ResMed changes lives by developing, manufacturing and distributing market-leading medical equipment for treating, diagnosing and managing sleep-disordered breathing, COPD, and other chronic diseases. Throughout our 25 years of research and innovation, we have continued to pioneer solutions that improve the health and quality of life of those who suffer from these conditions, and we work to raise awareness of the potentially serious health consequences of untreated sleep-disordered breathing.

For more information on ResMed, visit www.resmed.com
History

ResMed was founded in 1989 by Dr. Peter Farrell to advance treatment of sleep apnea, a condition that was relatively unknown and unstudied. In 1981, a chest physician at the University of Sydney Medical School developed a device that treated sleep apnea by blowing air into a patient’s nose and mouth, preventing the airway from collapsing. This machine, which was made from a reverse vacuum cleaner pump, was the first continuous positive airway pressure (CPAP) machine. The early machine was loud, uncomfortable and large, but Farrell saw its potential to treat sleep apnea. He formed the company, and acquired the intellectual property rights needed to make CPAP devices.

Company Overview

At its founding, ResMed had eight employees, AU$1.2 million to grow the business, and limited manufacturing capabilities. Today we operate in 100 countries, have manufacturing sites in Australia, France, Singapore and the U.S., employ more than 4,300 people and are listed on the New York and Australian stock exchanges. ResMed generated revenue of US$1.5 billion in FY 2013, has a five-year annual growth rate of 13 percent in revenue and 24 percent in net income, as well as more than $1 billion in cash.

From the beginning, we’ve been making CPAP devices quieter, more comfortable and easier to use. We invest about 8 percent of revenue in research and development, and have approximately 3,000 patents and designs.

Our core market is the treatment of sleep-disordered breathing (SDB) with an emphasis on obstructive sleep apnea (OSA). Recently we have identified respiratory care and cardiology as target areas for further growth, while we continue to lead the SDB market.

Glossary

<table>
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<th>Term</th>
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<td>CPAP</td>
<td>Continuous positive airway pressure</td>
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<td>MRD</td>
<td>Mandibular repositioning device</td>
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<td>OSA</td>
<td>Obstructive sleep apnea</td>
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<td>SDB</td>
<td>Sleep-disordered breathing</td>
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Sleep-Disordered Breathing

SDB is any abnormal respiration during sleep, including snoring, lapses in breathing (apneas) and reduced airflow (hypopneas). It is estimated that more than 100 million people globally are affected by SDB, and nearly 90 percent of that population does not receive treatment.\(^1,2\)

At least 26 percent of the adult population has OSA, the most prevalent form of SDB.\(^3\) OSA occurs when a person’s upper airway collapses during sleep, causing the sufferer to stop breathing. It also prevents the proper amount of oxygen from reaching the heart and brain. In an attempt to start oxygen flow, the brain triggers the patient to wake up; OSA patients may wake up hundreds of times a night. This prevents them from getting restful sleep, strains their cardiovascular system and could impact the brain.\(^4\)

**Symptoms of OSA**

- Extreme sleepiness
- Frequent snoring
- Stopping breathing during sleep
- Morning headaches
- Impaired concentration
- High blood pressure
- Overweight

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1. "Over 100 million people globally are affected by Sleep Apnea Syndrome"  
2. Young T, Peppard E, and Gottlieb D. Epidemiology of obstructive sleep apnea: a population health perspective. Am J Respir Crit Care Med 2002;166:1217-1239
Those with untreated OSA may fall asleep at work or while driving, and many exhibit mood disorders. In addition to the decreased quality of life caused by OSA symptoms, sleep apnea is at the center of major chronic diseases. Research suggests that sleep apnea worsens these conditions by disrupting sleep and straining the heart.5

**ResMed and Cardiovascular Disease**

Studies show that SDB is an independent risk factor for cardiovascular disease, and can place a patient at higher risk for stroke and sudden cardiac death.6 With one in three people who have high blood pressure also suffering from sleep apnea, there is a strong connection between the two. Sleep apnea is strongly linked with hypertension, regardless of other risk factors. Studies show that treating sleep apnea can lower blood pressure and benefit overall heart health.7

**SERVE-HF**, sponsored by ResMed, is the largest randomized controlled study in the field of sleep-disordered breathing and heart failure. The trial is assessing the benefits of PaceWave™ adaptive-servo ventilation (ASV) therapy on patients with chronic heart failure. ASV treats complex sleep apnea syndrome and central sleep apnea by automatically calculating how much pressure a patient requires on a breath-by-breath basis. The study comprises 1,325 patients in 80 centers across Europe and Australia. It focuses on time to death, the impact of treatment on healthcare economics, quality of life, overall cardiac function, and the impact on unplanned heart-failure related hospitalizations. Results, expected in 2016, could have a major impact on the future management of heart failure patients.

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1 Obstructive sleep apnea and the risk of sudden cardiac death: A longitudinal study of 10,701 adults. (Gami et al., 2013 J Am Coll Cardiol.)
ResMed SDB Therapy Solutions

CPAP is the gold standard for treating SDB. CPAP therapy involves a flow generator that gently delivers pressurized air via a mask to keep the upper airway open during sleep. ResMed creates innovative products for SDB that keep the patient comfortable and are easy to use. The latest system from ResMed, the S9™ series, features a whisper-quiet Easy-Breathe motor and patient-specific humidity and temperature levels during use to ensure peaceful sleep.

ResMed has best-in-class mask offerings, with an international survey conducted in 2012 showing we are the number one mask brand preferred by CPAP patients.® Our masks include the ultra-light Quattro™ Air full face mask and the AirFit™ P10 nasal pillows system. We also have masks made especially for women and pediatric masks for children.

In addition to making CPAP more comfortable for patients, we have a number of new ventures for improving sleep apnea therapy. We manufacture Narval™ CC, a mandibular repositioning device (MRD) that is fitted by a dentist and is used to treat mild to moderate sleep apnea and snoring. In 2011, ResMed acquired BiancaMed, now ResMed Sensor Technologies, which develops contactless sensors to monitor a patient’s sleep and breathing. We also acquired Umbian Inc. so that patients and clinicians can benefit from the company’s U-Sleep compliance monitoring software.

® Combined responses of those expressing a preference in an independent patient survey in the USA, UK, Germany, France & Australia, from September 2012.
ResMed offers therapy solutions for those suffering from chronic respiratory diseases, including chronic obstructive pulmonary disease (COPD), obesity hypoventilation syndrome (OHS), amyotrophic lateral sclerosis (ALS) and respiratory failure.

Our ventilation solutions improve the quality of life for patients with respiratory diseases. We offer market leading mechanical ventilation for respiratory failure stemming from congenital defects, illness, trauma, obesity, cardiac arrest, neuromuscular disease, pulmonary disease and sepsis and shock. We also provide noninvasive ventilation (NIV) solutions for patients who need short- or long-term ventilation, in both hospital and home settings.

An estimated 80 million people worldwide have moderate-to-severe COPD, and COPD deaths are predicted to increase by more than 30 percent in the next decade. Studies show that one in five patients with stage 3 or 4 COPD hospitalized for acute respiratory exacerbations are readmitted to the hospital within 30 days. Treatment at home with NIV can decrease the chances of hospitalization, and can be an effective cost saving measure for patients and healthcare providers.

In 2013 ResMed released the VPAP™ COPD, a bilevel therapy device cleared by the U.S. Food and Drug Administration (FDA) for the treatment of COPD. This device gives patients with COPD a weapon in the fight to stay out of the hospital, and helps lead to a better quality of life by slowing the progression of COPD. Our ClimateLineMAX™ Oxy tubing has an oxygen line port near the mask so that patients who need supplemental oxygen can decrease the amount of tubing near their mask.

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* Ibid.
Compliance and Monitoring

CPAP treatment is only effective if it is used consistently, so the first step toward patient compliance is making a product that patients want to use. We make flow generators that are sleek, quiet and unobtrusive with an intuitive user interface that mimics computers and cell phones, so it is easy for patients to adjust to therapy and continue using it night after night. Our masks are comfortable and rest lightly on the face, while still offering an effective seal. ResMed flow generators also feature a mask fit indicator, which tells the patient right away if the mask is leaking or not fitting properly.

Patient compliance is enhanced with careful monitoring to increase accountability. ResMed flow generators can save and wirelessly transmit data through the EasyCare Online monitoring system. This allows doctors to see, at a glance, if a patient is compliant with therapy. Compliance data is also stored in an SD card within the device itself.

EasyCare Online and S9 SD data cards also keep detailed records about how therapy is working, including the number of apnea or hypopnea events, leaks, pressure, pulse rate and oxygen saturation. This allows clinicians to quickly determine if a patient needs an adjustment in therapy.
ResMed’s Growth Strategy

We have identified three horizons for future growth. The first horizon is core market growth, which entails focusing on our core SDB business. This is done by promoting home sleep testing and Narval, expanding our contact with primary care physicians, and improving healthcare informatics and care management systems.

The second horizon is growth in adjacent product and geographic markets, including homecare ventilation for COPD, ALS and other respiratory disorders, and emerging markets in China, India and Latin America.

Our third growth horizon covers new business opportunities to expand our existing base. We are expanding into additional important fields in medical technology and overall wellness by becoming more invested in heart failure therapy, heart failure monitoring, snoring, consumer wellness and consumer branding.
Additional citations:


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