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Bioniche Life Sciences, Inc. (BNC)

IPO Initiating Research; A Global Biopharmaceutical Player

Speculative Buy

IPO Price \$1.45

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Key Points

Bioniche Life Sciences, Inc. (ASX:BNC; TSX:BNC) is a well developed, diversified biopharmaceutical company.

Raised A\$12.5m via CDIs for an ASX listing, with C\$16.7m concurrently raised via a secondary offering on the TSX providing C\$26.5m in net funds.

Urocin™ for bladder cancer is partnered with Endo Pharmaceuticals (NASDAQ:ENDP) and results of the first Phase 3 are expected in 2Q CY11.

Offer Summary

Offer CDIs (M) at A\$1.45	8.6
Offer Common Stock (M) at C\$1.45	11.5
Common Stock on Issue (M)	80.2
Post Money CDIs, Conversion 1:1 (M)	100.3
Post Money Market Cap. (M) at A\$1.45	A\$145.4
IPO/ Placement Net Cash Raised (M)	C\$26.5
Valuation & Price Target	A\$2.99

Our View

- A Perfect Blend of Bricks and Mortar with Blue Sky** – Bioniche operates three divisions: Animal Health, Human Health and Food Safety. We value the Animal Health business at \$0.52, representing a blended FY11 driven 2.5x EV/Sales and 7.0x EV/EBITDA. We believe Urocin™ alone is worth \$1.76 per share and Econiche™ at \$0.19 assumes near term government and private sector sales. A ~C\$35m manufacturing facility for Urocin™ will be constructed over the next three years to meet expected demand.
- Animal Health Division a Defensive, Single Digit Growth Story** – FY10 animal health revenues of C\$27.0m (down 18.9% on pcp) produced EBITDA (ex R&D) of C\$7.7m at a 28.5% EBITDA margin. While FY10 sales suffered in line with a contraction in animal health sales globally, 1Q11 sales were up 13.5% on pcp and EBITDA margins stable at 28%. Bioniche sells over 60 products globally, with approximately 60% of sales into the livestock industry, notably reproductive technologies.
- Urocin™ for Bladder Cancer is Validated and Late Stage** – In 2Q CY09, Bioniche executed a US\$130m license deal with Endo for the global rights to Urocin™ in non-muscle invasive (NMI) bladder cancer, while retaining manufacturing rights. US\$38m has been earned to date, with a US\$4m milestone received in late 4Q CY10 relating to a contracted efficacy goal for the completed first Phase 3 trial. We remain hopeful of a successful efficacy result in 2Q CY11 in light of the milestone payment received and the fact Endo has commenced a second more exhaustive Phase 3 registration trial. The first Phase 3 result represents the first major valuation driver post Bioniche's ASX listing in our view.
- Econiche™ Food Safety Vaccine** – Bioniche has received ~C\$25m in Canadian government loans to build a >40m dose per annum vaccine plant for Econiche™, which will be operational in 2Q CY11 and seek to immunise cattle to reduce transmission of the potentially fatal *E. coli* O157 in food. A mass vaccination decision by the Canadian government could crystallise a C\$45.1m order by FY13 on our estimates at 86.7% gross margin. US conditional licensure is expected early in CY11, leading to marquee orders.
- Outlook** – We are forecasting an FY11 NPAT loss of C\$9.7m, on product revenues of C\$34.8m. Our underlying EBITDA forecast for the animal health division is C\$6.9m. Based on our SOTP valuation methodology, we arrive at a valuation and PT of \$2.99, representing 106% upside from the ASX listing price. On this basis, coupled with the multiple re-rating triggers during the 1H of CY11, and the stock's attractiveness on an ASX relative valuation basis, we initiate coverage with a Speculative Buy recommendation.

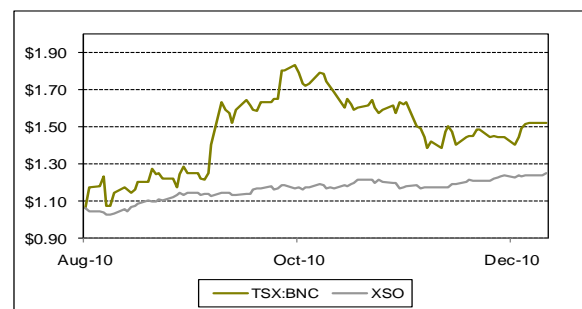
Milestones

Milestones	2011			
	1Q	2Q	3Q	4Q
Urocin: 1 st Patient into 2 nd Phase 3	■			
Urocin: 1 st Phase 3 Results		■	■	
Econiche US Conditional License		■	■	
New Vaccine Manufacturing Opens		■	■	
Animal Health Product Acquisitions	■	■	■	■

Use of Funds

Application of Funds	C\$m
Urocin Capacity + Other Cap. Requirements	14.0
New Oncology Indications MCC	2.0
Econiche US Field Trial	1.5
New Food Safety Vaccine	1.5
Animal Health Product Dev. and Registration	3.0
Animal Health Product Acquisitions	4.5
Expenses of the Concurrent Offers	2.4
Total	28.9

Share Price Graph (C\$)



Contents

Investment Thesis	3
Valuation	3
Business Overview	6
Pipeline and Milestones	7
Human Health: Bladder Cancer	8
Bladder Cancer Treatment Paradigm	9
Current Treatments for NMI Bladder Cancer	10
Urocidin™ for Non-Muscle Invasive (NMI) Bladder Cancer	12
License deal with Endo Pharmaceuticals, Inc.	13
Phase 2 Results Were Solid	14
First Phase 3 Results Expected 2Q CY11	14
Second Phase 3 Study Commenced 4Q CY10	15
Registration, Manufacturing and Global Market Strategy	16
Competing Drugs in Development for Bladder Cancer	17
Animal Health	18
Food Safety: Econiche™	21
Risks to the Bioniche Business Model	25
Board of Directors	27
Outlook	28
Appendix 1	29
Appendix 2	31
Appendix 3	32
Appendix 4	33

Investment Thesis

Bioniche Life Sciences, Inc. (“**Bioniche**” or “**the Company**”) (ASX:BNC; TSX:BNC) is a well-established biopharmaceutical product manufacturer and supplier to the global animal health market. **Bioniche** is also a late stage developer (Phase 3) of innovative immunotherapy treatments for human cancers, especially bladder cancer.

Bricks and mortar with blue sky appeal.

A\$145.4m market cap. at offer price.

To the end, we consider **Bioniche** a reasonably unique value proposition on the ASX, with a solid bricks and mortar animal health business complemented by the late stage, validated blue sky appeal of its Phase 3 bladder cancer technology. At a listing market capitalisation of A\$145.4m and ~C\$37.6m in cash, we believe **Bioniche** offers a solid risk/reward profile for investors in the sector given the attributable risk associated with the human therapeutics pipeline is expected to decline with the results of a key Phase 3 study in bladder cancer expected in early 2Q CY11.

A financial summary of the business, including our forecasts is shown from FY09-FY13, below.

Financial Summary FY09A - FY13E (C\$m)

	FY09A	FY10A	FY11E	FY12E	FY13E
Revenue	33.3	45.9	35.3	32.5	72.5
R&D Expenditure	(11.5)	(18.6)	(15.4)	(8.2)	(7.4)
EBITDA	(5.5)	0.9	(7.0)	(3.9)	29.8
Net Profit	(10.5)	(1.6)	(9.7)	(7.6)	26.1
EPS (cps)*	(10.5)	(1.6)	(1.6)	(7.6)	26.1
EV/EBITDA (x)	n/a	145.3	n/a	n/a	3.9

*Source: Company reports; Taylor Collison est. *Normalised for post IPO capital structure*

Late stage Phase 3 bladder cancer asset

An investment in Bioniche should be considered speculative.

The global bladder cancer market was worth US\$577.5m in 2009 with 8 year CAGR growth of 9.9%. According to industry analysis, the market is expected to show CAGR growth of 7.0%. Current treatment options are unable to meet demand related to safety and efficacy in the bladder cancer market. The dollar value is small by comparison with bladder cancer being the 6th most common cancer as the market is dominated by out dated, generic treatments. We believe Urocidin™, **Bioniche's** Phase 3 bladder cancer treatment is ideally positioned in this market with first sales expected in late CY14/early CY15.

Whilst the animal health business is a mature, profitable segment, the remaining human and health and food safety technology developments can be considered high risk, and as such, we believe an investment in **Bioniche** should be considered speculative.

Valuation

Sum of the Parts (SOTP)

SOTP valuation and PT of \$3.09 (fully diluted)

Our sum of the parts (SOTP) valuation for **Bioniche**, representing our core valuation on a 12 month price target basis (fully diluted) is \$2.99, representing 106% upside potential to its \$1.45 listing price. We have utilised a number of valuation techniques including multiples (animal health division), risk-adjusted DCF (rDCF) for the Econiche™ and Urocidin™ assets, and relative valuation for the remaining R&D pipeline. The Company also has significant unutilised tax losses to offset against future profits, which represent an off-balance sheet asset.

Our DCF assumptions are shown below for our rDCF.

DCF Assumptions

Risk Free Rate	5.6%
Market Risk Premium	6.5%
Terminal Growth Rate	3.0%
Market Beta	1.2
Discount Rate Applied	13.4%

Bioniche - SOTP Valuation (fully diluted)

Division	Valuation Methodology	Valuation (C\$m)	CAD/AUD	Weighting	Per Share (A\$)
Human Health - Urocidin™	rDCF	185.0	1.00	100.0%	\$1.76
Animal Health	EV/Sales, EV/EBITDA	52.4	1.00	100.0%	\$0.52
Food Safety - Econiche™	rDCF	17.7	1.00	100.0%	\$0.17
Early Stage R&D (All divisions)	Relative	7.0	1.00	100.0%	\$0.07
Unallocated Corporate	DCF	(30.7)	1.00	100.0%	-\$0.29
Enterprise Value					\$2.23
Available Tax Credits	DCF	58.8	1.00	100.0%	\$0.56
Net Cash					\$0.20
TOTAL Equity Valuation					\$2.99

Source: Taylor Collison estimates

Risk-Adjusted DCF (rDCF) – Urocidin™ and Econiche™

Our DCF assumptions and results are shown below. For Urocidin™, we have assumed US\$81m in future milestones to FY21 are achieved both pre and post various market launches. Currently, there is potentially US\$92m in unearned milestones under the license deal with Endo Pharmaceuticals. The market model for Urocidin™ global sales by Endo Pharmaceuticals is highlighted in a later section and in Appendix 1.

The assumed COGS at volume is C\$20 per dose and we have assumed a US\$2,000 selling price from Endo for which we estimate **Bioniche** is entitled to a 25-35% transfer price (net of government rebates, incentives). We have assumed tax expense is recognised at 32.5%, but note the significant off balance sheet tax losses that have not been brought to account to offset against future operating profits, which we have added back to our SOTP valuation (above). Our per share valuation for Urocidin™ in refractory bladder cancer is C\$185.0m, representing a risk adjustment of 66%, commensurate with Phase 3 assets generally.

Urocidin™ worth C\$185.0m.

Bioniche rNPV - Urocidin™ (\$C'000)	FY11 Estimate	FY12 Estimate	FY13 Estimate	FY14 Estimate	FY15 Estimate	FY16 Estimate	FY17 Estimate	FY18 Estimate	FY19 Estimate	FY20 Estimate	FY21 Estimate
Milestone Payments Received (Endo)	4,000	0	0	15,000	25,000	7,000	6,000	6,000	6,000	6,000	10,000
Product Sales	0	0	0	0	7,221	28,730	56,722	84,889	109,626	125,519	134,478
COGS	0	0	0	0	(3,343)	(13,301)	(26,262)	(39,308)	(50,794)	(58,172)	(62,344)
SG&A	(1,223)	(1,254)	(1,285)	(1,778)	(1,778)	(2,400)	(3,240)	(4,375)	(5,906)	(7,973)	(10,763)
R&D	(6,439)	(2,897)	(3,042)	(3,194)	(3,354)	(3,522)	(3,698)	(3,883)	(4,077)	(4,281)	(4,495)
EBITDA	(2,176)	(4,151)	(4,327)	10,028	23,746	16,507	29,522	43,323	54,850	61,094	66,876
Tax Expense	0	0	0	(3,259)	(7,717)	(5,365)	(9,595)	(14,080)	(17,826)	(19,856)	(21,735)
Capex	0	(15,000)	(15,000)	(5,000)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)
Free CFs	(2,176)	(19,151)	(19,327)	1,769	14,528	9,642	18,427	27,743	35,523	39,739	43,641
Risk adjustment	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%
Adjusted cash flows	(1,436)	(12,640)	(12,756)	1,167	9,589	6,364	12,162	18,310	23,445	26,227	28,803
PV Cash Flows	(1,436)	(11,146)	(9,919)	800	5,798	3,394	5,719	7,593	8,573	8,457	8,191
Terminal Value											285,264
PV Terminal											81,118
rNPV (C\$'000)											184,994
Total rNPV (A\$'000) (CAD/AUD = 1.0)											184,994
Early-stage Alternate Urocidin™ / MCC Applications (A\$'000)											5,000
Implied Value Per Share - CDI (A\$)											\$1.90
Implied Value Per Share - CDI (A\$, fully diluted)											\$1.81

Source: Taylor Collison estimates

A\$5m ascribed to earlier oncology applications of MCC technology, total value of A\$1.81 per share.

We have assumed A\$5m of relative value for the earlier stage applications of the Urocidin™/MCC platform, including the intravenous (i.v.) formulation and applicability to other cancer types (e.g. prostate). Our total rNPV for Urocidin™/MCC is A\$1.81 per share (fully diluted). Our core valuation for just Urocidin™ is A\$1.76 per share.

For Econiche™ we have ascribed a 25% change of success (risk adjustment) and concluded that a mass vaccination order from the Canadian government is likely to supersede significant sales in the US from branded/premium beef suppliers, despite the expectation that a conditional US license will be granted during the current half. As with the Urocidin™ rDCF, we have treated cash flows on a fully taxable basis. The market model for Econiche™ global sales is shown in greater detail in Appendix 3.

Our per share valuation for Econiche™ in the cattle vaccine market is C\$17.7m (see below)

representing a risk adjustment of 25% on global sales. Our risk adjustment is high to reflect the uncertainty of large, government orders particularly in Canada which may manifest as early as FY13 in our view.

Bioniche rNPV - Econiche™ / Food Safety (\$C'000)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Product Sales	0	170	39,410	19,862	20,032	20,645	21,381	22,052	22,651	23,262	23,884
COGS	0	(26)	(6,063)	(3,056)	(3,082)	(3,176)	(3,289)	(3,393)	(3,485)	(3,579)	(3,674)
SG&A	(1,852)	(1,926)	(1,974)	(2,024)	(2,074)	(2,126)	(2,179)	(2,234)	(2,290)	(2,347)	(2,405)
R&D	(1,855)	(1,948)	(779)	(818)	(859)	(902)	(947)	(994)	(1,044)	(1,096)	(1,151)
EBITDA	(3,707)	(3,730)	30,594	13,965	14,017	14,441	14,966	15,431	15,833	16,240	16,653
Tax Expense	0	0	(9,557)	(4,161)	(4,170)	(4,323)	(4,529)	(4,716)	(4,881)	(5,042)	(5,201)
Capex	0	(1,500)	(1,500)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
Free CFs	(3,707)	(5,230)	19,537	8,804	8,847	9,119	9,436	9,715	9,952	10,198	10,453
Risk adjustment	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Adjusted cash flows	(927)	(1,308)	4,884	2,201	2,212	2,280	2,359	2,429	2,488	2,550	2,613
PV Cash Flows	(927)	(1,153)	3,798	1,509	1,337	1,216	1,109	1,007	910	822	743
Terminal Value											25,880
PV Terminal											7,359
rNPV (C\$'000)											17,732
Total rNPV (A\$'000) (CAD/AUD = 1.0)											17,732
Early-Stage Alternate Food Safety Vaccines (A\$'000)											2,000
Implied Value Per Share - CDI (A\$)											\$0.20
Implied Value Per Share - CDI (A\$, fully diluted)											\$0.19

Source: Taylor Collison estimates

Econiche™ / food safety worth A\$0.19 per share.

We have assumed A\$2m of relative value for the earlier stage applications of the food safety division, including a new format for Econiche™ and a new food vaccine targeting *Salmonella* infection in cattle. Our rDCF for the Food Safety division is A\$0.19 per share (fully diluted).

The PV of the unallocated corporate expenditure is shown below. Corporate expenditure is valued at (\$0.29) per share (fully diluted).

Corporate (Unallocated) (\$C'000)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Unallocated Corporate	(4,833)	(4,954)	(5,078)	(5,205)	(5,205)	(5,335)	(5,468)	(5,605)	(5,745)	(5,889)	(6,036)
growth (%)	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
PV Cash Flows	(4,833)	(4,368)	(3,949)	(3,569)	(3,147)	(2,212)	(2,000)	(1,807)	(1,634)	(1,477)	(1,716)
Terminal Value											(45,043)
PV Terminal											(12,808)
rNPV (C\$'000)											(30,712)
Total rNPV (A\$'000) (CAD/AUD = 1.0)											(30,712)
Implied Value Per Share - CDI (A\$)											-\$0.31
Implied Value Per Share - CDI (A\$, fully diluted)											-\$0.29

Unallocated corporate valuation of (\$0.29) per share.

Multiples – Animal Health

We value the **Bioniche** Animal Health business through a combination of EV/EBITDA and EV/Sales (equally weighted). We examined comparable animal health companies or division multiples and found a forward median/mean EV/EBITDA of 9.8x, 11.4x and median/mean EV/Sales of 3.1x, 2.5x respectively (see Animal Health section).

We value animal health at A\$0.52 per share.

On this basis, we ascribe an EBITDA multiple of 7.0x to our FY11 EBITDA estimate (50% weighted) and a 2.5x multiple to our FY11 Sales estimate (50% weighted) to give our valuation of \$0.52 per share fully diluted. The summary is shown below. We have valued the early stage animal health programs at zero.

Bioniche - Animal Health Valuation

	Applied Multiple	Valuation (C\$m)	CAD/AUD	Weighting	Per Share (A\$)
EV/EBITDA (FY11)	7.0x	48.5	1.00	50.0%	\$0.23
EV/Sales (FY11)	2.5x	58.6	1.00	50.0%	\$0.29
Early Stage R&D	n/a	0.0	1.00	0.0%	\$0.00
Total Valuation Per Share			1.00	100.0%	\$0.52

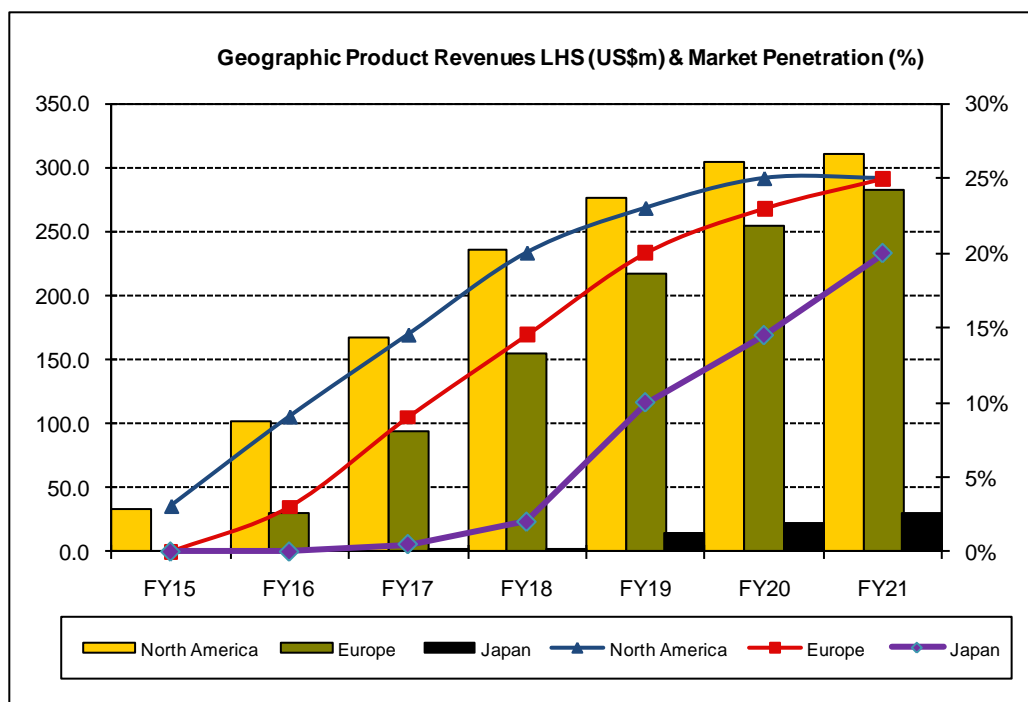
Source: Taylor Collison estimates

Market Model - Urocidin™

Our Urocidin™ market model to FY21 is highlighted in Appendix 1. We have examined the landscape in the US and Europe for Urocidin™ sales based on an approved label relating to refractory bladder cancer; the focus of the current Phase 3 programs. Our market model does not make any assumptions for off-label use in other treatment lines in bladder cancer.

Our geographic sales for Urocidin™ from FY15-FY21 is shown below, and is based on an average selling price (ASP) of US\$2,000 per dose where Endo Pharmaceuticals (NASDAQ:ENDP), who has exclusively licensed the technology, is responsible for sales in each of the jurisdictions modelled. **Bioniche** receive a net sales related transfer price as the global manufacturer of Urocidin™.

We anticipate North American (US) sales peaking at approximately US\$310.1m and Europe at US\$281.9m by FY21. Total global dose sales are expected to reach 311,718 by FY21 which represents <50% capacity of manufacturing we anticipate **Bioniche** to install for this product. Appendix 1 shows **Bioniche's** attributable revenues.



Peak of 25% refractory market share.

The analysis assumes a maximum market penetration of 25% in the refractory BCG market. We believe over the long term, this is a reasonably conservative estimate of Urocidin's use in the refractory setting, in light of (1) no treatment alternatives and (2) radical cystectomy (bladder removal) with its associated quality of life impact and morbidity / mortality rates.

Business Overview

Bioniche is a research-based, technology driven biopharmaceutical company headquartered in Belleville, Ontario, Canada. The Company employs approximately 217 people within three operating divisions: Animal Health, Human Health and Food Safety, as shown below.



Net proceeds of C\$26.5m from Australian and Canadian investors.

The Company has been listed on the Toronto Stock Exchange (TSX) continuously since 1992 and seeks to discover, develop, manufacture and market proprietary products in the human and animal health markets worldwide. The Company estimates 15% of its pre capital raise common stock was held by Australian investors. **Bioniche** maintains an active presence in Australia with both manufacturing and sales infrastructure. The Company raised C\$16.7m via a common stock issue at C\$1.45 on the TSX in December 2010, along with the Australian ASX listing providing gross proceeds of A\$12.5m. Net proceeds were C\$26.5m.

The Animal Health division has a product portfolio of more than 60 products, with the majority

Animal Health division recorded FY10 sales of C\$27m with EBITDA (ex R&D) of C\$7.7m.

of sales in the reproductive and embryo transfer markets. **Bioniche** markets and sells its products directly to veterinarians in the US, Canada, Europe and Australia and through selected distributors in the rest of the world. FY10 sales were C\$27.0m, with EBITDA (ex-R&D) of C\$7.7m. Animal Health profits have been utilised over many years in the development of Urocidin™ for human bladder cancer.

The Human Health division focuses on **Bioniche's** proprietary MCC technology platform (trademarked Urocidin™) for the treatment of bladder and other cancers. **Bioniche** has significantly reduced expenditures on clinical trials for Urocidin™ in non-muscle invasive (NMI) bladder cancer (excluding programs related to new indications), which was licensed to Endo Pharmaceuticals in CY09. **Bioniche** recorded C\$18m in licensing and collaboration income during FY10 in this division. Urocidin™ is in Phase 3 clinical trials.

Econiche™ food safety vaccine has received C\$25m in Canadian govt support.

The Food Safety division was established in 2001 and is responsible for researching, developing and marketing veterinary biopharmaceutical products to improve the safety of food and water supplies. The lead product is a cattle vaccine called Econiche™ which is used to prevent transmission of the potentially fatal *E. coli* strain O157 to humans. The Company expects to receive a conditional license to sell Econiche™ in 1H CY11 into the potentially lucrative US market. The Company has received approximately C\$25m in government loans to build a state of the art manufacturing plant which will be operational during the 2Q CY11 with capacity >40m doses per annum for *E. coli* and other vaccines.

Pipeline and Milestones

Significant depth and breadth to Bioniche pipeline

Bioniche's product pipeline offers both depth and breadth across the three operating divisions. In our view, the combination of in-development and marketed products is one of the key attributes of success post the Australian ASX listing: a solid foundation business in animal health with the blue sky appeal of a late stage (Phase 3) oncology asset and a food safety vaccine expected to receive registration in the US in the current half. The pipelines across the three operating divisions are shown below.

Human Health Pipeline

Product	IN DEVELOPMENT					
	Research	Pre-Clinical	Phase I	Phase II	Phase III	Marketed
Urocidin™ — non-muscle-invasive bladder cancer (first Phase III trial by Bioniche)						
Urocidin™ — non-muscle-invasive bladder cancer (second Phase III trial by Endo Pharmaceuticals)						
Mycobacterial Cell Wall-DNA Complex (MCC) — prostate cancer						
MCC — other cancers						
Oligonucleotides — various cancers						

Source: Bioniche prospectus

1x Phase 3 completed in bladder cancer.

Animal Health Pipeline

Product	IN DEVELOPMENT			
	Research	Pre-Clinical	Clinical	Marketed
Mycobacterial cell wall formulation — canine cancer				
<i>R. equi</i> vaccine				
New natural health products				
Recombinant FSH				

Source: Bioniche prospectus

Food Safety Pipeline

Econiche™ approved in Canada, awaiting conditional approval in US by 2H CY11.

Product	IN DEVELOPMENT/MARKETED			
	Research	Pre-Clinical	Clinical	Marketed
<i>E. coli</i> O157 vaccine (<i>Econiche™</i>)				
Recombinant <i>E. coli</i> O157 vaccine				
<i>Salmonella</i> vaccine				

Source: Bioniche prospectus

Solid milestones post ASX listing.

We have set our expectations for milestones in CY11 for **Bioniche**, as shown across. From our perspective, the biggest near term driver of the stock remains the presentation by Endo of the Urocidin™ Phase 3 results in NMI bladder cancer. We also anticipate a conditional license for *Econiche™* in the 2Q and the completion of the new manufacturing facility with associated marquee orders for vaccine from US beef producers. The Company has set aside ~C\$4.5m for new product acquisitions in the animal health space, which we see will transpire throughout the year.

Milestones	2011			
	1Q	2Q	3Q	4Q
Urocidin: 1 st Patient into 2 nd Phase 3				
Urocidin: 1 st Phase 3 Results				
Econiche US Conditional License				
New Vaccine Manufacturing Opens				
Animal Health Product Acquisitions				

Source: Taylor Collison

Human Health: Bladder Cancer

Overview

Bladder cancer sixth most common cancer in the US.

Bladder cancers arise almost exclusively from the lining of the bladder. Bladder cancer is generally not treated by an oncologist, but a group of specialists called urologists. According to the American Cancer Society, bladder cancer is the fourth most common cancer in men, and eleventh in women. Overall, it is the sixth most prevalent malignancy in the US. Approximately 52,000 men and 18,000 women are newly diagnosed each year (Incidence Pool) and over 500,000 people are living with bladder cancer in the US (Prevalence Pool). The global prevalence is estimated at 2.7m people.

Bioniche's Urocidin™ targets non-muscle invasive (NMI) bladder cancer, the most common form.

Approximately 70-75% of all newly diagnosed bladder cancers are of a form called "non-muscle invasive" (NMI) meaning the cancer has yet to spread into the muscle lining of the bladder. Such a cancer is also known as superficial bladder cancer. This is the form of the disease specifically targeted by **Bioniche's** Urocidin™ technology. Therefore, a significant percentage of these patient pools represent the market opportunity for Urocidin™ in the US and elsewhere.

Our revenue model in Appendix 1 describes our assumptions underlying future sales of Urocidin™ based on the number of patients accessible for treatment with this technology. NMI bladder cancer has a 50-90% recurrence rate, which is why the prevalence pool is significantly greater than the incidence pool, coupled with reasonably solid five year survival rate of 60-75%.

Causes & Diagnosis

Smoking the cause of up to 50% of all bladder cancer cases.

The best known risk factor for bladder cancer remains cigarette smoking, which accounts for up to 50% of all cases in developed countries and equates to a 4-7x greater chance of developing bladder cancer than non-smokers. Around 5-10% of bladder cancers are caused by exposure to chemicals in the manufacturing setting, which are thought to accumulate in the bladder over time.

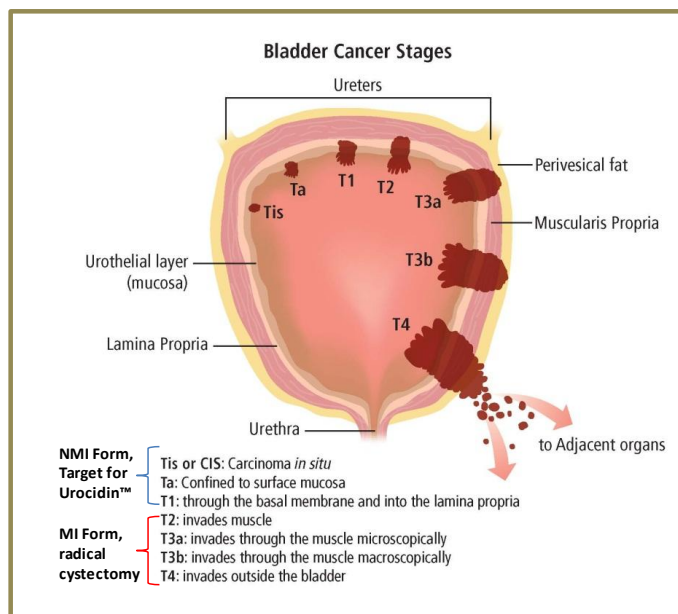
There is currently no gold standard diagnostic marker for early stage bladder cancer. However, Inverness Medical offers the NMP22® BladderChek® Test which aids in the diagnosis and management of bladder cancer by assessing the levels of the NMP22 protein, which is elevated in patients with bladder cancer.

The incidence of bladder cancer in a patient with blood in their urine is approximately 20%. Urine cytology is a non-invasive test for the diagnosis of bladder cancer, which is used to identify high grade tumours but also to monitor patients for recurrent disease following treatment. The test has low sensitivity (i.e. correct identification of positive disease), limiting its use as an early stage diagnostic. The gold standard diagnosis of bladder cancer is via cystoscopy, which allows the urologist to examine inside the bladder using an instrument called a cystoscope. Biopsies can be taken to pathologically examine surrounding tissue as well.

Clinical Staging

Well established clinical staging of bladder cancer.

Clinicians have developed a well recognised staging system for bladder cancer, which is shown across. There are two main categories of bladder cancer tumours: Ta/T1 papillary (finger like projections) tumours and carcinoma in situ (CIS/Tis). Papillary tumours have a low or intermediate risk of disease progression (but high rates of recurrence of approximately 70% causing significant morbidity), whereas patients with CIS are at high risk. CIS is generally regarded as the precursor of invasive disease at Ta/T1. The demarcation is important in the overall treatment paradigm for bladder cancer in the section below.



Source: Adapted from Bioniche Prospectus

Essentially, the progression of the cancer ranges from CIS/Tis where the cancer is confined to the bladder mucosa (but not muscle) to T4 where the cancer has burst through the bladder and invades tissue outside the bladder (metastatic disease). As shown in the illustration, Urocidin™ targets CIS/Tis to T1 (inclusive) which are the NMI form of the disease.

To prevent metastatic disease, urologists will typically remove the bladder (radical cystectomy) at stages T2 onwards, where the cancer has invaded the muscle layer of the bladder and beyond. Such procedures historically had high associated mortality rates (5-10%), which has been reduced to 1-2% with improvements in surgical techniques and post operative care. We note that reimbursement rates for radical cystectomy have fallen significantly in recent years (from several thousand to several hundred dollars), and as such the focus of the urology community has been bladder preservation despite treatments that slow/stop progression of the disease not progressing significantly over the last ten years.

Bladder Cancer Treatment Paradigm

Urocidin™ targets CIS/Tis to T1 tumours.

Upon detection of a cancerous lesion, a urologist will initially perform a transurethral resection of bladder tumour (TURBT), which involves excising the tumour from the bladder but with the aim of preserving bladder function. Immediately following TURBT, the urologist has a number of treatment options available, depending on the stage of the tumour, as shown below. We anticipate Urocidin™ to be used in high grade Ta, CIS/Tis and T1 tumours and potentially immediately following TURBT in low grade Ta. As previously mentioned, patients with T2-T4 tumours will typically undergo a radical cystectomy.

Current Treatment Recommendation by Stage of Bladder Cancer

Tumour Type	Treatment	Urocidin™?
Low Grade Ta	TURBT +/- chemotherapy (w ithin 24 hrs)	POTENTIAL
High Grade Ta	Repeat TURBT + immunotherapy or chemotherapy	YES
CIS/Tis	TURBT + immunotherapy 1x per week for 6 weeks	YES
Low Grade T1	TURBT + immunotherapy (preferred) or chemotherapy	YES
High Grade T1	TURBT + immunotherapy or chemotherapy or cystectomy	YES
T2a or T2b	Radical cystectomy + chemotherapy	NO
T3a or T3b	Radical cystectomy + adjuvant chemotherapy	NO
T4	Chemotherapy +/- radiation therapy	NO

Source: Sharma et al; AAFP, Taylor Collison

Urocidin™ use across bladder cancer treatment paradigm is significant.

Current treatments for NMI bladder cancer can be stratified into two groups: chemotherapy and immunotherapy. Immunotherapy refers to the treatment of disease by inducing, enhancing, or suppressing an immune response. Chemotherapy agents seek to directly kill cancerous cells via a number of mechanisms, including inhibiting or damaging cellular replication.

Current Treatments for NMI Bladder Cancer

At present, mitomycin C is the preferred chemotherapy agent in clinical practice in the US. Other chemotherapy agents utilised following failure of mitomycin C include gemcitabine, epirubicin or valrubicin. The preferred immunotherapy agent is BCG, the treatment we believe in time Urocidin™ will seek to replace. A summary of the current treatments for NMI bladder cancer is shown below.

The response rates for the various treatments shown below relates to the complete response rate (i.e. no evidence of tumour in the bladder following treatment) after failure of an initial treatment. The Urocidin™ result in Phase 2 was 46.4%, which was significantly higher than all treatments in the refractory setting to date. This is described in more detail in later sections. We also discuss the various pricing and dosing structures in sections below.

Non-Muscle Invasive Bladder Cancer Treatments

Treatment	Response Rate	Mechanism	Cost Per Dose (US\$)	Average Dosing Regimen
BCG	<20%	Immunotherapy	\$122	6 induction doses; up to 21 doses over 2 years
MCC (Urocidin™)	46.4%*	Immunotherapy	T.B.C	6 induction doses; up to 21 doses over 2 years
BCG + Interferon	<20%	Immunotherapy	\$122 + \$800	6 induction doses; up to 21 doses over 2 years
Gemcitabine	<20%	Chemotherapy	>\$1,000	Weekly or twice weekly – 6 to 8 treatments
Epirubicin	<20%	Chemotherapy	\$ hundreds	Single post operative dose or once weekly for 6 weeks
Valrubicin (Valstar®)	<20%	Chemotherapy	\$ thousands	6 doses
Mitomycin C	<20%	Chemotheraoy	>\$1,000	16 doses

* Bioniche Phase 2 data when administered after BCG treatment failure; Source: Bioniche presentation

Bacillus Calmette-Guerin (BCG) Immunotherapy

BCG current gold standard immunotherapy.

BCG is the current gold standard immunotherapy used in bladder cancer since the 1970s. It was developed by Dr Alvaro Morales, a urologist who is the principal investigator for all of **Bioniche's** clinical trials completed to date. BCG harnesses the body's own immune system to target the cancerous cells in the bladder. Whilst it is not completely understood how it achieves this, the treatment is very effective at eliciting a complete response in a high percentage of cases.

BCG consists of a live bacteria, *Mycobacterium bovis* which is a tuberculosis of cattle. BCG was developed as a vaccine against tuberculosis in humans in the 1920s. BCG is administered or instilled directly into the bladder via a urinary catheter by a urologist. The patient is required to hold the solution for up to 2 hours.

BCG has resulted in complete tumour responses in >50% of treated patients with papillary tumours, and in more than 70% of those with carcinoma in situ (CIS) who complete the treatment regimen. It is now the treatment of choice for CIS. BCG immunotherapy has been combined with chemotherapy, primarily mitomycin C. These studies demonstrate no improvement in efficacy compared with BCG alone.

2m BCG treatments sold per year.

Bioniche estimates that over 2 million treatments of BCG are sold each year in North America, Europe and across Asia. Two branded BCG-derived products dominate the current market for bladder cancer: TICE[®] (Merck) and ImmuCyst[®] (Sanofi Pasteur). We note that BCG is administered up to 21 times to prevent recurrence of disease. Patients receive an induction dose up to six times over six weeks, then a further 15 doses over the remaining two year period (the maintenance phase).

BCG low cost, but has significant side-effects limiting its use over an extended period.

BCG is a low cost treatment approach to bladder cancer, with basic treatments starting at US\$122. The biggest disadvantage of BCG is the potential risk for transmission. It should be prepared, handled, and disposed of as a biohazard material. BCG infections have been reported in health care workers, primarily from exposures resulting from accidental needle sticks or skin lacerations during the preparation of BCG for administration. We believe the preparation of BCG alone adds several hundred dollars to the overall cost of the treatment in the clinical setting.

BCG better than chemotherapy in NMI bladder cancer.

Approximately 80% of all NMI bladder cancer patients at intermediate to high risk of progression will receive BCG immunotherapy v chemotherapy agents, as described above. In one meta analysis undertaken, BCG was shown to significantly reduce tumour recurrence versus mitomycin C, but only in the group of patients at high risk of recurrence. Interestingly, only 16% of patients were able to complete three years of maintenance therapy on BCG in one study examined, highlighting the benefits of Urocidin[™] which significantly fewer side-effects in clinical trials to date (see below).

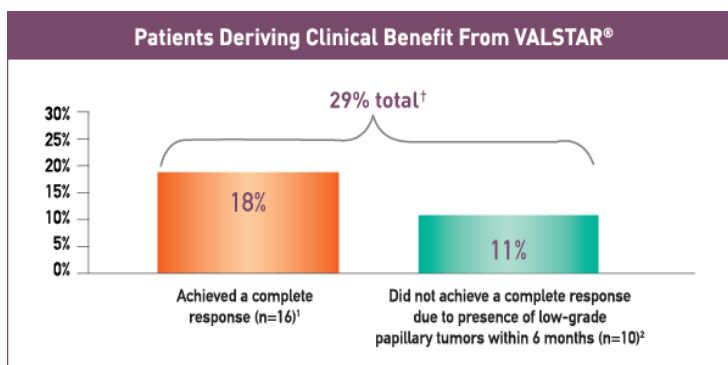
~35% of BCG patients wont complete induction course, up to 80% the maintenance course.

If a patient can tolerate BCG maintenance therapy and induction therapy, it reduced tumour recurrence by half and more than doubled recurrence free survival. This is the paradox of BCG treatment – patients typically can't tolerate the maintenance treatment, and while the literature varies, it has been reported up to 80% of patients won't complete the maintenance therapy under the FDA approved dosing regimen. Furthermore, around 35% of patients can't complete the 6 dose induction phase, which is crucial in the treatment regimen. Primarily, this is due to BCG-induced cystitis (urinary tract infection). In some cases, BCG can cause systemic disease in the patient by escaping from the bladder and establishing an infection throughout the body resulting in life-threatening sepsis.

Valstar[®]

Endo Pharmaceuticals drug Valstar[®] has limited appeal/potential in refractory.

Valstar[®] is currently approved for intravesical therapy of BCG refractory carcinoma in situ (CIS) in patients for whom immediate cystectomy would be associated with unacceptable morbidity or mortality. We note the data from the pivotal registration study for Valstar[®], which showed in the refractory setting only 18% of study participants (n=16) achieved



Source: Endo

a complete response at 6 months, as shown across. Valstar[®] has proved to be a poor market performer in the refractory indication, principally because of treatment side-effects, including both systemic and local effects coupled with its tight treatment indication. Sales by Endo in the

9 months to 30 September 2010 were US\$9.4m. Endo acquired Valstar® from its US\$370m buyout of Indevus Pharmaceuticals in 1Q CY09. Each dose sells for approximately US\$3,700.

Urocidin™ for Non-Muscle Invasive (NMI) Bladder Cancer

What is Urocidin™?

Urocidin™ is Bioniche's answer to BCG.

Urocidin™ is **Bioniche's** modern solution to the safety, tolerability and handling problems of BCG, with potentially superior clinical efficacy. **Bioniche** has spent over ten years and up to C\$150m on developing Urocidin™ for global markets, and is currently in Phase 3 clinical trials with its license partner Endo Pharmaceuticals, Inc. (NASDAQ:ENDP). The initial target market for Urocidin™ will be in patients who have failed treatment with BCG, the so-called refractory indication.

Sterile solution in the form of a DNA/cell extract mix.

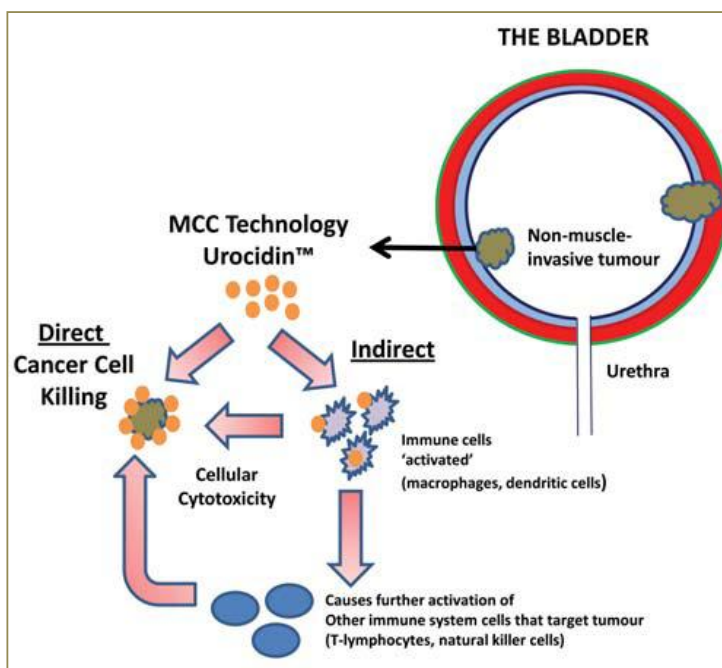
Urocidin™ is formulated as a sterile suspension (BCG is a live tuberculosis), which provides instant improvements in handling requirements and disposal with patients not required to expel urine into bleach for a period as is the case with BCG treatment. **Bioniche** takes a soil-borne mycobacterium strain known as *Mycobacterium phlei* (*M. phlei*) which is harmless to humans and animals but retains potent immune stimulating properties. **Bioniche** extracts the bacterial cell wall which is then complexed with the *M. phlei* DNA known to be bioactive to create the final Mycobacterial Cell Wall-DNA Complex (MCC). MCC is then sterilised and formulated into Urocidin™ for bladder cancer.

How does it work?

The mechanism of action for Urocidin™ in reality is probably not dissimilar to that of BCG treatments, without the risks attributable to BCG; notably systemic infections and handling problems. Based on **Bioniche's** work to date, Urocidin™ is thought to provoke both direct cancer killing via a process called programmed cell death or apoptosis and indirectly via activating immune cells to target and kill cancerous cells. In the former's case, **Bioniche** understand it's the DNA that has direct killing capability and the latter is a function of the *M. phlei* cell wall extract. Both the DNA and cell wall extract work synergistically in treating bladder cancer. Moreover, Urocidin™ is still effective in

Urocidin™ has both direct and indirect cancer killing capabilities.

How Urocidin™ Works in Bladder cancer



Source: Bioniche prospectus

patients who have been previously exposed to tuberculosis or vaccinated. The mechanism of action of Urocidin™ is described in the diagram across.

Urocidin™ v BCG

We have summarised the advantages and disadvantages of Urocidin™ versus BCG immunotherapy in the table across. The obvious advantage of BCG is its cost versus what we believe will be the listing price for Urocidin™ in the refractory BCG indication, which will be the first approval post Phase 3 studies described below.

Urocidin™ has significant advantages over BCG.

Urocidin™ v BCG

Parameter	Urocidin™	BCG
Cost Per Treatment (US\$)	TBC (est. 2,000)	122-922
Gold Standard in Bladder Cancer	NO	YES
Safety and Tolerability	GOOD	POOR
Handling by Hospital Staff, Clinicians	SAFE	TOXIC
Disposal	SAFE	TOXIC
Efficacy Data	BUILDING	SOLID
Approved Use	Refractory BCG	Post TURBT
Potential for Off-Label Use	YES	NO

Source: Taylor Collison

Major disadvantage is initial cost v BCG.

The pricing disparity is in our view tolerable by third party payers, who currently reimburse other treatments for bladder cancer which are priced in the thousands per dose.

Refractory market in bladder cancer is very significant globally.

We believe the greatly superior safety data seen with Urocidin™ to date will be an absolute incentive to prescribe by urologists, particularly in light of the very high dropout rates of patients undergoing BCG maintenance treatment. Moreover, 30-40% of bladder cancers are refractory to BCG treatment, leaving these patients with a poor long term prognosis. Indeed, one study found a cancer specific death rate of 64% at 2.5 years on patients with disease progression after BCG. This provides a ready market, with few if any proven treatment options. Indeed, the current recommended treatment option for BCG-refractory NMI bladder cancer is a radical cystectomy.

Urocidin™ has reasonable off-label potential in NMI bladder cancer.

Based on conversations with urologists, we see Urocidin™ being used off-label in settings other than refractory BCG, such as immediately following TURBT where currently chemotherapy is utilised within 24 hours whereas BCG can only be used two weeks after, through fear of systemic infection. As Urocidin™ is a sterile formulation, it can be used in this immediate “adjuvant” setting, increasing accessible patients. This would present material upside to our revenue model for Urocidin™ shown in Appendix 1.

License deal with Endo Pharmaceuticals, Inc.

Bioniche licensed Urocidin™ to Endo in 2Q CY09 for US\$130m.

In July 2009, **Bioniche** entered into a US\$130m License, Development and Supply agreement with Endo Pharmaceuticals. Endo exercised its global rights to the technology in 1Q CY10. The upfront payment was US\$20m with a further US\$18m earned by **Bioniche** in milestone payments to date. The most recent was in 4Q CY10, a US\$4m payment related to the first Phase 3 trial, currently awaiting presentation of the results. **Bioniche** therefore has the potential to receive a further US\$92m in payments in connection with the achievement of certain clinical, regulatory, and commercial milestones. We have assumed in our forward model that US\$60m relates to clinical and regulatory milestones (FY14-FY15) and a further US\$32m related to sales-based milestones to FY21.

Bioniche retains global manufacturing rights.

Bioniche has retained global manufacturing rights for Urocidin™ and will receive a net sales related price for supplying Endo with Urocidin™. Endo will be granted a right of first negotiation to other clinical indications of the MCC composition, relating to urology or pelvic disease. The Endo agreement is valid until the latter of: (1) 10 ten years from commencement, (2) a biosimilar is licensed; or (3) the expiry of the last patent claim attributable to Urocidin™.

Market exclusivity expected to be significant.

As a novel biologic, **Bioniche** can expect to receive 12 years market exclusivity for Urocidin™ from the date of launch in the US. On our estimates of a 1H CY15 launch, this provides **Bioniche** with a monopoly position until CY27 (satisfying (2) above). With respect to patent coverage, under existing patent extension legislation (assuming a max. 5 year extension) **Bioniche's** MCC (incorporating Urocidin™) patents would begin to expire progressively from CY23.

Est. net sales transfer price based on 25-35% of net sales.

The net sales-related transfer price has not been disclosed, but we assume as a percentage of net sales it falls within the 25-35% range to allow **Bioniche** reasonable gross margin headroom in the event the average selling price (ASP) or net sales price (net of government reimbursement) is not within our estimates of US\$2,000 (ASP), US\$1,440 (net). It is not anticipated at this juncture that Urocidin™ will directly compete with BCG, or be priced at similar levels. Refractory-based products are able to command solid pricing structures by virtue of their use in patients who have failed other therapies.

Endo's Commitment to Urocidin™ Should Not Be Underestimated

Endo's patent cliff is looming from CY12 onwards.

Endo is facing a sizeable patent cliff for its leading branded pharmaceutical products, commencing in CY12 onwards, particularly in pain related products. Endo is actively positioning itself in the urology space. This is despite a very underwhelming bladder cancer drug, Valstar®, which in our view limited sales potential given its restrictive label, sub-optimal complete response rates, toxicity and historic manufacturing problems which saw the product withdrawn from sale over an extended period. The product was re-launched in Sept 2009. Endo currently has a sales force of approximately 70 persons for its urology franchise. This provides **Bioniche** with an immediate, experienced sales force upon market launches, globally.

Urology sales force of 70 people will underpin Urocidin™ sales.

The Company has also acquired a generics business and a devices/services business to diversify its branded pharmaceuticals revenue base. Interestingly, the Healthtronics acquisition announced in 2Q CY10 provided Endo with further leverage into the urology community, given Healthtronics was leading provider of urology products and services, with direct relationships covering 1/3 of all US urologists.

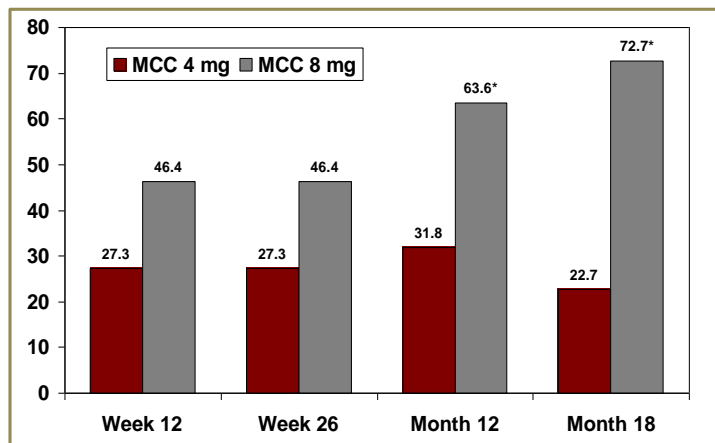
Phase 2 Results Were Solid

Bioniche's Phase 2 study of MCC (pre-cursor to Urocidin™ currently used in Phase 3) examined bladder cancer patients who had either failed BCG or other treatments or were treatment naïve. Of a total of 55 patients, the complete response rate was 27.3% at 12 and 26 weeks in the 4mg MCC/Urocidin™ group and 46.4% in the 8mg group at identical time points (see across). Interestingly, in a subset of patients who had failed only BCG, the complete response rate was 62% at 26 weeks for the 8mg group. Complete responses were

Bioniche's Phase 2 results were ~2x better than other treatments in refractory.

defined as negative biopsies and negative urine cytology. Treatment failure was defined as a positive tumour biopsy at any bladder site or positive cytology, making the study one of a very high threshold of what was judged to be successful.

Bioniche Phase 2 MCC Study Summary – Complete Response Rate



* Protocol amendment saw less patients re-consent; Source: Bioniche

As indicated above, refractory patients using BCG or chemotherapy have typical complete response rates of <20%, making Bioniche's Phase 2 study particularly encouraging. The study author concluded "the results of the study confirm the MCC compositions have efficacy and safety when used to treat patients with high grade bladder cancer in whom BCG failed or were treatment naïve."

Very low adverse event rates.

In the Phase 2 study, only one patient of the 55 intent to treat (ITT) population did not receive a full induction instillation of the MCC formulation, possibly related to a related adverse event and three dropped out during maintenance therapy. This compares very favourably with that of BCG where maintenance dropout rates occur in the majority (>50%) of cases, and can be as high as 80%, though study dependent.

First Phase 3 Results Expected 2Q CY11

Bioniche's first Phase 3 study was an open-label, 129 patient study in BCG refractory patients with NMI bladder cancer. Patients were at intermediate to high risk of progression and had failed to respond to BCG therapy. As was the case with the Phase 2 study, such patients represent a challenging indication for Urocidin™, given the similarity in mechanism of action between BCG and Urocidin™. This fact highlights just how impressive the initial Phase 2 data was in terms of response rate versus alternate treatments.

Though the trial was **Bioniche** sponsored, under the license deal with Endo, the data attributable to the study has been transferred to Endo awaiting release. We expect the results in 2Q CY11. We note **Bioniche** received a US\$4m milestone in Nov 2010 relating to a contracted efficacy goal. Though the actual efficacy goal of the study remains confidential, we believe a complete response rate of ≥20% beyond six months (out to 12 months), coupled with similar safety and tolerability as that seen in the Phase 2 study would see significant sales in the refractory bladder cancer setting.

Endo paid US\$4m to Bioniche in Nov CY10 on Phase 3 efficacy.

Bioniche has set an internal goal of <10% of patients unable to tolerate treatment, which compares very favourable to BCG, where up to 80% of patients discontinue treatment under the approved FDA dosing label, as mentioned previously.

We are confident the Phase 3 data will prove efficacious owing to:

We are bullish on Phase 3 efficacy for Urocidin™.

- (1) the US\$4m milestone payment already received from Endo;
- (2) Endo has lodged and expected to shortly recruit a first patient into a second Phase 3 study, which will probably cost in excess of US\$50m; and
- (3) data from the study is expected to be presented at major global urology conferences.

The results represent a major milestone in our view, and a significant determinant of valuation uplift following the Australian listing.

Phase 3 data pivotal to post ASX listing outperformance.

The target meeting for the results of the Phase 3 will likely be the American Urological Association (AUA) meeting in May 2011, the world's largest meeting for urologists. Similar data presentations are anticipated in Europe and Canadian meetings.

Second Phase 3 Study Commenced 4Q CY10

Second Phase 3 commenced in 4Q CY10.

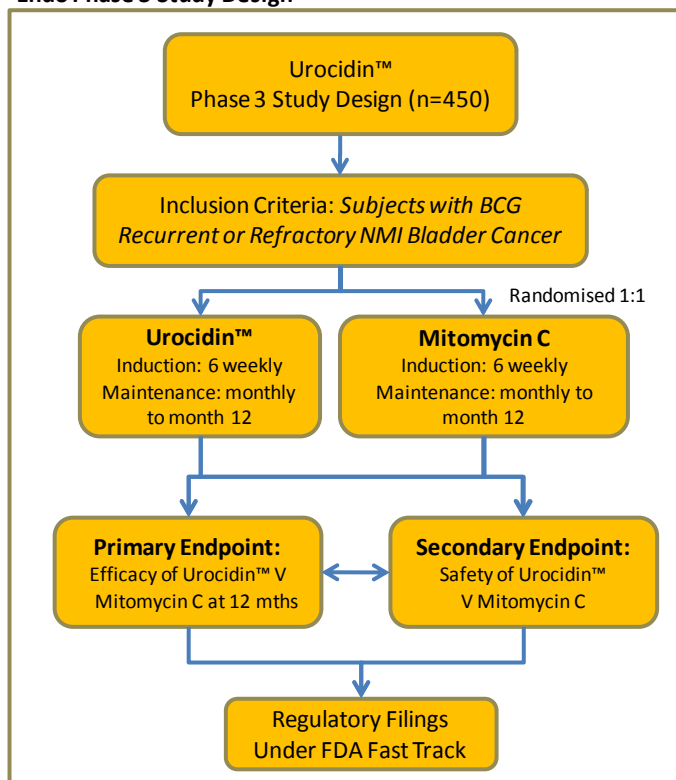
Endo Pharmaceuticals lodged into the public databases the design of the second Phase 3 study for Urocidin™, which will compare its efficacy versus mitomycin C chemotherapy in patients that have refractory or recurrent bladder cancer following treatment with BCG immunotherapy. Recurrent disease refers to the reappearing of disease after achieving tumour free status by 6 months after BCG, while refractory disease is the failure to achieve tumour free status by 6 months following BCG. We anticipate an announcement relating to the first patient recruited into the study early in the 1Q CY11. We have illustrated the clinical trial design for this important study, below.

450 patient study v mitomycin C in refractory setting.

Cost >US\$50m in our view.

Approval expected early CY15.

Endo Phase 3 Study Design



Source: clinicaltrials.gov #NCT01200992; Taylor Collison

The trial will recruit up to 450 patients globally at 120 sites globally including the US, Europe, India, Australia and NZ. As previously mentioned, we anticipate the study will cost in excess of US\$50m and provide Endo/Bioniche with a registered product to treat refractory bladder cancer disease. We note Urocidin™ has received fast-track status by the FDA, and is expected to complete recruitment and follow up within three years. We anticipate regulatory approvals in 2H CY14 with first sales in early CY15.

Examining Clinical Evidence of Mitomycin C in Refractory BCG

While not designed as a non-inferiority study to mitomycin C in refractory BCG NMI bladder cancer, it is imperative in our view that BCG show at least non-inferiority to mitomycin C, but superiority in this Phase 3 study. While the complete response rate of the first Phase 3 trial will be released shortly, we have examined the clinical landscape for data pertaining to mitomycin C use in refractory BCG.

Mitomycin C efficacy in Taylor Collison Limited

In one randomised study of NMI bladder cancer involving 261 patients, cross over treatment of BCG failures with mitomycin C yielded a response rate of 19% versus 39% who crossed over

refractory is limited. to BCG from mitomycin C failures.

Gemcitabine looks a better chemo drug in any case.

In a recent 120 patient Phase 3 study (Feb 2010) BCG-refractory patients were randomised to either mitomycin C or gemcitabine, comprising both an induction course and maintenance course if they exhibited a complete response. The study showed gemcitabine had superior efficacy and safety versus mitomycin C in the randomised patients. The incidence of adverse events was 39% for gemcitabine and 72.2% for mitomycin C. Urocidin™ studies to date suggest a much lower rate of adverse events. On this basis of this study, gemcitabine may actually be superior to mitomycin C, suggesting Endo have picked the right comparator, as mitomycin C is used widely in urology circles.

Registration, Manufacturing and Global Market Strategy

We believe Urocidin™ will be priced at US\$2,000.

Bioniche has now effectively handed control over the Urocidin™ program to Endo, following completion of the first Phase 3 study (results pending). Bioniche will continue to manufacture Urocidin™ for clinical trials and retains a core R&D team of approximately 16 to continue expansion to new clinical indications for the MCC platform. We believe the design of the second Phase 3 trial in the refractory setting is an intentional strategy by Endo to price Urocidin™ in line or slightly above refractory NMI treatments, including Valstar®. We have modelled a list price of US\$2,000 in the refractory setting as shown in Appendix 1.

The development of novel therapies in cancer has resulted in price premiums particularly for those therapies which are proven to increase survival and prolong life. In the refractory setting, given the lack of treatment alternatives, patients and clinicians are more likely to accept higher prices. Assuming a list price of US\$2,000, a typical patient receiving a two year treatment course of 21 doses will cost approximately US\$42,000. New antibody-based biologics in oncology such as Avastin® can cost up to US\$100,000 per patient per year, implying Urocidin™ costs are tolerable in our view.

Urocidin™ capacity of 1m to be built over next three years at cost of ~C\$35m.

We believe **Bioniche** will progress capacity of Urocidin™ from ~0.03m per annum to 1.0m over the next three years to meet expected global demand for doses following approval in major jurisdictions globally. We have provided our COGS and CAPEX assumptions for Urocidin™ across, noting that a significant portion of IPO and Canadian placement proceeds (C\$14m), Endo are slated for manufacturing expansion and other capital requirements.

Urocidin™ Manufacturing/Cost Assumptions

Parameter	Outcome
Current Manufacturing Capacity (doses per annum)	0.03m
Final Manufacturing Capacity - CY 14 (doses per annum)	1.0m
COGS (C\$) per dose low volume	100
COGS (C\$) per dose high volume	20-25
Incremental CAPEX (0.1m to 1.0m) (C\$m)	35
Est. CAPEX Debt/Equity Mix (%)	70/30

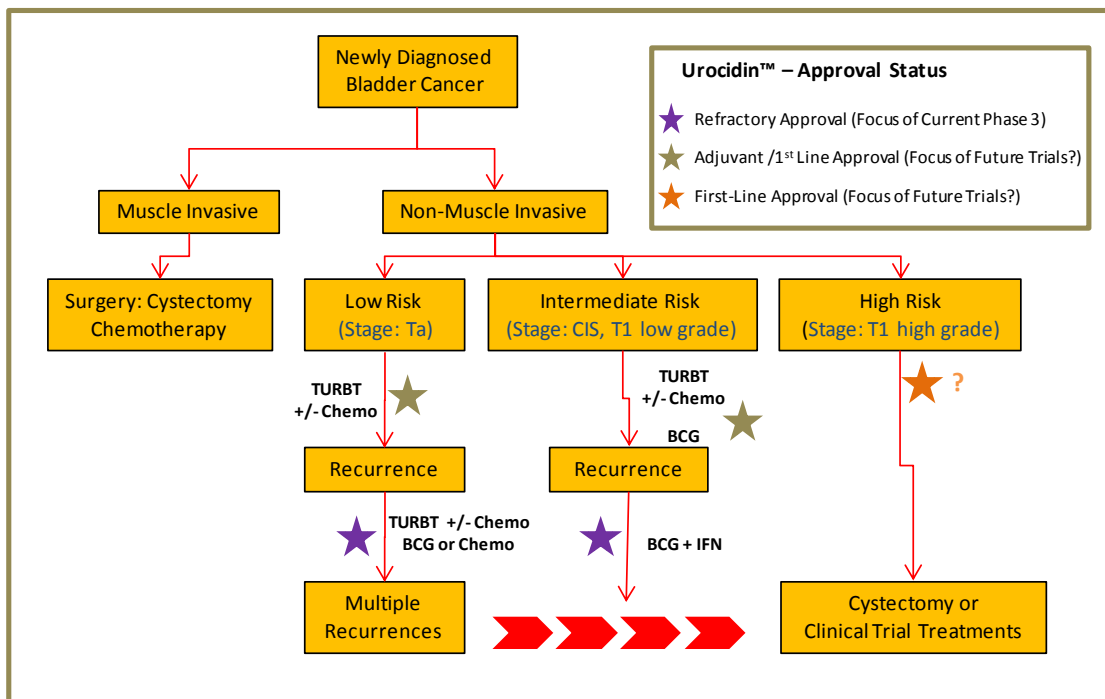
Source: Taylor Collison

FDA fast track status on Urocidin™.

Bioniche has received FDA Fast Track status on Urocidin™ which provides for frequent communication between the FDA throughout the entire drug development and review process. As a fast track treatment, Urocidin™ is entitled to a rolling review with the FDA allowing completed sections of its New Drug Application (NDA) for review by FDA to be filed through the process, rather than waiting until every section of the application is completed before the entire application can be reviewed.

In time, and dependent on further well controlled clinical trials, we envisage Urocidin's use in bladder cancer will expand beyond refractory to include (1) adjuvant setting (post re-section) and (2) a replacement for BCG (head to head). We have only modelled the refractory market and as such, additional clinical trials proving efficacy could provide material upside to our estimates, given the higher patient pools and targeting of newly diagnosed patients.

A Place for Urocidin™ in Bladder Cancer: Now and into the Future



Urocidin™ use in bladder cancer potentially across spectrum of treatment.

Source: Taylor Collison (parts adapted from Morales, 2010)

Competing Drugs in Development for Bladder Cancer

We note the relevant in-development therapies for NMI bladder cancer, below. At present, **Bioniche** is the only company developing an immunotherapy based alternative to BCG and Urocidin™ is the only immunotherapy treatment for bladder cancer currently in clinical trials, with proven efficacy in Phase 2. The majority of new treatments remain chemotherapy agents, which as discussed have historically been utilised for low risk patients. Immunotherapy remains the treatment of choice for intermediate to high risk patients at risk of progression, such as those with CIS/Tis.

In-Development Bladder Cancer Drugs

All in development drugs for NMI bladder cancer are chemotherapy agents, except Vincinium™.

Treatment/Sponsor	Description	Stage
Vincinium™ (Viventia)	Antibody Therapy	Phase 2
CG0070 (Sante)	Virus based Therapy	Phase 1
Electromotive Mitomycin C	Chemotherapy (Ionized Mitomycin C)	Phase 2/3
Gemcitabine (Eli Lilly)	Chemotherapy Agent	Phase 2
EOQuin® (Spectrum)	Chemotherapy (Mitomycin C Pro-drug)	Phase 3

Source: Bioniche prospectus, Taylor Collison

Vincinium™

Vincinium™ (Viventia Biotechnologies, Inc.) has been evaluated in several preclinical studies, an exploratory Phase 1/2 clinical trial, and a Phase 2 trial to assess safety, tolerability and efficacy. A dose dependent relationship was established, with patients in the high dose group achieving the highest overall response rate. According to Viventia, the efficacy and safety results demonstrate that is effective in a BCG refractory patient population with CIS it was safe and very well tolerated. Development appears to have stalled.

EOQuin®

EOQuin® is a pro-drug and chemical analog of mitomycin C, developed by Spectrum Pharmaceuticals (NASDAQ:SPPI), an oncology focused pharmaceutical company. The drug is preferentially converted to its active form by enzymes in tumour cells.

Spectrum is conducting two multi-centre, randomised, double-blind, placebo controlled, Phase 3 pivotal trials of single dose EOQuin® to be instilled into the bladder in the immediate post-operative period after surgical resection of low risk, NMI bladder tumours (adjuvant setting). Its use in the adjuvant setting, and for low risk NMI bladder tumours (i.e. papillary) sets it well apart from Urocidin™ – targeting refractory BCG in predominately high-risk patients. Patient enrolment is complete (n=1,600) and top-line results are expected in 2012.

EOQuin® licensed for US\$346m in 4Q CY08, a very significant deal in our view.

As shown below, Spectrum has executed very significant licensing transactions around EOQuin® with 2x major transactions and 1x minor transaction in Sth Korea (not shown). The Allergan deal struck in 4Q CY08 included a US\$41.5m upfront payment and US\$304m in potential milestones. This is a much superior deal versus **Bioniche's** with Endo. However, we note the difference between (a) the timing of the deal and (b) the expected prescribing label within NMI bladder cancer.

EOQuin® V Urocidin™ : License Terms and NMI Positioning

Parameter	Urocidin™	EOQuin®
Partner	Endo (global)	Allergan / Nippon Kayaku (Japan + Asia)
Upfront (US\$m)	20	41.5 / 15
Milestones (US\$m)	110	304 / 136
Transfer Price % / Royalty %	Est. 25-35%	N/A
Stage at Signing	1x Phase 2	End of 2x Phase 3
Indication within NMI BC	Refractory BCG*	Adjuvant TURBT

*Endo may potentially seek other indications for Urocidin; Source: Company reports, Taylor Collison

EOQuin® two years ahead clinically.

In short, Spectrum are at least 2 years ahead clinically, and they are targeting the adjuvant setting, that is, post re-section of the bladder. Currently BCG is not permitted for use in the adjuvant setting unless prescribed 2 weeks after surgery, given the risks of systemic infection. Interestingly, EOQuin® will be a once only instillation into the bladder following TURBT of low risk (Ta) tumours, which in our view limits sales in light of the 21 dose course applicable for Urocidin™ in refractory. Nonetheless, the Spectrum deal was exceptional.

Animal Health

The Industry

Global animal health market expected to grow 5% CAGR to 2014.

The animal health market, which encompasses both pet (companion) and farm/production (livestock) industries was worth approximately US\$19 billion per annum in 2008 and is expected to grow by a CAGR of ~5% to 2014 where the market could be worth US\$24.1 billion. However, the overall animal health market growth did slow during CY09, replicating with the downturn in **Bioniche's** own animal health business, which recorded sales of C\$27.0m, down 19% on pcp. Companion animals represent 40% of the market with 60% attributable to production animals. Between North America and Europe, the combined share of the global market is 65%.

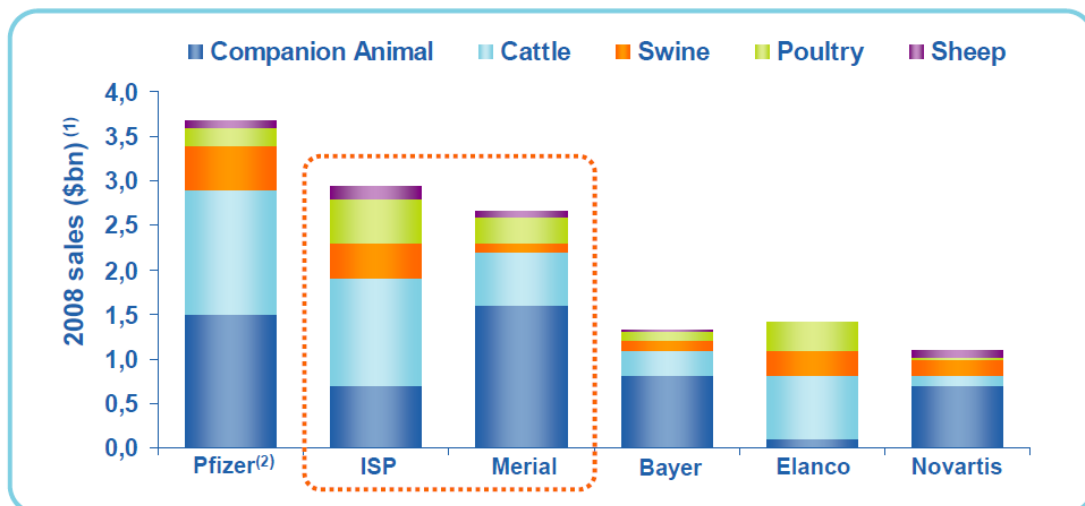
The key drivers for growth in animal health are:

- (1) Growing population worldwide
- (2) Increase consumption of animal proteins in emerging markets
- (3) Pet ownership growth due to aging populations and higher incomes in emerging markets

Highly consolidated sector.

The industry is highly consolidated, with the top 6 players controlling >50% of the worldwide market (see below). The major animal health players are now divisions within major pharmaceutical companies: Pfizer (Fort Dodge); Merck (Intervet Schering Plough), Sanofi Aventis (Merial), Eli Lilly (Elanco).

Competitive Landscape in Animal Health



Source: Intervet Schering Plough

Major mergers a feature.

In 1Q CY10, Sanofi Aventis and Merck announced they would combine their animal health businesses (Merial and Intervet Schering Plough (ISP), respectively), further consolidating the sector. The ISP and Merial deal will have combined sales of >US\$5.3 billion and employees of 13,800 worldwide. The enterprise value (EV) of Merial at deal announcement was fixed at US\$8.0 billion (implying EV/Sales of 3.1x) and ISP of US\$8.5 billion (also implying EV/Sales of 3.1x).

Market and Product Positioning

Bioniche has positioned itself corporately as a specialist provider of niche animal health products to service the global production/companion animal markets. The Division has a portfolio of products around five platform technologies in the broad categories of reproduction and embryo transfer; immunostimulants; hyaluronan-based and vaccines.

New product opportunities are also a strategic goal. Cue-Mate[®] and Pregnecol[®] are expected to benefit from a partnership with Bayer Animal Health for distribution into the Australian market, which was announced in the 1Q of CY10. In 4Q CY10, the Company obtained the US rights to SucroMate[®], one of only eight FDA approved animal health drugs in 2010 used in mare ovulation, representing a market opportunity of 250-300,000 mares annually.

With the proceeds from the contemporaneous capital raise, **Bioniche** intends to spend C\$3.0m on new animal health product development and registrations, up to C\$4.0m on upgrading its manufacturing facilities, particularly in Australia and ~C\$4.5m on sourcing animal health product acquisitions. This is expected to result in material top line growth and potentially gross margin expansion via higher margin branded product sales.

Financial Performance

FY10 animal health sales impacted by global downturn.

FY10 was a tough year for **Bioniche** with significant revenue declines across its geographic markets v FY09, which was attributable to the recessionary conditions in the US and EU markets. This was particularly true in the thoroughbred industry, which accounted for 32% of sales in FY10. The consolidated revenues by geography are shown, below. Total sales of C\$27.0m were 19% below pcp with a meaningful downturn in business across all markets, particularly the US and Europe.

GEOGRAPHICAL DISTRIBUTION OF CONSOLIDATED REVENUES BY BUSINESS UNITS

(expressed in millions of Canadian dollars)

	2009 YTD C\$	2010 YTD C\$	GROWTH %
Animal Health — Canada	8.5	7.2	-16%
Animal Health — USA	18.3	14.1	-23%
Animal Health — Australia	3.9	3.8	-3%
Animal Health — EU	2.6	1.9	-29%
Total — Animal Health	33.3	27.0	-19%

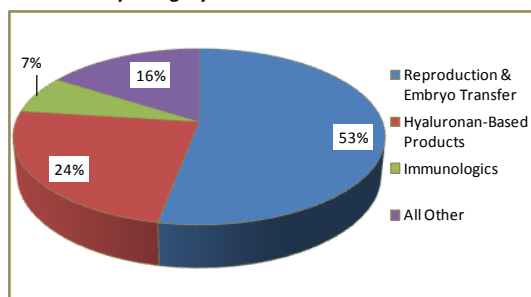
Source: Bioniche prospectus

Folltropin[®]-V, with FY10 sales of C\$9.4m is the Company's leading specialised embryo transfer product and has an estimated global market share of 75%.

The second largest product by sales is the hyaluronan-based products, which accounted for C\$5.9m in FY10 sales. Other single product contributors to overall product revenues include Pregnecol[®] and Cue-Mate[®] both reproductive products in horses and dairy cattle accounting for C\$1.6m and C\$1.2m, respectively in FY10. A breakout of the FY10 sales by category and species is shown below.

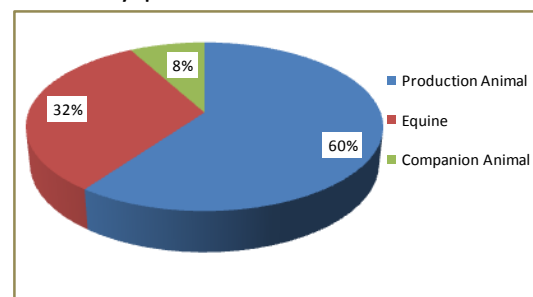
Reproductive and animal transfer products the mainstay of Bioniche animal health division.

FY10 Sales by Category



Source: Bioniche Prospectus

FY10 Sales by Species



Source: Bioniche Prospectus

Four year gross margins average of 54.8% dropping C\$6.4m of EBITDA.

Examining the historic animal health segment performance (see below), we note average four year gross margins of 54.8%, equating to average EBITDA margins of 21.9% or C\$6.4m in average EBITDA. Cash flows attributable to the animal health business have been directed into the human health MCC/Urocidin[™] R&D program, with net expenditure of C\$8.4m in FY09 and C\$14.3m in FY10 representing 80.8% of FY09 animal health EBITDA and 3.1x FY10 EBITDA.

Historic Animal Health Segment Performance

	FY07	FY08	FY09	FY10	1Q11
Product Sales	27.0	27.5	33.3	27.0	6.7
Cost of Sales	12.2	12.7	14.0	12.7	3.2
Gross Margin %	54.9%	53.4%	58.0%	53.0%	52.2%
SG&A	8.0	7.0	7.1	6.6	1.6
EBITDA (pre-R&D)	6.8	7.7	12.2	7.7	1.9
R&D	1.9	1.9	1.8	3.1	0.8
EBITDA	4.9	5.8	10.4	4.6	1.1
EBITDA Margin (%)	18.1%	21.1%	31.2%	17.0%	16.4%

* FY10 Ex intangible asset sale

The uplift in gross margins and EBITDA margins in FY09 were positively impacted by the depreciation of the C\$ against the US\$ as >50% of Bioniche's C\$ revenues were from US geographic sales.

We are forecasting animal health sales of C\$29.3m in FY11, representing an increase of 9.9% on pcp, driven by a recovery in equine markets in Europe and the US and increased penetration of Folltropin®-V in China and India. The Company has made a reasonable start to FY11, with 1Q11 product sales of C\$6.7m 14% higher than pcp. As mentioned, **Bioniche** has also allocated up to C\$4.5m of capital raising proceeds to fund product or business acquisitions to grow the animal health business beyond the organic growth potential of its existing business.

Valuation

We have examined several listed animal health or veterinary players which we believe represent reasonable comparables to **Bioniche**. As discussed, given a significant percentage of the global market is controlled by animal health divisions within large pharmaceutical companies, direct comparable analysis remains challenging. Our analysis is shown below. Intervet and Merial recently disclosed their proposed EV as part of a business combination, providing context for their EV/Sales multiples.

Bioniche Animal Health - Comparables

Company	Ticker	Market Cap (m)	Enterprise Value (m)	EV/EBITDA (historic)	EV/EBITDA (forecast)	EV/Sales (historic)	EV/Sales (forecast)
MWI Veterinary Supply	NASDAQ:MWIV	US\$830	US\$844.8	14.6	12.3	0.7	0.6
China Animal Health	SGX:EP4	HK\$3,200	HK\$3,402	9.8	6.8	4.5	3.4
ECO Animal Health Group	AIM:EAH	£137.5	£129.3	26.4	19.3	5.9	4.6
Merial**	n/a	n/a	US\$8,000	n/a	n/a	n/a	3.1
Intervet Schering Plough**	n/a	n/a	US\$8,500	n/a	n/a	n/a	3.1
Provet *	ASX:PVT	A\$92.7	A\$94.2	7.2	7.2	0.3	0.3
			Median	12.2	9.8	2.6	3.1
			Mean	14.5	11.4	2.9	2.5

Source: Bloomberg; Data as at 11Jan * Acquisition Multiples; Acquired by Henry Schein Dec 10; ** EV's announced as part of business combination

Comparable companies in animal health.

Used EV/Sales, EV/EBITDA valuation metrics.

We believe the animal health business is worth A\$0.52 per share.

We value the **Bioniche** Animal Health business through a combination of EV/EBITDA and EV/Sales (equally weighted). On this basis, we ascribe an EBITDA multiple of 7.0x to our FY11 EBITDA estimate (50% weighted) and a 2.5x multiple to our FY11 Sales estimate (50% weighted) to give our valuation of \$0.52 per share. We have valued the early stage animal health programs at zero.

Food Safety: Econiche™

What is Econiche™?

Econiche™ is a vaccine administered to cattle to prevent human disease caused by a highly pathogenic bacterium called *E.coli* O157:H7 (see across). There are many different strains of *E. coli*. A number live in the human intestine and cause no disease.

However, one *E. coli* strain called O157:H7 releases toxins that can cause severe illness in humans, and death but whose primary reservoir is in cattle. *E. coli* O157 does not cause disease in cattle, so most farmers do not know whether their animals are carriers or not. The pathogen lives in an animal's intestinal tract and is spread to the outside environment through its manure.

Cattle are considered to be the primary source of human infection which is why Econiche™ has been developed as a cattle vaccine. In the US, it has been estimated that almost 30% of animals going to slaughter could be infected with *E. coli* O157 and an average of 43% of carcasses coming out of the slaughter line at processing plants are contaminated.

Econiche™ is a cattle vaccine to protect humans from *E. coli* O157 infection.



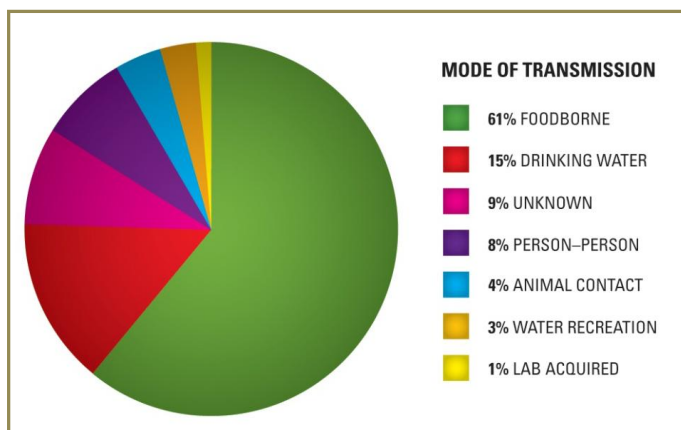
Source: Bioniche presentation

The Emerging Problem of Contaminated Food

The Centers for Disease Control and Prevention (CDC) estimates that each year roughly 1 out of 6 Americans (or 48 million people) gets sick, 128,000 are hospitalised, and 3,000 die from food borne diseases. Over 350 outbreaks of disease occur each year. *E. coli* O157 transmission to humans is largely as a result of contaminated food (particularly beef products, such as ground beef) and drinking water where the organisms are washed into streams/rivers that supply towns etc, as shown across. The CDC estimates that about 70,000 people are infected with *E. coli* O157 each year, with many more cases of illness going unreported. In the US, it has been estimated O157 costs approximately US\$405m per year.

Econiche™ O157 costs the US around US\$405m a year.

E. coli O157 Transmission to Humans



Source: Bioniche AIF

Recently, in the Australian context, Coles supermarkets announced it was sourcing human growth promotant (HGP) free beef from its Australian cattle producers. While not related to food infection *per se*, the initiative was the direct result of customer dissatisfaction with the practise of using growth promotants and the perception of food quality.

Recent US Law on Food Safety a Positive for Econiche™

As a result of continued contamination of the US food supply, over a number of years, the US government introduced the FDA Food Safety Modernization Act, which was signed into law on January 4th 2011.

New food safety laws beneficial for food safety developers like Bioniche.

The key tenets of the new law are:

- (1) Improving Food Inspections;
- (2) Setting Food Safety Standards; and
- (3) Provides the Food and Drug Administration (FDA) with recall authority for the first time

The FDA has a legislative mandate to require comprehensive, preventive-based controls across the food supply chain. Preventive controls include steps that a food facility would take to prevent or significantly minimise the likelihood of problems occurring. This is a proactive approach. Of benefit potentially to **Bioniche** is that one of the best ways to prevent *E. coli* contamination is to limit its presence at the source i.e. the cattle. This is achieved by vaccination.

Major 1H CY11 Milestone Remains Conditional US Licensure

Econiche™ is not currently licensed for use in the US. However, we anticipate the vaccine, which is currently under review by the United States Department of Agriculture (USDA) will be granted a conditional license during 2Q CY11. The product is approved in Canada (since 4Q CY08), but sales to date have been small. In 1Q CY08, **Bioniche** received notice from the USDA that Econiche™ meets the expectation of efficacy and a conditional license, subject to conditions. The US conditional license approval has been a long time overdue.

US conditional licensure expected during 2Q CY11.....a long time coming.

A conditional license in the US requires that one step in the manufacturing process take place in the US and three serial lots produced successfully. Furthermore, the product can only be sold to licensed veterinarians. We see these as low hurdle rates (and already achieved). Further, until full licensure is achieved, **Bioniche** is not permitted to use a trademark name for the vaccine.

Evidence from **Bioniche** clinical studies in over 30,000 cattle have shown:

Solid clinical evidence on Econiche™.

- (1) Up to 99.5% reduction in shedding of the bacteria from faeces;
- (2) A 97.5% reduction in colonisation of the cattle;
- (3) 85% fewer animals shedding the bacteria; and
- (4) 63.9% reduction in the duration of the shedding in affected animals.

Bioniche is expected to allocate a total of C\$1.5m to complete a new US field trial with Econiche™, which is a condition of full licensure for the US market.

Capacity of >40m Doses Per Annum in 2Q CY11

Bioniche's current capacity of Econiche™ is approximately 1m doses per annum, which in part may explain the sluggish sales to date, particularly in light of the sheer numbers of cattle in feedlot in North America (see below).

Econiche™ capacity expected to reach at least 40m doses per year from 2Q CY11.

The facility has been majority funded through soft loans provided by a number of Canadian government agencies, and the Business Development Bank of Canada. The amount of funding available is up to C\$25.0m, as shown below. The government funded facilities expansion is expected to be complete in 2Q CY11, with annual capacity exceeding 40m doses of Econiche™ plus other vaccines.

Econiche™ Manufacturing: Sources of Debt Funding & Key Terms

Source of Funds	Amount (C\$m)	Key Terms
Ontario Ministry of Economic Development & Trade	10.0	6 yr incentive period at 0% interest, Aug 2014: interest charged at 5.7% + annual 20% re-payment of principal balance & accrued interest over 4 years
Business Development Bank of Canada	5.0	Revised payment schedule of 82 monthly re-payments, interest rate of BDC float + 250 bps; \$1.75m utilised as at FY 10
Minister of Industry of Canada	5.0	Reimbursement of 28% of actual/eligible project expense quarterly to March 2013; monies bear no interest and are not repayable
Agriculture, Agri-Food Canada	5.0	Interest free, with principal re-payments of C\$1.0m p/a commencing July 1, 2013

C\$25.0m in loans provided to build capacity for Econiche™ suggesting government likely to be key proponent.

Source: Bioniche prospectus, Taylor Collison

How Large is the Potential Market?

Bioniche will initially target those cattle in feedlots, of which there are approximately 25m in North America from a pool of 110m animals (see across). **Bioniche** expects to target feedlot producers first then other segments including the dairy industry. Estimates from the Canadian market suggest savings of at least C\$63m comprising both healthcare cost savings from a reduction in infected individuals

Market is significantly large, though uncertain as to appetite for Econiche™ vaccine.

and a component related to the agricultural economy (C\$33m) relating to food recalls, destruction, etc. from vaccinating the herd. The vaccination schedule in North America is expected to be priced at US\$3 per dose (C\$3 per dose in Canada), over a three dose regimen. In Europe, where market entry will be delayed relative to North America, pricing is expected to be €5-7 per dose over a three dose regimen. **Bioniche's** addressable maximum revenues in North America based on installed manufacturing in 2Q CY11 is therefore US\$120m per annum.

Econiche™ Target Markets - Cattle Herds

Jurisdiction	Beef (m)	Dairy (m)
North America	96	14
South America	64	35
European Union	29	25
Aust & NZ	32	6
Addressable Market	221	80

Source: Bioniche prospectus, Taylor Collison

Aside from capacity constraints, we believe the problem for vaccine sales to date has been the incremental cost to beef producers. The producers believe the cost should be borne by the federal government. In essence, the argument put forward is a combination of already escalating feed and fuel costs and lower beef prices. Perhaps more particularly, it is of no consequence to a farmer if they have *E. coli* O157 on their farm – the problem lies at the slaughterhouses and downstream food packaging/handling.

Producers will not bare cost of US\$3 per head of cattle.

Prefer government subsidisation.

A survey from **Bioniche** of Canadian cattlemen indicates that 90% would vaccinate cattle if the government provided the vaccine free of charge. In our view, a key metric of success – producers will tend not to absorb the additional costs into their production margins. However, selected farms in Canada do currently vaccinate their entire herds as a point of difference to end customers, and charge a premium for it. We see some value in this model, though it is not likely to generate significant returns based on a 40m per annum facility in our view. Government subsidisation remains key.

According to Poundmaker Adventurers Ltd, the advent of branded beef programs by several of the packing companies and retail chains demands accountability for the quality and safety of their product. This is rapidly moving beef from simply a raw commodity to a value based product where quality is rewarded and demanded. This represents a second opportunity for **Bioniche**: the branded/premium beef market in the US.

Competitors in the Market

Bioniche's largest threat to market success in the *E. coli* O157 cattle vaccine space is Epitopix, which was granted a conditional license by the USDA in early 2Q CY09. The dosing regimen is essentially identical to Econiche™ and it too is a cell extract vaccine. Pfizer acquired the rights to Epitopix's *E.coli* vaccine in CY10, and has expended considerable time in developing the vaccine. It also has the full might of Pfizer Animal Health behind the vaccine development. Terms of the license deal were not disclosed and sales to date remain unknown.

Epitopix the main competitor.

Inferior data to Econiche™ but has large partner.

The historic data for Epitopix appears weaker than **Bioniche** with 54-84% reduction in shedding v 99.5% for Econiche™. Epitopix has only been tested across 1,200 head of cattle versus 30,000 head of cattle for Econiche™.

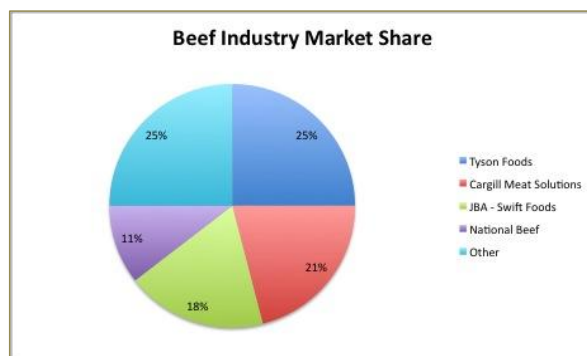
Large producers are also stepping in.

Cargill just recently announced that its trial involving 85,000 head of cattle using Epitopix was “encouraging”, though the full results of the study have yet to be released. The trial cost US\$1m. Cargill recorded US\$107.9 billion in sales in FY10.

Cargill Beef is one of North America's largest beef processors, harvesting more than 7 million fed cattle and producing nearly 7 billion pounds of boxed beef and by-products each year. In Canada, Cargill holds a significant (~45%) market share of fed slaughtered cattle in Canada giving it significant market power. Since 2000, Cargill have recalled 20m pounds of beef contaminated with *E. coli* or another bug, *Listeria*.

Risk for Bioniche that Epitopix gets a significant foothold in US market prior to Econiche™ approval.

In our view, there is significant potential for Cargill to utilise Epitopix preferentially to Econiche™ in vaccinating its feedlot herds. Sizeable marquee orders for Econiche™ therefore in the US may come from the other three major producers in the US, who along with Cargill control a significant percentage the beef market, as shown across (2007 data).



Source: NWS

How can Bioniche Monetise Econiche™?

We believe the Company is assessing several commercial options for Econiche™ once the plant becomes fully operational in the 2Q CY11. This forms the basis of our revenue and forecasts for Econiche™, as summarised in Appendix 3. We are modelling on the premise that orders commencing FY12 will be related to the following:

4 means of monetising Econiche™. We believe (1) and (2) are logical, and preferred.

- (1) US premium/branded beef producers that are prepared to vaccinate to protect their herds and the food chain, and charge a premium for it. We understand premium producers at present can command C\$200-\$250 per dressed carcass without vaccination, suggesting a tolerable margin impact of 3.6-4.5% with Econiche™.
- (2) Given the vaccine is approved in Canada (unlike EpiTopix) and the government funding for manufacturing, we think the Canadian government will subsidise Canadian beef cattle vaccination each year, representing a first year pool of 5.1m breeding beef cattle (8m in dairy for a CY09 total of 13.2m).
- (3) Partnering the vaccine with a third party animal health player for sale into the US market. This would involve a distribution deal and **Bioniche** retaining manufacturing.
- (4) We are not making any estimates for Europe or Australia in our model, these markets represent upside upon regulatory approvals.

On these assumptions, as highlighted in the introductory section of this report, on a risk-adjusted DCF basis, we value Econiche™ at \$0.19 per share, fully diluted.

Other Food Safety Vaccines in Development

Bioniche is also working on several other food safety vaccines, most notably a *Salmonella* vaccine for cattle, which is currently in pre-clinical development. *Salmonella* is also a major problem in the food chain globally. C\$1.5m will be allocated to complete development of this vaccine. We note EpiTopix also has a conditional license on a *Salmonella* vaccine for cattle.

We have not attempted to place any value of these programs, given their earlier stage of development and the implicit uncertainty as to the success of Econiche™ until it receives US licensure and marquee orders.

Risks to the Bioniche Business Model

First Phase 3 Results Unknown for Urocidin™

Phase 3 results unknown.

Although we believe the results of the first Phase 3 are likely to be efficacious based on the pieces of evidence presented to date, there is a risk the results will not prove significantly efficacious to warrant continued development of Urocidin™. However, given Endo continues to proceed with the recruitment into a second study, we consider the risk to project abandonment to be relatively low. Results are expected during 2Q CY11.

Second Phase 3 May Fail to Show Superior Efficacy to Mitomycin C

Second Phase 3 may fail.

The Endo sponsored second Phase 3 study is seeking to compare the use of Urocidin™ with mitomycin C, a chemotherapy agent with limited evidence in well controlled clinical studies in refractory BCG studies. There is a risk that Urocidin™ may be inferior to mitomycin C, which could significantly limit sales particularly if the safety and tolerability of mitomycin C is comparable to Urocidin™.

Endo Pharmaceuticals Agreement

Endo may terminate the deal with Bioniche.

Bioniche's existing license agreement with Endo can be terminated by Endo at any time upon prior written notice to **Bioniche**. While the termination triggers and consequences for termination are numerous, we note any such termination by Endo prior to the completion of the second Phase 3 trial may require **Bioniche** to either (1) fund the trial directly, or (2) secure a new license partner with a diminished negotiating position. In **Bioniche's** favour, is that it retains all manufacturing rights to Urocidin™ and **Bioniche** will acquire all intellectual property developed by Endo through the development and commercialisation of Urocidin™, if Endo terminates via breach or mutual agreement. There is a risk that development will therefore be delayed, which impacts both revenue and profit estimates from FY15 onwards.

BCG Pricing May Preclude a Premium for Urocidin™

Pricing against BCG might not allow for a premium.

One of the key attributes of the refractory indication targeted by **Bioniche** and Endo for Urocidin™ is the ability to secure superior pricing to BCG. However, there is a risk that both government agencies and third party payers do not accept the pricing structures for Urocidin™ to be acceptable for reimbursement. Without reimbursement, product sales are likely to be significantly constrained. Therefore we believe there is a pricing and reimbursement risk for Urocidin™ following registration in the developed world. Should this materialise, we believe there would be significant downside to our forward estimates and valuation.

Reliance on One Group of Specialist Clinicians

A major risk of Urocidin™ moving beyond clinical trials and into the market is the fact that its administration involves a specialist urologist, who is responsible for all intravesical bladder cancer procedures. We have identified two risk factors, the first of which is the risk that urologists are not adequately informed regarding the potential use of Urocidin™ to drive patients into treatment, due to Endo under-marketing the product or do not consider a product which is a somewhat similar technological approach to existing technology (BCG) as sufficiently beneficial to patients in the refractory setting.

In our view, this could reduce the available penetration and could create an adoption bottleneck, as too few specialists would be administering Urocidin™ globally. This in turn will substantially reduce **Bioniche's** revenues and therefore future operating profit.

Manufacturing

Bioniche operates manufacturing facilities across several locations including Canada, the US and Australia. Such facilities have been issued with a variety of licenses to allow the Company to sell the products in various markets. These licenses are subject to continuous review and inspection by various regulatory agencies, including the US Department of Agriculture (USDA), US Food and Drug Administration (FDA).

Manufacturing relies on licenses and major scale up unknown at present.

Under the agreement with Endo, **Bioniche** is required to manufacture Urocidin™ for commercial sale globally. The Company has indicated up to C\$14m will be used in expanding the manufacturing of Urocidin™ to meet expected future demand. The Company is subject to certain regulatory risks, including approvals prior to supplying commercial quantities of Urocidin™. There is a risk that **Bioniche** will be unable to successfully scale up manufacturing of Urocidin™ to meet this demand in a timely manner.

By nature of its products, **Bioniche** is also required to source its supply of manufactured products from a limited range of small volume, specialised manufacturers. There is a risk that product supply may become interrupted for periods of time, that will adversely affect product sales and therefore profitability.

Reimbursement

Obtaining reimbursement by governmental and third party payers directly affects the market for **Bioniche's** human health products. Governments around the world, and more recently in the US are increasingly relying on the cost effectiveness of new technologies to justify reimbursement at a prescribed rate. Moreover, the absolute and relative performance relating to safety and efficacy will be important for any of **Bioniche's** products in determining both the availability and level of reimbursement. There is a risk that Endo is unable to secure sufficient government reimbursement for Urocidin™ following market launches. We note existing reimbursement codes exist for both chemotherapy agents and BCG administered into the bladder.

Urocidin™ may not qualify for reimbursement.

Patent Protection

Bioniche relies on patents and trademarks to protect its underlying competitive position in the US, Europe and elsewhere. At present, **Bioniche** has 127 issued or pending patents for its MCC (Urocidin™) technology and a further 48 issued or pending applications for the core *Mycobacterium* cell wall extract (MCC). In total, the Company has 389 issued or pending patents across its entire business, summarised in Appendix 4. We note the risk associated with

progressive patent expirations on the Company's ongoing competitive position. There is a risk that generic competition may result, which seeks to cannibalise **Bioniche's** competitive position. There is also a risk that **Bioniche's** patents or patent applications infringe that of third parties, or conversely, issued third party patents supersede **Bioniche's** IP position.

Board of Directors

Mr Graeme McRae – Chairman, President, CEO (Appointed June 1979)

Mr McRae is the founder of both Vetrepharm, Inc, and **Bioniche**, Inc. two of the predecessor companies to the Company. **Bioniche** was founded in 1992 by Mr McRae to develop Vetrepharm's technologies for human health applications.

Dr Stanley Alkemade – Non-Executive Director (Appointed Sept 1999)

Dr Alkemade was the former Technical Director of Vetrepharm Canada, responsible for R&D, product registrations, corporate technical services and facilities design. Dr Alkemade is now the President of BioMedEx, a project management firm for the pharmaceutical industry.

Mr Albert Bernaldo – Non-Executive Director (Appointed Nov 2008)

Mr Beraldo is the President of Alveda Pharmaceuticals Inc., a privately owned Canadian company that is a leading supplier of pharmaceuticals to the Canadian health care market. Mr. Beraldo formerly served as President and CEO of Bioniche Pharma Group Limited until 2005. He also previously served as a Director of the Corporation from 1984 to 2005.

Dr Margaret Cunningham – Non-Executive Director (Appointed Oct 2003)

Dr Cunningham is currently the Director, School of Business Administration, Dean of Research, Faculty of Management, and R.A. Jodrey Chair of Dalhousie University. Previously, she was a Professor of Marketing and the Director of the Centre for Corporate Social Responsibility at the School of Business, Queen's University.

Dr James Johnson – Non-Executive Director (Appointed Sept 1999)

Dr Johnson has a doctorate in biochemistry in addition to his law degree and is a partner at Johnson & Associates. Previously, Dr Johnson was a partner of the law firm King & Spalding LLP based in Atlanta, Georgia. Prior to that, he was a partner of the law firm Kilpatrick Stockton.

Mr Nick Photiades – Non-Executive Director (Appointed Sept 2009)

Mr Photiades is currently a management and strategic planning consultant. In November 2008, he retired after a career with the Business Development Bank of Canada (BDC) where he was Senior Director, Life Sciences, Venture Capital Division. Mr. Photiades has served as a Director in several public and private high technology companies, mainly in the biotechnology area;

Mr Lyle Vanclief – Non-Executive Director (Appointed Sept 2005)

Mr Vanclief is an agricultural and agri-food consultant. Mr. Vanclief served as a Member of Parliament for the Government of Canada from 1988 to 2004. Throughout his political career, Mr. Vanclief held several parliamentary appointments, his most recent as Minister of Agriculture and Agri-Food. Prior to serving in public office, Mr. Vanclief previously spent 25 years as an agricultural entrepreneur in his home community of Ameliasburg, Ontario.

Outlook

At a listing market capitalisation of A\$145.4m and ~C\$37.6m in cash, we believe **Bioniche** offers a solid risk/reward profile for investors in the sector given attributable risk associated with the human therapeutics pipeline is expected to decline with the results of a key Phase 3 study in bladder cancer expected in early 2Q CY11.

We are forecasting an FY11 NPAT loss of C\$9.7m, on product revenues of C\$34.8m. Our underlying EBITDA forecast for the animal health division is C\$6.9m. Based on our SOTP valuation methodology, we arrive at a valuation and PT of \$2.99, representing 106% upside from the ASX listing price. On this basis, coupled with the multiple re-rating triggers during the 1H of CY11, and the stock's attractiveness on an ASX relative valuation basis, we initiate coverage with a Speculative Buy recommendation.

PT of \$2.99.

Speculative Buy.

Urocin™ Bladder Cancer Market Model (Refractory)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
United States											
Incidence of Bladder Cancer Patients at 1.84% LTGR (p/a)	71,828	73,149	74,495	75,866	77,262	78,684	80,131	81,606	83,107	84,637	86,194
<i>Presenting with Non-muscle Invasive Disease (%)</i>	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%
Non-Muscle Invasive Disease Applicable for Immunotherapy	52,075	53,033	54,009	55,003	56,015	57,046	58,095	59,164	60,253	61,361	62,491
<i>Immunotherapy Utilisation Rate (%)</i>	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Non-Muscle Invasive Disease Patients on Immunotherapy	15,623	15,910	16,203	16,501	16,804	17,114	17,429	17,749	18,076	18,408	18,747
<i>Refractory Disease Rate within First Year (%)</i>	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%
Urocin Patient Pool - Incidence	4,531	4,614	4,699	4,785	4,873	4,963	5,054	5,147	5,242	5,338	5,437
Prevalence of Non-Muscle Invasive Bladder Cancer w/out Cystectomy	75,000	76,380	77,785	79,217	80,674	82,159	83,670	85,210	86,778	88,374	90,001
<i>Refractory Disease Rate (%)</i>	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Urocin Patient Pool - Prevalence	30,000	30,552	31,114	31,687	32,270	32,863	33,468	34,084	34,711	35,350	36,000
Total Urocin Patient Pool - Incidence & Prevalence	34,531	35,166	35,813	36,472	37,143	37,826	38,522	39,231	39,953	40,688	41,437
Average Induction Treatment Doses of Urocin Per Patient	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Average Maintenance Treatment Doses of Urocin Per Patient	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Treatment Doses of Urocin Per Patient	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Potential Market For Urocin (Doses)	517,958	527,488	537,194	547,079	557,145	567,396	577,836	588,469	599,296	610,323	621,553
Urocin Penetration (%)	0.0%	0.0%	0.0%	0.0%	3.0%	9.0%	14.5%	20.0%	23.0%	25.0%	25.0%
Urocin Doses Sold	0	0	0	0	16,714	51,066	83,786	117,694	137,838	152,581	155,388
Urocin List Price (US\$)	0	0	0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Gross Endo Sales (US\$'000)	0	0	0	0	33,429	102,131	167,573	235,387	275,676	305,162	310,777
Net Endo Sales (US\$'000) Applicable for Transfer Price Calculation	0	0	0	0	24,069	73,535	120,652	169,479	198,487	219,716	223,759
Total Blended Bioniche Recognised Sales (US\$'000)	0	0	0	0	7,221	22,060	36,196	50,844	59,546	65,915	67,128
<i>Risk Adjustment (% chance of success)</i>	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Risk Adjusted Bioniche Sales (US\$'000)	0	0	0	0	5,415	16,545	27,147	38,133	44,660	49,436	50,346
Europe (UK, FR, GE, IT, SP, NL)											
Incidence of Bladder Cancer Patients at 1.84% LTGR (p/a)	65,147	66,346	67,566	68,810	70,076	71,365	72,678	74,016	75,377	76,764	78,177
<i>Presenting with Non-muscle Invasive Disease (%)</i>	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%	72.5%
Non-Muscle Invasive Disease Applicable for Immunotherapy	47,232	48,101	48,986	49,887	50,805	51,740	52,692	53,661	54,649	55,654	56,678
<i>Immunotherapy Utilisation Rate (%)</i>	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Non-Muscle Invasive Disease Patients on Immunotherapy	14,169	14,430	14,696	14,966	15,241	15,522	15,808	16,098	16,395	16,696	17,003
<i>Refractory Disease Rate within First Year (%)</i>	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%
Urocin Patient Pool - Incidence	4,109	4,185	4,262	4,340	4,420	4,501	4,584	4,669	4,754	4,842	4,931
Prevalence of Non-Muscle Invasive Bladder Cancer w/out Cystectomy	68,023	69,275	70,549	71,847	73,169	74,516	75,887	77,283	78,705	80,153	81,628
<i>Refractory Disease Rate (%)</i>	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Urocin Patient Pool - Prevalence	27,209	27,710	28,220	28,739	29,268	29,806	30,355	30,913	31,482	32,061	32,651
Total Urocin Patient Pool - Incidence & Prevalence	31,318	31,895	32,481	33,079	33,688	34,308	34,939	35,582	36,236	36,903	37,582
Average Induction Treatment Doses of Urocin Per Patient	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Average Maintenance Treatment Doses of Urocin Per Patient	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Treatment Doses of Urocin Per Patient	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Potential Market For Urocin (Doses)	469,775	478,419	487,222	496,187	505,317	514,615	524,083	533,727	543,547	553,548	563,734
Urocin Penetration (%)	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	9.0%	14.5%	20.0%	23.0%	25.0%
Urocin Doses Sold	0	0	0	0	0	15,438	47,168	77,390	108,709	127,316	140,933
Urocin List Price (US\$)	0	0	0	0	0	2,000	2,000	2,000	2,000	2,000	2,000
Gross Endo Sales (US\$'000)	0	0	0	0	0	30,877	94,335	154,781	217,419	254,632	281,867
Net Endo Sales (US\$'000) Applicable for Transfer Price Calculation	0	0	0	0	0	22,231	67,921	111,442	156,542	183,335	202,944
Total Blended Bioniche Recognised Sales (US\$'000)	0	0	0	0	0	6,669	20,376	33,433	46,962	55,001	60,883
<i>Risk Adjustment (% chance of success)</i>	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Risk Adjusted Bioniche Sales (US\$'000)	0	0	0	0	0	5,002	15,282	25,074	35,222	41,250	45,662

APPENDIX 1

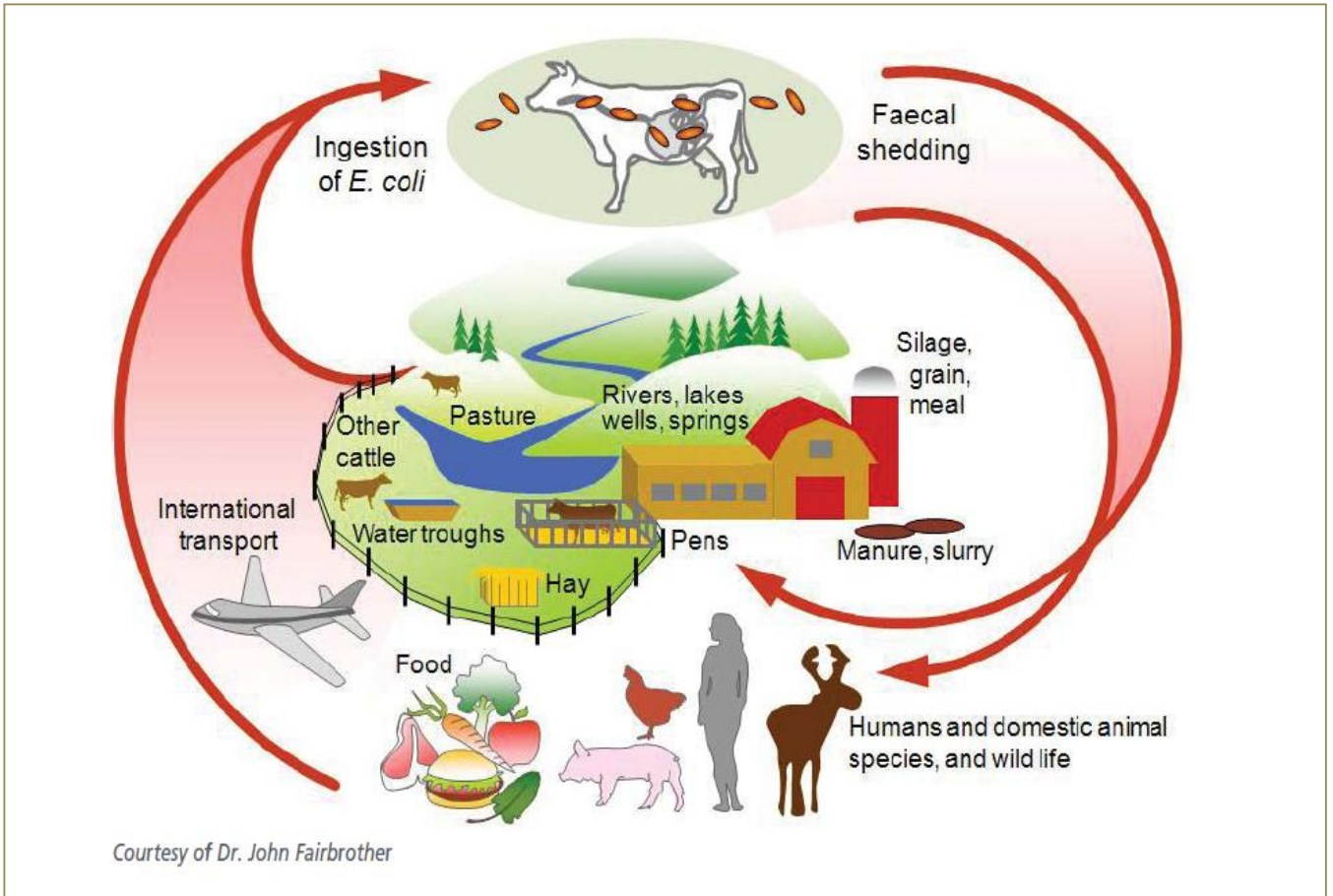
Urocidin™ Bladder Cancer Market Model (Refractory)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Japan											
Incidence of Bladder Cancer Patients at 1.84% LTGR (p/a)	13,813	14,067	14,326	14,590	14,858	15,131	15,410	15,693	15,982	16,276	16,576
<i>Presenting with Non-muscle Invasive Disease (%)</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>	<i>72.5%</i>
Non-Muscle Invasive Disease Applicable for Immunotherapy	10,014	10,199	10,386	10,577	10,772	10,970	11,172	11,378	11,587	11,800	12,017
<i>Immunotherapy Utilisation Rate (%)</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>	<i>30.0%</i>
Non-Muscle Invasive Disease Patients on Immunotherapy	3,004	3,060	3,116	3,173	3,232	3,291	3,352	3,413	3,476	3,540	3,605
<i>Refractory Disease Rate within First Year (%)</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>	<i>29.0%</i>
Urocidin Patient Pool - Incidence	871	887	904	920	937	954	972	990	1,008	1,027	1,046
Prevalence of Non-Muscle Invasive Bladder Cancer w/out Cystectomy	11,187	11,393	11,602	11,816	12,033	12,255	12,480	12,710	12,944	13,182	13,424
<i>Refractory Disease Rate (%)</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>	<i>40.0%</i>
Urocidin Patient Pool - Prevalence	4,475	4,557	4,641	4,726	4,813	4,902	4,992	5,084	5,178	5,273	5,370
Total Urocidin Patient Pool - Incidence & Prevalence	5,346	5,444	5,545	5,647	5,751	5,856	5,964	6,074	6,186	6,299	6,415
Average Induction Treatment Doses of Urocidin Per Patient	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Average Maintenance Treatment Doses of Urocidin Per Patient	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Treatment Doses of Urocidin Per Patient	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Total Potential Market For Urocidin (Doses)	64,153	65,333	66,535	67,759	69,006	70,276	71,569	72,886	74,227	75,593	76,984
Urocidin Penetration (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	2.0%	10.0%	14.5%	20.0%
Urocidin Doses Sold	0	0	0	0	0	0	358	1,458	7,423	10,961	15,397
Urocidin List Price (US\$)	0	0	0	0	0	0	2,000	2,000	2,000	2,000	2,000
Gross Endo Sales (US\$'000)	0	0	0	0	0	0	716	2,915	14,845	21,922	30,793
Net Endo Sales (US\$'000) Applicable for Transfer Price Calculation	0	0	0	0	0	0	501	2,041	10,392	15,345	21,555
Total Blended Bioniche Recognised Sales (US\$'000)	0	0	0	0	0	0	150	612	3,118	4,604	6,467
<i>Risk Adjustment (% chance of success)</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>	<i>66%</i>
Risk Adjusted Bioniche Sales (US\$'000)	0	0	0	0	0	0	99	404	2,058	3,038	4,268
USD/CAD Assumption	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
TOTAL BLENDED BIONICHE SALES (C\$m)	0.0	0.0	0.0	0.0	7.2	28.7	56.7	84.9	109.6	125.5	134.5
TOTAL RISK-ADJUSTED BIONICHE SALES (C\$m)	0.0	0.0	0.0	0.0	5.4	21.5	42.5	63.6	81.9	93.7	100.3

Source: Taylor Collison estimates

APPENDIX 1 (cont.)

Appendix 2

How *E. coli* O157 Contaminates Food and Causes Human Infection



Source: Bioniche prospectus

Econiche™ Market Model	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Econiche™ Manufacturing Capacity ('000)	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Canada											
Total Canadian Beef Cattle Herd Accessible for Vaccination ('000)	5,138	5,076	5,015	4,955	4,895	4,895	4,895	4,954	5,014	5,074	5,135
<i>Growth (%)</i>	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	0.0%	0.0%	1.2%	1.2%	1.2%	1.2%
Post Year 1 Vaccination Rate Assuming Average 24 mth Slaughter Cycle	0	0	0	2,477	2,448	2,448	2,448	2,477	2,507	2,537	2,567
Econiche™ volumes at 100% vaccination rate in Canada (3x doses p/a)	0	15,228	15,045	7,432	7,343	7,343	7,343	7,431	7,520	7,611	7,702
<i>Manufacturing Capacity Utilisation Rate (%)</i>	0.0%	38.1%	37.6%	18.6%	18.4%	18.4%	18.4%	18.6%	18.8%	19.0%	19.3%
Econiche™ Sales at C\$3 per dose (C\$'000)	0	0	45,135	22,297	22,029	22,029	22,029	22,294	22,561	22,832	23,106
<i>Growth (%)</i>	0.0%	0.0%	n/a	-50.6%	-1.2%	0.0%	0.0%	1.2%	1.2%	1.2%	1.2%
Cost of Goods Sold (assume C\$0.40 per dose COGS to 50% capacity)	0	0	(6,018)	(2,973)	(2,937)	(2,937)	(2,937)	(2,972)	(3,008)	(3,044)	(3,081)
<i>Gross Margin (%)</i>			86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%
Econiche™ Canadian Gross Profit (C\$'000)	0	0	39,117	19,324	19,092	19,092	19,092	19,321	19,553	19,788	20,025
United States											
Total United States Beef Cattle in Feedlot ('000) - w here feedlot >1,000 head	11,600	11,461	11,323	11,187	11,053	11,053	11,053	11,186	11,320	11,456	11,593
<i>Growth (%)</i>	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	0.0%	0.0%	1.2%	1.2%	1.2%	1.2%
Potential Econiche™ Vaccination Pool ('000) - Branded Beef Market (est. 56.7% share)	6,600	6,521	6,443	6,366	6,289	6,289	6,289	6,365	6,441	6,518	6,597
<i>Market Penetration Rate (%)</i>	0.0%	1.0%	1.8%	3.3%	5.8%	9.5%	14.0%	16.5%	18.5%	20.5%	22.5%
Econiche™ Volumes ('000)	0	65	113	207	362	597	880	1,050	1,192	1,336	1,484
Econiche™ Sales at US\$3 per dose (US\$'000)	0	196	338	621	1,085	1,792	2,641	3,151	3,575	4,009	4,453
<i>Growth (%)</i>	0.0%	0.0%	n/a	83.5%	74.8%	65.2%	47.4%	19.3%	13.5%	12.1%	11.1%
Cost of Goods Sold (assume C\$0.40 per dose COGS to 50% capacity)	0	(26)	(45)	(83)	(145)	(239)	(352)	(420)	(477)	(535)	(594)
<i>Exchange Rate (USD/CAD)</i>	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<i>Gross Margin (%)</i>			86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%
Econiche™ US Gross Profit (C\$'000)	0	170	293	538	940	1,553	2,289	2,730	3,098	3,474	3,859
<i>Total Capacity Utilisation Rate (%)</i>	0.0%	38.2%	37.9%	25.3%	25.4%	26.0%	26.7%	27.4%	28.0%	28.7%	29.4%
TOTAL BLENDED BIONICHE SALES (C\$m)	0.0	0.2	39.4	19.9	20.0	20.6	21.4	22.1	22.7	23.3	23.9
<i>Risk Adjustment (% chance of success)</i>	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
TOTAL RISK ADJUSTED BIONICHE SALES (C\$m)	0.0	0.0	9.9	5.0	5.0	5.2	5.3	5.5	5.7	5.8	6.0

Source: Taylor Collison estimates

Appendix 4

Bioniche Issued and Pending Patents as at FY10

Technology	Number of Patent Applications Pending	Number of Patents Issued or in EP Validation Stage	Total Number of Patents and Applications per Technology
MCC	6	121	127
MCWE	3	45	48
Oligonucleotides	37	108	145
Hyaluronan	0	2	2
Botanical	4	8	12
Reproductive		24	24
Antiviral	28	3	31
Total No.	78	311	389

*MCC encompasses Urocidin. Source: Bioniche AIF

BNC - Summary of Forecasts

BNC \$ 1.45

Year Ended 30 June

PROFIT & LOSS SUMMARY (C\$000s)					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
Animal Health	33,281	26,993	29,300	30,038	30,809
Econiche	0	0	0	170	39,410
Urocidin (inc. milestones)	0	16,203	5,486	1,486	1,486
Product Sales	33,281	43,196	34,786	31,693	71,706
<i>Growth (pcp)</i>	<i>n/a</i>	<i>29.8%</i>	<i>-9.5%</i>	<i>-8.9%</i>	<i>26.2%</i>
Total Revenue	33,281	45,899	35,304	32,520	72,485
<i>Growth (pcp)</i>	<i>212%</i>	<i>37.9%</i>	<i>-23.1%</i>	<i>-7.9%</i>	<i>22.9%</i>
Net Operating Revenue	5,972	19,560	8,954	5,136	38,007
Direct R&D Expenses	(11,453)	(8,625)	(5,411)	(8,240)	(7,386)
EBITDA	(5,481)	935	(6,974)	(3,930)	29,841
Dep'n/Other Amort'n	(2,240)	(1,893)	(2,770)	(3,652)	(3,598)
EBIT	(7,721)	(958)	(9,744)	(7,582)	26,244
Net Interest	(2,465)	(726)	64	(34)	(105)
Pre-Tax Profit	(10,186)	(1,684)	(9,680)	(7,617)	26,138
Tax Expense	(314)	94	0	0	0
Minorities	0	0	0	0	0
NPAT	(10,500)	(1,590)	(9,680)	(7,617)	26,138
<i>Growth (pcp)</i>	<i>35.4%</i>	<i>84.9%</i>	<i>-508.8%</i>	<i>213%</i>	<i>778.3%</i>
Net Abnormals	0	0	0	0	0
Reported Profit	(10,500)	(1,590)	(9,680)	(7,617)	26,138

PER SHARE DATA					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
Reported EPS (c) *	(10.5)	(1.6)	(9.7)	(7.6)	26.1
<i>Growth (pcp)</i>	<i>42.3%</i>	<i>-84.9%</i>	<i>508.8%</i>	<i>-213%</i>	<i>-778.3%</i>
EPS Adjusted (c) *	(10.5)	(1.6)	(9.7)	(7.6)	26.1
<i>Growth (pcp)</i>	<i>42.3%</i>	<i>-84.9%</i>	<i>508.8%</i>	<i>-213%</i>	<i>-778.3%</i>
Dividend (c)	0.0	0.0	0.0	0.0	0.0
Franking	0%	0%	0%	0%	0%
Special Dividend (c)	0.0	0.0	0.0	0.0	0.0
Franking	0%	0%	0%	0%	0%
Gross CF per Share (c)	(17)	(7.8)	(6.6)	(4.2)	23.0
NTA per share (c)	2.3	2.5	215	16.1	44.2

KEY RATIOS					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
EBITDA/Sales Margin %	-16.5%	2.0%	-19.8%	-12.1%	412%
EBIT/Sales Margin %	-23.2%	-2.1%	-27.6%	-23.3%	36.2%
Current ratio (x)	10	2.2	3.8	3.2	4.4
Net Debt : Equity (%)	-45.8%	-1115%	-103.6%	-99.9%	-86.2%
ROE (%)	-230.7%	-18.1%	-54.9%	-32.2%	75.9%
Dividend Payout Ratio (%)	n/a	n/a	n/a	n/a	n/a

VALUATION MULTIPLES					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
Reported PE Ratio (x)	n/a	n/a	n/a	n/a	5.6
Adjusted PE Ratio (x)	n/a	n/a	n/a	n/a	5.6
Dividend Yield (%)	0.0%	0.0%	0.0%	0.0%	0.0%
EV/EBITDA (x)	n/a	145.3	n/a	n/a	3.9
EV/EBIT (x)	n/a	n/a	n/a	n/a	4.5

CAPITAL RAISING ASSUMPTIONS					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
Shares Issued (m)	n/a	70.0	0.0	0.0	0.0
Issue Price (A\$)	n/a	100	0.00	0.00	0.00
Cash Raised (A\$m)	n/a	70.0	0.0	0.0	0.0

* Normalised for IPO capital structure

BALANCE SHEET SUMMARY					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
Cash + Cash Equivalents	5,950	11,070	29,308	22,179	43,154
Receivables	3,720	8,601	6,446	6,646	13,342
Current Tax Assets	0	0	0	0	0
Inventories	5,408	6,668	7,325	7,552	10,533
Other	1,796	1,053	990	990	990
Total Current Assets	16,874	27,392	44,069	37,367	68,019
Receivables	1,025	1,156	1,465	1,510	2,107
Property Plant & Equipment	9,494	16,584	24,149	24,674	24,165
Intangibles	6,792	5,979	5,201	4,523	3,934
Other (inc goodwill)	456	1,028	1,028	1,028	1,028
Total Non-Current Assets	17,767	24,747	31,842	31,736	31,234
TOTAL ASSETS	34,641	52,139	75,911	69,102	99,253
Accounts Payable	11,607	9,716	8,790	9,062	12,640
Borrowings	635	256	256	256	256
Other	5,111	2,446	2,446	2,446	2,446
Total Current Liab	17,353	12,418	11,492	11,764	15,342
Accounts Payable	0	0	0	0	0
Borrowings	1,149	1,341	1,341	1,341	1,341
Deferred Revenues	0	19,353	17,867	16,381	14,895
Other	7,036	10,531	18,471	19,006	19,441
Total Non-Current Liab	8,185	31,225	37,679	36,728	35,677
TOTAL LIABILITIES	25,538	43,643	49,171	48,493	51,019
TOTAL EQUITY	9,103	8,496	26,740	20,610	48,234

CASH FLOW SUMMARY					
Period	FY09A	FY10A	FY11E	FY12E	FY13E
EBIT (excl Abs/Extr)	(7,721)	(958)	(9,744)	(7,582)	26,244
Add: Depreciation	1,343	1,080	1,991	2,975	3,009
Amortisation	897	813	778	677	589
Change in Pay.	2,355	(189)	(926)	272	3,577
Less: Tax paid	(109)	(312)	0	0	0
Net Interest	(651)	(287)	64	(34)	(105)
Change in Rec.	2,155	(5,012)	1,846	(245)	(7,292)
Change in Inv.	0	(1,260)	(657)	(227)	(2,981)
Gross Cashflows	(1,731)	(7,827)	(6,647)	(4,165)	23,040
Capex	(1,405)	(7,789)	(9,556)	(3,500)	(2,500)
Free Cashflows	(3,136)	(5,616)	(16,203)	(7,665)	20,540
Other	(314)	20,664	7,940	536	435
Dividends Paid	0	0	0	0	0
Share Issue Proceeds	5,000	72	26,501	0	0
Net Cash Flow	1,550	5,120	18,238	(7,129)	20,975

BNC - SOTP VALUATION METHODOLOGY (FULLY DILUTED)

Division	Metric	Weight	Value (ps)
Human Health: Urocidin™	rDCF	100%	\$176
Food Safety: Econiche™	rDCF	100%	\$0.17
Animal Health	EV/EBITDA	50%	\$0.23
	EV/Sales	50%	\$0.29
Early R&D (All Divisions)	n/a	100%	\$0.07
Corporate	DCF	100%	-\$0.29
Enterprise Value			\$2.23
Tax Credits	DCF	100%	\$0.56
Net Cash			\$0.20
TOTAL EQUITY VALUATION			\$ 2.99

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