

# BIOTELEMETRY: SAVING LIVES WITH REMOTE HEALTH MONITORING

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A pioneer in the wireless medical technology space, BioTelemetry is changing how doctors monitor and diagnose health disorders and diseases. While this technology holds the potential to be applied across the healthcare space, at the moment, its use in mobile cardiac monitoring is leading the way, both in practical application and in its ability to drive revenue for this industry leader. The market has taken note, and this ROBO Global Index member delivered a total return of more than 443% in the past three years (as of March 6, 2019).



The company's flagship product is its Mobile Cardiac Outpatient Telemetry™ (MCOT) system, which gives physicians the ability to diagnose and manage patient care from anywhere for a variety of heart disorders and diseases by providing accurate heartbeat and ECG monitoring, analysis, and response. With the cardiac monitoring market poised to grow to \$32B by 2022 at a CAGR of 8%<sup>1</sup>, Biotelemetry's strength in this area bodes well for its future.

## THE GROWTH IMPACT OF MOBILE CARDIAC OUTPATIENT TELEMETRY

To date, Biotelemetry's MCOT devices have been used to monitor more than 1 million people per year and process over 4 billion heartbeats every day. This widespread usage has resulted in the collection of massive amounts of patient data, all of which is used to feed the company's cardiac data network—currently the largest database of its kind. The company's mission is to bring together technology and data to improve the quality of healthcare while reducing costs, and MCT is helping it fulfill that goal.

Biotelemetry's solutions are enabling substantial strides in healthcare and forging a path toward the future of medicine. Before wearable devices like MCOT, monitoring and diagnosing heart disorders typically required hospital stays and clinical testing conditions that were far from the real world. In contrast, mobile cardiac monitoring systems are worn by patients on an outpatient basis while they perform their normal daily activities. Biotelemetry's advanced MCOT system takes this approach one step further, giving physicians full access to accurate information covering any specified time period. Its newest system incorporates unparalleled arrhythmia detection capability into a product that can be configured as an ultralight wearable patch, or used with more traditional lead wires when patients prefer not to wear a patch.

<sup>1</sup> Allied Market Research

Biotelemetry's extensive product portfolio includes the most accurate and advanced technology in the marketplace, generating the highest yields and the fastest turnaround times for the more than 30,000 physicians who prescribe their products each month. It's no wonder physicians are jumping on the bandwagon. Clinical studies show that MCOT provides more effective detection of infrequent cardiac arrhythmias than the traditional methods, such as the LOOP monitors. A study published in the Journal of Cardiovascular Electrophysiology (JCE) that compared MCOT with LOOP event monitors showed the MCOT system to be nearly 3x superior to LOOP event monitors at detecting clinically significant **atrial fibrillation** in all patients (23% vs. 8%).

To strengthen its competitive position, in July 2017 **Biotelemetry acquired the number-two player in the space, LifeWatch**. The acquisition immediately expanded its client base and improved its margin profile. Since then, the company has been focused on integrating the complementary technologies. Considering the heavy competition in the space, that bolstered strength is going to prove mandatory moving forward. The current cardiac monitoring market is highly competitive, including more than a few smaller players and potential players. Medtronic, for example, recently released its **implantable cardiac monitoring system**. iRhythm Technologies, now the #2 player in the space, offers a wearable biosensor called the **Zio patch**. GE Healthcare's MobileLink™ is a wireless, integrated ECG communication solution that captures, transmits and analyzes ECG information. To maintain its leadership position, Biotelemetry is focused on accelerating its growth trajectory by increasing sales volumes of its MCOT system, growing market penetration, and increasing product utilization. To safeguard its market leadership, BioTelemetry holds 65 US patents and 134 international patents, and it currently has 56 active patent applications.

## ADDING APPLE TO THE EQUATION

In late 2017, all of this good news caught the attention of **Apple**. At that time, Apple was seeking a partner to collaborate in a **new heart study** with researchers

from **Stanford University** and telemedicine company American Well. The day Biotelemetry announced that it had signed on to the project, its stock price jumped by double digits (though certainly its 24 consecutive quarters of year-over-year revenue growth also helped fuel investor enthusiasm). The goal of the study was to combine the iPhone, Apple Watch, and BioTelemetry's ePatch to screen for heart rhythm abnormalities in the general population. It's an important mission.

While arrhythmias or abnormal heart rhythms aren't particularly rare, a related but less common condition, atrial fibrillation, results in 130,000 deaths and 750,000 hospitalizations every year due to blood clots, strokes, and other serious complications<sup>2</sup>. The CDC estimates that the condition affects between 2.7 million and 6.1 million people, and that as many as 700,000 people may have undiagnosed atrial fibrillation. Alarmingly, atrial fibrillation often exhibits no external symptoms, which is precisely why real-time monitoring has the potential to significantly reduce its health consequences. When Biotelemetry signed on to the project, some wondered if this little-known company could be **the key to Apple's healthcare strategy**.

By November 2018, the clinical study had enrolled more than 400,000 participants who are now wearing BioTelemetry's optical sensor technology to analyze pulse data to identify irregular heart rhythms in real time. The largest-ever screening on atrial fibrillation, the study is now in the final phase of data collection and is expected to be complete in early 2019. The technology is already having an impact. In December 2018, Apple Watch user Ed Dentel was featured on **Good Morning America** where he shared the story of the day his Watch began giving him repeated atrial fibrillation alerts. A healthy 45-year-old, he first assumed the alert was a system glitch. Despite a recent normal electrocardiogram, he opted to visit an urgent care center just in case. At the clinic, an electrocardiogram confirmed atrial fibrillation, possibly saving his life.

Apple is enthusiastic about how cases like these may impact the future of the Watch's role in healthcare. On recent earnings calls, Apple has described its Watch as "the ultimate device for healthy life." When interviewed

<sup>2</sup> According to the Centers for Disease Control and Prevention

by **Fortune magazine**, Tim Cook stated that, “medical health activity is the largest or second-largest component of the economy.” Apple is clearly focused on the healthcare opportunity, actively building an ecosystem of products that are indispensable in this area, and the atrial fibrillation study—and Biotelemetry—sit at the core of this surge in Apple’s healthcare-related activity.

## MOVING BEYOND THE HEART

While monitoring the heart is undoubtedly Biotelemetry’s core revenue driver at the moment, the company is quickly extending its reach into new markets. In June 2018, the company launched its next-generation wireless blood glucose monitor for diabetes management, a product resulting from its **2016 acquisition of TelCare**, the first company to receive FDA clearance for a cellular-enabled Blood Glucose Monitoring (“BGM”) system, and the 2018 acquisition of certain assets of ActiveCare, a provider of biometric monitoring devices and services. The new glucometer supports the real-time transmission and consolidation of patient data using a monitor with a touch-screen user interface that enables patients to easily test blood glucose levels and capture additional personal health data. Clinicians can then access and track that data through the BioTel Care cloud and provide immediate feedback directly to their patients via the new monitor’s messaging feature. While the revenue contribution of the new product has so far been minimal, its growth potential is vast considering that the estimated total economic cost of diagnosed diabetes in 2017 is \$327B and rising every day.<sup>3</sup>

The company’s **recently announced acquisition of Geneva Healthcare** targets yet another large potential market. Geneva offers a cloud-based software/service to cardiology/electro-physiology practices that supports the tracking, aggregation, and analysis of implantable device data from pacemakers, Implantable Cardioverter Defibrillators (ICDs), and implantable loop recorders (ILRs). Because the Geneva platform is used by all major heart rhythm data providers, this acquisition helps solve the logistical challenges of interacting with different sources of device data from various manufacturers, providing a powerful competitive advantage.

## CORE COMPETENCIES AND NEW CAPABILITIES POINT TO FUTURE GROWTH

It’s clear that Biotelemetry is striving for greatness. Its MCOT system and extended wear Holter monitors are seeing significant market adoption, and the broad acceptance of its latest offerings is illustrated by the rapid conversion to the newest MCOT patch, which has already been rolled out to more than half of the company’s installed base. In 2018, Biotelemetry grew revenues by 39% YoY and continued to demonstrate strong EBITDA margin expansion. Its gross margin is impressive at 63%, with additional room to expand. These numbers have bolstered investor confidence in the company’s ability to execute in every area—including research, product development, and sales. With the combination of an aging population that is driving demand for innovations in healthcare, a strong core business in mobile cardiac solutions, and an expanding market reach, we see a strong potential for sustained shareholder returns over the next 5 years.

<sup>3</sup> American Diabetes Association, March 2018