

Papworth Hospital, Cambridge, re-imagines cardiac rehabilitation uMotif eCOA/ePRO platform

Papworth Hospital boosts cardiac rehab program outcomes and efficiency with uMotif eCOA/ePRO platform.

Pilot study combined the uMotif platform with wearable devices to boost engagement in cardiac rehabilitation program, provide more accurate data to clinicians, and reduce clinical staff administrative and reporting burden.



The Challenge: More effective and efficient cardiac rehabilitation programs

Research consistently affirms the impact of cardiac rehabilitation programs on reducing risk of future cardiac events and improving overall quality of life. Yet, at least one study reveals that fewer than 50 percent of eligible patients across Europe attend cardiac rehabilitation. The reasons range from access to programs, age, travel requirements, lack of motivation, and more. In the United States, that number is even lower—approximately 20 percent.

For those who do participate, cardiac rehab programs typically involve in-clinic therapy as well as “homework” for patients in their daily lives. As with any intervention, patient compliance is an important success indicator, and it can be difficult to track. In addition, accurate and timely data capture throughout the rehabilitation program helps clinicians to assess progress and identify emerging problems.

The cardiac rehabilitation team at Papworth Hospital, Cambridge in collaboration with Abbott Vascular wanted to determine whether the use of smartphone technologies and applications in combination with wearable devices could effectively boost participation/compliance in this important therapy, improve the overall impact of cardiac rehabilitation programs, and even reduce costs.





The Solution: Smartphone technology and uMotif eCOA/ePRO technology provide the answer for patients and clinicians

Researchers deployed the uMotif eCOA/ePRO platform as the foundation for this important digital-powered cardiac rehab study and pilot program.

Patients used a digital physical activity monitor and the uMotif application on their smartphones to capture daily symptoms specific to cardiac rehab over a 12-week program. These included breathlessness, swelling, and dizziness, as well as more general symptoms like mood, stress levels, and sleep quality.

The platform also digitally captured cardiac outcome and experience measures required by the UK's National Audit of Cardiac Rehabilitation. Patients completed the required questionnaires through the app, and the clinical team received a digital output of the data. The app eliminated the need to compile this data manually for the study group, reducing administrative complexity and costs.

An important part of Papworth's cardiac rehab program is following a structured exercise program using a DVD. Papworth made the video available through the app so that clinicians and patients could track use. In addition, during each exercise session, patients completed the BORG scale of perceived effort and recorded their heart rate via the app.

To further extend the reach of the program and promote digital inclusion, the Papworth team worked with uMotif

to create an email-based program for patients who did not have a smartphone or tablet device.

In addition, clinicians used a secure web dashboard to easily view patient data and progress before and during consultations. In addition, the app enabled them to download data into a spreadsheet for anonymized reporting and analysis.



Why uMotif?



uMotif has offered our patients an excellent graphical diary of their progress through the vital process of cardiac rehabilitation following a cardiac event. The data gleaned by both patient and rehab staff enables us to tailor each individual's program to their needs. uMotif is a good example of a technological innovation making an excellent service even better for our patients.

Will Davies, Consultant Interventional Cardiologist,
Papworth Hospital, Cambridge





Impact: Clinical progress, operational efficiency, digital innovation

The pilot program yielded several important benefits, including lower risk of future cardiac events, reduction in some physical resources given to patients (such as DVD-based programs), positive feedback and engagement from patients and clinicians, and expanded data capture for future analysis.



Clinical Impact (for pilot group vs. traditional care)

- 8% lower systolic blood pressure
- 40% improvement in aerobic capacity
- 28% improvement in max Rate Pressure Product (RPP), which may indicate improved confidence in physical ability



Financial impact:

The technology showed potential to improve service efficiency and reduce costs, alongside improving outcomes. This includes clerical time savings for the clinical team, allowing them to focus more time on delivering care.



Engagement:

- 150,000 symptom scores recorded in uMotif app
- 47% of patients used the app at least weekly

Find out more about how uMotif can help drive unparalleled patient engagement and data capture in your next study.

Contact us