

# ResApp Health

## Croup too rare to show significance

**ADD** (no change)

Current price:	A\$0.088
Target price:	A\$0.19
Previous target:	A\$0.19
Up/downside:	113.1%
Reuters:	RAP.AX
Bloomberg:	RAP AU
Market cap:	US\$43.15m
	A\$61.00m
Average daily turnover:	US\$0.04m
	A\$0.06m
Current shares o/s	659.0m
Free float:	74.1%

- RAP has announced its results from its SMARTCOUGH-C-2 croup results showing greater accuracy compared to clinicians.
- While results were positive, unfortunately the rarity of the condition (2%) within the sample requires a larger population in order to achieve statistical significance.
- RAP will press on without croup for its FDA submission this month with the three largest indications included being LRTD, Asthma, and primary URTD.
- We maintain an Add rating on the stock with a number of catalysts in the next couple of months to drive investor interest.

### Progressing to FDA submission imminently

RAP has released its croup results from its US pediatric trial. While showing significantly higher accuracy when compared to the treating team clinicians (74% vs 65% PPA), the low number of patients that presented with the disease (29 out of 1,236 patients) meant that statistical significance on the results was unable to be achieved. While disappointing the results were not sufficient to include in the upcoming FDA de novo submission, we note that this indication is small (as evidenced by the low numbers within the study) and not material to commercialisation efforts. RAP expects to lodge the submission in coming weeks. As a reminder, de novo submissions are expected to take ~120 days from filing to approval, with clock stoppages occurring if the FDA requires more information. While difficult to predict timing, we forecast FDA approval in FY20.

### Upcoming catalysts to keep an eye on

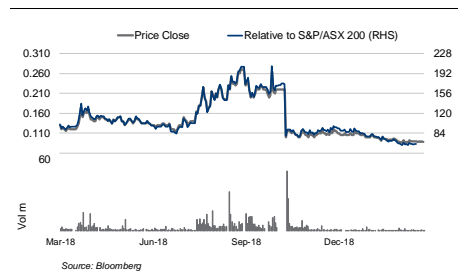
There are a number of short-term catalysts we are focused on: 1) FDA de novo submission for lower respiratory tract disease (LRTD), Asthma/reactive airway disease, and primary upper respiratory tract disease (URTD) – expect 1QY19; 2) the outcome of an acute adult respiratory disease diagnosis study in Australia (expect 1QCY19); 3) completing recruitment for an at-home obstructive sleep apnoea study (expect 1QCY19); and 4) CE mark approval (expect 4QCY19).

### No changes to forecasts

We recently reviewed the timing of our telehealth revenue assumptions, revising our forecasts back six months to adjust for potential delays following the US government shutdowns (FDA impact), and Brexit (CE mark impact). We forecast CE mark approval late 4QCY19 and FDA de novo in FY20. Following approvals, we forecast initial take-up from global providers.

### Investment view – Add recommendation maintained

Given there are no changes to forecasts our DCF derived valuation remains unchanged at A\$0.19. The target price is set at the same level. The key downside risk is failure to achieve FDA and CE mark approval. RAP is recommended only for investors with a higher risk profile and who follow catalyst driven stocks. We retain an Add recommendation.



Price performance	1M	3M	12M
Absolute (%)	-7.4	-20	-26.7
Relative (%)	-9.7	-30.7	-31.5

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Analyst(s) own shares in the following stock(s) mentioned in this report:

– ResApp Health

Financial Summary	Jun-18A	Jun-19F	Jun-20F	Jun-21F
Revenue (A\$m)	1.00	0.00	2.24	21.60
Operating EBITDA (A\$m)	(6.49)	(7.04)	(4.91)	14.00
Net Profit (A\$m)	(6.53)	(7.24)	(5.07)	13.79
Normalised EPS (A\$)	(0.010)	(0.010)	(0.007)	0.019
Normalised EPS Growth	(34.9%)	5.4%	(32.7%)	
FD Normalised P/E (x)	NA	NA	NA	4.70
DPS (A\$)	-	-	-	-
Dividend Yield	0%	0%	0%	0%
EV/EBITDA (x)	NA	NA	NA	3.44
P/FCFE (x)	NA	NA	NA	5.21
Net Gearing	(60.4%)	(94.8%)	(93.9%)	(91.5%)
P/BV (x)	10.46	10.79	20.02	3.58
ROE	(77%)	(129%)	(115%)	130%
Normalised EPS/consensus EPS (x)		1.04	0.70	0.94

SOURCE: MORGANS, COMPANY REPORTS

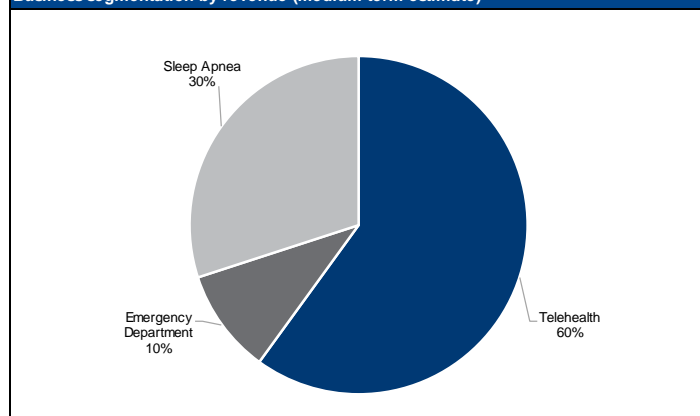
**Figure 1: Business snapshot**

ResApp Health (as at 18-03-19)		RAP AU / RAP.AX	Health Care Equipment & Services
Market cap (A\$m):	58.0	Rating:	ADD
Shares outstanding (m):	659.0	Price (A\$):	0.09
Free float (%):	74%	Target price (A\$):	0.19
Company website:	www.resapphealth.com.au	Upside/downside to target price (%):	114.3%

**Company description**

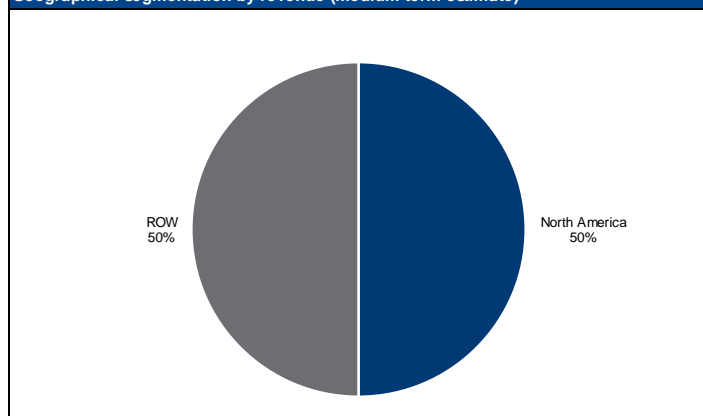
ResApp Health Limited (RAP, formerly Narhex Life Sciences Limited) is a digital health company developing smartphone applications for the diagnosis and management of respiratory disease. The technology is based on machine learning algorithms that use cough sounds to diagnose and measure the severity of respiratory conditions without the need for additional hardware. **TECHNOLOGY:** : ResApp was created to diagnose and measure the severity of a range of chronic and acute diseases such as pneumonia, asthma, bronchiolitis and chronic obstructive pulmonary disease (COPD) using this insight. ResApp had developed new machine-learning algorithms to measure the severity of OSA from a patient's overnight breathing and snoring sounds recorded using a smartphone placed on a bedside table.

**Business segmentation by revenue (medium-term estimate)**



SOURCE: MORGANS

**Geographical segmentation by revenue (medium-term estimate)**



SOURCE: MORGANS

**Basic revenue assumptions on ResAppDX (\$US)**

Assumptions	2017A	2018A	2019F	2020F	2021F
<b>Clinical Revenue</b>					
\$ Fee / test		5.0	5.0	5.0	5.0
Patient visits to ED/GP (m)	1,199	1,259	1,322	1,388	
% present with respiratory	10%	10%	10%	10%	
Children/Adult split	25%	25%	35%	45%	
Total address market (m)	149.9	157.3	231.3	312.3	
Market share	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Revenue- Clinical (US\$m)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Telehealth Revenue</b>					
\$ Fee / test		4.0	4.0	4.0	4.0
# Providers	0	0	1	6	
Avg consults p.a. / provider (m)	0	3	4	5	
Patients presenting with problem	30%	30%	30%	30%	
Market addressable (children/adults)	25%	25%	35%	45%	
Total address market (m)	0.00	0.00	0.42	4.05	
Weighting within FY (%)	50%	100%	100%	100%	
<b>Revenue- Telehealth (US\$m)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.7</b>	<b>16.2</b>

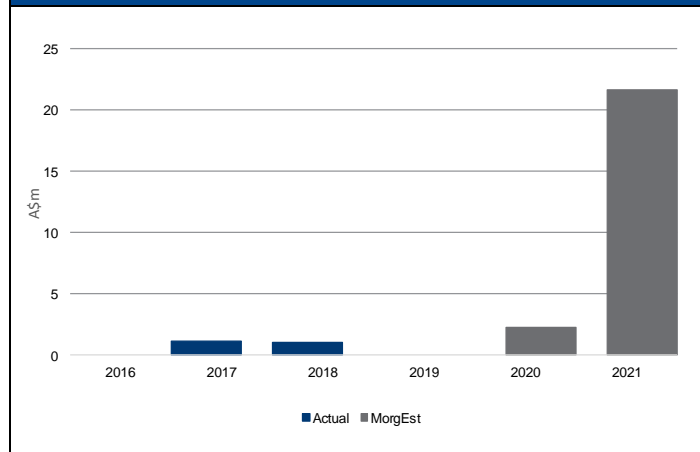
SOURCE: MORGANS

**Milestone table**

Timing	Milestone	Outcome
4QCY18	Top-line data from SMARTCOUGH-C-2	Mixed
1QCY19	File de novo premarket submission with FDA for lead pediatric product	In progress
1QCY19	File for CE Mark in Europe for lead pediatric product	Achieved
1QCY19	SMARTCOUGH-C-2 Croup results	Insufficient data
1QCY19	Additional Australian adult study results	
4QCY19	Start pivotal US adult clinical study	
4QCY19	FDA clearance for lead pediatric product	
4QCY19	Initial US commercialisation via telehealth partnership	
4QCY19	Sleep Apnea study top-line readouts	

SOURCE: MORGANS, COMPANY

**Revenue**



SOURCE: MORGANS, COMPANY

**Key drivers / risks**

**Key Drivers**

- Objective and repeatable** - the trend towards medical diagnostics being both objective and repeatable.
- Scalability** - the low cost nature of the technology makes it easily scaleable for the tele-health providers and primary care physicians
- Catalysts** - the Australian adult respiratory study.

**Key risks:**

- Regulatory clearances** yet to be received from FDA in the US (largest and most immediate potential revenue source) and CE Mark in Europe.
- Clinical** - a number of trials are yet to read out - poor results could impact the ability to commercialise the technology.
- Funding risk** - delays in receiving clearances could impact the commercialisation timelines resulting in further working capital being required.
- FX risk** - Main source of revenues are expected to be generated in overseas jurisdictions.

SOURCE: MORGANS, COMPANY

Figure 2: Financial summary

Income statement						Valuation metrics					
	FY17A	FY18A	FY19F	FY20F	FY21F	Share price (A\$)		Price Target (A\$)			
Total revenue	1.1	1.0	0.0	2.2	21.6	0.09		\$0.19			
EBITDA	-10.0	-6.5	-7.0	-4.9	14.0	<b>DCF valuation inputs</b>					
Associate income	0.0	0.0	0.0	0.0	0.0	Rf	4.00%	10-year rate	4.00%		
Depreciation	0.0	0.0	0.0	0.0	0.0	Rm-Rf	5.00%	Margin	2.0%		
EBITA	-10.2	-6.6	-7.3	-5.2	13.7	Beta	1.70	Kd	4.20%		
Amortisation/impairment	0.0	0.0	0.0	0.0	0.0	CAPM (Rf+Beta(Rm-Rf))	12.5%	Ke	12.5%		
EBIT	-10.2	-6.6	-7.3	-5.2	13.7	Equity (E/EV)	100.0%	NPV cash flow (A\$m)	127.4		
Net interest expense	0.2	0.1	0.1	0.1	0.1	Debt (D/EV)	0.0%	Minority interest (A\$m)	0.0		
Pre-tax profit	-10.0	-6.5	-7.2	-5.1	13.8	Interest rate	4.20%	Net debt (A\$m)	-3.3		
Income tax expense	0.0	0.0	0.0	0.0	0.0	Tax rate (t)	30.0%	Investments (A\$m)	0.0		
After-tax profit	-10.0	-6.5	-7.2	-5.1	13.8	<b>WACC</b>	12.5%	Equity market value (A\$m)	130.7		
Minority interests	0.0	0.0	0.0	0.0	0.0						
NPAT	-10.0	-6.5	-7.2	-5.1	13.8						
Significant items	0.0	0.0	0.0	0.0	0.0						
NPAT post abnormals	-10.0	-6.5	-7.2	-5.1	13.8						
Cash flow statement						Multiples					
	FY17A	FY18A	FY19F	FY20F	FY21F		FY17A	FY18A	FY19F	FY20F	FY21F
EBITDA	-10.0	-6.5	-7.0	-4.9	14.0	Enterprise value (A\$m)	69.5	64.4	66.4	64.1	77.6
Change in working capital	4.7	0.2	1.6	-0.2	-1.6	EV/Sales (x)	na	na	na	28.6	3.6
Net interest (pd)/rec	0.2	0.1	0.1	0.1	0.1	EV/EBITDA (x)	-7.0	-9.9	-9.4	-13.1	5.5
Taxes paid	0.0	0.0	0.0	0.0	0.0	EV/EBIT (x)	-6.8	-9.7	-9.1	-12.4	5.7
Other oper cash items	0.0	0.0	0.0	0.0	0.0	<b>PE (x)</b>	<b>-5.8</b>	<b>-8.9</b>	<b>-8.4</b>	<b>-12.5</b>	<b>4.7</b>
Cash flow from ops (1)	-5.0	-6.2	-5.3	-5.0	12.4	PEG x)	0.0	-0.3	1.6	-0.4	0.0
Capex (2)	0.0	0.0	0.0	0.0	0.0	<b>Per share data</b>					
Disposals/(acquisitions)	0.0	0.0	0.0	0.0	0.0	No. shares	659.0	659.0	659.0	693.0	721.0
Other investing cash flow	0.0	0.0	0.0	0.0	0.0	EPS (cps)	-1.5	-1.0	-1.0	-0.7	1.9
Cash flow from investing (3)	0.0	0.0	0.0	0.0	0.0	Dividend per share (c)	0.0	0.0	0.0	0.0	0.0
Incr/(decr) in equity	0.3	0.0	7.5	2.8	1.2	Dividend payout ratio (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Incr/(decr) in debt	0.0	0.0	0.0	0.0	0.0	<b>Dividend yield (%)</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Ordinary dividend paid	0.0	0.0	0.0	0.0	0.0	<b>Growth ratios</b>					
Preferred dividends (4)	0.0	0.0	0.0	0.0	0.0		FY17A	FY18A	FY19F	FY20F	FY21F
Other financing cash flow	0.0	0.0	0.0	0.0	0.0	Sales growth	na	na	na	na	864.3%
Cash flow from fin (5)	0.3	0.0	7.5	2.8	1.2	Operating cost growth	237.6%	-32.6%	-6.0%	1.5%	6.3%
Forex and disc ops (6)	0.0	0.0	0.0	0.0	0.0	EBITDA growth	-202.9%	34.9%	-8.5%	30.3%	385.3%
Inc/(decr) cash (1+3+5+6)	-4.8	-6.2	2.1	-2.2	13.7	EBITA growth	-211.1%	35.3%	-10.4%	29.2%	365.3%
Equity FCF (1+2+4)	-5.0	-6.2	-5.3	-5.0	12.4	EBIT growth	-211.1%	35.3%	-10.4%	29.2%	365.3%
						NPAT growth	-208.8%	34.9%	-10.8%	30.0%	371.9%
						Normalised EPS growth	-204.0%	34.9%	-5.4%	32.7%	366.4%
Balance sheet						Operating performance					
	FY17A	FY18A	FY19F	FY20F	FY21F		FY17A	FY18A	FY19F	FY20F	FY21F
Cash & deposits	8.6	3.4	5.4	3.0	16.6	Asset turnover (%)	2.0	2.7	0.0	8.1	40.8
Trade debtors	0.1	0.0	0.0	0.1	0.9	EBITDA margin (%)	na	na	na	-219.1	64.8
Inventory	0.0	0.0	0.0	0.1	1.1	EBIT margin (%)	na	na	na	-231.1	63.6
Other current assets	1.2	1.0	1.0	1.0	1.0	Net profit margin (%)	na	na	na	-226.4	63.8
Goodwill	0.0	0.0	0.0	0.0	0.0	Return on net assets (%)	-90.2		-105.6	-20.5	-90.2
Other intangible assets	2.2	2.0	1.8	1.5	1.2	Net debt (A\$m)	-8.6	-3.3	-5.4	-3.0	-16.6
Fixed assets	0.0	0.0	0.0	0.0	0.0	Net debt/equity (%)	-75.4	-60.4	-94.8	-93.9	-91.5
Investments	0.0	0.0	0.0	0.0	0.0	Net interest/EBIT cover (x)					
Other assets	0.0	0.0	0.0	0.0	0.0	Invested capital	7.5	2.4	1.9	0.0	-0.1
Total assets	12.0	6.5	8.1	5.7	20.8	ROIC (%)	-133.4	-275.2	-376.1	-21528.8	-17850.7
Short-term borrowings	0.0	0.0	0.0	0.0	0.0	<b>Internal liquidity</b>					
Trade payables	0.6	0.8	2.3	2.3	2.5		FY17A	FY18A	FY19F	FY20F	FY21F
Long-term borrowings	0.0	0.0	0.0	0.0	0.0	Current ratio (x)	16.8	5.8	2.8	1.8	7.8
Other term liabilities	0.1	0.1	0.1	0.1	0.1	Receivables turnover (x)	12.5	15.7	0.0	48.7	44.1
Other liabilities	0.0	0.0	0.0	0.0	0.0	Payables turnover (x)	27.6	11.0	4.6	3.1	3.1
Total liabilities	0.6	1.0	2.5	2.5	2.7						
Share capital	21.8	21.8	29.3	32.1	33.3						
Other reserves	6.3	7.1	7.1	7.1	7.1						
Retained earnings	-16.8	-23.3	-30.7	-35.9	-22.3						
Other equity	0.0	0.0	0.0	0.0	0.0						
Total equity	11.3	5.5	5.7	3.2	18.1						
Minority interest	0.0	0.0	0.0	0.0	0.0						
Total shareholders' equity	11.3	5.5	5.7	3.2	18.1						
Total liabilities & SE	12.0	6.5	8.1	5.7	20.8						

SOURCE: MORGANS RESEARCH, COMPANY

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