# 

NHS Digital

Clinical Triage Programme

Title: CDSS   
Proof of Concept

Document Management

Revision History

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## Definitions

|  |  |
| --- | --- |
| Abbreviation or Phrase | Definition |
| “API” | Application Programming Interface |
| “CDSS” | Clinical Decision Support System |
| “EMS” | Encounter Management System |
| “NHS Digital” | means the Health and Social Care Information Centre |
| “Market Engagement” | means to inform and consult with the supply market |
| “PMPR” | Predictive Modelling of Patient Risk |
| “Supplier” | Means an organisation and/or their representative that has/is providing systems or solutions to the UEC market |
| “UEC” | Urgent and Emergency Care |

# Introduction

NHS Digital are looking to support a step change in clinical decision support.  Following extensive market engagement, the Clinical Triage Platform (CTP) Programme are seeking to leverage the technology and capabilities of systems in the market to support that step change. In order to achieve this, we need to modularise clinical decision support to enable a range of functionality across the patient journey. This includes but is not limited to:-​

* Personalising the triage process - linking to patient medical history and structured data ​
* Linking triage data to clinical outcomes data so systems can "learn" what worked and what was successful based on the recommendation given​
* Making the UEC landscape accessible, developing API standards and specifications, reducing technology barriers to entry whilst maintaining high clinical standards​
* “Plug and Play” market for use across UEC, not just 111/999​
* Development of a framework to enable suppliers to join and sell directly to Providers, following stringent information, clinical governance and other assurance based on standards and specifications​

​It is anticipated that the modularised approach will lead to a vibrant marketplace where UEC providers can select the most appropriate CDSS products for their needs and call upon them in the way that best meets patient requirements.

The Clinical Decision Support System (CDSS) Functionality project is a part of this programme of work. The project seeks to answer some questions with a series of iterative PoC activity. An overview of this can be found in section 8.

## Purpose of this Specification

This document sets out the requirements and Objectives of the CDSS PoC. It specifies the requirements and objectives of the PoC activity. This document does not define the engagement plan or specific activities to be undertaken to meet the PoC objectives, (these will be outlined in detail following agreement with suppliers), it outlines the outputs and outcomes expected.

## Background

As part of the Clinical Triage Platform (CTP) Programme, NHS Digital will develop a set of standards and specifications, and an assurance process. It is envisaged that suppliers wishing to provide services to Urgent and Emergency Care (UEC) providers who follow this process will be named on a contractual framework that providers can choose from.

As part of the development work to inform this, NHS Digital is looking to determine what aspects of functionality are to be included in the planned set of standards and specifications that must be met to be a part of the framework. To do this, a baseline of the possible functionality must be established, which can then be further investigated by subsequent PoCs and potentially developed into usable products. Initially, the existing CDSS in use within NHS 111 (NHS Pathways) will be used to inform this baseline.

## Scope

CTP intends to decouple the Clinical Decision Support System (CDSS) from the Encounter Management System (EMS). Currently, these two functions are tightly coupled, and provided through a single application. It is thought that this will enable UEC providers to develop a more tailored and flexible approach to triage which will meet the needs of their local population. Currently in the 111 space, the clinical content which informs the decision support system is provided by NHS Pathways.

This PoC will aim to demonstrate that a supplier CDSS is not dependent upon being tightly coupled with any EMS.but can be loosely coupled following a defined open standard. This PoC will further aim to prove the concept of multiple CDSS being used in a single triage journey.

The PoC will only cover a triage journey.

## Exclusions

The following elements are excluded from the scope of this PoC:

* CDSS use during clinical assessment in a live environment
* Integration with the NHS Directory of Service (DoS)
* Personalisation of Triage – this will be covered in a separate PoC and shared with suppliers when it is available.
* Predictive Modelling of Patient Risk

# Requirements of CDSS Decoupling PoC

The scope of the PoC is to provide a decoupled CDSS which can support triage of a patient, following a standard. This will prove the hypothesis that there is potential for multiple CDSS’s to be used for triaging a patient. This should give providers the greatest choice and enable the most personalised triage journey for a patient.

## CDSS Decoupling

The CDSS supplier must show how their CDSS can be provided decoupled from an EMS. There must be documentation of the process by which the EMS can call the CDSS.

It is preferred that the standard followed for decoupling is the HL7 FHIR standard detailed in CDSS Decoupling Specification, though consideration will be given to other open standards where these are already in use.

The aim is to demonstrate a decoupled process for the control of the patient journey between the EMS and the CDSS;

* The EMS will drive the start of the patient journey
* Demonstrate how the CDSS can be called to start a triage
  + This should be able to make use of information already collected, and not asking for information that has already been provided.
* Show how the patient journey can be transferred back into the EMS
  + This should be able to package up data collected and posting to the EMS.
  + This data should include the outcome of the CDSS flow i.e. a coded disposition or health need.

The CDSS supplier must also provide an appropriate EMS that is integrated with the decoupled CDSS, if it is not following the HL7 FHIR standard. And document the standard used to manage the integration of the two services.

Where the CDSS is conformant with the CDSS standard there will be an EMS provided by NHS Digital

# Project Methodology

[To be agreed with supplier]

To include the following:

* Documentation to be provided
* Agree the method of integration to be used in the POC – proprietary or using the CDSS standard
* Scope of the CDSS clinical workflow to be used – preference for NHS Digital here is a clinical triage process but specialised assessments or clinical scenarios will be considered dependent on capability from the supplier
* Design process and approval
* Agile delivery of integration – sprints to show the overall functionality
* Use of cloud services for the demonstrator

# Success Criteria

The PoC will be considered successful if it has proved or disproved the success criteria outlined below.

## Demonstrated decoupling with an open standard

This criterion will be met if at least one CDSS supplier can provide a CDSS which can carry out at least one patient triage journey, decoupled from the EMS, with conformance to a clearly defined open standard.

## CDSS Switching - receive

This criterion will be met if at least one CDSS supplier demonstrates the capability to pick up a patient triage journey partway through without requesting information which has already been provided.

## CDSS Switching - pass

This criterion will be met if at least one CDSS supplier demonstrates the capability to pass on a patient triage journey partway through while providing all information which has been collected.

## Non-Functional Criteria

There are no non-functional criteria for the first phase of this PoC. Phase 2 onwards will include an agreed set of non functional requirements.

## Early closedown

[To be agreed during initiation and detailed in the final PoC documentation] – circumstances under which the PoC would be stopped or paused]

# Outputs

This PoC will create the following outputs:

## PoC Closure Report and Recommendations

A PoC Closure report and Recommendations will be produced by NHS Digital, agreed with the partner and shared with CTP Programme Stakeholders. This will be agreed during initiation and detailed in the final PoC documentation] This will report on the objectives of the PoC, which have been achieved and how, and which have not been achieved. The report will set out the implications to the programme of the PoC outcome and any recommendations for further work or activity. If the PoC activity identifies further work required to achieve the objectives, then these will be carried over to future PoCs.

The closure report will make recommendations for the wider Programme, for example, Outcome data & PMPR workstream, as there are expected to be implications for the data which can be provided.

## CTP Document updates

Based on the findings of the PoC, the CTP Interoperability, Data and Functional Specifications documents and future PoC documentation will be updated to reflect the PoC outcome, as required. These will be shared with suppliers for input and feedback.

# Partner Engagement Plan

This will be completed with suppliers following initial discussions and agreement to proceed. It will be detailed in the final documentation that initiates the PoC activity.

## Roles & Responsibilities

[To be agreed with partner during initiation and detailed in the final PoC documentation] As an example, NHS Digital Project Manager, Technical Architect and Business Analyst, Supplier Technical Lead

## Engagement Schedule

Meetings anticipated as weekly brief catch up calls, with ad hoc contact between agreed contact points. Longer monthly meetings as appropriate. Exact schedule to be agreed with supplier during initiation and detailed in the final PoC documentation.

## Key Contacts

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Organisation | Contact Details | Role |
| [To be completed] |  |  |  |

# Commercial

## Agreement

[To be agreed with partner –format to be (but not limited to) collaboration agreement, non-disclosure agreement, , partnership agreement, memorandum of understanding, or formal contract]

# PoC phases overview

|  |  |  |  |
| --- | --- | --- | --- |
| Phase | PoC Activity | Detail | Area of evaluation |
| Initial phase 1 PoC | ‘Pipe clean’ testing. | See section 4 | Technical |
| Phase 2 PoC | API testing | e.g. Test whether patient data can be seen across system, exercising all methods within a specified API. | Technical,User |
| Phase 3 PoC | Journey testing | e.g. Linked set of scenarios, which make sense clinically. Does end to end testing work for users? Feed in path analysis work in context of usability. | Technical, user, scenario |
| Phase 4 PoC | Volume and Performance | Non-functional testing: uptime, responsiveness etc. Pre requisites being developed for demand levers/management work including volumetrics. | tbc |
| PoCs Overall | Phases 1-4 inclusive | Some success criteria don’t fit into single phases and can be gathered at the end of the iterative PoC cycle. | Tech, Scenario, User |

# 9 Timescales:

The PoC phases will iterate as quickly as suppliers and NHS Digital are ready to work on them. The phases will layer as work cycles through the Proof of Concept, drawing forward requirements from the CTP PoC backlog.

Discussions will be held to agree indicative timelines with suppliers and formally agreed during the initiation of the PoC.

NHS Digital intends to progress work as quickly as it is feasible to achieve.