

# Improve Workforce Capacity in Healthcare through Conversational AI





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# Conversational AI Builds Workforce Capacity

The technology is now available to help hospitals tackle the major challenges associated with patient communication at scale. Conversational AI and automation can build workforce capacity by taking on the administrative burden across a multitude of processes, giving staff back precious time to handle more complex and value-adding tasks. Doing this in turn can enable patients to 'Wait well' and empower them in self-care.

At EBO we are committed in helping to solve today's real healthcare problems: long waiting lists, high call volumes and lack of effective, timely communication with patients.

## The Problem

With over six million people waiting for treatment, budget pressures and a serious staffing crisis, hospitals lack the capacity to tackle patient-facing admin processes and patient enquiries efficiently.

Getting out of this crisis by solely relying on recruitment efforts is not viable. On the other hand, text and form-based digital solutions often miss the mark as patients don't engage with them effectively. They fall short on digital inclusion and empathy as they neglect the human element of patient engagement. When it comes to automation, they fail to deliver holistic benefits realisation as most solutions lack the ability to closely integrate with the local EPR, resulting in onerous, manual data entry requirements.

## 45+ WTE

per year just for managing bookings

A typical mid-sized hospital dealing with an average of 275,000 appointment events each year requires an administrative staff of over 45 Whole Time Equivalents (WTEs) just for managing bookings.

## £680,000

cost to midsize hospitals

The use of paper-based patient appointment confirmation and update letters cost a midsize hospital upwards of £680,000 a year in production and postage alone.

## £150

missed appointments cost per DNA

Missed appointments cost on average £150 per DNA (Did Not Attend). DNAs are a huge, and an unnecessary challenge to the system as they burden it with avoidable costs.

## There is a Better Way

With EBO's AI-powered Patient Engagement Solution you rapidly scale up administrative capacity and deliver results without the need for additional staff. An AI-powered Virtual Assistant surfaces on the hospital's website automating appointment booking, responding to patient enquiries and completing entire workflows through two-way, instant conversations with patients, 24/7.

More importantly, it can integrate with any EPR/PAS, updating it automatically delivering increased capacity and cost savings. Within 6 months it can handle up to 30% of calls, significantly building your team's capacity and improving your patients' experience.

## The EBO Solution

# Powered by AI, our Virtual Assistant:

- Converses like a human with thousands of patients simultaneously
- Integrates with any EPR/PAS via APIs
- Retrieves information directly from your EPR/PAS to personalize each conversation to the individual patient's needs
- Scales instantly to meet surges in call volumes
- Supports patients 24/7 on your website, SMS, and WhatsApp
- Communicates in 100+ languages
- Requires minimal digital skills from the patient

**Frees** staff from repetitive calls so they can spend more time with patients

**Updates** your EPR system automatically and in real-time

**Helps** patients answer questions about forms or other information requested of them

**Provides** information to patients about local pathways and services

**Completes** assessments in conversation form

**Maintains** two way communication with patients improving engagement

**Responds** immediately to patients' enquiries 24/7

**ebo**

*– Our booking officers absolutely love our Virtual Assistant Alex, since it does the legwork and they can focus on the patient. Over the last six months, Alex has helped save 24 hours of staff time every week.*

*– Our callers come from diverse cultural and linguistic backgrounds, so we worked with our communication to make sure Alex understands all our patients and the different ways they communicate.*

*– Patients are at the center of it all. Our goal is to make it easier for patients and improve how we communicate with them.*



– Kim Hale, Digital Change Lead Somerset NHS FT

# How Does it Work?

We work together with you to fully customise your Virtual Assistant to your needs. You can name your Virtual Assistant and assign it human characteristics. The Virtual Assistant converses like a human with your patients, 24/7 and guides them to complete their pathway with empathy and care. It initiates two-way conversations with your patients to complete entire workflows, including:

- Appointment Booking
- Auto assignment of freed-up slots
- Waiting List Validation
- PIFU
- Patient Completed Forms
- e-Referral
- Automated Cancellations
- Signposting to Self-management Resource

The Virtual Assistant informs staff of patient requests, eg. removal from waiting list, completed pre-assessments, appointment booking/changes, call back and other patient needs.

# 81%

of patients like using  
the Virtual Assistant

## Meet Claire, your customised AI-powered Virtual Assistant



Claire speaks 100+ languages!



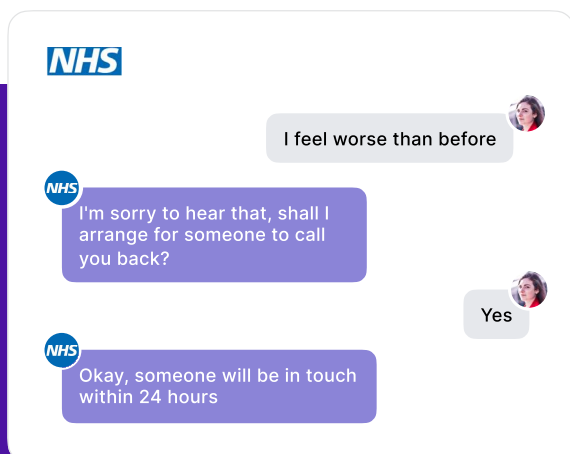
Claire reaches out to the patient via SMS, Email, Social Messaging



Patient responds to Claire



Claire actions the task based on the patient's response



### Patient Engagement with Empathy

EBO's AI-powered Patient Engagement Solution enables you to automate patient communications at scale whilst maintaining empathy and the human touch.

# The 5 Components of EBO's AI-powered Patient Engagement Solution

With EBO you are essentially incorporating five core solution components in your operational response, instantly augmenting your teams' capacity multiple times over.



## Patient-facing Virtual Assistant

- Enables patients to ask questions and get real-time answers
- Supports over 100 languages
- Enables Assessments in conversational form
- Enables automated patient-led booking
- Dynamically pulls latest data from EPR into conversations



## Data Analysis

- Analysis and presentation of KPIs
- Analyse patient experience
- Supports organisational decision-making



## Integration with EPR

- Retrieves information from EPR for patients when needed
- Integration through HL7/FHIR and APIs
- Automated updating of patient record
- Workflow-driven alerts and follow-on actions created in EPR e.g. create a referral



## Multi-channel Broadcast

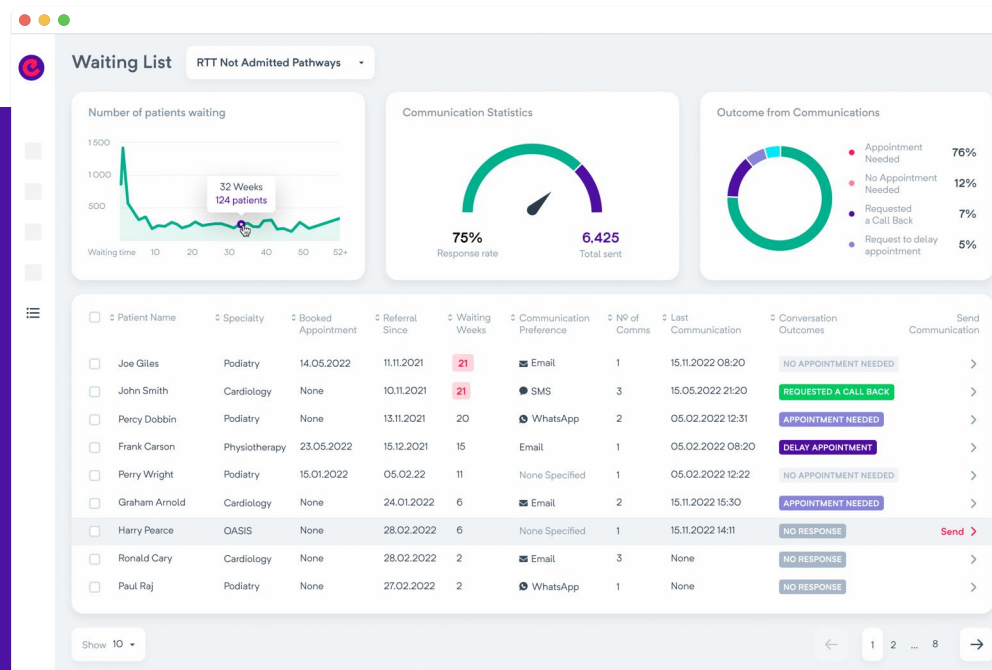
- Broadcast out via email & SMS
- Turn your website into a patient communications channel
- Send notifications to staff
- Available on social messaging platforms including WhatsApp & Facebook Messenger



## Admin Portal

- Set criteria for broadcast to patients
- Upload and view patient lists
- Manage all channels in one place via the Admin portal
- Monitoring and full audit of patient conversations
- Human hand-over

Administrators can control everything from an easy-to-use Admin Portal that provides a clear view of patient lists, enables configuration of settings, provides dashboard views of key metrics and a full audit facility.



# St. James Hospital Virtual Assistant takes on up to 40% of patient call volume per month

Jamie is the custom-built AI-powered Virtual Assistant for St. James Hospital, the largest private hospital in Malta with over 200,000 appointments booked per year. Jamie took on a workload equivalent to almost 5 customer care agents. This equalled to a €100,000 workforce cost saving per year so ROI was achieved in well under 6 months.

*Apart from providing excellent technical expertise, EBO has consistently supported, trained, and maintained a close relationship with all our team whilst overseeing the development, deployment, and the successful marketing of our AI platform.*

– Jean Claude Muscat,  
CEO Saint James Hospital Group



SAINT JAMES  
HOSPITAL



**“Such support is unique and provides us with the confidence and motivation to further develop this exciting Artificial Intelligence revolution together with EBO in being able to provide a holistic and efficient experience to our clients”.**

# EBO's AI-Powered Patient Engagement Solution and Applicable Use Cases

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## Automated Waiting List Validation

- Broadcasts to patients to validate they still need to be on the waiting list
- Answers patient queries
- Completes conversational assessments
- Notifies staff of callback requests
- Records directly into EPR

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## Smart booking of Cancelled Slots

- Offers slots freed up through cancellations immediately to suitable patients
- Automated booking of appointments and theatre slots
- 24/7/365 booking process promptly rebooks late cancellations
- Notifies key administrative and clinical staff

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## Two-way Conversation based PIFU

- Provides self-help information and resources
- Conversational remote assessments
- Automated appointment booking
- Notifies key administrative and clinical staff of changes and scores
- Notifies staff of callback requests
- Records directly into patient's EPR

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## Appointments Management

- End to End and fully integrated
- Appointment verification management (DNAs)
- Intelligent Clinic Cancellation
- Electronic Confirmation Letters
- Intelligence Waiting List
- e-Referrals Management
- Vaccine Bookings
- eConsent Management

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## Broadcast Management

- Auto take over with dialogue capture
- Staff Notification Management
- Real time clinical alerts
- Integrated communications
- Bed flow updates
- Patient initiated follow-ups
- 7-day discharge auto follow-ups

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## Patient Self Assessment and Engagement

- Auto discharge follow up
- Patient recorded outcomes (PROMS)
- Patient recorded experience (PREMs)
- Pre and Post care plans
- Patient mood analysis
- Patient mobile staff locator (Uber style)
- Clinical recorded outcomes (ROMs)
- Friends & Family Questionnaires

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## Admin Management

- FAQs
- IT Help Desk Support
- GDPR Support
- HR Support
- Patient self assessment and engagement
- Self-referral

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## Staff/Contractor Engagement

- Scheduling Management
- Mobile Workers Management
- Clinical Incident Management

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## Multi-Lingual

- Self assessment language support
- Translation Support
- Clinical Incident Management

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## Third Party Engagement

- Multi-agency information sharing
- Patient education and support

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## Theatres

- Slot Confirmation
- Logistics management

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## Integrating Processes

- Automate theatre slots
- Streamline logistics
- Manage teams



# Benefits Realisation with EBO's Patient Engagement Solution

**Reduces call volume and call waiting times** immediately takes up 10% of calls and up to 30% within 6 months.

**Scales instantly contact centre capacity** in line with increased demand.

**Reduces time spent on clinical admin** for PROMS, PREMS, Consent forms freeing up time to care.

**Records directly into the EPR** appointment bookings, wait status and assessments.

**Saves time and reduces human error** as there's no need for manual upload of forms.

**Reduces high volume low complexity calls** such as confirming appointment details and FAQs.

**Enables easier tracking and planning** of consent and outcome forms completed

**Reduces calls for information and complaints** by keeping patients informed and engaged

**Automates waiting list validation reducing lists by 10%** without the need for additional staff <sup>1</sup>

**Releases 4,000 slots** for an average Acute Trust equivalent to an **efficiency saving of £480k** <sup>2</sup>

**Saves 10,000 hours of admin time** for every validation cycle, **equal to £125k** <sup>3</sup>

**Enables two-way communication and assessments** with patients on PIFU lists.

**Reduces DNAs and increases surgical utilisation** by immediately offering cancelled slots to patients.

1. Bowers, F. 2019. Thousands removed from hospital waiting lists by validation process, RTE Ireland's National Public Service Media [online] Available at: <https://www.rte.ie/news/health/2019/1015/1083512-hospital-waiting-lists/>

2. Cost for a Band 4 administrator to carry out a telephone call plus data entry at 15 mins each for 40,000 patients.

3. Based on 4,000 (10% of 40,000) slots costing £120 for an outpatient appointment.

# Choose how EBO's solution is delivered, and our team will support you at every step

## The EBO solution can be delivered in two ways:



### Standalone mode

with no integration for quicker deployment

or



### Fully integrated

with you EPR system for maximum benefits

With over 100 years of collective experience in NHS operational roles and digital project delivery, we know that implementing digital transformation projects can be tricky.

This is why our solution comes with a strong implementation and service component built-in. **We offer complete project management and benefits realisation services**, so you can rest assured of your projects' success.

Our conversation design expertise and continuous improvement process do not stop at Go Live - rather optimisation is ongoing throughout the life of the product.

*Working with EBO is like 'a breath of fresh air'. They have a deep-seated 'can-do' ethos to delivering successful solutions and our collaboration functions as a true partnership.*

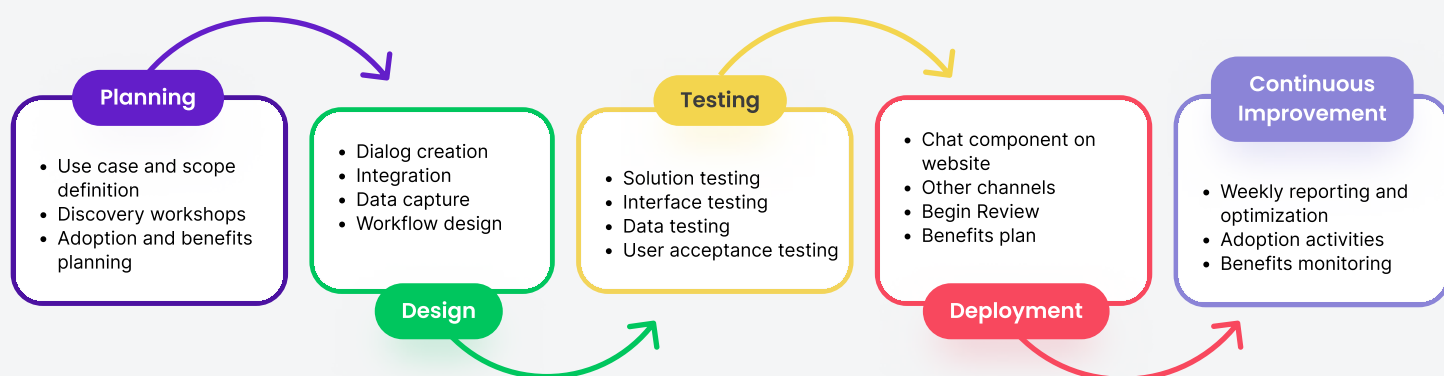
**"The EBO Virtual Assistant is new technology for us with great potential as it integrates directly with our Electronic Patient Record. We initiated a pilot with EBO on e-Consent and are already lined up for rolling out pre-assessment and appointments modules".**



- Andy I'Anson,  
IT Programme Manager



## Project Planning with a Strong and Continuous Benefits Realisation Cycle



# Advanced Technology Assurance

The EBO solution boasts a standardised, open interoperability layer to integrate with any hospital's EPR or PAS and so ensures that all patient data ultimately resides within the main data repository. Nevertheless, the solution is also available as a 'stand-alone' configuration which does not depend on close coupling with such systems. EBO's Solution is GDPR ready, and based on a secure Microsoft Azure infrastructure trusted by many NHS Trusts and health providers around the world. The solution boasts:

## EPR integration

System agnostic with different levels of integration available from CSV and HL7/ FHIR to full integration using APIs.

## Fully Automated

Different levels of automation available with data entered directly into EPR.

## Chat and social messaging platforms

Possibility to place the Virtual Assistant on a website and/or commonly used Social Messaging platforms.

## Healthcare specific AI training models

Tuned to understanding patients and providing the necessary responses according to the use case deployed..

## Tailored Conversation Design

Custom conversation and algorithms designed to replicate complex business rules. Conversation hand-offs or callback requests built in.

## Conversation Management Portal

A back office solution used to manage, and take over conversations between the Virtual Assistant and patients. Also manages scheduling patient notifications.

## Accurate AI based sentiment analysis

Interprets intents and matches responses that meet patient requirements. Achieves the goal of human-like, effective communication.

## Digitally inclusive

Easy to use for patients with limited digital skills.

## Continuous improvement

Specialist dialogue consultants continually optimize the Virtual Assistant during the life of the product.

## Security and Governance Compliance

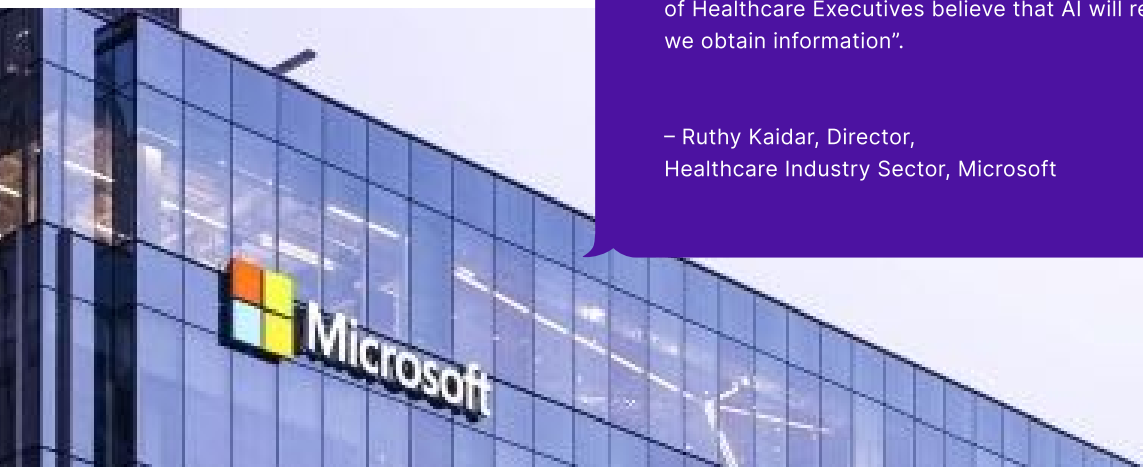
As the protection of data is a key consideration for any healthcare IT deployment, security is built into the architecture of how data and data processing is managed. Deployed within secure Microsoft Data Centres within the UK and using Key Vault technologies, the data within EBO's Virtual Assistant is secured during transit and encrypted at rest.

*EBO is a trusted partner of Microsoft because a lot of what we see with thousands of customers that we work around the world, is very much aligned with EBO's mission and vision.*



"They empower caregivers; they empower administrative staff, and they empower patients to have information more accessible. 84% of Healthcare Executives believe that AI will revolutionise the way we obtain information".

– Ruthy Kaidar, Director,  
Healthcare Industry Sector, Microsoft



# Contact us for a free consultation

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