

In this edition...

The June quarter was a difficult period for most ASX listed biotech stocks. One IPO got away, that of Osprey Medical, and is doing well thanks to solid aftermarket support. One reasonable funding round, with Nanosonics raising \$15 million, was completed. Stocks were not only sold down because of parlous sentiment towards stocks in general, the economy in general and the financial crisis in Europe in particular but also because newsflow for some companies dried up. Decisions by drug regulators reminded investors that positive decisions are not guaranteed and called for investors to adopt balancing strategies when companies are on the verge of regulatory decisions. Bioxyne's COPD therapy failed in its Phase II trial, generating the greatest share price decline for the quarter.

Companies Covered: Quarterly Review, BXN

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.6%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.4%
Year 7 (May '07 - May '08)	-36%
Year 8 (May '08 - May '09)	-7.4%
Year 9 (May '09 - May '10)	50.2%
Year 10 (May '10 - May '11)	45.4%
Year 11 (May '11 - May '12)	-18.0%
Year 12 (May '12 - current)	-9.0%
Cumulative Gain	214%
Av. annual gain (11 yrs)	17.8%

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Bioshares

6 July 2012
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Delivering independent investment research to investors on Australian biotech, pharma and healthcare companies.

Quarterly Review

A Stressful June Quarter for Biotech

The 9.2% gain in the **Bioshares Index** in the March quarter was wiped out by a 12.8% decline in the June quarter as demand for speculative investment stocks evaporated in the face of increased tensions in global financial markets and emerging economic weakness. This tension was also reflected in the broader ASX 300 index which declined 5.9% in the June quarter.

In contrast, the flight to mature and large life science businesses continued with the **Bioshares Large Cap Index** posting a 7.8% gain for the quarter on the back of an 11.8% increase in the previous quarter. The Bioshares Large Cap Index was up 12.9% from a year ago whereas the Bioshares Index (which comprises mostly speculative stocks) was down 23.5% from a year ago.

Index performances by Quarter

	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012
Bioshares Index	-9.4%	-14.0%	-6.6%	9.2%	-12.8%
Nasdaq Biotech Index	6.5%	-12.5%	11.9%	18.1%	5.5%
Bioshares Large Cap Index	-7.2%	-11.3%	5.6%	11.8%	7.8%
ASX 300 Index	-5.0%	-13.1%	1.5%	6.7%	-5.9%

The Bioshares Large Cap Index includes CSL, Resmed, Cochlear and Sigma Pharmaceuticals. The greatest influence on movement in the Bioshares Large Cap Index came through CSL's share price which increased by 10% in the June quarter and 19% from a year ago. Cochlear shares increased 6% for the quarter and Resmed's increased by 2%. Shares in Sigma declined 3% in the June quarter.

An easing in the growth of the **Nasdaq Biotech Index** occurred in the June quarter. The NBI rose 5.5% in the June quarter, a change well down on the 18.1% surge recorded in the March quarter and half the 11.9% increase that took place in the December quarter.

Growth in the Nasdaq Biotech Index has been driven by a hunt for acquisition targets by larger drug firms. The latest target is **Amylin Pharmaceuticals** (founded by New Zealander Garth Cooper in 1987) which is to be acquired by **Bristol Myers Squibb** for US\$5.3

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<http://www.bioshares.com.au/queenstown2012.htm>

Capital Raisings by Australian-listed Biotech Companies Q2 2012

Company	Investment Manager or Investor	Type of raising	Funds raised (\$M)
Nanosonics	Shaw Corporate/Allen Gray	Placement	\$15.50
Nanosonics	GE Capital	Convertible Notes	\$7.50
Clinuvel Pharmaceuticals		Placement	\$6.20
Patrys	Forrest Capital	Placement	\$2.00
Allied Healthcare Group		Rights Issue	\$1.90
Anitsense Therapeutics	Patersons Securities/Roth Capital Partners	Placement (Tranche 2)	\$1.80
Anitsense Therapeutics	Patersons Securities	SPP	\$0.50
Cellmid		Placement	\$1.50
LCT		SPP	\$1.16
Circadian Technologies		Placement	\$1.02
Genera Biosystems		SPP	\$1.00
Immuron	Patersons Securities	Placement	\$1.00
Atcor Medical		Placement (Part A)	\$0.82
Leaf Energy		Rights Issue	\$0.52
Immuron	Patersons Securities	SPP	\$0.44
Optiscan Imaging	Bergen Global Opportunity	Convertible Notes	\$0.42
Healthlinx	La Jolla Cove Investors Inc	Convertible Note (part conversion)	\$0.36
Actinogen		Rights Issue	\$0.20
Agenix	Fortrend Securities	Draw down	\$0.20
Leaf Energy		Placement	\$0.10
Total			\$44.1
IPOs			\$20.0
Total raised in Q2 2012			\$64.1

therapeutic benefit across the full trial group. (see commentary p.9)

Leading biotech stocks that experienced price weakness included **Mesoblast** (-21%), **Biota Holdings** (-31%), **Phosphagenics** (-36%), **Bionomics** (-38%), **Reva Medical** (-44%) and **Prima Biomed** (-52%).

A slowing of news flow may have contributed to Mesoblast's share price decline; selling of Biota shares could have been triggered by shareholders divesting the stock in the wake of Biota's announcement of a plan to merge with Nasdaq listed Nabi Biopharmaceuticals and de-list from the ASX; Phosphagenics share price weakness is likely related to technical issues with the development of its pain drug patch; Prima Biomed's shares may have weakened because the company has entered a news drought while the company is continuing to recruit patients for its very large Phase III trial. Prima Biomed's CEO also announced he was stepping down, during the quarter. A listing on the Nasdaq has failed to translate into an uplift in Prima Biomed's share price.

billion (announced July 1) for US\$31 a share. BMS had previously offered US\$22 a share. Amylin's shares have increased 283% from their 52 week low. The M&A flurry was galvanised by **Gilead Sciences'** US\$11 billion acquisition of **Pharmasset** in late 2011 and furthered by BMS's acquisition of **Inhibitex** for US\$2.5 billion. **AstraZeneca** acquired **Ardea Biosciences** for US\$1.2 billion in April.

GlaxoSmithKline has been unsuccessfully pursuing **Human Genome Sciences**, offering US\$2.6 billion, whilst **Roche** withdrew its \$6.7 billion bid to buy **illumina**.

Although external factors played a role in the quarterly decline of the Bioshares Index, several stocks suffered significant price declines because of negative news announcements. **QRxPharma** received a Complete Response Letter from the FDA regarding its New Drug Application for its combination immediate release pain drug MoxDuo IR, halting for an unknown period its entry into the US market. QRxPharma's shares plummeted 66% on a quarterly basis.

Bioxyn shares slumped 81% (from its relisting date closing price) following the announcement that its Phase IIb trial results disclosed that its immunotherapeutic HI164OV did not produce any

Reva Medical has struggled to recruit patients for the pilot trial of its ReZolve bioresorbable stent, having reached a 15% enrolment rate during the quarter. The trial was initially to have been completed in the September quarter, 2011. Bionomics's Kv1.3 program was handed back to it from licensee Merck Serono and this may have created a negative sentiment towards the stock, with Bionomics shares losing 20% shortly afterwards, but recovering towards the end of the quarter.

Selected Out-performers

Several stocks that recorded healthy gains in the June quarter included **Heartware International** (+36%), **Medical Developments Int.** (+41%), **Sirtex Medical** (17%) and **Mayne Pharma Group** (+17%).

Heartware's strong performance was due to an FDA panel's 9-2 recommendation of its HVAD heart pump. Medical Developments is close to completing a Phase III trial in the UK of its Pentrox pain trauma device. The trial should pave the way for European approvals followed by sales. Sirtex Medical has been sustaining ~20% growth in product sales. Mayne Pharma received approval by the UK's MHRA for its antifungal drug SUBACAP, reversing a rejection from six months prior.

Cont'd over

Selected Clinical Trial Developments - Q2 2012

Company	Code	Product/Therapeutic	Event
Alchemia	ACL	HA-Irinotecan (mCRC)	DSMB recommended Phase III study continue after safety data from 39 pts w as evaluated; 390 pts
Bionomics	BNO	BNC105 (ovarian cancer)	Commenced ovarian cancer Phase II; 134 pts
Biota Holdings	BTA	Inavir (long acting influenza drug)	Partner Daiichi Sanyo completed enrollment in Phase III prevention study
Bioxyne	BXN	HI164OV (Chronic obstructive pulmonary disease)	Reported results of Phase IIb study; no significant benefit across study group; some benefit in pts <65 yrs; 287 pts completed study
Clinuvel Pharmaceuticals	CUV	Scenesse (erythropoietic protoporphyria)	Commenced US Phase III trial; 100 pts
Healthlinx	HTX	Ovplex (Ovarian cancer diagnostic)	Reported positive preliminary analysis of 220 samples for Korean FDA study
Mesoblast	MSB	Allogeneic MPCs (Intervertebral Disc Repair)	Reported enrollment of 50% of pts in Phase II trial (100 pts)
Mesoblast	MSB	Allogeneic MPCs (Type 2 diabetes)	Commenced Phase II trial; 60 pts
Pharmaxis	PXS	ASM8 (asthma)	Phase IIa; 16 pts - no difference between control and treatment observed
pSiVida	PVA	Iluvien (posterior uveitis)	Reported first enrollment in investigator sponsored trial
Prana Biotechnology	PBT	PBT-2 (Huntington Disease)	Commenced Phase IIa Huntington disease trial; 100 pts
Reva Medical	RVA	ReZolve (symptomatic coronary artery disease)	Reported no major adverse coronary events in 16 pts (out of 50)
Starpharma Holdings	SPL	Vivagel (bacterial vaginosis)	Reported 60% enrollment in two concurrent Phase III trials of Vivagel for the treatment of bacterial vaginosis; each trial enrolling ~220 pts
Vivalytics	VLA	CAVATAK (oncolytic immunotherapy)	Reported 15% enrollment in 63 pts Phase II study

Capital Raisings

Capital inflows to the ASX listed life science sector totalled \$64 million in the June quarter, up from \$12.6 million in the March quarter. For the half ending June 30, 2012, \$77 million was raised compared to \$268 million in the previous corresponding period. Capital inflows have slowed considerably in line with a weakening in sentiment towards biotech stocks at certain stages of development.

One listing was completed, that of **Osprey Medical**, which raised \$20 million on an offer price of 40 cents. Demand for the stock has remained steady since listing, indicating a strong after market support during a time of weak overall demand.

The most noteworthy capital raising was conducted by **Nanosonics**, which took in \$15.5 million through a placement, of which \$10.6 million came from Allen Gray (formerly Orbis Investment Management). An additional \$7.5 million in convertible note finance was supplied by Nanosonics' North American distribution partner **GE Healthcare** (through its finance arm). The funds should support the manufacturing and sales of its portable Trophon EPR disinfection unit (used to disinfect ultrasound cavity probes). The Nanosonics raising (which was also accompanied by an SPP) was well supported because the funds relate directly to sales generation activities.

Clinuvel Pharmaceuticals raised \$6.2 million, its first capital raising since it raised \$62 million in FY2007. (It also raised \$28 million in the prior two years.)

Sector Outlook

A sustained weakening in global financial markets is likely to dampen interest in speculative, earlier stage life science stocks. The sector is going through yet another strong buffeting emanating from external economic problems. However, what has grown as a sector specific issue for life science investors is the risk weighting that must be placed on companies passing through the decision making regimes of regulatory agencies. Following setbacks (or requests for further information) received by QRxPharma, Pharmaxis and Mayne Pharma among others, the overall position for investors is to balance portfolios towards stocks that can withstand delays in getting to market because of temporarily adverse regulatory decisions.

Bioshares

The Australian Listed Life Sciences Sector

June 30, 2012: Capitalisation \$37.3 billion, 100 companies

Bioshares Large Cap. Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
CSL	CSL	19,984	Manufactures pharmaceutical products including vaccines and human plasma fractions	10%	19%	\$39.42
Resmed Inc.	RMD	4,400	Manufactures diagnostic and treatment equipment for sleeping disordered breathing	2%	7%	\$3.07
Cochlear	COH	3,748	Manufactures cochlear hearing implants	6%	-9%	\$65.84
Sigma Pharmaceuticals	SIP	724	Pharmaceutical manufacturing and wholesaling	-3%	15%	\$0.61

Capitalisation Total 28,856

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
Mesoblast	MSB	1,761	Developing therapies based on mesenchymal pre-cursor stem cells, with applications in cartilage regrowth and heart and bone repair.	-21%	-28%	\$6.19
Heartware International	HIN	1,221	Developing a mechanical heart pump (LVAD)	36%	21%	\$2.46
Acruz	ACR	699	Developer of the transdermal drug products Axiron, Evamist/Ellavie and Recuvyra	6%	24%	\$4.20
Blackmores	BKL	440	Manufactures vitamin, mineral and herbal supplements and skin & hair products in Australia and N.Z.	-5%	-2%	\$26.25
Starpharma Holdings	SPL	385	Developer of pharmaceutical applications of chemical scaffolds known as 'dendrimers'.	-20%	-9%	\$1.37
Sirtex Medical	SRX	340	The company's core technology uses radioactive particles to irradiate tumours in the liver. Approved for use in most major regions.	17%	24%	\$6.09
Pharmaxis	PXS	315	Marketing a lung function test, Aridol, and developing the Bronchitol product to treat cystic fibrosis, bronchiectasis and COPD.	-22%	22%	\$1.03
Unilife Corporation	UNS	278	Developer of retractable syringes	5%	-16%	\$0.65
GI Dynamics	GID	258	Commercialising the Endobarrier, an implantable polymer liner for the management of obesity and diabetes	-18%	0%	\$0.90
Reva Medical	RVA	205	Developing a bioresorbable coronary stent	-44%	-38%	\$0.62
API	API	171	Pharmaceutical wholesaler	13%	25%	\$0.35
Phosphagenics	POH	153	Commercialising a platform technology (alpha-tocopherol) that improves the delivery of pharmaceutical and other products across the skin.	-36%	20%	\$0.15
Nanosonics	NAN	133	Developing a novel disinfection technology, the first product is a point of care ultrasound probe disinfection unit	-6%	-33%	\$0.51
Alchemia	ACL	126	Biopharmaceutical company with a revenue generating product, generic fondaparinux, and a pipeline of targeted chemotherapy drugs employing its HyACT technology; Lead product HA-Irinotecan in a pivotal Phase III trial for colorectal cancer.	-12%	-26%	\$0.45

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
Biota	BTA	126	Developer of anti-infective drugs, including the flu drug Relenza. Inavir, developed with Daiichi Sankyo, a long acting flu drug now approved in Japan.	-31%	-28%	\$0.69
Prima Biomed	PRR	123	Developing the CVac immunotherapy.	-52%	-60%	\$0.12
Bionomics	BNO	103	Developing drugs to treat cancer and CNS diseases, and has also developed a gene diagnostic for epilepsy.	-38%	-46%	\$0.30
Universal Biosensors	UBI	100	Development, manufacture and commercialisation of a range of in vitro diagnostic tests for point-of-care use	-15%	-38%	\$0.63
QRxPharma	QRX	85	Developing a 'dual opioid' drug to treat moderate to severe pain.	-66%	-65%	\$0.59
Tissue Therapies	TIS	80	Developing the VitroGro product for ulcer and wound healing	8%	-17%	\$0.48
Clovercorp	CLV	63	Development and production of omega-3 food additives from tuna oil.	6%	33%	\$0.38
Anteo Diagnostics	ADO	57	Developer of a biological coatings technology that can be applied to immunoassays, bio-separations, drug delivery and other medical devices	-9%	6%	\$0.07
Genetic Technologies	GTG	56	Provides DNA paternity testing services and holds broad patents relating to the use of non-coding DNA.	30%	-43%	\$0.12
Clinuvel Pharmaceuticals	CUV	55	Developing an analogue of the alpha-MSH protein, named Scenesse, as a photo-protective agent	-11%	-4%	\$1.59
Mayne Pharma Group	MYX	53	Developing an improved dosing anti-fungal drug, Subazole and operating manufacturing services	17%	-33%	\$0.35
Impedimed	IPD	47	Develops devices that aid the diagnosis of secondary lymphoedema, muscle wasting and other disorders	-48%	-54%	\$0.26
pSiVida	PVA	46	Developing drug delivery technologies, with a special focus on ophthalmic applications	13%	-45%	\$2.20
Avita Medical	AVH	44	Markets ReCell, a skin repair product	-23%	68%	\$0.19
Prana Biotechnology	PBT	43	Developing drugs to treat CNS diseases such as Alzheimer's and Parkinson's	-6%	-26%	\$0.15
Medical Developments	MVP	43	Commercialising the Pentrox inhaler for temporary pain relief. Used widely in ambulances across Australia.	41%	95%	\$0.79
Bioniche	BNC	42	Developing a bladder cancer treatment and food safety vaccine; sale of veterinary products	-33%	-55%	\$0.41
Osprey Medical	OSP	40	Developing the CINCOR system to limit the incidence of contrast induced nephropathy.	0%		\$0.40
Somnomed	SOM	37	Markets an oral device for the treatment of sleep apnea and snoring.	2%	-30%	\$0.88
Sunshine Heart	SHC	26	Developing the C-Pulse heart assist device. The C-Pulse wraps around and compresses the aorta, increasing blood flow through the body.	-38%	-58%	\$0.02

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
Neuren Pharmaceuticals	NEU	26	Developing neuroprotective therapeutics	-8%	57%	\$0.02
Scigen	SIE	25	Developer and manufacturer of biopharmaceuticals. Company is based in Singapore and was spun out of Sonic Healthcare in 2002.	0%	-40%	\$0.05
Antisense Therapeutics	ANP	23	Developing antisense compounds to treat multiple sclerosis and acromegaly	0%	125%	\$0.02
Cogstate	CGS	22	Marketing cognitive performance diagnostic products	11%	76%	\$0.30
Bluechiip	BCT	22	Development, manufacture and commercialisation of a tracking system for biological samples	4%	73%	\$0.26
Brain Resource Corp	BRC	22	Development and commercialisation of functional brain analysis techniques	-6%	-25%	\$0.24
Vita Life Sciences	VSC	22	Development, manufacture and distribution of prescription and OTC medicines as well as complementary and alternative medicines, dietary supplements and health foods	17%	42%	\$0.38
ITL	ITD	21	Develops and distributes medical devices such as safety equipment to prevent needle stick injuries and sterile preparation kits.	44%	179%	\$0.20
Calzada	CZD	21	Holds a 100 % stake in PolyNovo, a polymer chemistry company.	3%	-8%	\$0.06
Asian Ctr for Liver Diseases and Transpl.	AJJ	21	Manages liver treatment centres in Asia. Not previously included in these tables. Made a backdoor listing through Costarella Design in 2009.	22%	31%	\$0.11
Viralytics	VLA	20	Developing a cancer treatment based on the application of viruses (oncolytic virus technology)	-29%	-64%	\$0.27
Phylogica	PYC	20	Developing peptide compound libraries for use in human therapeutics.	-6%	-39%	\$0.04
Living Cell Technologies	LCT	18	Developing cell therapies for diabetes, haemophilia and Huntington's disease	-38%	-23%	\$0.05
OBJ	OBJ	17	Developing transdermal drug delivery technologies	-29%	-29%	\$0.02
Circadian Technologies	CIR	17	Developing drugs, including antibodies, around the VEGF C and VEGF D targets	-29%	-40%	\$0.35
Benitec Biopharma	BLT	17	R&D company focusing on gene silencing, specifically DNA delivered RNAi, technology	-6%	-39%	\$0.02
Biotron	BIT	16	Developing a compound to treat HCV	-38%	0%	\$0.11
Avexa	AVX	15	Developing an HIV drug, apricitabine	-42%	-57%	\$0.02
Consegna Group	CGP	15	Asset development company, with interests in Vibrovein, Linguet, BreatheAssist and Aspen Medisys.	-53%	-27%	\$0.02
Allied Health Group	AHZ	14	Formed through the merger of Allied Medical and BioMD. Diversified medical products group.	-38%	-78%	\$0.02

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
CBio	CBZ	14	Drug development company, focus is on Xtoll product for rheumatoid arthritis	-28%	-90%	\$0.06
Probiotec	PBP	14	Manufacturer, marketer and distributor of a range of over the counter (OTC) pharmaceuticals, complementary medicines and speciality ingredients	-10%	-25%	\$0.27
Solagran	SLA	13	Developing complementary medical compounds called Bioeffectives. Suspended from trading.	0%	-70%	\$0.04
Genera Biosystems	GBI	13	Develops, manufactures and distributes advanced molecular diagnostic tests, with a particular focus on women's health.	-8%	-3%	\$0.18
Optiscan Imaging	OIL	13	Manufacture of confocal microscopes for clinical diagnosis	-33%	43%	\$0.09
Southern Dental Industries	SDI	12	Manufacture & distribution of amalgam (fillings) & other dental materials and product R&D.	-16%	-40%	\$0.11
Cordlife	CBB	11	Rolling out tissue banking services in Australia and Asia	27%	-30%	\$0.07
IDT Australia	IDT	10	Manufacturer of pharmaceutical ingredients to international standards for major pharmaceutical groups.	-23%	-31%	\$0.24
Compumedics	CMP	10	Develops, manufactures and markets sleep diagnostic and monitoring equipment.	-15%	-22%	\$0.06
Cryosite	CTE	10	Provides specialised storage services, especially for umbilical cord blood	62%	147%	\$0.21
Ellex Medical Lasers	ELX	10	Develops, manufactures and markets solid state ophthalmic lasers used to treat secondary cataracts and retinal disorders.	-39%	-36%	\$0.12
Analytica	ALT	10	A medical devices company that has developed a retractable syringe	-29%	-43%	\$0.02
Patrys	PAB	9	Developing human antibody therapies for the treatment of lung, pancreatic, gastric and colon cancers	-35%	-76%	\$0.02
Atcor Medical	ACG	9	Markets the SphygmoCor device, a noninvasive technology that provides information regarding the functioning of the cardiovascular system	-24%	-60%	\$0.06
Progen Pharmaceuticals	PGL	8	A developer of cancer therapeutics, including PI-88 and PG545	-30%	-39%	\$0.14
Cellmid	CDY	8	Developing therapies that target the midkine protein. Recently launched a range of hair loss products.	7%	-30%	\$0.02
Novogen	NRT	8	Developing analogues of naturally occurring phenolic hormones to treat cancers and other conditions.	-14%	-60%	\$0.08
Eastland Medical Systems	EMS	8	Developing the anti-malarial product ArTiMist.	-24%	-46%	\$0.01
Immuron	IMC	7	Specialises in R&D of hyper-immune bovine colostrum products for therapeutic use in animals and humans.	-38%	-71%	\$0.02
Cyclopharm	CYC	7	A nuclear medicine company that markets the Technegas lung imaging system	-11%	-33%	\$0.16

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
Isona	ISN	7	Respiratory and pulmonary devices company. (Name changed from Karmelsonix)	-40%	-70%	\$0.00
Bioxyne	BXN	7	Developing an immunotherapeutic (HI164 OV) to treat COPD	-81%		\$0.04
Biodiem	BDM	6	Focused on the development of various vaccines technologies	-33%	-25%	\$0.06
Medical Australia	MLA	5	Manufacture and supply of medical devices and equipment. Not previously included in these tables. Previously known as BMDI Tuta and IMD Group	-14%	-56%	\$0.01
NuSep Holdings	NSP	5	Manufacture and sale of protein separations technologies	127%	-47%	\$0.05
Advanced Surgical Design & Manufacture	AMT	5	A developer and manufacturer of prosthetic implants and medical devices	-40%	-37%	\$0.15
USCOM	UCM	5	Marketing a non-invasive heart output function monitor	4%	-57%	\$0.09
LBT Innovations	LBT	5	Developed the MicroStreak technology for the automation of microbiology laboratory processing	-13%	2%	\$0.05
Resonance Health	RHT	4	Marketing the FerriScan technology, a non-invasive tool for measuring liver iron levels	-20%	-29%	\$0.01
Agenix	AGX	3	Developing a compound to treat Hepatitis B, AGX1009. Also seeking a partner in China to develop Thrombview, an imaging agent.	-67%	-71%	\$0.00
Holista Colltech	HCT	3	Has developed a novel technology for the extraction of collagen from sheepskins	-51%	-25%	\$0.06
Actinogen	ACW	3	Early stage developer of antibiotics that show activity against MRSA and VRE bacteria	43%	-3%	\$0.03
Acuvax	ACU	2	Intending to acquire Biohealth, a complementary medicines company	0%	0%	\$0.001
NeuroDiscovery	NDL	2	Focusing on pain drug development following management buyout of electrophysiology business	-31%	-45%	\$0.02
Virax Holdings	VHL	2	Developing a therapeutic and prophylactic vaccine for HIV. Suspended from trading.	0%	-55%	\$0.01
Bone Medical	BNE	1	Developing treatments for bone and joint degenerative diseases such as arthritis and osteoporosis.	-62%	-64%	\$0.01
Leaf Energy	LER	1	Plant genetic technologies business, lead product is vitronectin.	-51%	25%	\$0.03
Medigard	MGZ	1	Developed retractable syringe technology and other safety medical products.	0%	-46%	\$0.02
Imugene	IMU	1	Repurposing as a drug delivery technology company, acquiring Linguet asset from CGP	0%	-73%	\$0.01
Healthlinx	HTX	1	Detecting novel functions of known and new protein and peptides for therapeutic purposes.	-67%	-90%	\$0.003

Cont'd over

Bioshares Model Portfolio (6 July 2012)				Portfolio Changes – 6 July 2012
Company	Price (current)	Price added to portfolio	Date added	
Nanosonics	\$0.540	\$0.495	June 2011	IN: No changes
Osprey Medical	\$0.40	\$0.40	April 2012	
QRxPharma	\$0.87	\$1.66	October 2011	OUT: No changes
Mayne Pharma Group	\$0.450	\$0.435	September 2011	
Somnomed	\$0.80	\$0.94	January 2011	
Phylogica	\$0.041	\$0.053	September 2010	
Biota Holdings	\$0.70	\$1.09	May 2010	
Tissue Therapies	\$0.47	\$0.21	January 2010	
Atcor Medical	\$0.06	\$0.10	October 2008	
Bionomics	\$0.30	\$0.42	December 2007	
Cogstate	\$0.290	\$0.13	November 2007	
Sirtex Medical	\$6.50	\$3.90	October 2007	
Clinuvel Pharmaceuticals	\$1.68	\$6.60	September 2007	
Pharmaxis	\$1.06	\$3.15	August 2007	
Universal Biosensors	\$0.56	\$1.23	June 2007	
Alchemia	\$0.495	\$0.67	May 2004	

Bioxyne's HI164OV Fails Phase IIb Trial

Bioxyne's (BXN: 4.1 cents) immunotherapeutic HI164OV failed to generate a benefit in its Phase IIb trial in 320 patients with chronic obstructive pulmonary disease (COPD), of which 287 completed the trial.

A sub-group of patients (those under the age of 65) showed a 50% reduction in hospitalisation and a 50% reduction in duration of stay in hospital.

The company was not certain why the trial failed to generate a significant benefit across the entire recruitment group but speculated that the colonization rate of the *haemophilus influenza* virus was different in the sub-group compared to the wider group.

The company suggested that the sub-group still represents an attractive market opportunity because it accounts for 27% of total COPD sufferers.

Investment Consideration

Bioxyne's prospects for licensing HI164OV and related assets on terms commensurate with a clear, positive result have been thwarted. The quest will be to uncover any residual value in the asset and investors have yet to see the complete results of the trial. However, given that the future costs of development that are likely to be incurred by a potential licensee or acquirer would be significant, the immediate cash benefit offered by an acquirer could be negligible, with longer term contingent rewards likely to be less than industry standards.

Bioxyne is capitalised at \$7 million.

Bioshares recommendation: **Sell**

Bioshares

CathRx	CXD	1	Developing novel modular cardiac catheters for the diagnosis and treatment of abnormal heart rhythms	-67%	-95%	\$0.01
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Capitalisation Total 8,424

Listed Biotech Investment Funds or Companies

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 30/6/12
Biotech Capital	BTC	3	The entity is now engaged in the orderly sale of assets.	-38%	-67%	\$0.04

Capitalisation Total 3

Capitalisation Total - All Indices 37,283

How Bioshares Rates Stocks

For the purpose of valuation, Bioshares divides biotech stocks into two categories. The first group are stocks with existing positive cash flows or close to producing positive cash flows. The second group are stocks without near term positive cash flows, history of losses, or at early stages of commercialisation. In this second group, which are essentially speculative propositions, Bioshares grades them according to relative risk within that group, to better reflect the very large spread of risk within those stocks. For both groups, the rating “Take Profits” means that investors may re-weight their holding by selling between 25%-75% of a stock.

Group A

Stocks with existing positive cash flows or close to producing positive cash flows.

- Buy** CMP is 20% < Fair Value
 - Accumulate** CMP is 10% < Fair Value
 - Hold** Value = CMP
 - Lighten** CMP is 10% > Fair Value
 - Sell** CMP is 20% > Fair Value
- (CMP–Current Market Price)

Group B

Stocks without near term positive cash flows, history of losses, or at early stages commercialisation.

Speculative Buy – Class A

These stocks will have more than one technology, product or investment in development, with perhaps those same technologies offering multiple opportunities. These features, coupled to the presence of alliances, partnerships and scientific advisory boards, indicate the stock is relative less risky than other biotech stocks.

Speculative Buy – Class B

These stocks may have more than one product or opportunity, and may even be close to market. However, they are likely to be lacking in several key areas. For example, their cash position is weak, or management or board may need strengthening.

Speculative Buy – Class C

These stocks generally have one product in development and lack many external validation features.

Speculative Hold – Class A or B or C

Sell

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