



Health and Care Innovations Limited

CONNECTPlus Service Definition

Digital patient education, remote monitoring and care pathways for multiple conditions and treatments.

Introduction

Purpose

The purpose of this document is to provide customers and potential customers with a description of functionality of the CONNECTPlus app, what it does, and how it operates and the governance that wraps around it In order to support procurement processes, contracting and governance reviews.

Intended audience

Customers and potential customers

Document scope

A description of the software and its features related to business needs. It is not intended to be a full technical specification.

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1. Overview of HCI and CONNECTPlus

HCI's CONNECTPlus is a platform that enables the NHS to reduce demand, waiting lists and backlogs by giving patients the information and support they need to confidently manage the care of any condition or treatment, in any language, and localised to any service, closer to home.

Every condition and pathway is tailored to your care pathways for patient education and remote monitoring in elective recovery, virtual wards, long term conditions, PIFU, waiting well, procedures, surgery, rehab etc.

It comprises a patient facing mobile app and clinician facing web based dashboard.

Company overview

HCI is an award-winning digital health innovator that enables the NHS to reduce demand, waiting lists and backlogs by giving patients the information and support they need to confidently manage their care at home.

We achieve this through our CONNECTPlus platform and our library of over 1,100 patient facing videos.

Value proposition of CONNECTPlus

One App: Multiple Morbidities, Multiple Pathways, Multiple Sites, Multiple Languages.

The NHS and other health systems can't cope with the demand they're facing and somehow they have to shift responsibility for the management of conditions and treatments across to their patients in the same way that so many industries have done already.

HCI exists to bring about this transition in health. We do that by using information in three ways:

- Information FOR patients: Education and support to help patients manage all their conditions at home.
- Information FROM patients: Supporting remote care and gathering data through surveys and digital tools.
- Information ABOUT patients: Enabling decision-making by clinicians to support remote care, triage and population health management.

This results in reduced demand and increased productivity for the hospitals and health systems we work with:

- Reducing the costs and demand on the health system
- Increasing productivity in clinical and admin teams

- Increasing capacity in order to create space to generate additional income under Payment by Results contracts
- Improving the quality of care
- Improving patients' quality of life
- Improving clinicians' work experience

It is a single system for multiple conditions and treatments, in multiple languages and is customised to the needs of your hospital for each and every local service to provide the information, guidance and monitoring that is necessary for an enriched and beneficial two-way relationship between your health system and the patient in the home.

As a result of the impact we have made we have won multiple awards:

- Building Better Healthcare Best Patient Centred Software
- HSJ Shortlisted with TSD Driving Efficiency through Technology
- Nursing Times Awards Shortlisted Managing Long term Conditions
- Digital Rheumatology Network New Digital Solutions
- Health Tech Digital Best Solution to Manage Chronic Disease and Best mHealth Application
- Patient Experience Network Runners Up Innovative use of Technology, Social and Digital Media
- HTN Health Tech Awards Digital Pathway and Workflow Optimisation
- Medilink South West Advances in Digital Healthcare

<https://hci.digital/impact/>

What CONNECTPlus does

CONNECTPlus is a react native patient facing app alongside a clinician facing web based dashboard to be able to monitor patient's progress and undertake triage.

CONNECTPlus is software as a service.

The app incorporates the following key features:

- Multi-condition: as many conditions and treatment programmes as you need and all in one place.
- Localised set up to reflect the needs of your own services; your pathways, clinic locations, details about the team, your own FAQs
- Patient education in text, video, personalised to local requirements and needs
- The service includes the use of any of our 1,100 patient facing videos within the app that you may need <https://demo-secondary.healthandcarevideos.com/>
- Symptom tracking through PROMS and PREMS tools plus links to IoT medical devices and wearables

- Digital pathways of care that guide patients guide and support patients through their local care journey before, during and after treatment
- Appointment calendars, medication reminders and other customisable diaries
- All delivered in any language required

You can get a quick overview of CONNECTPlus and how it operates through the short video <https://vimeo.com/healthandcarevideos/connectplus/video/914466568>

We support:

- Self-management to improve and empower patients' self-management of their health condition for long-term conditions, for example:
 - Education and therapy support for chronic conditions such as Hypertension, HF, Diabetes, COPD.
- Neighbourhood Health and home management by moving care, diagnostics and/or treatment into the community, for example:
 - Medicines management and prescribing for newly diagnosed patients, patient education, PIFU, pulmonary rehab, surgical prehab and rehab, diabetic foot management, diabetes education.
- Elective recovery to improve system efficiency, operational performance, for example:
 - Surgical prehab and rehab, waiting well, pre-operative assessment, post-operative care and support.
- Preventative Health and Population Health Management through:
 - Moving care upstream, shifting from reactive crisis management to proactive prevention by combining our partners' real-time risk stratification with HCI's high-volume digital patient education platform to pinpoint patients at risk of deterioration early, instantly deploying targeted, low-cost interventions at scale.
- Virtual Outpatients and Virtual Hospitals by:
 - Working with our partners to provide full-pathway solutions that deliver a virtual specialist workforce, asynchronous MDT capabilities and the CONNECTPlus app, to reduce demand and backlogs.
- Virtual wards, clinics and remote monitoring following acute episodes and for long-term conditions, for example:
 - Remote monitoring of patients, pre-clinical intervention, monitoring deterioration, PIFU, virtual wards for HF/stroke/respiratory/frailty.
- Core20PLUS5
 - Providing information to people with low literacy skills and in deprived communities and supporting people from ethnic minority communities with information in their preferred language

Contact details

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<https://twitter.com/hcidigital>

2. Functionality of CONNECTPlus

The patient facing app includes the following functionality:

Patient Information and Education

Assist self-management across any conditions licenced by the organisation by providing information and education (in written and visual form) about:

- The selected underlying disease
- Related medications
- Safety including blood test monitoring, vaccinations, what to do if develop an infection
- Help with condition specific symptoms
- Generic healthy living and mental wellbeing information
- Both national and local signposting to resources e.g. charities
- Clinic and local clinical team details
- The licence to the app provides access to use our library of patient facing videos within the app without additional charge <https://demo-secondary.healthandcarevideos.com/>

All content is approved by the Contracting Organisation before the app goes live.

- The content is based on local pathways of care and uses local content, knowledge and resources in combination with existing content within the app platform library of conditions.

Digital Pathways of Care

“My Pathways” allows end-users (patients) to subscribe to a pathway of care linked to their health condition or treatment in order to guide them through the various events that will take place on their treatment journey.

- Each pathway is built to match local protocols and procedures and uses local content, knowledge and resources in combination with existing content within the app platform library of conditions.
- Pathways of care could include those related to Elective Care, Outpatients, Surgical or Procedure based pathways (e.g. Day Surgery, Colonoscopy), Virtual Ward Pathways, Long term surgical waiting list pathways, Long Term Condition Management Pathways, Medicines Prescribing and Management pathways, Patient Initiated Follow Up (PIFU), Clinician Initiated Follow Up (CIFU), Prehab and rehab pathways and other routine pathways e.g. Maternity.
- Multiple My Pathways can be built within the CONNECTPlus app for multiple conditions and treatments.

- The My Pathways module allows users to download the pathway information and the actions that are required of them. The patient then follows the pathway milestones, and then completes the activities within those milestones, as the dates of the milestones arrive.
- All content is approved by the Contracting Organisation before the app goes live and the Contracting Organisation needs to provide the information that they want to include within the app.

This is a patient facing functionality which provides the patient with the ability to:

- See an overview of pathway of care (all in one place)
- Benefit from reminders to perform Actions
- See a digital log of the Actions they have completed

Milestones

- Stages along a pathway where an activity takes place. Milestones are populated by Actions.
- There can be an unlimited number of Milestones
- Milestones can be date and time specific or can be sequential.
- Milestones can be set for multiple times for different activities in a day.

Activities included with a My Pathway

- Articles and text explaining a condition, an activity, a point of knowledge
- Information with links to:
 - Content sections
 - Medication section
 - Appointment section
 - A symptom tracker
 - Videos played within the app from our library of patient facing HCV videos
 - External web sites
- Short form questions and answer tools to test and check understanding, e.g. for use as a remote Joint School activity
- Exercises as part of pre-hab and rehab supported by images, words and videos to aid understanding and compliance.
- There can be an unlimited number of Actions

Activity Completion

- The ability to record that an Activity has been completed
- This is recorded in the Clinician Dashboard

Pathway Completion

- The ability to record that a whole pathway has been completed
- This is recorded in the Clinician Dashboard
- On completion the pathway can no longer be edited. This freezes the pathway which is added to “Completed Pathways”.

Symptom Tracking, Remote Monitoring and Remote Management

The app enables a wide range of data to be captured:

- Interactive PROMs (Patient Reported Outcome Measures) and PREMs (Patient Reported Experience Measures) to enable patients to record their symptoms and experience over time:
 - Some of these will be disease specific e.g. DAS-28 and BASDAI, others will be generic e.g. sleep, pain and fatigue scores
 - Clinically validated questionnaires and trackers can be complemented by lifestyle, quality of life (e.g. EQ - 5D, HAQ and similar) and anxiety trackers as well as patient surveys to gather service feedback
 - Tracker style options include sliders, numerical input, free text format, selection of options, tick boxes, etc
 - New trackers can be added as agreed
 - We have a library of over 100 existing template trackers to draw from.
- Digital interfaces and data exchange with other devices or monitoring tools to enable automatic and continuous capture of data from devices as agreed with the Contracting Organisation
 - For example but not limited to: Omron, Fitbit and Garmin
 - Requirements will need to be scoped and proceed separately.
- The data captured is recorded in the Clinician Dashboard

Remote monitoring and management enables:

- The delivery of activities such as Patient Triage, Virtual Wards, PIFU to reduce the number of face to face appointments and facilitates care closer to home.
- Insight for patients on the progression of their disease so that they learn and reduce the risks of complications and exacerbations

Frequently Asked Questions

Provides answers to common local questions in order to reduce the number of calls to helplines.

- As many questions as required can be added
- Easily updated as required
- All content signed off by local clinical teams before release

Calendar Function

Allows patient to populate with:

- Consultation dates
- When to have blood tests monitored
- Radiological investigations/appointments
- Reordering regular medications
- Entries sync with a calendar on the device.

Medication Function

Assists patients to:

- Manage their medications better
- Understand the dosage and frequency (i.e. daily, weekly, monthly etc.) thereby supporting compliance and concordance
- Update medications at the time of any change
- Record who prescribed by the exercises and make notes for themselves
- Entries sync with the local device calendar.

Lists and Events Diary

A flexible tool that can be used to support patients by:

- Keeping diaries of events (e.g. symptom or food diaries)
- Build goal setting plans
- Upload photos related to their health (e.g. wounds after surgery)

Notifications and Push Messaging

- Enables the Contracting Organisation to send group messages to the whole book of users in order to provide alerts or useful generic information about the condition, the hospital, the health system, vaccinations etc.
- In-app notifications can be personalised by the user to notify them of reminders set in Medications, Appointments, Pathways, Exercises sections if available in the condition.

Multilingual versions for Core20PLUS5

- Enables you to support hard to reach audiences and reduces translation costs.
- Provides information to people with low literacy skills and in deprived communities in a multimedia format to aid understanding.

- Supports people from ethnic minority communities with information in their preferred language.
- Content available to address the 5 clinical areas of focus in Core20PLUS5.
- Reduces inequalities.

The CONNECTPlus “Clinician Dashboard”

The “Clinician Dashboard” is an administration portal collecting and presenting patient data from the CONNECTPlus app to a hospital's clinical team (e.g. doctors, nurses, AHPs) and administrative (e.g. Medical Secretaries, Booking clerks) staff.

- The dashboard is a web based tool that provides staff members with functionalities to remotely monitor and support their patients.
- This is a staff facing functionality.

The Clinician Dashboard includes the following functionality through the web based dashboard:

- Patient List
 - Provides the facility for staff to access all patients within the organisation
 - The results can be filtered by condition and specialty, date range and data entry, and RAG rating.
- Individual Patient Profile
 - Access to individual patient profiles including their core demographics (name, gender, date of birth, NHS number) plus access to condition specific details as shown below (Patient Data).
- Multiple Conditions
 - The dashboard reports data for all of a patient's conditions to provide a complete picture of all the data entered by a patient. The data can be filtered by:
 - Individual conditions.
 - RAG rating
- Patient Entered Data
 - The Clinician Dashboard provides visibility of the data entered by patients in to the app:
 - Symptom trackers:
 - Access to all symptom tracker scores in use by the patient in any condition and across conditions.
 - Medications:
 - Any medications a patient has added into the application:
 - Past and present - dose, preparation, who prescribed by, date range.
 - Additional comments a patient adds against the record including text a patient entered when stopping a medication.
 - Appointments:

- Details of any patient entered appointment details entered to include:
 - When, department, location, date, time.
 - All other event or diary trackers built in the app.
 - RAG Rating
 - A set of RAG rating rules can be set up for each condition to enable filtering of patients.
 - Other features
 - The list above is the core functionality and other data feeds can be added on request and for additional costs, such as:
 - Exercise Tracker
 - eLearning data
 - Fitbit / Garmin or other third party data fed from digital devices.

Data Sharing Dashboard

This dashboard allows patients to share their CONNECTPlus data with friends, family and others related to their care via a web based view only dashboard. This is an invite only dashboard and access can be revoked at any time.

Other Features

This is the core functionality and other features can be added on request and for additional costs.

Associated Services

The HCI Health and Care Video Library

- The service includes the use of any of our 1,100 patient facing videos within the app that you may need <https://demo-secondary.healthandcarevideos.com/>

3. Impact of CONNECTPlus

We have been working closely with AHPs, Specialist Nurses, and Consultants for nearly 10 years. Together with these teams and their patients, we have co-designed unique digital solutions that are making a real difference to the way people manage their health. It's also helping teams tackle some of the huge and growing challenges currently faced by the health system, the global health system and our planet.

The sections below show the impact that we make in many different areas of our work.

Long Term Condition Management

- **Lower cost or higher value**
 - Fewer calls and appointments
 - 42% reduction in daily helpline calls - 70 a day down to 40
 - 90% removal of face to face sub-cut methotrexate appointments
 - 100% of new start patients for DMARDs, subcut methotrexate and biologics educated remotely through the app
 - 75% reduction in appointments for patients stable on biologics
 - Releases nurses from patient education to patient care
 - 75% weekly saving in nurse time educating patients - 16 hours a week reduced to 4 hours
 - Conditions better controlled requiring fewer interventions
 - 25% improvement in terms of their understanding of how to manage their condition
 - 28.5% improvement in their confidence in undertaking physiotherapy independently
 - More efficient preparation for treatment
- **Better care/better outcomes**
 - Reduced waiting times
 - Rheumatology medication start time down from 3 weeks to 1 week
 - Multi-morbidity data from the patient's home enabling more precise interventions and remote care
 - Consistent information provision
 - Patient feedback averages 9 out of 10
 - Patient and clinician feedback video - <https://vimeopro.com/healthandcarevideos/connectplus/video/617901842>
- **Better patient/staff experience**
 - Visibility of the whole patient, not just a disease
 - Dashboards for individual patients and cohorts
 - Time created to care for those in most need
 - Personalised to your local clinical and system needs
- **Better staff patient/quality of life**

- 3Es - Educated, Empowered and Engaged patients participating in their own care, at home
 - 100% of new start patients for DMARDs, subcut methotrexate and biologics educated remotely through the app
- Feedback loop for their disease progression through the symptom trackers
- Sense of connection to their own health providers

Hip and Knee Osteoarthritis Pathways

Using CONNECTPlus to provide patients with hip and knee osteoarthritis with support in the community and pre and post operatively.

Deploying CONNECTPlus as a **Decision Aid** for patients with hip and knee arthritis to empower fewer patients to choose non-operative treatment (based on Coulter and Collins (Making Shared Decision Making a Reality: No decision about me, without me (2011))).

- 1 to 2% reduction in operative treatment saving £100,000 to £200,000 per annum
- Release of theatre space
- Improved understanding of treatment options
- Reduction in the number of helpline calls
- Enhanced patient experience and increased satisfaction with treatment decision
- Management of expectations and decreased decisional regret

Digital delivery via CONNECTPlus of **Structured Exercise and Self-Management Programmes** for patients with chronic joint pain combines education, self-management advice, lifestyle (cessation of smoking, weight loss, avoidance of falls) and coping strategies with an exercise programme plus the ability to track patients completion of exercises.

- Release of staff capacity (self-directed exercise programmes)
- Reduced levels of patients selecting operative treatment
- Improved compliance with non-operative therapies (analgesia / exercise etc)
- Improved patient physical and mental health
- Avoidance of need for patients to travel

Symptom tracking through CONNECTPlus (such as pain, sleep disturbance, and step count using an integration with Garmin devices), to provide positive feedback and encourage compliance with their self-management activities and to provide objective data for healthcare professionals to assess disease progression via remote monitoring.

- Reduction in the number of outpatient visits
- Reduction in post-operative admissions and overnight stays per year
- Reduction in long term complications due to earlier intervention
- Improved outcomes through improving health pre-op

Hosting the **Joint School** on CONNECTPlus to enable patients to access this content remotely, share it with their family and review it at any time.

- Release of staff capacity (targeting at least 4 hrs Band 6/7 AHP time per week)
- Avoidance of need for patient travel to hospital
- Improved patient satisfaction and compliance through managing expectations around enhanced recovery pathway

Assurance to health care professionals that **patients have reviewed and understood material** relating to a procedure and have had the opportunity to ask questions.

- Supports Montgomery compliant consent
- Reduced risk of patient decisional regret
- Potential reduction in complaints and litigation

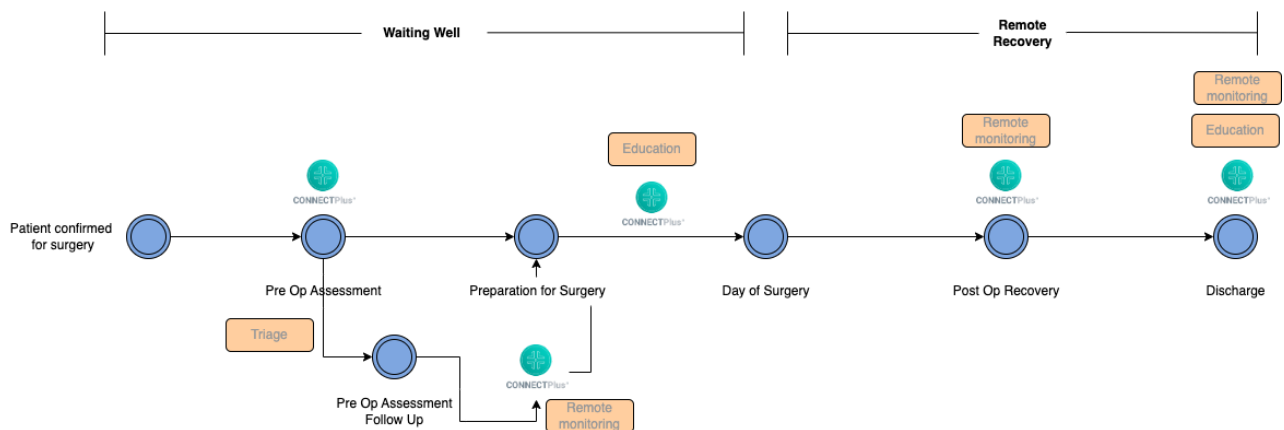
Using the ability to **track post operative symptoms** through CONNECTPlus (pain, analgesia use, mobility, swelling, wound appearance, and step count using an integration with Garmin devices) to shift to targeted follow up. Only those patients with symptoms scores indicating a delayed recovery will have a follow up consultation in order to identify whether additional input is required.

- 80% reduction in follow up consultations
- Improved patient experience / avoidance of long term complications
- Standardisation of pathway across service

Day Surgery

Using CONNECTPlus to digitise high volume low, complexity perioperative pathways to support patients who are waiting for surgery and to establish a digital triage system for pre-assessment:

- **Triage** patients through appropriate remote pre-op assessment and preparation pathways
- Provide **information** regarding the day surgery pathway
- Support patients to improve health through **prehabilitation** (underlying condition management, physical fitness, nutritional status, psychological preparation, alcohol and smoking cessation)
- Enable **enhanced recovery** after surgery through information provision and remote monitoring



Targeted outcomes:

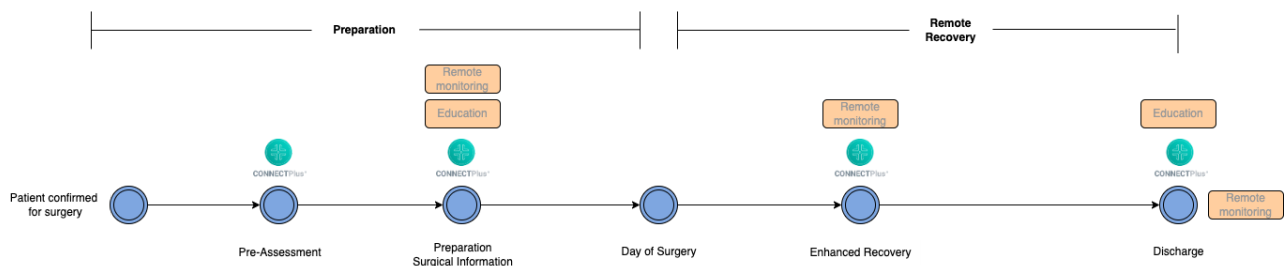
- Improved Efficiency
 - A pool of patients who are confirmed 'fit to go'
 - Shorter waiting times
 - Reduced late notice cancellations
 - Consistent pathway management
- Better care/better outcomes

- Early and improved information sharing pre and postsurgical preparation
- Better prepared patients for surgery
- Nursing and anaesthetic time redirected to the highest risk patients
- Reduction in admission and readmission rates
- Better Patient/Staff Experience
 - Savings in staff time
 - Improved patient satisfaction scores
 - Improved interaction between clinician and patient

Colorectal Surgery

Using CONNECTPlus to create a Colorectal "Surgical School" app which explains the inpatient journey, setting expectations around enhanced recovery and goal setting through:

- Education Support
 - Providing a comprehensive suite of information to enable patients to prepare for and recover from colorectal surgery in video and text
- Digitised Pathways
 - Providing regular prompts and reminders to patients to complete health questionnaires, tracking or to learn about specific topics related to their surgery
- Symptom Tracking
 - A selection of questionnaires and trackers to monitor progress and to triage patients



Targeted outcomes

- Improved Efficiency
 - Increased uptake of day case and outpatient procedures
 - Standardisation of pathways, removal of variation, equity of experience
 - Saving of staff time through provision of information digitally eg virtual surgical schools
- Better care/better outcomes
 - Reduction in need for outpatient attendances / patient travel
 - Improved compliance with pre-op instructions (starvation etc) / avoidance of cancellations on day
 - Improved outcomes through improving health pre-op
 - Accelerated recovery, improved compliance, avoidance of complications
- Better Patient/Staff Experience
 - Underpins informed consent (Montgomery standard)
 - Decreased decisional regret with potential reduction complaints / litigation

- Improved patient experience eg pain relief, managing expectations
- Improved patient satisfaction and compliance through managing expectations around enhanced recovery pathway

Colonoscopy

Use of CONNECTPlus for colonoscopy pathways to educate, inform and prepare the patients for their procedures.

Objectives

- Enhanced efficiency from:
 - Better prepared bowels leading to fewer repeat and aborted procedures
 - Better educated and prepared patients resulting in shorter appointments
 - Released capacity
- Improved patient experience

Outcomes

- Bowel preparation in West Herts NHS Trust
 - Increase in patients with good or excellent bowel preparation from 79% to 85%
 - Increase in patients with excellent preparation rising from 33% from 24%
- An improvement in bowel preparation reduces the number of repeat colonoscopies by 6%. In a unit undertaking 5,000 colonoscopies a year this saves:
 - 300 repeat visits, and
 - £110,000 a year

Ophthalmology

Objectives

- To reduce the number of referrals and outpatient appointments by 30%
- Scale up use of digital enablers

Team Involved

- National bodies - NHS England, College of Optometrists,
- Royal College of Ophthalmology
- Charities - Macular Society, Glaucoma UK, Glaucoma Society,
- LOCSU, RNIB
- NHS Trusts - Moorfields Eye Hospital, Torbay and South Devon

Delivering

- Localised and disease specific information to the patient
- An enhanced consent process
- Pathway and symptom tracking tools for patients
- Medication and appointment reminder tools
- Photo upload features

- A clinician dashboard triage and patient comms tools
- Rehabilitation pathways

Example impact in Trust with 3000 procedures

- 50% efficiency savings in pre-op appointment length
 - £142,500 and 200 hours p.a.
- 10% efficiency savings in length of diagnosis consultations
 - £35,400 and 400 hours p.a.
- 50% reduction in patient contact post-op (telephone / appointment)
 - £70,800 and 800 hours p.a.

Urology

Satisfaction with the consent process rose from 60% to 100% for patients viewing video based information (in this case, immediately prior to consent).

4. Social benefits of CONNECTPlus

The carbon footprint of health systems is significant and is affecting our planet; the NHS has committed to reaching carbon net zero by 2040.

Alongside, the NHS and other health systems can't cope with the demand they're facing and as a result: inequalities are exposed; people miss out on the support they need and; health and wellbeing suffers.

We believe that as a company we have the responsibility to help to address these issues and this page outlines our plans in all these areas.

This section and this [page](#) on our website states how we address these key issues.

Equal opportunity and Core20PLUS5

Health inequalities are avoidable, unfair, and systematic differences in health between different groups of people. Our work supports 'Core20PLUS5' and the 'NHS long term plan' in tackling inequalities and improving health outcomes for our population.

- We promote equal and greater access to high-quality care by offering it to a wider population and reaching patients in remote areas.
- Our aim is to enable you to provide the same overall service independent of background potential inequalities/barriers and to support hard to reach audiences.
- Reduces translation costs and enables you to deploy valuable clinical to other areas of care.
- Provides information to people with low literacy skills and in deprived communities in a multimedia format to aid understanding.
- Supports people from ethnic minority communities with information in their preferred language.
- Content available to address the 5 clinical areas of focus.

Fighting climate change

- Our intervention contributes to the NHS Net Zero carbon reduction programme through reduction in emissions:
 - Reducing the number of in-person visits
 - Reduction in staff travel to appointments
 - Improved business processes through pathway redesign
 - Reduction in the use of medicines as a result of more precise interventions and fewer complications
 - Reductions in in-patient hospital visitor numbers
 - Care being delivered closer to home

- We are working with the University of Exeter and others to determine how our tracking tools can be used to measure the savings made.

Tackling economic inequality

Traditional diagnosis pathways are slow and require multiple visits to hospital. This requires time off work which has an impact on patients and carers.

- We reduce the demands on patients and their carers to reduce the number of visits required.
- The cost of living crisis also impacts the cost of fuel which can be avoided with this technology.

Wellbeing

- We believe that an educated patient is a better patient who makes less demand on their health system, and one who is more independent and more confident in managing their conditions and treatments.
- We deliver well-being through education and information and by enabling patients to be supported remotely at times when they are in greatest need.

5. Governance and Data Protection

Information assurance

HCI has the following accreditations:

- DSPT (Ref: 8KF58)
- ICO (Ref: ZA281329)
- Cyber Essentials Plus (last certification 2023-06-08. Certificate provided on request)
- IASME (last certification 2023-06-30. Certificate provided on request)
- NHS England Technology Assessment Criteria (DTAC) Compliant
- Annual Penetration Test (Report available on request)

In addition HCI will work with the Information Governance team at the Contracting Organisation to maintain a Data Protection Impact Assessment (DPIA) to reflect the functionality that organisation is using.

<https://hci.digital/connectplus-ig/>

G-Cloud

HCI is a registered supplier on G-Cloud (Lot 2: Cloud software) for both CONNECTPlus and our HCI Health and Care Video Library. You can find our services by searching on

<https://www.applytosupply.digitalmarketplace.service.gov.uk/> for:

- Patient education multiple conditions treatment pathways
- Patient education multiple conditions procedures
- Patient education multiple conditions surgical
- Patient education multiple conditions PIFU
- Patient education multiple conditions rehab
- Patient education multiple conditions community
- Patient education multiple conditions primary
- Multiple conditions PIFU
- Multiple conditions primary
- Multiple conditions rehab
- NHS education multiple conditions
- NHS patient education multiple conditions
- NHS patient education multiple treatment pathways
- NHS patient education multiple treatments
- NHS patient education multiple treatments primary
- NHS patient education multiple treatments community
- Care at home multiple conditions PIFU
- Care at home multiple conditions procedures
- Care at home multiple conditions rehab
- Care at home multiple conditions surgical

- Care at home multiple conditions procedures
- Care at home multiple conditions primary
- Remote care women's health hub

Data Protection

HCI is registered with the Information Commissioner's Office and has its own DPO:

- David Birkinshaw
- Kaleidoscope Consultants Limited, East Side, Kings Cross, London N1C 4AX
- Email: dpo.hci-digital@kdpc.uk
- <https://kaleidoscopeconsultants.com/>

Clinical Safety

CONNECTPlus is subject to the HCI Clinical Safety arrangements reported through the Clinical Safety Report and Hazard Log as part of the Clinical Risk Management System DCB0129.

HCI has a registered CSO:

- Patrick Lester
- Ethos Digital Health Limited
- Email: Patrick.Lester@ethos.co.im
- <https://ethos.co.im/service/clinical-safety/>

Validation and Authentication

- Patients are validated using the Personal Demographics Service - PDS FHIR API which is the national electronic database of NHS patient details including: name, date of birth, NHS number.
- Patients are authenticated using a username/password login and a one time passcode sent to the users email address that is attached to their user profile.

Data storage, backup and restoration

- All CONNECTPlus data is located on servers based in the UK (including back-ups)
- Data collected within the app is subject to end to end encryption and stored on HCI owned AWS cloud servers.

Business continuity statement

- Overview
 - Business Continuity Tests take place annually.
 - The tests are completed on our critical systems each year to ensure that we are prepared for when we would have to recover from an incident that impacts our staff and customers.
- Scope
 - HCI infrastructure that is used to provide the CONNECTPlus app.
 - This is hosted in Amazon Web Services (AWS) hosted in UK data centres.
 - Tests were conducted on the HCI "pentest" environment in AWS to minimise impact to our users.
 - This is a "like live" version of the AWS infrastructure used to run the CONNECTPlus in production for our users. No real user data is contained in this environment.
- The following scenarios were tested:
 1. Loss of a server
 2. Loss of AWS credentials
 3. Loss of AWS network elements
 4. Loss of AWS Root Admin account
 5. Overloading of AWS resources
 6. Ransomware or Virus recovery
 7. Loss of GitLab source code

Privacy by design

- CONNECTPlus has been reviewed by an external DPO with a full report in the product DPIA which can be provided upon request.

User roles and rights for the CONNECTPlus app

Super Admin

- HCI authorised staff only
- Full system and database management and control
- Authorised to create new admin/staff accounts

Patients/Users

- Users can use the data for information purposes only or can register to enable functionality such as symptom trackers
 - Information only - no registration required and no personal data exchanged
 - Registered users - users record personal data (name / DOB / NHS number) to register, authenticate and validate and then can use the app as a personal health record (PHR) to capture symptoms, medication, appointments.

- Unless explicit consent is given by the patient this information is not available to their health professionals

User roles and rights for the CONNECTPlus Clinician dashboard

Dashboard access

- Staff accounts are created by HCI staff
- HCI Staff sends a deep link (via deep link button against account) to login to the dashboard for the first time
- By following magic link the user is asked to create a new password and read and accept terms and conditions

When registering on the Clinician Dashboard, staff are asked to accept:

- Clinician Dashboard End User Licence Agreement (EULA)
- A Cookie Policy
- A Privacy Notice

Super Admin

- HCI authorised staff only
- Full system and database management, control and administration
- Authorised to create new Contracting Organisation Admin roles, and Contracting Organisation Staff Accounts - Clinical and Support Staff
- Setting Parameters for RAG Ratings

Contracting Organisation Admin

- Contracting Organisation authorised staff only
- Clinician Dashboard management, control and administration
- Authorised to create new Contracting Organisation Staff Accounts - Clinical and Support Staff and allocating access rights by location, specialty and condition.
- Setting data view filters
- Setting parameters for RAG Ratings
- Bulk, group and individual messaging to all patient groups and individuals

Contracting Organisation Clinical Staff

- Contracting Organisation authorised staff only
- Clinician Dashboard access to all patient data in approved areas - location, specialty and condition
- Setting data view filters in approved areas - location, specialty and condition
- Setting Parameters for RAG Ratings
- Group and individual messaging in approved areas - location, specialty and condition, both groups and individual

- Adding patients to the system
- Access data from another location, specialty and condition for authorised patients
- See a combined data set of the multiple conditions for a patient

Contracting Organisation Support Staff

- Contracting Organisation authorised staff only
- Clinician dashboard administration in approved areas - location, specialty and condition
- Group and individual messaging in approved areas - location, specialty and condition, both groups and individual

Patients/Users

- Patients do not have access to the Clinician Dashboard

User documents for the CONNECTPlus app

When registering on the app users are asked to accept:

- An End User Licence Agreement (EULA)
- A Cookie Policy
- A Privacy Notice

When registering, users are asked whether they are willing to release their information to their healthcare provider.

- This information is only accessible to their healthcare provider if they are using the CONNECTPlus Clinician Dashboard function.

6. Operational Service Provision

Goals and objectives

There is increasing demand on health systems (ageing population, less healthy population, increasing number of patients with multiple morbidities) and insufficient health care professionals to cope with growing demand. Optimising the use of digital healthcare technologies is seen as one of the keys to addressing this imbalance by:

- Providing information to support patients to self-manage at home, aid engagement, and reduce anxiety
- Supporting patients to adopt and maximise the benefits of their medications
- Empowering patients to access the support services available to them, nationally and locally
- Collecting data on the progression of patients' symptoms to enable patients to track the progress of their conditions
- Using symptom trackers to enable clinicians to remotely monitor patients and to intervene when appropriate/necessary to ensure that resources are focused on patients with the greatest need
- Operating remote care to reduce appointments, and to maximise the number being cared for at home
- Enabling HCPs to better support patients and operate at the top of their licences
- Using data to deliver improvements to population health and wellbeing

The aim is to care for as many patients as possible as close to home as possible in order to improve:

- Better care/outcomes
- Lower cost/better value
- Better patient/clinician quality of life
- Better patient/clinician experience

When working with you, we target:

- Reducing your Referral to Treatment and Waiting List times
- Generating more income by reducing the number of follow-up appointments to free space to undertake first appointments that generate more income for you
- Reduction in costs from fewer appointments, fewer calls, fewer DNAs, and reduced time spent educating patients
- 20% reduction in appointment numbers targeted as a result of the provision of self-management information and the use of health tracker information
- 20% reduction in telephone call numbers due to the provision of the information in the app and a series of locally identified "frequently asked questions"
- 20% reduction in nurse education hours by deploying remote education through the app

- Improved patient experience due to improved and more coherent education and support addressing patients' key needs
- Improved Clinician experience - HCPs can focus on those patients in greatest need and improved triage through data provided from symptom trackers
- Improved Care - Patient quality of life is improved as they can self-manage better at home, access to credible and localised information about the management of their condition, their treatment pathways and online support services.

CONNECTPlus Set-up and Support

HCI will provide the following core services as part of set-up and support (additional support services are available for a fee):

- The CONNECTPlus app:
 - Helping the Contracting Organisation to identify the best structure for the content within the app
 - Offering condition specific content from within the library of existing conditions in CONNECTPlus or writing new content for review, edit and sign-off by the Contracting Organisation based on the information provided by the Contracting Organisation
 - Loading the content approved by the Contracting Organisation onto the app
 - Making the app and new conditions live
 - Maintaining the app to ensure that it meets the operational performance measures
 - Providing a hub of resources to enable the Contracting Organisation to promote the app to staff, patients and the community
 - Reporting key performance measures monthly
 - The number of frequency meetings will be determined by the scale and scope of your project.
- The CONNECTPlus Clinician Dashboard
 - Setting up the Contracting Organisation's version of the Clinician Dashboard and establishing the organisation wide settings and links to the organisation's set of patients
 - Provide remote training to staff (admin and users) on the use of the Clinician Dashboard and the licensed functionality
 - Making the Clinician Dashboard live
 - Maintaining the Clinician Dashboard to ensure that it meets the operational performance measures
- How we work:
 - CONNECTPlus development and implementation operate under an Agile project management methodology. All project managers hold relevant qualifications to deliver Agile projects. HCI Project Managers also PRINCE2 qualified.

Customer Responsibilities

We ask for the following:

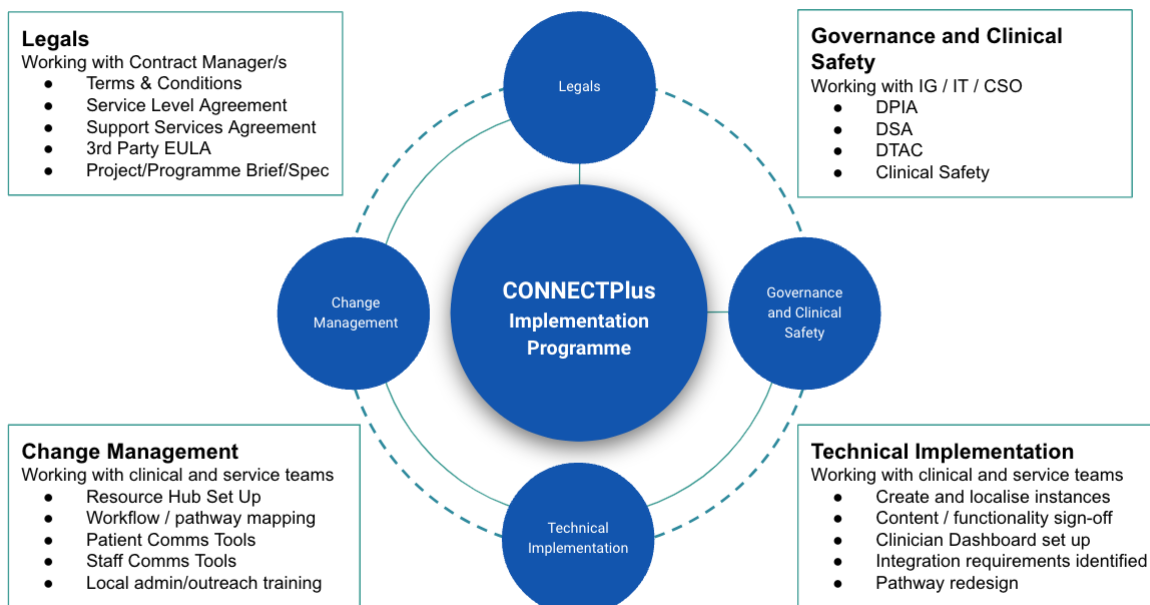
- A nominated project manager to lead the project on your side and to liaise with your operational and clinical teams in order to deliver the project and results
- For each condition we asked for a subject matter expert to be allocated to the condition who will be responsible for providing the necessary clinical and pathway content, coordinating agreement amongst clinicians and healthcare professionals about the content to be included in the app, and app content sign-off
- We want to prove the value of the service and the impact that is made. Therefore, we want to work with your business intelligence department to gather baseline data and review progress against the objectives set for the project at three or six monthly intervals
- We also wish to work with your communications team to produce reports and case studies to evidence the value to your organisation.

In terms of the set-up of a condition, this is likely to demand the following from your staff:

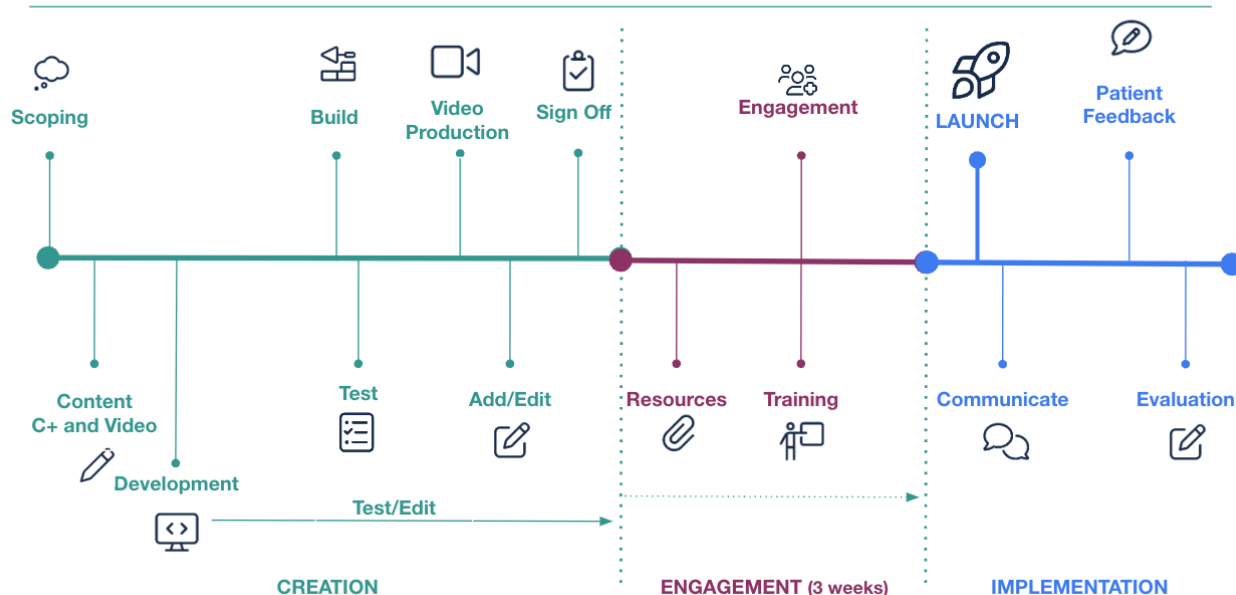
- Clinical content - Up to 12 hours of clinical time to support and sign-off the condition content, but that can be split across several clinicians (GP / consultant / nurse specialists) and will be spread over a 3 month rollout period
- Project management – running the project, coordinating meetings and people on your side over that time period, chasing materials and responses etc and input to progress reviews - say 1 to 2 weeks in total over the 3 month roll-out period
- Promotion to patients - The time and energy for awareness raising and promotion is a bit open ended – the more that is done the better it will be and that depends how much your project manager can piggyback on existing communications channels and campaigns etc

Implementation plan

A standard implementation programme looks like the following but we will tailor this to your specific requirements and needs depending on your objectives and the scale of your programme.



 CONNECTPlus - TIMEFRAME inc. Development



Stage	Scope 	Content 	Build 	Development 	Video 	Test 	Add/Edit 	Sign Off 
Who	HCI Clinical Project Team	HCI HCI Scriptwriters Clinical Team	HCI	HCI Clinical Team	HCI Production Clinical Team	Clinical Team PPIE	HCI	HCI Clinical Team
Action	Timeframes Stakeholders Content plan Aims identified	Content written Content reviewed Edits completed Signed off	Content built into test app	Development identified and worked on Testing	Script creation Filing Review Embedding	Review Focus groups Feedback sessions	All edits made Further work identified	Final review App signed off Live app created
Resource	Set Up and Implementation Project Specification Pathway Toolkit	Change request form Video library links General health and wellbeing content Content creation documents		Join BETA How to	Script template Review link Embed codes/links	Feedback Survey / Document Patient Recruitment Tools		
Success	Agreed plan of action	Content signed off	Demo app available	New functionality available to test	New video within C+	All feedback received	Updated demo app created	Live app ready!

Training

During the set-up of the conditions or pathways in the app, your staff will become very familiar with the operation and use of CONNECTPlus. This period will also allow them to see the opportunities for system transformation. The Resource Hub that we will create for your site will provide tools and videos explaining the use of the app.

We will train your healthcare professionals in the use of the clinician facing dashboard and its functionality.

Training can be delivered face-to-face or remotely as required. Typically these sessions are run as 1 hour group sessions with teams active on the test environments. 1:1 and other formats can be delivered.

During training staff are required to complete tasks to assess competency.

It is our experience that patients do not need training on the app because the user interface is very simple but we provide "in-condition" introduction sections to guide patients on the use of the app.

Our experience is that the use of the in-house digital coordinator to support patients and staff in the transition to digital care is an incredibly powerful and worthwhile investment. We have found that local voluntary sector players are keen to provide services like this and are particularly effective in supporting the role-out. You may already have arrangements in place to this effect.

We are not a digital change consultancy and project management and transformation management resides with your organisation. However, we will bring to bear our experience of

transforming pathways of care which we have achieved in multiple sites and will guide you on the approaches that can be adopted.

During training staff are required to complete tasks to assess competency.

On boarding, off-boarding, service migration, scope etc

There are two aspects: patients and healthcare professionals.

1. Patients (on the app)
 - a. Patients access the app which is easily done through their App Store.
 - b. We will create a Resource Hub for you with their assets such as QR codes, social media posts, posters, business cards et cetera that can be used to explain the service to patients and help them to onboard.
 - c. Patients can delete the app at any time from their phone or tablet.
2. Healthcare professionals (on the clinician dashboard)
 - a. We will agree a list of authorised people to access the clinician facing dashboard including different administration rights for your team.
 - b. Your administrators can then manage access thereafter.

Service management

Once live, we will continue with monthly meetings to

- Support rollout, take up and impact
- Review progress
- Identify successes that need to be replicated and issues to address
- Alongside the project team meetings, we recommend regular account management meetings between one of our directors and your account manager.

Development life cycle of the solution

Our experience is as follows:

- Within 3 months
 - You will be live with your first range of conditions and will have test patients using them.
- Within 6 months
 - Large volumes of patients will be using your early conditions.
 - Usage will be greater if supported by the digital coordinator to help patients onboard and to help HCPs to recommend the app as part of their service.

- By this time clinical teams will be identifying the way the app can change demand and the relationship with patients meaning that pathway transformation activities can commence to drive out the biggest gains.
- By 9 months
 - More conditions will be going live driven particularly by recommendations from clinician to clinician.
 - You will be starting to obtain evaluation data to evidence the impact that's being delivered which will then accelerate rollout to other conditions and specialties.
 - Review and redesign of pathways will start to be undertaken enabling you to consider options for reconfiguring services to maximise the opportunity to care for patients closer to home.
- By 18 months
 - The service has now been fully operating for a year and opportunities for transformation are being realised and multiplied.
- By 2 years
 - You will be considering the options for whole system roll-out and transformation rather than focusing on individual conditions/specialties.
 - We will be holding significant amounts of data from patients about their conditions. This is data from the home collected IoT devices as well as PROMs and PREMs. Analysis of this data can commence to enable you to identify opportunities for improvement in terms of service design, preventative health and changes in patient interventions to improve patient quality of life and outcomes.

7. Technical Service Provision

Technical requirements and client side requirements

CONNECTPlus is a React Native app and is uniquely populated with content for each condition and site via a content management system.

- It operates on both Apple iOS and Android devices running on at least the last Long Term Support (LTS) version
- It delivers on phones and tablets
- It does not operate on computers, laptops, desktops
- Coding skills are not needed to use the Content Management System (the “CMS”)
- HCI does not provide devices for users to use

The CONNECTPlus Clinician Dashboard is a web based tool accessible from any internet connected device with modern web browsers: desktop, laptop, phone and tablet and renders appropriately for the devices used.

- User access is a normal web interface with admin and user rights.
- HCI does not provide devices for users to use.

We can integrate with any Electronic Patient Record (the “EPR”) (or similar) and IoT devices either through a Software Development Kit (“SDK”), Application Programming Interface (“API”) or Bluetooth. Any integration will need to be scoped and priced separately.

External interfaces

The app is downloaded from the Apple or Android App Stores.

CONNECTPlus can offer external links to third party software or content. Principally this is through hyperlinks to websites and the app can provide links to PDF documents uploaded to the CONNECTPlus content management system.

Cross reference links to third-party providers such as virtual consultations by Attend Anywhere can also be enabled. The nature and scope of these needs to be determined in each individual case and there may be a charge for setup.

The addition of the Clinician Dashboard provides the Contracting Organisation with an administration portal collecting and presenting patient data to a hospital's clinical (e.g. doctors, nurses, AHPs) and administrative (e.g. Medical Secretaries, Booking clerks) staff.

The core offering of the CONNECTPlus app and Clinician Dashboard does not:

- Interface with any hospital systems, devices, software etc and is a stand alone service.
- Interface with any user devices or software.

- However, interfaces with third-party providers such as EPR systems and IoT devices etc can be enabled. The nature and scope of these needs to be determined in each individual case and there may be a charge for setup.

The CONNECTPlus content management system (CMS):

- Is operated by HCI to enable content entry and push messaging.
- With agreement of HCI and the Contracting Organisation, access can be given to authorised users to the CMS to undertake these tasks

Termination process

Following notice of termination we will offer all reasonable assistance required in relation to:

- The orderly wind down of the Services
- The implementation of an exit plan
- We shall continue to provide some or all of the services for up to nine months beyond the date that they would have otherwise ceased, at charges equivalent to those prevailing in the three months prior to termination

Our Exit Plan normally includes:

- Nominating an exit manager
- Meeting with you within 1 month of termination to agree a programme of specific actions up to and after termination including issues such as communications to users, press and PR messaging, user help desk support and resources, data protection issues (if any), return of any confidential information and intellectual property
- Cooperating in the closure of the services to minimise the impact on users
- Agreeing the dates of review meetings leading up to termination
- Continuing to provide some or all of the services for up to 9 months beyond the date that they would have otherwise ceased
- Cooperating in the handover of the services to ensure no interruption in the services
- Provide up to date management information

Service levels

Key performance measures that we report are:

- Users
 - Daily/weekly/monthly usage
 - Device
- Conditions

- Popular videos
- Top sections
- Top articles
- Bugs
- Service availability
- Complaints

Back-up

- Backups are taken daily and stored for one year
- Timeline for recovery is 1 day

App and Dashboard availability

- 96% measured monthly
- Maintenance and updates will be undertaken outside of normal business hours (9 a.m. to 5.00 p.m., Mondays to Fridays unless otherwise agreed).

Support

We will provide technical support for the latest version of the software comprising and limited to the following:

- The provision of all bug fixes and patches and updates as released by us to our customers and all subsequent versions of the software released by us
- Provision of a single point of contact, answering all calls in a courteous and timely manner from you
- Provision of a specific email address for support
- Monitoring of the e-mail address at regular times during normal working hours
- Logging essential and necessary information from the emails
- Sending confirmation of receipt by email
- Identifying and clarifying any missing or unclear information
- Fault diagnosis, analysis, classification and where possible recommendations for correction following a report of a problem

Service constraints

We will not carry out Support Services outside of our normal business hours (9 a.m. to 5.00 p.m., Mondays to Fridays, excluding public holidays) unless otherwise agreed.

Defect Response and Resolution Times

Defect Severity:

Major: A Defect that results in a direct business or user impact and no bypass or alternative is available. The problem has resulted in the failure of business critical activities e.g. the patient or customer live site is unavailable.

Medium: A Defect that results in an indirect business impact. E.g. An Editing or Administration or other application interface is unavailable.

Minor: A Defect that results in limited business impact. E.g. a component, minor application procedure is unavailable or difficult to use, where there is some operational impact, but no immediate impact on service delivery. In addition, problems that would be considered Defect Severity Level 1 or Level 2 that have an acceptable (from an objective business viewpoint) alternative or bypass available will be assigned.

Cosmetic: A Defect that has minimal business impact. E.g. a component, minor application or procedure is unavailable or difficult to use but is not critical to service delivery or there is a Workaround. Minor “quirks” in the system.

Severity - Major

Response Time - Within 2 working hours

Resolution Time - 1 working day

Severity - Medium

Response Time - Within 4 working hours

Resolution Time - 2 working days

Severity - Minor

Response Time - Within 8 working hours

Resolution Time - Within 10 working days

Severity - Cosmetic

Response Time - Within 2 working days

Resolution Time - Not specified