The Provider has demonstrated that:	
Review Deliverables	1. All the objectives and products contained within the specification will be delivered.
	2. Comprehensive and suitable methodologies are proposed for all aspects of the work, with the rationale for each.
Capability	3. Project challenges have been identified and suitable mitigations proposed.
	4. Experience of undertaking a similar piece of work, delivered to timescale
	5. The availability of suitably competent staff who have relevant experience, evidenced by CVs
	6. An understanding and application of, data confidentiality and information governance issues.
	7. Able to deliver the report within the project deadline with a realistic timetable.
Price – Weighted at 10% of total score	
Price	<p>Price will be evaluated by the bid with the lowest score scoring 100 and all other bidder prices being expressed as an inverse proportion.</p> <p><i>For example, where maximum value for an opportunity is £60 000</i></p> <p><i>Bid A – Price £30,000 = scores 100</i></p> <p><i>Bid B – Price £40,000 = scores 90</i></p> <p><i>Bid C - Price £50,000 = scores 80</i></p> <p><i>Bid D – Price £60,000 = scores 70</i></p>

Checklist for bidders

This check list may be helpful in developing your bid but may not be exhaustive:

- Each bid states 'Evaluation of MediShout in Cambridgeshire & Peterborough + [bidder name]' as a foot note on each page
- Each bid is page numbered
- Price for the bid has been provided, is net of VAT and is not subject to any proposed discounting.

- Each bid excludes the cost of making a presentation to key stakeholders and Eastern AHSN on the findings.
- Each bid states the daily rate for the author and any associates and the number of days consumed in each element of the task.
- Each bid includes an overall timeline, broken down by task and milestone.
- Each bid includes CVs for the project team, outlining similar work previously undertaken.
- Each bid comes from the same organisation as the organisation which will submit the invoice for the report once complete, and the name of the invoicing organisation is clearly given
- Each bid states that the report will be delivered in Word.

Responses

We invite interested bidders to submit their response describing how they would deliver the described requirements within the timeframe and cost envelope. Please include a completed Declaration of Interest form with your response.

Completed responses should be sent by email to katherine.jones@eahsn.org by noon on Wednesday 31 August 2022.

If you have any questions on the invitation document or the deliverables, please contact katherine.jones@eahsn.org by Wednesday 24 August 2022.

We will circulate all questions raised (without disclosing the source of the enquiry) and all responses to those contacted about this opportunity unless they are considered commercially sensitive. Our view on whether a question is commercially sensitive or not shall be final.

We reserve the right to carry out clarifications if necessary; these may be carried out via email or by inviting bidders to attend a clarification meeting. In order to ensure that both the Eastern AHSN and bidders' resources are used appropriately, we will only invite up to three (the ultimate number will depend on the closeness of scores) highest scoring bidders to attend a clarification meeting, should a clarification meeting be required.

Scores will be moderated based on any clarifications provided during this meeting. You are responsible for all your expenses when attending such meetings. Eastern AHSN reserves the right to vary all dates in this Invitation to Tender, to terminate this procurement process and/or decide not to award a contract.

Annex A - MediShout time-motion study protocol (QR codes)

<p>Aim</p>	<p>QR codes to be distributed around the hospital so that members of staff/the public can scan and report issues.</p> <p>1 QR code that takes you to a landing page that offers 5 options</p>
<p>Areas of focus</p>	<p>Public areas</p>
<p>Method</p>	<p>We will be using at least 2 staff members from MediShout to conduct this study.</p> <p>Each scenario will be repeated minimum of 10 times.</p>
<p>Observations</p>	<ol style="list-style-type: none"> 1. We will be observing how long it takes to report an issue using the current process 2. We will then observe if using our app is quicker than the current process 3. Aim to improve efficiency but even more so, productivity
<p>Mapping out the Process</p>	<p>Part One: Finding the issue, report it and see how long it takes</p> <p>Part Two: Repeat process using MediShout QR codes</p> <p>Part Three: Shadow helpdesk team to see their processes when they receive an issue</p> <p>Part Four: Repeat the process with them using MediShout QR codes</p>
<p>Questions</p>	<ol style="list-style-type: none"> 1) What is the current standard reporting process? – e.g. what do staff do when they find an issue that needs to be reported? Will they: a) find a random member of staff to report it to, b) report it themselves (via Phone? Online? Word of mouth? c) report the issue to someone senior/not senior d) report it to reception, e) not report it at all due to being busy, forgetting etc.? 2) Are there significant differences in what's being reported? - e.g. will a broken toilet be reported quicker as opposed to empty paper towel dispenser?

	<p>3) What are the factors affecting someone from reporting an issue? e.g. schedule.</p> <p>4) What is the time taken to report via QR codes versus the current reporting method?</p> <p>5) What are the times when we will be observing? – e.g. morning or mid shifts?</p>
<p>Scenarios we will be observing</p>	<ul style="list-style-type: none"> - Refilling sanitisers - Refilling paper towels - Bins needing emptying - Rubbish on the floor (i.e. masks, paper towels) - Broken toilet handle/emergency cord - Complex spillages, if any (i.e. blood, urine & liquids) - Water spillages