ResApp Health

Over reaction

ADD (no change)

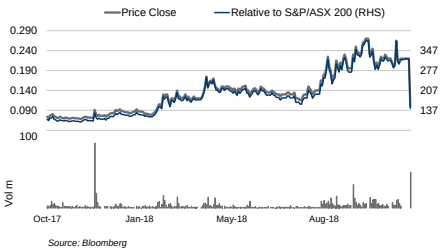
Current price:	A$0.100
Target price: ▼	A$0.24
Previous target:	A$0.35
Up/downside:	135.5%
Reuters:	RAP.AX
Bloomberg:	RAP AU
Market cap:	US$49.18m
	A$69.31m
Average daily turnover:	US$0.89m
	A$1.23m
Current shares o/s	659.0m
Free float:	90.2%

Key changes in this note

FY19F revenue down by 100.0%.

FY20F revenue down by 52.0%.

FY21F revenue down by 34.1%.



Price performance	1M	3M	12M
Absolute (%)	-52.4	-28.6	44.9
Relative (%)	-45.9	-21.1	46.8

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

– ResApp Health

- RAP released its top-line results from its US SMARTCOUGH study, with positive results in the largest market indications for LRTI, URTI and asthma, and expects to lodge its FDA de novo application before year end.
- Clinical diagnosis in the US of respiratory disease proves to be highly variable with a third of tests requiring a third adjudicator to act as a tie-breaker.
- While disappointed that the pneumonia results fell short of the benchmark 70% PPA and NPA, we believe the market has overreacted considering the relatively small market size for this indication in the US.
- We have lowered our forecasts to reflect timing of telehealth revenue. The target price has been reduced to A$0.24 from A$0.35. Add recommendation maintained.

SMARTCOUGH-C-2 results – major indications successful

RAP produced a positive top-line read-out from the pivotal US children's study for three out of six indications recording above 70% positive percent agreement (PPA) and negative percent agreement (NPA). We view this result as sufficient to gain regulatory approval for lower respiratory tract infection (LRTI), upper respiratory tract infection (URTI) and asthma. The results for croup have been delayed and are expected by November. However pneumonia and bronchiolitis indications did not reach the threshold and will require further study. While a miss on these indications is disappointing, these markets are relatively small in RAP's major markets. Issues hampering the results were high levels of disagreement between clinical adjudicators, with a third of diagnoses requiring a third clinician to act as a tie-breaker. This point shows the level of subjectivity in respiratory diagnosis even with all available tests to clinicians (chest x-rays, microbiology testing, stethoscope), which we believe further enhances the need for objective diagnostics.

What's next?

RAP expects to make its formal FDA and CE mark and TGA submissions by the end of CY18, with regulatory approval due by mid-CY19. The Australian adult study is also expected to be completed shortly with results expected by end CY18. The adult market is 3x larger than the children's market and is a key catalyst. Following on from its successful sleep apnoea study, we expect RAP to compare the algorithm to the Home Sleep Test (HST) over the next 12 months which potentially will diversify its revenue opportunities.

Forecasts revised down

We have revised our forecasts by reducing the fee per test to US$4 (from US$5) reflecting fewer indications to be approved and a delay in the timing of signing up telehealth customers.

Investment view – overreaction presents opportunity

Given the changes to forecasts our DCF valuation reduces to A$0.24 from A$0.35. We have set our target price at the same level. The key downside risk is failure to achieve FDA approval. RAP is recommended only for investors with a higher risk profile. We retain an Add recommendation.

Financial Summary	Jun-17A	Jun-18A	Jun-19F	Jun-20F	Jun-21F
Revenue (A$m)	1.14	1.00	0.00	6.72	25.20
Operating EBITDA (A$m)	(9.97)	(6.49)	(7.04)	(0.52)	17.53
Net Profit (A$m)	(10.03)	(6.53)	(7.24)	(0.68)	17.40
Normalised EPS (A$)	(0.015)	(0.010)	(0.010)	(0.001)	0.024
Normalised EPS Growth	204%	(35%)	5%	(91%)	
FD Normalised P/E (x)	NA	NA	NA	NA	4.23
DPS (A$)	-	-	-	-	-
Dividend Yield	0%	0%	0%	0%	0%
EV/EBITDA (x)	NA	NA	NA	NA	2.83
P/FCFE (x)	NA	NA	NA	NA	4.56
Net Gearing	(75.4%)	(60.4%)	(94.8%)	(92.5%)	(92.9%)
P/BV (x)	5.81	11.89	12.27	9.54	2.84
ROE	(73%)	(77%)	(129%)	(10%)	104%
% Change In Normalised EPS Estimates			(72%)	(111%)	(42%)
Normalised EPS/consensus EPS (x)			1.04	(0.09)	0.59

SOURCE: MORGANS, COMPANY REPORTS

Figure 1: Financial summary

Income statement	FY17A	FY18A	FY19F	FY20F	FY21F
Total revenue	**1.1**	**1.0**	**0.0**	**6.7**	**25.2**
EBITDA	**-10.0**	**-6.5**	**-7.0**	**-0.5**	**17.5**
Associate income	0.0	0.0	0.0	0.0	0.0
Depreciation	0.0	0.0	0.0	0.0	0.0
EBITA	-10.2	-6.6	-7.3	-0.8	17.3
Amortisation/impairment	0.0	0.0	0.0	0.0	0.0
EBIT	**-10.2**	**-6.6**	**-7.3**	**-0.8**	**17.3**
Net interest expense	0.2	0.1	0.1	0.1	0.1
Pre-tax profit	-10.0	-6.5	-7.2	-0.7	17.4
Income tax expense	0.0	0.0	0.0	0.0	0.0
After-tax profit	-10.0	-6.5	-7.2	-0.7	17.4
Minority interests	0.0	0.0	0.0	0.0	0.0
NPAT	**-10.0**	**-6.5**	**-7.2**	**-0.7**	**17.4**
Significant items	0.0	0.0	0.0	0.0	0.0
NPAT post abnormals	**-10.0**	**-6.5**	**-7.2**	**-0.7**	**17.4**

Cash flow statement	FY17A	FY18A	FY19F	FY20F	FY21F
EBITDA	-10.0	-6.5	-7.0	-0.5	17.5
Change in working capital	4.7	0.2	1.6	-0.5	-1.5
Net interest (pd)/rec	0.2	0.1	0.1	0.1	0.1
Taxes paid	0.0	0.0	0.0	0.0	0.0
Other oper cash items	0.0	0.0	0.0	0.0	0.0
Cash flow from ops (1)	**-5.0**	**-6.2**	**-5.3**	**-1.0**	**16.1**
Capex (2)	0.0	0.0	0.0	0.0	0.0
Disposals/(acquisitions)	0.0	0.0	0.0	0.0	0.0
Other investing cash flow	0.0	0.0	0.0	0.0	0.0
Cash flow from investing (3)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Incr/(decr) in equity	0.3	0.0	7.5	2.8	1.2
Incr/(decr) in debt	0.0	0.0	0.0	0.0	0.0
Ordinary dividend paid	0.0	0.0	0.0	0.0	0.0
Preferred dividends (4)	0.0	0.0	0.0	0.0	0.0
Other financing cash flow	0.0	0.0	0.0	0.0	0.0
Cash flow from fin (5)	**0.3**	**0.0**	**7.5**	**2.8**	**1.2**
Forex and disc ops (6)	0.0	0.0	0.0	0.0	0.0
Inc/(decr) cash (1+3+5+6)	**-4.8**	**-6.2**	**2.1**	**1.8**	**17.4**
Equity FCF (1+2+4)	-5.0	-6.2	-5.3	-1.0	16.1

Balance sheet	FY17A	FY18A	FY19F	FY20F	FY21F
Cash & deposits	8.6	3.4	5.4	7.0	24.1
Trade debtors	0.1	0.0	0.0	0.3	1.0
Inventory	0.0	0.0	0.0	0.3	1.3
Other current assets	1.2	1.0	1.0	1.0	1.0
Goodwill	0.0	0.0	0.0	0.0	0.0
Other intangible assets	2.2	2.0	1.8	1.5	1.2
Fixed assets	0.0	0.0	0.0	0.0	0.0
Investments	0.0	0.0	0.0	0.0	0.0
Other assets	0.0	0.0	0.0	0.0	0.0
Total assets	**12.0**	**6.5**	**8.1**	**10.1**	**28.6**
Short-term borrowings	0.0	0.0	0.0	0.0	0.0
Trade payables	0.6	0.8	2.3	2.4	2.5
Long-term borrowings	0.0	0.0	0.0	0.0	0.0
Other term liabilities	0.1	0.1	0.1	0.1	0.1
Other liabilities	0.0	0.0	0.0	0.0	0.0
Total liabilities	**0.6**	**1.0**	**2.5**	**2.6**	**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	-31.6	-14.4
Other equity	0.0	0.0	0.0	0.0	0.0
Total equity	**11.3**	**5.5**	**5.7**	**7.6**	**25.9**
Minority interest	0.0	0.0	0.0	0.0	0.0
Total shareholders' equity	**11.3**	**5.5**	**5.7**	**7.6**	**25.9**
Total liabilities & SE	**12.0**	**6.5**	**8.1**	**10.1**	**28.6**

Valuation metrics			
Share price (A$)	**0.10**	**Price Target (A$)**	**$0.24**
DCF valuation inputs			
Rf	4.00%	10-year rate	4.00%
Rm-Rf	5.00%	Margin	2.0%
Beta	1.70	Kd	4.20%
CAPM (Rf+Beta(Rm-Rf))	12.5%	Ke	12.5%
		NPV cash flow (A$m)	159.9
Equity (E/EV)	100.0%	Minority interest (A$m)	0.0
Debt (D/EV)	0.0%	Net debt (A$m)	-3.3
Interest rate	4.20%	Investments (A$m)	0.0
Tax rate (t)	30.0%	Equity market value (A$m)	163.2
WACC	12.5%	Diluted no. of shares (m)	693.0
		DCF valuation	**$0.24**

Multiples	FY17A	FY18A	FY19F	FY20F	FY21F
Enterprise value (A$m)	77.9	72.8	74.8	76.4	93.5
EV/Sales (x)	na	na	na	11.4	3.7
EV/EBITDA (x)	-7.8	-11.2	-10.6	-147.8	5.3
EV/EBIT (x)	-7.6	-11.0	-10.2	-97.2	5.4
PE (x)	**-6.6**	**-10.1**	**-9.6**	**-105.9**	**4.2**
PEG x)	0.0	-0.3	1.8	-1.2	0.0

Per share data	FY17A	FY18A	FY19F	FY20F	FY21F
No. shares	659.0	659.0	659.0	693.0	721.0
EPS (cps)	-1.5	-1.0	-1.0	-0.1	2.4
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0
Dividend payout ratio (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Dividend yield (%)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Growth ratios	FY17A	FY18A	FY19F	FY20F	FY21F
Sales growth	na	na	na	na	275.0%
Operating cost growth	237.6%	-32.6%	-6.0%	2.8%	6.0%
EBITDA growth	-202.9%	34.9%	-8.5%	92.7%	3492.1%
EBITA growth	-211.1%	35.3%	-10.4%	89.2%	2296.5%
EBIT growth	-211.1%	35.3%	-10.4%	89.2%	2296.5%
NPAT growth	-208.8%	34.9%	-10.8%	90.6%	2656.2%
Normalised EPS growth	-204.0%	34.9%	-5.4%	91.0%	2604.1%

Operating performance	FY17A	FY18A	FY19F	FY20F	FY21F
Asset turnover (%)	2.0	2.7	0.0	18.4	32.5
EBITDA margin (%)	na	na	na	-7.7	69.6
EBIT margin (%)	na	na	na	-11.7	68.5
Net profit margin (%)	na	na	na	-10.1	69.0
Return on net assets (%)	-90.2		-105.6	-20.5	-90.2
Net debt (A$m)	-8.6	-3.3	-5.4	-7.0	-24.1
Net debt/equity (%)	-75.4	-60.4	-94.8	-92.5	-92.9
Net interest/EBIT cover (x)					
Invested capital	7.5	2.4	1.9	0.0	0.3
ROIC (%)	-133.4	-275.2	-376.1	-2889.3	5771.8

Internal liquidity	FY17A	FY18A	FY19F	FY20F	FY21F
Current ratio (x)	16.8	5.8	2.8	3.6	10.9
Receivables turnover (x)	12.5	15.7	0.0	48.7	38.4
Payables turnover (x)	27.6	11.0	4.6	3.1	3.1

SOURCE: MORGANS RESEARCH, COMPANY

SMARTCOUGH-C-2 results

RAP has released its top-line results for the pivotal US children's study. The results signify a pivotal point for RAP and it will now look to engage with the FDA for approval for its three largest target indications. We anticipate strong interest for the diagnostic, in particular from large telehealth providers and expect to see newflow regarding potential partnerships developing heading into the FDA de novo / CE mark / TGA approval process.

Figure 2: AUS & US paediatrics results

Condition	US study (n = 1,251) # patients	# patients	PPA %	NPA %	Outcome
Lower Respiratory Tract Disease	**Y**	**N**			
- cough + patient symptom input	**412**	**775**	73%	77%	+ve
95% CI level			68-77%	74-80%	
Asthma/Reactive Airways Disease					
- cough + patient symptom input	**176**	**886**	71%	86%	+ve
95% CI level			64-78%	83-88%	
Asthma/Reactive Airways Disease (>2 year old)					
- cough + patient symptom input	**166**	**779**	75%	84%	+ve
95% CI level			68-82%	82-87%	
Croup					
- cough alone	**n.a.**	**n.a.**			**n.a.**
95% CI level					
Pneumonia					
- cough + patient symptom input	**100**	**1150**	63%	62%	-ve
95% CI level			53-72%	59-65%	
Primary Upper Respiratory Tract Infection					
- cough + patient symptom input	**166**	**453**	77%	71%	+ve
95% CI level			73-80%	66-78%	
Bronchiolitis					
- cough + patient symptom input	**42**	**89**	76%	60%	-ve
95% CI level			60-88%	59-70%	

SOURCE: MORGANS RESEARCH, COMPANY

Sleep Apnoea results

RAP recently released some positive results from its Prospective Sleep Apnoea Clinical Study. The study showed a strong correlation with the gold standard in-laboratory polysomnography testing, with 80% - 84% specificity (test results identifying OSA against a positive diagnosis) and 80% - 83% specificity (test results identifying patient does not have OSA against a negative diagnosis) with patients with mild to severe OSA (AHI 5-14/h = Mild, AHI 15-29/h = Moderate, AHI >30/h = Severe).

We view the results as highly encouraging and expect RAP to next compare the algorithm to the Home Sleep Test (HST) over the next 12 months which potentially will diversify its revenue opportunities.

Figure 3: OSA study results

	Patients[1] Y	N	AUC	Sensitivity	Specificity
AHI ≥ 5/h	507	47	0.9	84%	83%
			(95% CI, 0.87-0.93)	(95% CI, 80-87%)	(95% CI, 69-92%)
AHI ≥ 15/h	346	205	0.88	80%	80%
			(95% CI, 0.85-0.91)	(95% CI, 75-84%)	(95% CI, 73-85%)
AHI ≥ 30/h	191	372	0.9	82%	82%
			(95% CI, 0.87-0.93)	(95% CI, 76-87%)	(95% CI, 77-86%)

1. Number of patients clinically scored above or below the AHI threshold where the algorithms provided a result. For each test, the algorithms were not able to provide a result for a small number of patients [AHI ≥ 5/h, 28 (5%) patients; AHI ≥ 15/h, 31 (5%) patients; AHI ≥ 30/h, 19 (3%) patients].

SOURCE: MORGANS RESEARCH, COMPANY

Changes to forecasts

Figure 4: OSA study results

	FY19F			FY20F			FY21F		
	Prev	Rev	% chg	Prev	Rev	% chg	Prev	Rev	% chg
Revenue	3.0	0.0	-100.0%	14.0	6.7	-52.0%	38.3	25.2	-34.1%
EBITDA	(4.1)	(7.0)	-71.7%	6.6	(0.5)	-107.8%	30.3	17.5	-42.2%
NPAT	(4.3)	(7.2)	-68.3%	6.6	(0.7)	-110.4%	30.4	17.4	-42.8%
EPS	(0.6)	(1.0)	-72.2%	0.9	(0.1)	-110.6%	4.0	2.4	-41.6%
Div yield	0.0%	0.0%	n.a.	0.0%	0.0%	n.a.	0.0%	0.0%	n.a.

SOURCE: MORGANS RESEARCH, COMPANY

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