

NHSBT Board
27 July 2016

**Donor Registration Transformation
Final Report Paper**

1. Status – Public

2. Executive Summary

This paper provides a final update on the progress of the Donor Registration Transformation (DRT) project and includes the following:

- Update on the status of project deliverables
- Outline of benefits realised
- Update on financial position
- Details of proposed future developments

3. Action Requested

The Board are requested to note the content of this paper and the approval of £195k of additional funding by the Transformation Programme Board (TPB) to support year one development and maintenance costs.

4. Purpose of the paper

The purpose of the paper is to provide a final update to the NHSBT Board on the progress of the DRT project and launch of the DonorPath application prior to formal project closure.

5. Background

5.1. The detailed business case (DBC) for the DRT project was approved by the ODT Change Programme Board in November 2013. The objectives of the project were to:

- 5.1.1. Eliminate paper to increase data security, avoid associated transcription errors and reduce the time taken to register a potential organ donor.
- 5.1.2. Revise the Core Donor Data Set to better meet the needs of the transplant community.
- 5.1.3. Provide specialist nurses – organ donation (SN-ODs) with offline access to controlled procedural documents.
- 5.1.4. Improve SN-OD user experience when registering organ donors electronically.
- 5.1.5. Provide SN-ODs with tablets and retire ageing laptop stock.
- 5.1.6. Minimise the impact that lack of connectivity has on the donor registration process by developing an online / offline solution that allows data to be entered without connectivity. In addition, working with NHS Trusts and Hospital Boards to improve access to hospital WiFi.

- 5.1.7. Set standards and create strategies for developing this technology for NHSBT.
- 5.2. Following DBC approval a tender process was undertaken and a contract award made to Softcat and Bluedot in January 2014. Development of the DonorPath application commenced in February 2014.
- 5.3. In April 2014 the supplier advised NHSBT that they were unable to meet their project plan so the project paused and an eight-week design and replanning phase commenced. The supplier presented NHSBT with a revised schedule and costs in July 2014; the NHSBT Transformation Programme Board (TPB) reviewed this and advised that the project should suspend work and explore alternative options to delivery.
- 5.4. Following review of the options to delivery it was agreed that a prototype of the DonorPath application would be developed with an alternative provider to prove the concept and maximise learning prior to developing a production application.
- 5.5. Following the successful development of a prototype a revised DBC was approved in January 2015 and, building on the prototype, development of DonorPath commenced with Apadmi, a UK based mobile app developer.
- 5.6. DonorPath was developed with Apadmi and the internal DRT team adopting Agile principles. A number of electronic tools were introduced to capture user requirements, support testing and enhance team communication; these are now used by the ODT release train and ODT Hub programme.
- 5.7. Throughout development user input was sought frequently and via a variety of routes. SN-ODs participated in sessions using the prototype in a user experience laboratory and were able to access an online information architecture mock-up and input to the design of screens. Frequent workshops were held to share screen designs and validate the approach.
- 5.8. Two versions of the DonorPath application have been developed; an iOS version for use on the iPad and a web version as a first line back-up when the SN-OD is on call and for use by the administrative team supporting donation. Both versions completed testing and were deployed to a production environment on 14 June 2016. Following a period of observation and testing DonorPath was first used clinically on 23 June 2016.

All organ donation teams have been using DonorPath since 7th July. The application has been positively received with SN-ODs reporting ease of use, time-saving benefits and transformation of the donor registration process. DonorPath allows SN-ODs to spend more time in the clinical area with the potential donor and their family. The following is an extract of feedback from a team manager:

... the Team Managers take the referrals between 9am and 5pm and this often meant that a referral was duplicated when a SNOD was mobilised, as we were not able to pass on the referral form other than by email which the SNOD often could not print out when they arrived. With DonorPath, we are able to input the referral for the SNOD to

continue with once they arrive at the hospital which is fantastic and avoids the need for duplication.

I have also had experience of it speeding up the process of donation, not just because of the removal of much of the paperwork. We had a potential donor in a hospital where the embedded SNOD was on call therefore they attended at the start of the working day. The brain stem death tests didn't actually get done until late that evening at which point the SNOD consented the family. Previously this would have been the point where the SNOD would have commenced inputting information onto EOS however, using DonorPath she had been inputting the information throughout the day so that once consent had been gained she was able to move straight to offering. This saved a significant amount of time in the process post consent.

Finally, the ability for someone to cover another region and input the donor details onto DonorPath without having to be swapped from one region to another and back again, makes the process easier for both the SNODs and TMs.

5.9. Deliverables - The DRT project has delivered the following:

- 5.9.1. Roll-out of iPads to the SN-OD workforce.
- 5.9.2. Pilot of the AirWatch mobile device management software which is now deployed throughout NHSBT.
- 5.9.3. Deployment of Secure Content Locker to enable SN-ODs to access controlled documents vital to the donation process via the iPad without connectivity. This solution is now being rolled out to the mobile blood teams.
- 5.9.4. Following a national consultation process the DRT project delivered a modernised core donor data set providing transplant centres with the information they need to consider an organ offer; the existing National Transplant Database (NTxD), Electronic Offering System (EOS) and EOS Mobile were updated to incorporate this.
- 5.9.5. DonorPath iOS prototype.
- 5.9.6. DonorPath iOS and web production applications.

5.10. Benefits – As measured against the DBC the DRT project has delivered the following benefits:

- 5.10.1. **Reduced end to end time for donor registration (from referral to offering).** 75 pages of paper and 25% duplication of data collection have been removed from the process. Baseline measures showed that the registration process took 3 to 5 hours. SN-ODs are reporting a considerable time saving; formal measures will be included in the project closure report.
- 5.10.2. **Reduction in SN-OD / duty office contact from transplant centres due to improved offer detail.** Both SN-ODs and the ODT Duty Office report a reduction in the number of calls requesting additional information following the introduction of the enhanced data set.
- 5.10.3. **Support for revised SN-OD working practices.** Unlike EOS, DonorPath enables more than one SN-OD to add data to a patient record simultaneously. It also ensures that all data gathered is handed over from one SN-OD to another during the process.

- 5.10.4. **Reduction in the number of paper forms processed by information services.** Enabling SN-ODs to enter and validate data at source will result in an estimated saving of 766 manpower hours (0.75 WTE) within the information services function.
- 5.10.5. **Improved information security.** Data collected on 18373 paper forms per annum will now be submitted directly to a database preventing the transport / postage of these data. Data held in the iPad is encrypted. The solution also limits the wider sharing of data until the lead SN-OD has confirmed that the information is accurate and complete preventing transplant centres acting on partial or invalid data.
- 5.10.6. **Reduced printing, stationary and storage costs.** DonorPath enables the scanning and attachment of documents and the creation of a paperless record for each organ donor. This avoids the future storage costs associated with paper records. Each box costs approximately £9 to archive and store for one year. Boxes are frequently recalled to respond to a clinical query or donor family update request at a cost of approximately £24 per box.
- 5.10.7. **Improved patient safety through the reduction of data transcription errors.** Baseline measures from March 2012 to February 2013 indicate a total of 117 incident reports related to data collection and communication errors. The DRT project has reduced the volume of transcription, duplication and verbal transmission of data and anticipates a significant decrease in the number of incidents. Formal measures will be reviewed 6 months post go-live.
- 5.10.8. **SN-ODs have access to controlled documents via Secure Content Locker when offline.**
- 5.10.9. **Avoid costs associated with laptop refresh.** The laptops currently used by the SN-ODs have reached end of life. This project allows approximately half of the costs associated with replacing these laptops to be avoided, estimated at 599k, which would see each laptop replaced twice in five years as per the NHSBT Asset Management Policy.
- 5.10.10. **Management information more effective and less labour intensive to produce.**

5.11. Finance summary

5.1	Approved DBC	Prior Year Spend	Forecast			Total Forecast	Project Variance
			16/17	17/18	18/19		
Capital	1,408	1,119	344	0	0	1,463	-55
Non recurrent	2,471	2,121	301	0	0	2,422	49
Recurrent	536	7	370	370	370	1,117	-581
Total	4,415	3,247	1,015	370	370	5,002	-587

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ject is closing with an overspend of -£587k from the approved DBC. This is based on the same level of support, maintenance and development for 3 years. The support packages available range from £190k to £318k per annum, therefore NHSBT requirements will be reviewed at 6 months post go-live and the Statement of Work adjusted accordingly, with an aim to reduce the overspend.

- 5.11.2. The budget approved in the DBC had £123k allocated for 2016/17 support costs. This did not include development or maintenance as requirements were unclear at the time of drafting the DBC e.g. NHSBT vs. Apadmi maintenance.
- 5.11.3. The recurring budget allocated for support and maintenance was based on estimation at the time of drafting the DBC. When costs were sought for support, maintenance and development from Apadmi they were higher than previously estimated.
- 5.11.4. The support model recommended by the DRT project board and approved by ODT CPB includes the following:
 - 5.11.4.1. A full-time team covering the server components (highest risk areas).
 - 5.11.4.2. Part-time coverage for mobile and web applications.
 - 5.11.4.3. Part-time support manager and QA.
 - 5.11.4.4. Retention of existing team and knowledge at Apadmi.
 - 5.11.4.5. Second line support for defect triage and fix.
 - 5.11.4.6. 15 developer days per quarter.
 - 5.11.4.7. Meets existing EOS service level agreements.

5.12. Based on the support, development and maintenance costs provided by Apadmi a request for £195k additional funding to cover support until 2018/19 was submitted to NHSBT TPB in June and approved.

5.13. Outstanding activities

- 5.13.1. Prior to formal closure the DRT project will complete the following:
 - 5.13.1.1. Early life support release to include enhancements and bug fix.
 - 5.13.1.2. Decommissioning of the EOS core donor data entry screens.
 - 5.13.1.3. Complete WiFi network access negotiations with NHS Trusts and Hospital Boards.

5.14. Future Developments

- 5.14.1. Following closure of the DRT project the ODT Hub programme will seek to develop the recently piloted referral tool in to DonorPath to support the proposed working model. This will be the first of a number of developments under consideration for DonorPath to further digitise ODT operations.

6. Proposal

This paper is provided for information only.

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