



## Service Description

BuddyCare – Remote Quarantine Care for COVID-19

Care coordination, patient guidance and pathway automation

before, during and after Covid-19

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## 1. Overview of the Normal BuddyCare Service

BuddyCare is a care coordination and patient engagement mobile solution for hospitals, specialised clinics and surgery centres co-developed together with two major Hospitals in Finland and the USA.

The solution automates, monitors and supports patients' preparation and recovery activities and tasks for various kind of procedures, such as surgical operations. The solution provides both patients and care personnel with actionable real-time insights and instructions on a Referral and Surgical Pathway, providing pre- and post-operative care to ensure that patients are always aware of the next steps on the care path. We have now completely re-authored this to suit a Quarantine Care System for COVID-19.

As a clinical benefit, using BuddyCare allows the care personnel to track how their patients are acknowledging instructions and reminders and confirming participation in appointments during the process. Thus, care units can more efficiently allocate resources on those patients needing most support and guidance before and after any appointment or procedure. Utilising the information generated by the system, care units can streamline the entire care process by minimising the amount of unnecessary phone calls, procedure cancellations and delay, and non-value-adding work, such as unnecessary paperwork.

The BuddyCare EcoSystem consists of the BuddyCare App for patients and the BuddyCare Dashboard for care personnel:

**The BuddyCare App** is used by patients who are preparing and/or recovering from a procedure, following referral. The app is usually brought into use when the procedure decision has been made.

- The deployment process is always defined together with the care unit
- The app may be freely downloaded either from Google Play Store or iOS App Store with name BuddyCare
- The app may be also used by other family members, such as the patient's spouse or other close relatives
- This allows them to take care of the instructions and vital actions together
- The app is also available as a web-version that may be used on an Internet browser
- The purpose of the app is to provide easily understandable information on a simple timeline with automatic notifications, where it's easy for the patient to follow all the most important instructions

**The BuddyCare Dashboard** allows care providers to monitor, in real-time, patients' preparation and/or recovery activities, making it possible to focus on those patients who need most attention, or have special needs before or after the procedure.

- The dashboard works simply on a web browser and doesn't require any installation of hardware or software – SaaS (software as a service)
- When the patient downloads the App, care personnel create an activation code that is then used by the patient, in the mobile app, to register to the care path

- This activation code allocates the correct instructions and forms with correct timestamps for the patient
- The patient may easily share the instructions with family members in the app, if desired
- After any patient has registered to the app, the care personnel may see these patients in the dashboard and can start monitoring how they acknowledge instructions
- However, the dashboard doesn't have to be actively used, as it automatically informs the care personnel if there are any issues with patients – so reactive use, where required
- Furthermore, all forms submitted by the patient in the app, are visible in the dashboard
- Patient Reported Outcome Measures (PROMs) may be also included to collect objective data about post-operative recovery progress
- Patient Reported Expectation Measures (PREMs) may also be added, to elicit feedback on any part of the care pathway

Hence, the purpose of the dashboard is to give insights to care personnel about patients who might have any issues that could cause procedural cancellations or delays and about patients who require most guidance. Smart communication and data exchange between the BuddyCare app and BuddyCare dashboard creates more informed and compliant patients, automatic reminders about important deadlines and optimised workflows and overall better Outcomes.

## 2. Overview of the Remote Quarantine Care BuddyCare Service

Using the developed and proven BuddyCare EcoSystem, we can provide a remote communication platform for patients with ANY suspicion of Corona/COVID0-19 symptoms. It is a care coordination and patient engagement mobile solution for hospitals, specialised clinics and surgery centres, as well as NHS24 or NHS111.

The solution automates, monitors and supports patients' on a COVID pathway, either where they have very mild symptoms that 'may' be due to the virus and may develop, or where they are concerned about the virus and want or need support from authorised sources and this can help alleviate call-centres.

The solution provides both patients and care personnel with actionable real-time insights and instructions on a the virus, including up-to-date advice, instructions, videos and help. This will ensure that patients are always aware of the potential next steps on the care path, as well as gathering background, insightful data on the individuals and accumulating this at the backend for analysis and reporting. It automatically pseudonymises this data for transportation to research agencies.

As a clinical benefit, using BuddyCare Quarantine Dashboard allows the care personnel to track how all patients are acknowledging and reading instructions and reminders and confirming participation in forms and daily symptom checking during the process. Thus, care units can more efficiently allocate resources top those patients needing most support and guidance, before potentially calling them to advise testing or hospitalisation.

Utilising the information generated by the system, care units can streamline the entire care process by minimising the amount of unnecessary phone calls, procedure cancellations and delay, and non-value-adding work, such as unnecessary paperwork.

The BuddyCare Quarantine EcoSystem consists of the BuddyCare App for patients and the BuddyCare Dashboard for care personnel:

**The BuddyCare App** is used by patients who may have called NHS24 or NHS111, or been referred by a care provider. The app is usually advised when a decision has been made by a clinician. It could also be given to all patients, to allow any patient wanting access to authorised information sources, even if there are currently no symptoms.

- The deployment process is always defined together with the care unit
- The provider would work with us to keep the backend data customised and up-to-date
- The app may be freely downloaded either from Google Play Store or iOS App Store with name BuddyCare
- The app may be also used by other family members, such as the patient's spouse or other close relatives
- This allows them to take care of the instructions and vital actions together
- The app is also available as a web-version that may be used on an Internet browser
- The purpose of the app is to provide easily understandable information on a simple timeline with automatic notifications, where it's easy for the patient to follow all the most important instructions
- 
- Any patient who cannot access the portal or app, can be given written information by post (expected to be a minimum)

**The BuddyCare Dashboard** allows care providers to monitor, in real-time, patients' who may have symptoms of COVID-19, making it possible to focus on those patients who need most attention, or have special needs during infection or who may need to be supported more than others, due to underlying conditions or age.

- The dashboard works simply on a web browser and doesn't require any installation of hardware or software – SaaS (software as a service)
- When the patient downloads the App, care personnel create an activation code that is then used by the patient, in the mobile app, to register to the care path (individualised and monitored registration)
- This code is generated by the system and sent as an SMS to their mobile phone, registering the mobile number and/or email address to the code and the pathway
- This activation code allocates the correct instructions and forms with correct timestamps for the patient under the Quarantine pathway
- The patient may easily share the instructions with family members in the app, if desired
- After any patient has registered to the app, the care personnel may see these patients in the dashboard and can start monitoring how they acknowledge instructions

- However, the dashboard doesn't have to be actively used, as it automatically informs the care personnel if there are any issues with patients – so reactive use, where required
- Furthermore, all forms submitted by the patient in the app, are visible in the dashboard
- Patient Reported Outcome Measures (PROMs) may be also included to collect objective data about post-operative recovery progress
- Patient Reported Expectation Measures (PREMs) may also be added, to elicit feedback on any part of the care pathway

Hence, the purpose of the dashboard is to give insights to care personnel about patients who might have any accelerating or serious symptoms and about patients who require most guidance or support. Smart communication and data exchange between the BuddyCare app or Portal and the BuddyCare dashboard creates more informed and compliant patients, automatic reminders daily symptom checking and optimised workflows and overall better Outcomes.

### 3. BuddyCare App for Patients

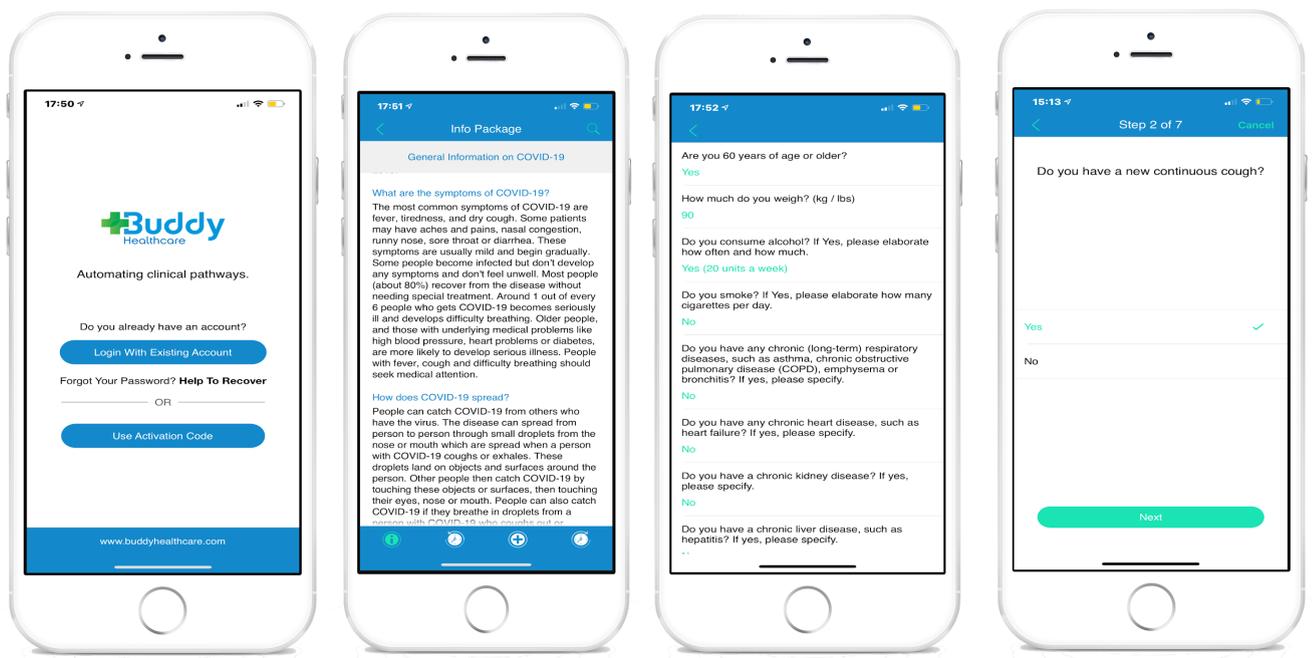
The BuddyCare app is specifically designed and developed for patients who are diagnosed or tested with COVID-19 or who may have minor symptoms and are concerned they 'may' develop into the virus. However, the app may be used and is proven to work in any remote care process, such as physiotherapy programs, to take care of the appointment scheduling and exercise information delivery. The app includes all information about COVID-19 forms regarding their current health and wellbeing, as well as daily symptom and pain checking, showing any change in symptoms automatically at the backend.

The patient is reminded of every essential activity during the care path. After recovery, patients receive and complete surveys on self-report compliance, such as early mobilisation. If desired, the App also provides a conversation channel between the patient and the care provider. As stated, PREMs and PROMs may also be incorporated at any or all stages, providing vital feedback gathering on the care process.

The content in the app (text, videos, images, logos, addresses) is care provider specific. The content is defined together with the care provider so that patients always get the correct information and instructions. The app may be also provided as a 'white-label solution', which means that the app uses the care unit's colours, branding and graphical guidelines to look and feel like the care provider's own app. This is also one of the biggest benefits of the solution: p and the modular structure allows the solution to always fit into chosen workflows and patient processes.

The app has been closely developed in cooperation with leading hospitals around the world which has allowed us to consider both the care provider and patient and family needs when designing the app.

Screenshots of the app on a specific Remote Quarantine Care pathway are presented below. The app is available for Android and iOS smart phones and tablets and as a web version.



## 4. BuddyCare Dashboard for Hospitals, Clinics and NHS111

The BuddyCare dashboard provides real-time and relevant insights to care personnel about patient progress during the quarantine pathway. The care personnel may, for example, monitor how patients read and acknowledge vital instructions in the app, receive all care-related forms including symptom checks, to the dashboard and send messages and reminders about the most important tasks.

The care personnel may, for example, easily view if the app user has read and acknowledged the daily checker on time. The dashboard also automatically alerts the care personnel if there are some deviating answers in the forms, and acts also as part of the scheduling system, where care personnel may easily schedule action, as well as escalate care to the next stage including hospitalisation or testing.

The BuddyCare app user is automatically informed about any changes in advice on Covid-19, such as changed treatment advice or added instructions to the app timeline, such as medication information. One of the advantages of the BuddyCare dashboard is that it doesn't have to be actively monitored and followed, but it will alert the care personnel when there is something to react to.

Through the BuddyCare dashboard, care personnel may also add patient-specific instructions, such as symptom caring and home care instructions during quarantine. It's also possible to add and delete other events, such as further form-filling requests into their schedules.

Based on the customer feedback, the BuddyCare solution relieves patients' stress and anxiety about infection with Covid-19 by providing easily understandable information on a simple timeline. Phasing information chronologically and defining what's most important at a given time allows users to more easily digest information compared to if the same information is given to patients on a pile of papers or through the media.

In the care unit, BuddyCare reduces the amount of unnecessary phone calls, paperwork and other administrative work, which doesn't add any value to the care personnel or the patients. The dashboard allows care personnel to more efficiently allocate time to those patients who need most guidance during the care process.

A screenshot of the BuddyCare dashboard is presented below.



When any patient uses their app, data is populated on the dashboard, such as their forms, symptom checking and pain checking. Also, any communication between them and the service, to allow full support.

Connected4Health can also provide full support to patients on getting access to the App and any support they may need in using the system, as well as support to clinical staff.

## 4. BuddyCare Structure and Content

The clinical content of the BuddyCare solution is based on the instructions and forms received from the care unit. The app Quarantine care path is tested and optimised together with the care personnel, keeping in mind how the patient flows through the process from preparation to recovery.

For each timeline event occurring on the patient care path, an activation date and deadline is set. The activation date is the time when the patient may acknowledge the timeline event or, for example, fill in daily symptom checking. For example, “The Quarantine Checklist” timeline event is activated to the patient on registration and they need to have read the information on Covid-19, then fill in the Symptom Checker, to then be accepted onto the care path.

Of course, the patient may read the information without starting on the pathway, but the app informs that the instructions are only relevant to the patient when the event becomes active. Hence, the purpose is to provide information to the patient little by little when it's relevant within his/her case. Using colour-coding and status-based text content on the timeline events makes it easy for patients to follow the care path and understand all the most vital instructions.

## 5. Initiating the Service

The deployment phases for the BuddyCare solution and estimated duration are described below:

1. At the beginning, a common workshop will be held where it's defined what care units will utilise the BuddyCare solution and what procedures will be included in the app. Furthermore, the care processes for the selected Quarantine Pathway will be described.
2. Based on input from phase 1, Connected4Health personnel will add the quarantine-specific instructions into the BuddyCare app and build the first draft of the timeline.
3. The care units test the timeline drafts and make suggestions for improvement.
4. Necessary content changes are made before the app is taken into real patient use, care unit dashboard training is held by the Connected4Health project manager providing app and dashboard instructions are documented.
5. Project kick-offs with defined steps and scope, project support and controlling and feedback collection during and after the project.

The estimated deployment time from phase 1 to project kick-off can be as little as 1 week.

## 6. Using the Service

The BuddyCare use phases are described below:

1. The patient is added to the BuddyCare system in the dashboard when the Quarantine decision is made, either by NHS111 or other clinical adviser within the pathway. When the patient has been added to the system, the dashboard automatically generates an activation code which the patient uses to access the BuddyCare mobile app. This can be given to the patient over the phone, or by SMS automatically, if the mobile number is entered with other patient details.
2. The patient downloads the BuddyCare app to his/her mobile device and enters the created activation code and registers to the app. (or logs into the online web portal)

3. Care personnel may start monitoring how their patients are doing throughout the care path, receive and review submitted forms and exchange messages.

It is the responsibility of Buddy Healthcare personnel to create user accounts for care unit personnel to the dashboard. User accounts are email addresses. After EHR integration, some parts of the above-described process may be done automatically, such as fetching basic patient data (name, procedure type...) from the EHR system and transferring the form answers directly to the EHR system.

## 7. Benefits

With the BuddyCare Quarantine solution, care personnel may solve various daily challenges and inefficiencies.

Benefits for Care care personnel:

1. Reducing non-value-adding paperwork, phone calls and other administrative tasks.
2. Collecting data from patients throughout the care process yields better decisions, treatment outcomes and enhanced recovery.
3. Identifying possible problem cases before further issues, makes procedure planning more efficient.

Benefits for Patients and patients' families:

1. Reducing stress, fears and anxiety about Covid-19, allows better care outcomes.
2. Replacing any paper instructions handed out to patients with a simple and user-friendly mobile timeline where it's easy for patients to little by little go through the instructions with the help of automatic reminders.
3. Forms, including the daily Symptom Checker, may be easily filled and submitted in the mobile app instead of submitting paper forms. Instant automatic feedback is received when care personnel review and approve the forms.
4. Chat functionality makes it easy for patients to ask questions about their treatment, which makes them feel more secure about the procedure. Expectations can be set that replies are not instantaneous.
5. Simple information given at the right time makes it easy for patients to digest information at a rate they can absorb, potentially reducing the amount of unnecessary contacts to the care unit.

## 8. Buddy Healthcare Oy and Connected4Health Ltd as Service Providers

BuddyCare is a product of Buddy Healthcare Oy (company id: FI-2732317-6) based in Helsinki, Finland.

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# Appendix - Dashboard Screens



Automating clinical pathways.

Ward Jim

- Patients
- New Carepath
- Forms
- Conversations
- Calendar
- Management
- Help & Support
- Account

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Filtering options
Activation code
Active
Schedule required
Search patient

Patient	Carepath	Status	Last online
W D Ward David (C4H2020) +44775668444	Coronavirus disease	ATTENTION	a few seconds ago

**Patient status**

Done

Risk assessment

Review

FORM WAS SUBMITTED

Done

Symptom Tracker

Review

FORM WAS SUBMITTED

**App invitations**

Invitation created by personal Ward Jim

2s2b7

Send

WILL EXPIRE IN 5 MONTHS

Invitation created by personal Ward Jim

5bpdh

Send

WILL EXPIRE IN 5 MONTHS

Invitation created by personal Ward Jim

1fa24

Send

WILL EXPIRE IN 5 MONTHS

+ Create app invitation

**Users info**

Name	Phone number	Email address	Last online	Consent
Ward Jim	+44775668444	None	a few seconds ago	None

Edit carepath
Check forms
Scheduling
Cancel carepath
Show conversation

Items per page: 10 | 1 - 1 / 1



Automating clinical pathways.

Ward Jim

Patients

Back
Risk assessment

Acknowledgment date 3/27/20, 1:44 PM
Modify content
Send reminder
Check task

As a care person you can change the status of the item to **DONE**, if you have been informed about accomplishment of the item by the patient.

[Review](#)

### Form results

**Question 1:** Are you 60 years of age or older?

Yes

**Question 2:** How much do you weigh? (kg / lbs)

90

**Question 3:** Do you consume alcohol? If Yes, please elaborate how often and how much.

Yes

Please elaborate  
20 units a week

**Question 4:** Do you smoke? If Yes, please elaborate how many cigarettes per day.

no

**Question 5:** Do you have any chronic (long-term) respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), emphysema or bronchitis? If yes, please specify.

**Buddy Healthcare**  
Automating clinical pathways.

Ward Jim

- Patients
- New Carepath
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- Management
- Help & Support
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[Back](#)

Symptom Tracker

[Approve form](#)

Patient  
[STW] Affinity Publisher - 1.8.2 [K] - Page 3 -

Carepath  
Coronavirus disease

Acknowledgment date  
3/27/20, 1:46 PM

Required questions are answered

Form is available in PDF for print  
[Download P...](#)

Form results

Question 1: What is your body temperature? 35.0 -37.2 Normal 37.4 - 38.2 Low Grade Fever 38.4 - 39.2 Fever 39.4 - 40.6 High Fever

39

Question 2: Do you have a new continuous cough?

Yes

Question 3: Are you so breathless that you are unable to speak more than a few words?

no

Question 4: Do you have a runny nose?

Yes

Question 5: Are you feeling tired and exhausted ?

Yes

Question 6: Are you having a sore throat?

Yes

Question 7: Please describe your general well-being in 3 words.

Tired pained worried

**Buddy Healthcare**  
Automating clinical pathways.

Ward Jim

- Patients
- New Carepath
- Forms
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