



Biotech Daily

Friday February 17, 2017

Daily news on ASX-listed biotechnology companies

Dr Boreham's Crucible: Resapp Health

By TIM BOREHAM

ASX code: RAP; **Market cap:** \$215m; **Share price:** 35.5c

Chief executive officer: Tony Keating

Board: Dr Roger Aston (chairman), Tony Keating, Brian Leedman, Chris Ntoumenopoulos.

Financials: December 2016 quarter cash burn of \$1.147million (year to date \$1.83 million). Cash of \$12.17 million at December 31, 2016.

Major shareholders: Freeman Road (6.8%), Fidelity International (6%).

The developers of the world's first clinically proven, smart-phone based respiratory disease diagnostic faces its stiffest test not from the regulators, but from the Screen Actors Guild.

After all, if coughing into an app becomes the global standard of care for respiratory diagnosis, how do producers of medical dramas portray the next crop of Marcus Welby MDs without a stethoscope draped around their neck?

Clutching a mobile doesn't confer the same medical credibility, white coat or not.

Auscultation – the art of listening to a chest to ascertain the diseases within – has been practised for 2000 years. Stethoscopes have been around for 200 years.

The trouble is, it's a notoriously unreliable instrument, prone to considerable operator error.

According to Resapp director and co-founder Brian Leedman, general practitioners get it wrong in about 25 percent of cases, although hospital-based diagnoses are more accurate than that.

The Resapp algorithm was invented by the University of Queensland's Prof Udantha Abeyratne, originally with a sleep apnoea focus.

As is the wont with medical technology the focus changed, in this case to detecting chest diseases purely from the sound of the cough.

With a grant from the Bill and Melinda Gates Foundation, the application eventually emerged from the laboratory and into Resapp which back-door listed in July 2015.

Globally, more than 700 million patients visit their docs for respiratory disease annually (including six to eight million in Australia) and they are frequently misdiagnosed.

As experienced chest listeners would attest, a cough is not a cough: pneumonia, asthma, bronchiolitis and upper tract infections all emit different patterns, as does chronic obstructive pulmonary disease (COPD) in adults, not to mention heart failure causing fine crackles at the bases of the lungs.

The Bill and Melinda show funded a 2013 paediatric study at Indonesia's Sardijto Hospital, with 91 patients involved.

This was followed up by a 976-patient study (also paediatric) at Perth's Joondalup Health Campus and Princess Margaret Hospital.

While enrolments and analysis of the Perth study are on-going, the initial results have been, well, breath-taking.

For instance, the device diagnosed bronchiolitis with 100 percent accuracy and pneumonia and asthma with 97 percent and 95 percent accuracy.

The clever app could even distinguish between asthma and pneumonia 90 percent of the time.

This was followed up by a 772-patient adult study with accuracy rates of 98 to 100 percent (COPD, pneumonia, upper respiratory tract infection) and 88 percent (pneumonia versus asthma).

The company has now launched Smartcough-C, a pivotal US paediatric study at three confirmed sites: Massachusetts General Hospital, Texas Children's Hospital and Cleveland Clinic.

The primary endpoint of the double-blinded study is diagnosis of childhood pneumonia, with the secondary endpoints of diagnosis of upper respiratory tract infection, croup, bronchiolitis, asthma and viral wheeze and “lower respiratory tract involvement”.

Recruitment is expected by the end of March, with analysis in the June quarter.

If all goes well, Resapp plans to file a new device submission to the FDA for approval as a class two medical device - one that assists doctors in their diagnosis, not as a stand-alone at-home tool.

PROSPECTS:

A key revenue opportunity for Resapp lies with the expansion of telehealth, web based consultations for which a stethoscope (or imaging and blood tests) is irrelevant.

Accounting house Deloitte estimates 75 million virtual consultations take place in the US alone and Goldman Sachs estimates this addressable market at \$US12 billion.

Around 30 to 50 percent of these consultations are for respiratory disease, in which case all the provider can do is suggest the patient see a real physician.

Stockbroker Patersons recently initiated coverage on Resapp with a target price of 59c a share.

The firm forecasts a \$6 million loss this year, swinging to a 2017-'18 profit of \$13 million and earnings in 2018-'19 of \$36 million.

According to Patersons, a typical doctor's visit in the US costs \$US200.

Virtual consultations range from \$US40-50, with the telehealth provider typically pocketing \$US10.

According to Mr Leedman, telehealth is only one path to market.

It's quite possible that Resapp could become the global standard of care for general practitioners, in which case stethoscopes will be banished to the props room of the BBC's period drama department.

DR BOREHAM'S VERDICT:

We would like to declare Resapp as one of the sector's untapped value plays.

But we can't.

The shares, which relisted in July 2015 after a \$4 million capital raise at 2c apiece, soared to a high of 53c last September.

Have investors expectorated too much of the folding stuff?

Perhaps.

But management has lived up to its promises to date, which contrasts Resapp with similarly hyped 'wheezeometer' asthma detection play Isona (now batting on as Respi, ASX code RSH).

Despite the reduced burden of proof to get a device to market, Resapp's regulatory and marketing timelines look ambitious in our view.

Dr Boreham would not rush to buy the shares at current levels.

But stethoscope wielders beware, this one looks like coughing up the goods.

Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. He does not own a stethoscope and nor is he a licensed financial adviser.