

INSTITUTIONAL RESEARCH

Current Price

Regenerative Medicine UPDATE REPORT

Member FINRA/SIPC

BioCardia Inc. (BCDA-NASDAQ)

August 13, 2020

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Head of Healthcare Research 646-465-6891

BUY: Reduced Burn Preserves Capital

BioCardia reported 2Q20 results. The burn rate was reduced from \$4.6M in 1Q to \$3.6M in 2Q. However, the net cash used in 2Q was even lower at just \$2.3M. The Company ended the period with \$11M in cash. Recall that BioCardia successfully closed a public offering of 4.7M shares of common stock (at \$2.10 per share). The Company laid out their catalysts in the press release, which we present in our note.

Investment Highlights

Catalysts Ahead (from the press release):

- Q3 2020: First patient treated in CardiAMP Chronic Myocardial Ischemia (CMI) Trial (BCDA-02)
- Q3 2020: FDA acceptance of Investigational New Drug application for CardiALLO Neurokinin-1 Receptor-Positive Mesenchymal Stem Cell Therapy (BCDA-03), the Company's allogeneic therapeutic platform, for the treatment of ischemic heart failure
- Q4 2020: Prespecified Data Safety Monitoring Board Review of all patients enrolled in the CardiAMP Heart Failure Trial, including futility analysis, based on sixty (60) patients that will have reached the primary one-year follow-up endpoint at the time of analysis (BCDA-01)
- Q4 2020: Prespecified Data Safety Monitoring Board Review of safety data from the roll-in cohort in CardiAMP CMI Trial (BCDA-02)
- Q4 2020: FDA acceptance of Investigational New Drug application for Neurokinin-1 Receptor-Positive Mesenchymal Stem Cell Therapy (BDCA-04) for the treatment of Acute Respiratory Distress Syndrome as a result of COVID-19
- Q4 2020: Targeted commercial availability of Avance Transseptal Sheath

Valuation: Our product models run out to the year 2030. For CardiAMP and CardiALLO and all the related cardiac indications, each of which represent blockbuster markets, we haircut the revenues by 70% (assume only a 30% probability of success). In addition, in our free cash flow (FCFF), discounted EPS (EPS), and sum-of-the-parts (SOP) models, we apply a risk rate (r) of 30% on top of the 90% risk cut in our models. Our share count is projected for 2030 and assumes multiple raises. Our models are then equal-weighted, averaged, and rounded to the nearest whole number to derive our 12 months price target of \$24.00. See the Valuation section in this report for some comparable valuations and recent transactions.

Risks: Partnership risks, Commercialization risks, Financial risks, Clinical and Regulatory risks, and Legal and Intellectual Property risk.

Price Target						\$24.00
Estimates	F20	019A	F20	020E	F2	021E
Expenses (\$000s)	\$	15,192	\$	16,254	\$	16,158
1Q March	\$	3,903	\$	4,647	\$	3,792
2Q June	\$	3,848	\$	3,601	\$	3,957
3Q September	\$	3,421	\$	3,924	\$	4,122
4Q December	\$	4,020	\$	4,081	\$	4,287
	F20	019A	F20	020E	F2	021E
EPS (diluted)	\$	(2.13)	\$	(1.50)	\$	(0.41)
1Q March	\$	(0.08)	\$	(0.67)	\$	(0.12)
2Q June	\$	(0.77)	\$	(0.46)	\$	(0.09)
3Q September	\$	(0.63)	\$	(0.18)	\$	(0.10)
4Q December	\$	(0.65)	\$	(0.19)	\$	(0.10)
EBITDA/Share		(\$0.96)		(\$1.11)		(\$0.41)
EV/EBITDA (x)		0.0		0.0		0.0
Stock Data						
52-Week Range		\$2.01		-		\$7.25
Shares Outstanding (mil.)						12.4
Market Capitalization (mil	.)					\$30
Enterprise Value (mil.)						\$30
Debt to Capital						0%
Book Value/Share						\$2.62
Price/Book						0.9
Average Three Months Tra	adin	g Volum	ne (K)		14
Insider Ownership						35.6%
Institutional Ownership						1.7%
Short interest (mil.)						0.1%
Dividend / Yield				Ş	0.0	00/0.0%
BioCardia, Inc. (BCDA	A)					





Heart Disease – **Treating the Underlying Cause**. BioCardia strongly believes that stem cells have the power to change the course of cardiovascular disease. This may occur as a result of the trophic effects of these cells when administered directly into the local environment (heart muscle). The cells act like micro-drug factories secreting factors that help to reduce inflammation, reduce scarring, and promote micro-angiogenesis (formation of new blood supply to the tissue). In doing such, it is hoped in the case of an acute ischemic event that the cells can help limit the initial damage and, in the case of chronic disease, may help to arrest the damage, even reverse it partially.

Autologous vs. Allogeneic: BioCardia is developing treatment using both autologous and allogeneic cells. BioCardia developed a diagnostic assay to determine which treatment is best suited for each patient. Autologous stem cell therapy is the company's leading product, CardiAMP, which is currently in a pivotal Phase 3 trial. Through CardiAMP, the patient's own bone marrow is extracted and is directly administered to the patient's heart to allow the most efficacy. If a patients CD34 cell count does not reach the requirement for CardiAMP, BioCardia can offer CardiALLO. CardiALLO stands out as an allogeneic stem cell therapy that is based on donated marrow. CardiALLO is designed to be a fast follower behind CardiAMP.

What's New? As the company plans its next generation of cell therapy, it's building the science to develop a differentiated allogeneic product (marrow-based cells), in CardiALLO. The specific MSCs used in BioCardia's allogenic cell therapy are expanded from cells selected for the presence of the NK1 receptor, which is known to bind to substance P, an important neuropeptide associated with inflammation throughout the body and a primary mediator of inflammation in the airways. Preclinical data (N=26 animals), were treated with both low dose and high dose NK1R+ MSC, echocardiographic measures of cardiac ejection fraction, fractional shortening and cardiac outflow were meaningfully improved, with all three measures being statistically significant for both dosage levels over control animals.

Delivery Matters. One of the characteristics that differentiates BioCardia from competitors in the field is the way the cells are delivered. The cells are administered directly to the patient's heart through the use of their Helix Biotherapeutic Delivery System and the Morph steerable guide. The end result is that more cells stay where they are needed versus other systems where the majority of cells are washed away in the dynamic blood flow associated with the heart. **See Exhibit 5. Cell Quality Matters Too.** BioCardia is talking more and more about its potency assay and the ability to determine in advance of therapy that cells are consistent and viable with its requirements. **See Exhibit 8.**

Roughly \$20B is spent per year for hospitalization costs. Following an operation done on a patient's heart, on average, they are in the hospital for three to four nights spending at least \$10,000 a night. CardiAMP can allow the patient to be released the same day with anticipated savings for the system of up to \$40,000 of unwanted hospital costs. Cell Therapy represents the ability to intervene in heart failure outside of treatment paradigms that exist today. **See Exhibit 2.**

BioCardia is Assisted. The company is **c**onducting numerous clinical trials in heart disease and specifically heart ischemia. Focusing on heart failure consumes a significant amount of a company's resources. BioCardia gets an extra hand as the Centers for Medicare & Medicaid Services (CMS) has funded the ongoing Phase 3 trial of CardiAMP cell therapy system in ischemic heart failure.

Autologous vs. Allogeneic: BioCardia is developing treatment using both autologous and allogeneic cells. BioCardia developed a diagnostic assay to determine which treatment is best suited for each patient. Autologous stem cell therapy is the company's leading product, CardiAMP, which is currently in a pivotal Phase 3 trial. Through CardiAMP, the patient's own bone marrow is extracted and is directly administered to the patient's heart to allow the most efficacy. If a patients CD34 cell count does not reach the requirement for CardiAMP, BioCardia can offer CardiALLO. CardiALLO stands out as an allogeneic stem cell therapy that is based on donated marrow. CardiALLO is designed to be a fast follower behind CardiAMP.

Phase 3 Update: DSMB Say's No Safety Issues – Recommends that the trial should continue: BioCardia announced that the independent Data Safety Monitoring board (DSMB) has completed its prespecified data review for the Phase 3 pivotal CardiAMP Heart Failure Trial, which included safety follow-up results on 35 patients and all additional data available on the 77 patients randomized in the trial. The DSMB indicated there were no safety concerns with the CardiAMP study results and recommended that the trial continue, as planned. The trial is an ongoing multi-center, double-blinded, randomized (3:2), sham-controlled pivotal CardiAMP Heart Failure Trial that is expected to enroll 260 patients at up to 40 centers nationwide. The trial's primary efficacy endpoint is Six Minute Walk distance at 12 months' post-treatment, a measure of a patient's exercise capacity, and incorporates the impact of MACE and other clinically meaningful events. Secondary efficacy endpoints include quality of life as measured by the Minnesota Heart Failure Quality of Life self-assessment, and superiority relative to MACE and survival.

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Exhibit 1. We view BioCardia as a unique company in the world of stem cells as the company has "The Best of Both Worlds", that is an Autologous and an Allogenic approach. A patient assay can determine if a patient's own cells are viable to treat disease and select which therapy is best for each individual patient.

CardiAMP cell therapy system

- Regulated and manufactured as a device based procedure kit with anticipated low cost of goods and long shelf life
- For both leading indications, CardiAMP fits into standard interventional cardiology device channels

CardiALLO cell therapy system

- Commercial launch will leverage experience, training, and delivery systems. As an "off the shelf" cryopreserved cell therapy multiple doses per donor will be available. BioCardia has a unique approach which may address donor variability issues and international distribution
- Cardiology sales of these products are synergistic
- Direct sales force in U.S. selling into the cardiac catheterization suite and interventional cardiologist end users at 1200 hospitals in USA
- Co-exclusive partnering with large reference laboratory on cell proprietary potency assays





Source: BioCardia July 2019 Presentation.

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Company Overview

BioCardia is a clinical stage regenerative medicine company developing therapies for cardiovascular diseases. It is well known that the cardiovascular market has large unmet medical needs and BioCardia believes CardiAMP and CardiALLO are part of the solutions for patients following a heart attack and or diagnosed with chronic myocardial ischemic and or ischemic related cardiac disease. The company's lead program, CardiAMP, incorporates a proprietary molecular model in order to determine if a patient's own bone marrow qualifies as a candidate for this therapy. The company hopes with this therapy to improve the quality of life for patients following treatment for heart disease. CardiAMP was designed to be delivered in a 60-90-minute procedure. CardiALLO is an option for those patients who are not able to produce enough viable cells to manufacture CardiAMP. Both heart failure trials, BCDA-01 and BCDA-02 have been supported by CMS (Medicare) which has offset the financial burden for expensive HF trials. The interest in cell-based therapy for heart failure is rising for multiple reasons including the lack of adverse events, high safety profile, and its ability to change the treatment paradigm in cardiovascular disease.

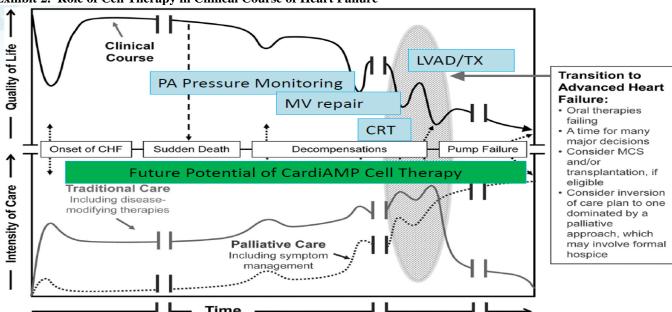


Exhibit 2. Role of Cell Therapy in Clinical Course of Heart Failure

Source: Modified from Decision Making in Advanced Heart Failure, A Scientific Statement From American Heart Association, Circ 2012

Exhibit 3. Upcoming Catalysts for BioCardia

Product	Indication	Event	Timeline	Impact
BCDA-01: CardiAMp C	ell Therapy Ischemic Heart Failure	Complete enrolling pivotal Phase 3 trial	2H20	++
BCDA-01: CardiAMp C	ell Therapy Ischemic Heart Failure	Complete Phase 3 and submit for US and EU approval	3Q21	+++
BCDA-01: CardiAMp C	ell Therapy Ischemic Heart Failure	Approval and Launch	2H22	+++
BCDA-02: CardiAMP C	cell Therapy Chronic Myocardial Ischemia	Complete enrollment for pivotal Phase 3	2H22	++
BCDA-02: CardiAMP C	cell Therapy Chronic Myocardial Ischemia	Complete Phase 3 and submit for US and EU approval	4Q23	+++
BCDA-02: CardiAMP C	cell Therapy Chronic Myocardial Ischemia	Approval and Launch	1Q24	+++
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Seek Orphan Status	2021	+
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Phase 1/2 Investigational New Drug approved	4Q19	+
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Begin enrollment of Phase 1/2 Study	3Q20	+
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Complete enrollment for Phase 1/2 trial	3Q22	++
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Complete study and file for pivotal Phase 3 trial	3Q23	++
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Begin enrollment of pivotal Phase 3 trial	4Q23	++
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Complete enrollment of Phase 3 trial	2H25	+++
BCDA-03 CardALLO C	cell Therapy Ischemic Heart Failure	Complete Phase 3 and submit for US and EU approval	3Q26	+++
BCDA-03 CardALLO C	ell Therapy Ischemic Heart Failure	Approval and Launch	1Q27	+++

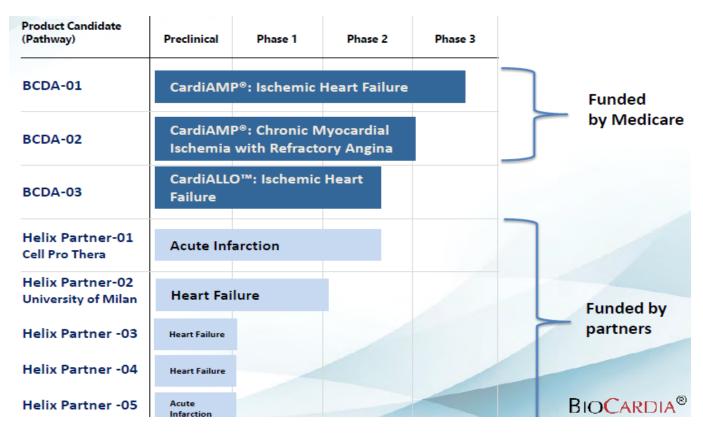
Stock Significance Scale: + of moderate importance; ++ higher level; +++ highly

Source: Dawson James and BioCardia

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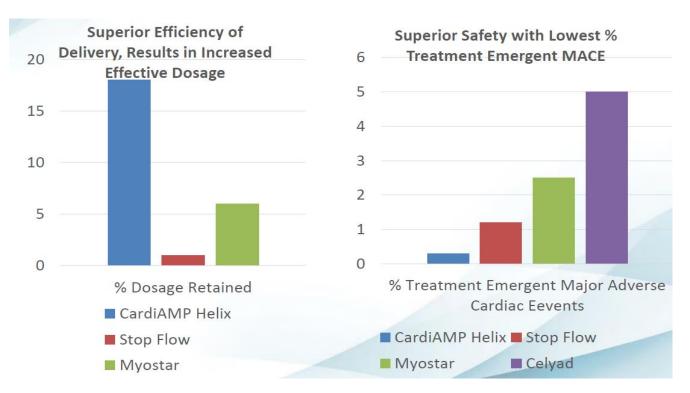


Exhibit 4. Advanced clinical pipeline



Source: BioCardia Presentation.

Exhibit 5. Performance of CardiAMP Cell Delivery with Proprietary Helix – The Ability to Deliver and Retain Dose on Target

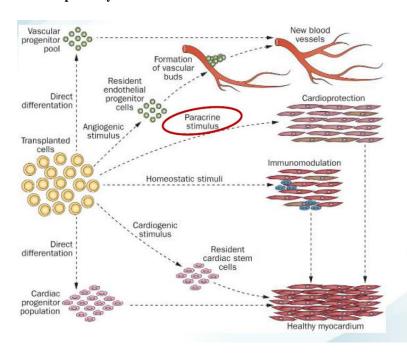


Source: Mitsutake et al, Int. Heart J. (2017), Duckers H et al, Transcatheter Therapeutics 2018.

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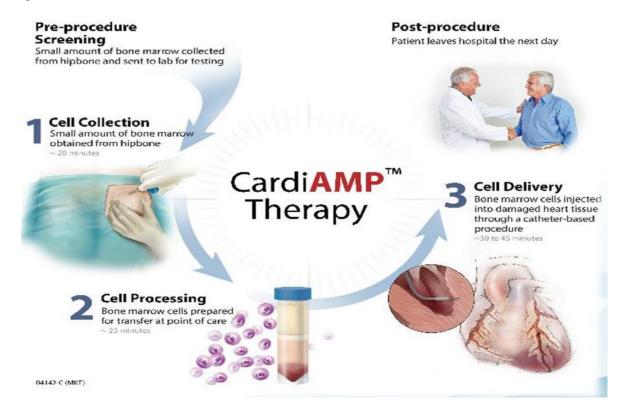
Exhibit 6. Mechanistic basis for regeneration. Transplanted cells are hypothesized to benefit the heart through direct and indirect pathways.



- Direct Regeneration: Transplanted cells actively home to injury sites and differentiate into new functional tissue to augment organ function.
- Indirect Regeneration: Transplanted cells secrete stimulatory cytokines to instigate an innate regenerative response from resident stem cells.
- Accelerating a natural process: Cells from bone marrow home to injury in the heart. Animal work supports reduced fibrotic scar and enhanced micro vessel density. Clinical work supports that there is benefit in this approach.

Source: BioCardia July 2019 Presentation.

Exhibit 7. Investigational CardiAMP (Autologous Model) cell therapy system, from collection and screening to delivery with a specialized catheter.



Source: BioCardia July 2019 Presentation.

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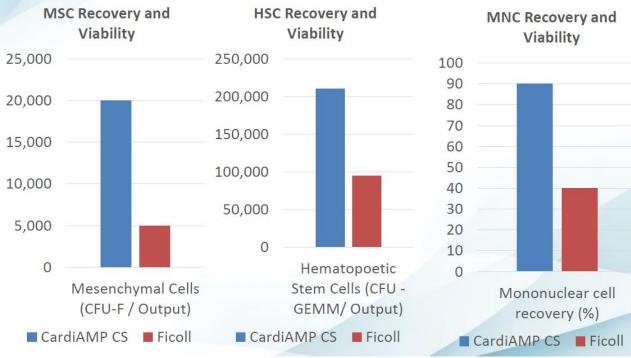
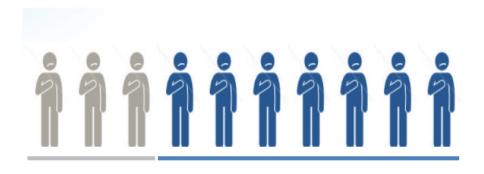


Exhibit 8. Potency Assay – Cell Quality Matters

Source: BioResearch Open Access, Volume 4.1, 2015

Exhibit 9. Investigational CardiAMP cell therapy system pre-procedure screening selects patients likely to respond to CardiAMP.



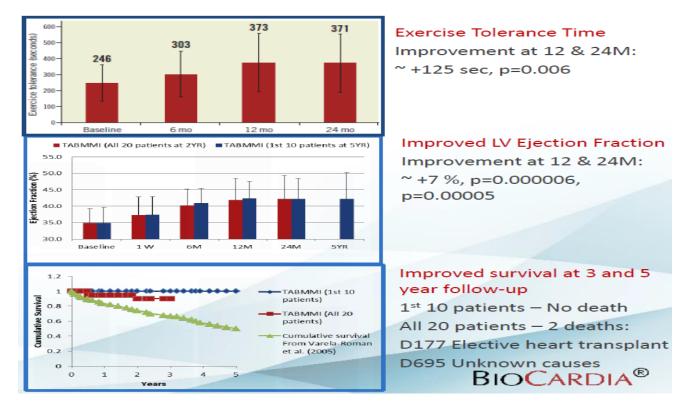
Anticipated to select 70% most likely to respond based on therapeutic potential of their bone marrow

 $Source: Bio Cardia\ July\ 2019\ Presentation.$

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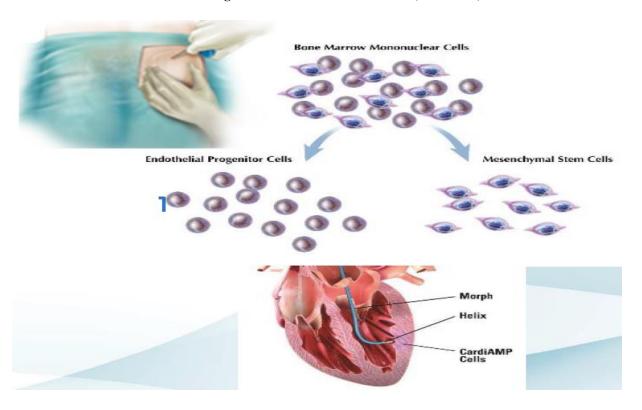


Exhibit 10. On All Key Metrics (used for approval by regulators), CardiAMP has Shown Improvement.



Source: BioCardia July 2019 Presentation.

Exhibit 11. Transendocardial Autologous Cells in Heart Failure Trial (TAC-HFT)



Source: BioCardia July 2019 Presentation.

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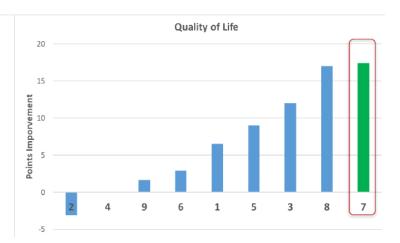
Exhibit 12. Phase 2 Placebo Controlled Randomized Trial Results: Improvement Shown in Key Metrics.

Secondary Efficacy Endpoints	Active (Mean)	Placebo (Mean)	Treat. Difference	Favors CardiAMP Therapy	P-value
6 minute walk (meters) N=28, Mean ± St Dev	+14.3 ± 59.6	-42.0 ± 18.1	+56.3	√	0.049
MLHF quality of life (pts) N= 29, Mean ± St Dev	-7.7 ± 17.8	+9.7 ± 24.8	-17.4	✓	0.038
Maximum Oxygen Use (mL/kg·min)	+0.16	-0.870	+1.03	√	0.321 NS*
NY Heart Association Class	-0.42	-0.25	-0.17	✓	0.638 NS
LV End Systolic Volume (ml)	+3.2	+47.2	-44	√	0.129 NS
LV End Diastolic Volume (ml)	+4.5	+51.2	-46.7	✓	0.149 NS
LV Ejection Fraction (%)	+0.97	-2.38	+3.35	✓	0.252 NS

Source: BioCardia July 2019 Presentation.

Exhibit 13. Phase 2 Efficacy Results in Six Minute Walk Relative to Other (Entresto) CRT and Heart Failure Therapies.



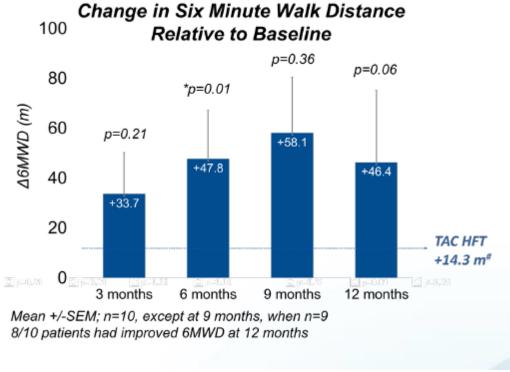


Source: BioCardia July 2019 Presentation.

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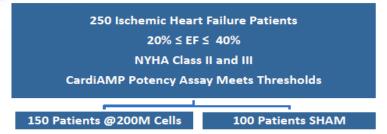


Exhibit 14. Phase 3: Change in Six Minute Walk Distance (relative to base line). Data Safety Monitoring Board (DSMB) prespecified interim analysis of safety outcomes for the first 10 patients treated in the Phase 3 trial of its investigational CardiAMP cell therapy product no significant safety concerns with the CardiAMP study results and recommended that the trial continue, as planned.



Source: BioCardia July 2019 Presentation.

Exhibit 15. Phase 3 Trial Design



- Changes from Phase II are NYHA Class I patients are eliminated and potency assay is implemented with intent to enhance response to therapy
- Primary endpoint:
 - Superiority with respect to functional capacity as measured by six minute walk test at one-year post-procedure (efficacy)
- Secondary hierarchical endpoints will have p values and will be on labelling if achieved:
 - Non-inferiority with respect to survival (safety)
 - o Non-inferiority with respect to MACE (safety)
 - Superiority with regard to quality of life as measured by the MLHFQ (efficacy)
 - Time to first heart failure (HF)-related major adverse cardiac events (efficacy)
 - Superiority with respect to survival (efficacy)

This is substantially equivalent to the Finkelstein-Schoenfeld statistical analysis plan which would not change the power (>95%) if used based on the Phase II data.

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Source: BioCardia Presentation

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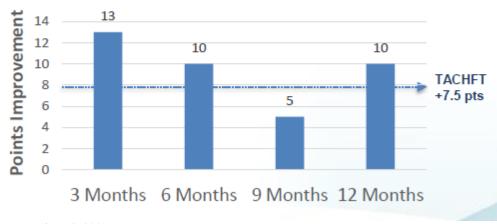
Achieved

in Phase II

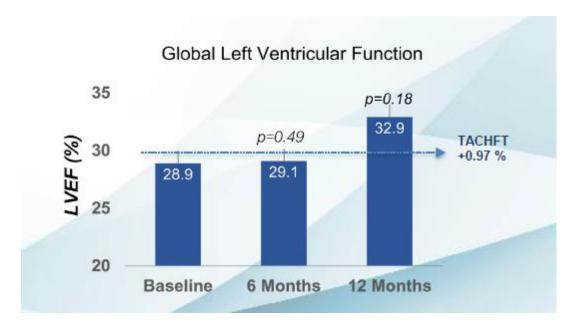


Exhibit 16. Phase 3: QOL Measures. Results from CardiAMP-HF Study Roll-In Phase: 12-month follow-up results compared to baseline (shown as mean ±sem). N=10 for baseline, 3 months, and 6 months; N=9 for 9 months where one patient was hospitalized, N = 10 for 12 months. Results compared to improvements in Phase 2 TAC-HFT Study.

Improvement in Quality of Life Self Assessment (MLHFQ) Versus Baseline



Source: BioCardia July 2019 Presentation.



 $Source: Bio Cardia\ July\ 2019\ Presentation.$

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Product Modeling Assumptions

- 1. We base our market share estimates for BioCardia's therapies on multiple assumptions around the product attributes associated with product delivery and outcomes. Given the blockbuster size of the U.S. and EU HF markets we apply a 70% risk reduction to the net revenues, suggesting on success there is a lot of upside in our estimates.
- 2. We assume CardiAMP and CardiALLO will initially launch at \$50,000 per operation. Our projected market share grows over the six-year launch cycle, with CardiAMP consuming up to 25% of the total market in the year 2028 and CardiALLO achieves a 15% share of the total market by the year 2030.
- 3. Based on BioCardia's estimation of completing enrollment of the pivotal Phase 3 trial of BCDA-01 in 2H20, we assume standard FDA review time of 10 months with the launch in 1Q22. We expect BCDA-02 to be a fast follower with approval and launch a year after BCDA-01, in 1Q23. To adjust for the risk of approval, we apply a 70% risk cut to our CardiAMP revenue model.
- 4. We expect that BCDA-03 (CardiALLO) could reach the market by 2027, however, for conservatism, we apply a therapeutic risk cut of 70% in our product model. This suggests that clinical progress could make our numbers too conservative.

Exhibit 17 Market Models:

Exhibit 17. Market Models:												
BCDA-01 Heart Failure	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
U.S. Prevalance CHF	5,000,000	5,005,000	5,010,005	5,015,015	5,020,030	5,025,050	5,030,075	5,035,105	5,040,140	5,045,180	5,050,226	5,055,276
Market Size Growth (Annual)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Candidates (Class II & III) for Therapy	500,000	500,500	501,001	501,502	502,003	502,505	503,008	503,511	504,014	504,518	505,023	505,528
Market Share Penetration Number of Patients Procedures	0.0%	0.0%	0.0%	0	1.0% 5,020	3.0% 15,075	6.0% 30.180	7.0% 35.246	8.0% 40.321	10.0% 50.452	14.0% 70.703	15.0% 75,829
Cost of Therapy \$	20,000 \$	20,040 \$	20,080 \$	20,120 \$	20,160 \$	20,201 \$	20,241 \$	20,282 \$	20,322 \$	20,363 \$	20,404 \$	20,444
Price Growth	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Probability of Success	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
U.S. Annual Sales (M) \$	- \$	- \$	- \$	- \$	30 \$	91 \$	183 \$	214 \$	246 \$	308 \$	433 \$	465
BCDA-01 Heart Failure	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
E.U. Prevalance CHF	9,000,000	9,009,000	9,018,009	9,027,027	9,036,054	9,045,090	9,054,135	9,063,189	9,072,253	9,081,325	9,090,406	9,099,496
Market Size Growth (Annual)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Candidates (Class II & III) for Therapy	900,000	900,900	901,801	902,703	903,605	904,509	905,414	906,319	907,225	908,132	909,041	909,950
Market Share Penetration	0.0%	0.0%	0.0%				1.0%	3.0%	5.0%	10.0%	12.0%	15.0%
Number of Patients Procedures	0	0	0	0	0	0	9,054	27,190	45,361 30,483 \$	90,813	109,085	136,492
Cost of Therapy \$ Price Growth	30,000 \$ 0.2%	30,060 \$ 0.2%	30,120 \$ 0.2%	30,180 \$ 0.2%	30,241 \$ 0.2%	30,301 \$ 0.2%	30,362 \$ 0.2%	30,423 \$ 0.2%	30,483 \$ 0.2%	30,544 \$ 0.2%	30,605 \$ 0.2%	30,667 0.2%
Probability of Success	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
U.S. Annual Sales (M) \$	- \$	- \$	- \$	- \$	- \$	- \$	82 \$	248 \$	415 \$	832 \$	1,002 \$	1,256
C.C. / Illiada Gales (III)	•	•	•	•	•	•	0 <u>2</u>	240 \$	4.0 \$	002 V	.,002 \$	1,200
BCDA-02 Heart Failure	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
U.S. Prevalance CHF	5,000,000	5,075,000	5,151,125	5,228,392	5,306,818	5,386,420	5,467,216	5,549,225	5,632,463	5,716,950	5,802,704	5,889,745
Market Size Growth (Annual)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Candidates (Chronic Myocardial Ischemia) for Therapy	200,000	203,000	206,045	209,136	212,273	215,457	218,689	221,969	225,299	228,678	232,108	235,590
Market Share Penetration	0.0%	0.0%	0.0%	0.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	25.0%	25.0%
Number of Patients Procedures	0	0	0	0	4,245	10,773	21,869	33,295	45,060	57,169	58,027	58,897
Cost of Therapy \$	20,000 \$	20,040 \$	20,080 \$	20,120 \$	20,160 \$	20,201 \$	20,241 \$	20,282 \$	20,322 \$	20,363 \$	20,404 \$	20,444
Price Growth Probability of Success	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%	0.2% 30%
U.S. Annual Sales (M) \$	- \$								275 \$	349 S		
		•	•		26 \$	65 \$	133 \$	203 \$			355 \$	361
BCDA-02 Heart Failure	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
BCDA-02 Heart Failure E.U. Prevalance CHF	2019 9,000,000	2020 9,072,000	2021 9,144,576	2022 9,217,733	2023 9,291,474	2024 9,365,806	2025 9,440,733	2026 9,516,259	2027 9,592,389	2028 9,669,128	2029 9,746,481	2030 9,824,453
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual)	2019 9,000,000 0.8%	2020 9,072,000 0.8%	2021 9,144,576 0.8%	2022 9,217,733 0.8%	9,291,474 0.8%	2024 9,365,806 0.8%	2025 9,440,733 0.8%	2026 9,516,259 0.8%	2027 9,592,389 0.8%	2028 9,669,128 0.8%	2029 9,746,481 0.8%	2030 9,824,453 0.8%
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy	2019 9,000,000 0.8% 495,000	2020 9,072,000 0.8% 498,960	2021 9,144,576 0.8% 502,952	9,217,733 0.8% 506,975	2023 9,291,474	2024 9,365,806	2025 9,440,733 0.8% 519,240	2026 9,516,259 0.8% 523,394	2027 9,592,389 0.8% 527,581	2028 9,669,128 0.8% 531,802	2029 9,746,481 0.8% 536,056	2030 9,824,453 0.8% 540,345
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Share Penetration	2019 9,000,000 0.8% 495,000 0.0%	2020 9,072,000 0.8% 498,960 0.0%	2021 9,144,576 0.8% 502,952 0.0%	2022 9,217,733 0.8% 506,975 0.0%	2023 9,291,474 0.8% 511,031	2024 9,365,806 0.8% 515,119	2025 9,440,733 0.8% 519,240 2.0%	2026 9,516,259 0.8% 523,394 6.0%	2027 9,592,389 0.8% 527,581 10.0%	2028 9,669,128 0.8% 531,802 15.0%	2029 9,746,481 0.8% 536,056 20.0%	2030 9,824,453 0.8% 540,345 20.0%
BCDA-92 Heart Failure E.U. Prevalance CHF Market Size Crown (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Share Penetration Number of Palentes Procedures	2019 9,000,000 0.8% 495,000 0.0%	9,072,000 0.8% 498,960 0.0%	2021 9,144,576 0.8% 502,952 0.0%	9,217,733 0.8% 506,975 0.0%	9,291,474 0.8% 511,031	2024 9,365,806 0.8% 515,119	2025 9,440,733 0.8% 519,240 2.0% 10,385	2026 9,516,259 0.8% 523,394 6.0% 31,404	2027 9,592,389 0.8% 527,581 10.0% 52,758	2028 9,669,128 0.8% 531,802 15.0% 79,770	9,746,481 0.8% 536,056 20.0% 107,211	2030 9,824,453 0.8% 540,345 20.0% 108,069
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Share Penetration	2019 9,000,000 0.8% 495,000 0.0%	2020 9,072,000 0.8% 498,960 0.0%	2021 9,144,576 0.8% 502,952 0.0%	2022 9,217,733 0.8% 506,975 0.0%	2023 9,291,474 0.8% 511,031	2024 9,365,806 0.8% 515,119	2025 9,440,733 0.8% 519,240 2.0%	2026 9,516,259 0.8% 523,394 6.0%	2027 9,592,389 0.8% 527,581 10.0%	2028 9,669,128 0.8% 531,802 15.0%	2029 9,746,481 0.8% 536,056 20.0%	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Eschemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy \$	2019 9,000,000 0.8% 495,000 0.0% 0	2020 9,072,000 0.8% 498,960 0.0% 0 30,060 \$	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$	9,291,474 0.8% 511,031 0 30,241 \$	2024 9,365,806 0.8% 515,119 0 30,301 \$	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 \$	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 \$	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 \$	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 \$	2029 9,746,481 0.8% 536,056 20.0% 107,211 30,605 \$	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2%
BCDA-92 Heart Failure E. U. Prevalence CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Eschemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy S Price Growth	2019 9,000,000 0.8% 495,000 0.0% 0 30,000 0.2%	2020 9,072,000 0.8% 498,960 0.0% 0 30,060 \$ 0.2%	9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2%	9,217,733 0.8% 506,975 0.0% 0 30,180 \$	9,291,474 0.8% 511,031 0 30,241 0.2%	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0.2%	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 \$ 0.2%	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 \$	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 \$	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 \$ 0.2%	2029 9,746,481 0.8% 536,056 20.0% 107,211 30,605 \$	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667
BCDA-02 Heart Failure E.U. Prevaliance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Eschemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy S Price Growth Probability of Success	2019 9,000,000 0.8% 495,000 0.0% 0 30,000 \$ 0.2% 30%	9,072,000 0.8% 498,960 0.0% 0 30,060 \$ 0.2% 30%	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 0.2% 30%	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 0.2% 30%	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30%	2024 9,365,806 0.8% 515,119 0 30,301 \$ 0.2% 30%	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 \$ 0.2% 30%	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 0.2% 30%	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 0.2% 30%	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 0.2% 30%	9,746,481 0.8% 536,056 20.0% 107,211 30,605 0.2% 30%	9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 30%
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Procedures Cost of Therapy S Price Growth Probability of Success U.S. Annual Sales (M)	2019 9,000,000 0.8% 495,000 0.0% 0 30,000 \$ 0.2% 30%	9,072,000 0.8% 498,960 0.0% 0 30,060 \$ 0.2% 30%	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2% 30%	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$ 0.2% 30%	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$	2024 9,365,806 0.8% 515,119 0 30,301 0.2% 30% - \$	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 \$ 0.2% 30% 95 \$	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 0.2% 30% 287 \$	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 \$	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 0.2% 30% 731 \$	2029 9,746,481 0.8% 536,056 20,0% 107,211 30,605 0.2% 30% 984 \$	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 30%
BCDA-92 Heart Failure E.U. Prevalance CHE Market Size Growth (Annual) Candidates (Chronic Myccardial schemia) for Therapy Market Size Penetration Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) BCDA-93 Heart Failure U.S. Prevalance CHE Market Size Growth (Annual)	2019 9,000,000 0.8% 495,000 0,0% 0 30,000 \$ 0,2% 30% - \$ 2019 5,000,000 0.1%	2020 9,072,000 0.8% 498,960 0.0% 0 30,060 0.2% 30% - \$ 2020 5,005,000 0.1%	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2% 30% - \$ 2021 5,010,005 0.1%	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$ 0.2% 30% - \$ 2022 5,015,015 0.1%	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$ 2023 5,020,030 0.1%	2024 9,365,806 0.8% 515,119 0 30,301 0.2% 30% \$\$ 2024 5,025,050 0.1%	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,382 0.2% 30% 95 \$ 2025 5,030,075 0.1%	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 0.2% 30% 287 \$ 2026 5,035,105 0.1%	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 0.2% 30% 482 \$ 2027 5,040,140 0.1%	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 0.2% 30% 731 \$ 2028 5,045,180	9,746,481 0.8% 536,056 20,0% 107,211 30,605 0.2% 30% 984 \$ 2029 5,050,226 0.1%	2030 9,824,453 0,8% 540,345 20,0% 108,069 30,667 0,2% 30% 994 2030 5,055,276 0,1%
BCDA-92 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Eschemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy \$ Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevalance CHF	9,000,000 0.8% 495,000 0.0% 0 30,000 \$ 2,2% - \$ 2019 5,000,000 0.1%	2020 9,072,000 0.8% 498,960 0.0% 0 30,660 0.2% 30% - \$2020 5,005,000 0.1% 150,150	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 0.2% 30% - \$ 2021 5,010,005 0.1%	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 0.2% 30% - \$ 2022 5,015,015 0.1% 150,450	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$ 2023 5,020,030 0.1% 150,661	2024 9,365,806 0,8% 515,119 0 30,301 0,2% 30% - \$2024 5,025,050 0,1% 150,752	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 0.2% 30% 95 \$ 2025 5,030,075 0.1% 150,902	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 0.2% 30% 287 2026 5,035,105 0.1% 151,053	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 0.2% 30% 482 2027 5,040,140 0.1% 151,204	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 0.2% 30% 731 \$\frac{2028}{5,045,180} 0.1% 151,355	2029 9,746,481 0.8% 536,056 20.0% 107,211 30,605 0.2% 30% 984 \$ 2029 5,050,226 0.1% 151,507	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 30% 994 2030 5,055,276 0.1% 151,658
BCDA-92 Heart Failure E.U. Prevalance CHE Market Size Growth (Annual) Candidates (Chronic Myocardal schemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevalance CHE Market Size Growth (Annual) Candidates (Class II & III) for Therapy	9,000,000 0.8% 495,000 0.0% 0 30,000 \$.2% 30% - \$ 2019 5,000,000 0.1% 150,000	2020 9,072,000 0.8% 498,960 0.0% 0 30,080 \$ 20% 5,005,000 0.1% 150,150 0.0%	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2% 30% \$ 201 5,010,005 0.1% 150,300 0.0%	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$0.2% 30% \$202 5,015,015 0.1% 150,450 0.0%	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$ 2023 5,020,030 0.1% 150,601 0.0%	9,365,806 0,8% 515,119 0 30,301 0,2% 30% - \$ 2024 5,025,050 0,1% 150,752 0,0%	2025 9,440,733 0.8% 519,240 2.0% 10,385 30,362 \$ 0.2% 30% 95 \$ 2025 5,030,075 0.1% 150,902 0.0%	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 \$ 0.2% 30% 287 \$ 206 5,035,105 0.1% 151,053 0.0%	2027 9,592,389 0.8% 527,581 10.0% 52,758 30,483 0.2% 30% 482 \$2,2027 5,040,140 0.1% 151,204 2.0%	9,669,128 0.8% 531,802 15.0% 79,770 30,544 \$ 0.2% 30% 731 \$ 2028 5.045,180 0.1% 151,335 5.0%	2029 9,746,481 0.8% 536,056 20.0% 107,211 30,605 \$ 0.2% 30% 984 \$ 2029 5,050,226 0.1% 151,507 10.0%	9,824,453 0.8% 540,345 20,0% 108,069 30,667 0.2% 30% 994 2030 5,055,276 0.1% 151,658 15,0%
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size State Procedures Cost of Therapy S Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevalance CHF Market Size Growth (Annual) Candidates (Class I & III) for Therapy Number of Patients Procedures	2019 9,000,000 0.8% 495,000 0.0% 0 30,000 \$ 0.2% 30% \$ 2019 5,000,000 0.1% 150,000 0.0%	2020 9,072,000 0.8% 498,960 0.0% 0 30,060 0.2% 30% - \$ 2020 5,005,000 0.1% 150,150 0.0%	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 0.2% 30% - \$ 2021 5,010,005 0.1% 150,300 0.0% 0	2022 9,217,733 0,8% 506,975 0,0% 0 30,180 0,2% 30% - \$ 2022 5,015,015 0,1% 150,450 0,0%	9,291,474 0,8% 511,031 0 30,241 0,2% 30% \$ 2023 5,020,030 0,1% 150,601 0,0%	2024 9,365,806 0,8% 515,119 30,301 0,2% 30% \$2024 5,025,050 0,1% 150,752 0,0%	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0,0%	2026 9,516,259 0.8% 523,394 6.0% 31,404 30,423 2.2% 30% 287 \$ 2026 5,035,105 0.1% 151,053 0.0% 0	2027 9,592,389 0.8% 527,561 10.0% 52,758 30,483 0.2% 30% 482 5 2027 5,040,140 0.1% 151,204 2.0% 3,024	2028 9,669,128 0.8% 531,802 15.0% 79,770 30,544 0.2% 30% 731 \$ 2028 5,045,180 0.1% 151,335 5.0% 7,568	2029 9,746,481 0.8% 0.58,056 20.0% 107,211 30,605 0.2% 30% 984 \$ 2009 5,050,226 0.1% 151,507 10.0%	2030 9,824,453 0.8% 540,345 20,0% 108,069 30,667 0.2% 30% 994 2030 5,055,276 151,658 15,0%
BCDA-92 Heart Failure E.U. Prevalance CHE Market Size Growth (Annual) Candidates (Chronic Myocardal schemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevalance CHE Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures	9,000,000 0.8% 495,000 0.0% 0.2% 30% - \$ 2019 5,000,000 0.1% 150,000 0.0% 0	2020 9,072,000 0.8% 498,960 0.0% 0 30,080 \$ 200 5,005,000 0.1% 150,150 0.0% 0	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2% 30% - \$ 2021 5,010,005 0.1% 150,300 0.0% 0	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$ 2022 5,015,015 0.1% 150,450 0.0% 0	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$ 2023 5,020,030 0.1% 150,601 0.0% 0	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 30% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 \$ 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0,0% 0 \$	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 \$0,2% 30% 287 \$ 2026 5,035,105 0,1% 151,053 0,0% 0 - \$	2027 9,502,389 0,8% 527,581 10,0% 52,7581 10,0% 52,758 30,483 30% 482 2027 5,040,140 0,1% 151,204 2,0% 3,024 2,250 \$	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,644 0,2% 30% 731 2028 5,045,180 0,1% 151,355 5,0% 7,568 22,545	2029 9,746,481 0,8% 536,056 230,065 107,211 30,605 9,2% 30% 984 2029 5,050,226 0,1% 151,507 10,0% 15,151	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 30% 994 20,555,276 0.1% 151,658 15.0% 22,749 22,635
BCDA-02 Heart Failure E.U. Prevallance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Share Penetration Number of Patients Procedures Cost of Therapy \$ Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Price Growth	2019 9,000,000 0.8% 495,000 0 0 30,000 0 2.2% 30% 5 2019 5,000,000 0.1% 150,000 0.0% 0 0 - 0 5 - 0	2020 9,072,000 0.8% 498,960 0.0% 0 30,660 0.2% 30% \$2020 5,005,000 0.1% 150,150 0.0% 0	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 0,2% 30% \$2021 5,010,005 0.1% 150,300 0.0% 0	9,217,733 0.8% 506,975 0.0% 0 30,180 5,22% 30% 5,015,015 0.1% 150,450 0.0% 0 5	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% \$ 2023 5,020,030 0,1% 150,601 0,0% 0	2024 9,365,806 0,8% 515,119 30,301 0,2% 30% \$ 2024 5,025,050 0,1% 150,752 0,0% 0	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0,0%	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 2,2% 30% 287 \$ 2026 5,035,105 0,1% 151,053 0,0% 0 - \$ \$ \$ \$ 0,2%	2027 9,592,389 0.8% 527,591 10.0% 52,758 30,483 0.2% 30% 482 \$ 2027 5,040,140 0.1% 151,204 2.0% 3.024 2.0% 3.024 2.500 0.2%	2028 9,669,128 0,8% 531,802 15.0% 79,770 30,544 0,2% 30% 731 \$ 2028 5,045,180 0,1% 151,335 5,0% 7,588 22,545 0,2%	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 0,2% 30% 984 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,550 0,2%	2030 9,824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 994 2030 5,055,276 0.1% 151,658 15,0% 22,749 22,635 0.2%
BCDA-92 Heart Failure E.U. Prevalance CHE Market Size Growth (Annual) Candidates (Chronic Myocardal schemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevalance CHE Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures	9,000,000 0.8% 495,000 0.0% 0.2% 30% - \$ 2019 5,000,000 0.1% 150,000 0.0% 0	2020 9,072,000 0.8% 498,960 0.0% 0 30,080 \$ 200 5,005,000 0.1% 150,150 0.0% 0	2021 9,144,576 0.8% 502,952 0.0% 0 30,120 \$ 0.2% 30% - \$ 2021 5,010,005 0.1% 150,300 0.0% 0	2022 9,217,733 0.8% 506,975 0.0% 0 30,180 \$ 2022 5,015,015 0.1% 150,450 0.0% 0	2023 9,291,474 0.8% 511,031 0 30,241 0.2% 30% - \$ 2023 5,020,030 0.1% 150,601 0.0% 0	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 30% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 \$ 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0,0% 0 \$	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 \$0,2% 30% 287 \$ 2026 5,035,105 0,1% 151,053 0,0% 0 - \$	2027 9,502,389 0,8% 527,581 10,0% 52,7581 10,0% 52,758 30,483 30% 482 2027 5,040,140 0,1% 151,204 2,0% 3,024 2,250 \$	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,644 0,2% 30% 731 2028 5,045,180 0,1% 151,355 5,0% 7,568 22,545	2029 9,746,481 0,8% 536,056 230,065 107,211 30,605 9,2% 30% 984 2029 5,050,226 0,1% 151,507 10,0% 15,151	2030 9,824,453 0,8% 540,345 20,0% 108,069 30,667 0,2% 30% 994 203 5,055,276 0,1% 151,658 15.0% 22,749 22,635
BCDA-92 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardal schemia) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevalance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$	2019 9,000,000 0,0% 495,000 0,0% 0,0% 0,2% 30% - \$ 2019 5,000,000 0,1% 150,000 0,0% 0 0 - \$ 0,2% 30% - \$	2020 9,072,000 0,8% 498,960 0,0% 0 30,060 \$ 0,2% 30% 2020 5,005,000 0,1% 150,150 0 0 - \$ 0,2% 30%	2021 9,144,576 0,8% 502,952 0,0% 0 30,120 \$ 2,2% 30% 2021 5,010,005 0,1% 150,300 0 - \$ 0,2% 30% - \$ 0,2% 30% - \$ \$ 2021 5,010,005 0,0% 0 - \$ 0,0% 0 - \$ 0,2% 30% - \$ 30%	9,217,733 0,8% 0,8% 0,0% 0,0% 0,0% 0,2% 30% - \$ 2022 5,015,015 0,1% 150,450 0 - \$ 0,2% 30% - \$	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 39% 5,020,030 0,1% 150,601 0 - \$ 0,2% 30% - \$ \$ 30%	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 30% 5,505 0,1% 150,752 0,0% 0 - 0,2% 30% - \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 \$ 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0 \$ 0,2% 30% \$ \$ 0,2% 30% \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 \$0,2% 30% 287 2026 5,035,105 0,1% 151,053 0,0% 0 - \$0,2% 30% - \$3,0%	2027 9,502,389 0,8% 527,581 10,0% 52,7581 10,0% 52,758 30,483 30% 462 2027 5,040,140 0,1% 151,204 2,0% 3,024 2,2,500 0,2% 3,024 2,2,500 0,2% 3,024 2,2,500 0,2% 3,024 2,0% 3,0% 2,0% 3,0% 2,0% 3,0% 2,0% 3,0% 2,0% 3,0% 2,0% 3,0% 2,0% 3,0% 3,0% 2,0% 3,0%	2028 9,669,128 0,8% 531,802 15,0% 79,77 30,544 \$ 2,2% 30% 731 \$ 2028 5,045,180 0,1% 151,355 5,0% 7,568 22,545 0,2% 30% 51 \$	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 \$ 0,2% 30% 984 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,550 0,2% 30% 103 \$	9,824,453 0,8% 540,345 20,0% 108,069 30,667 0,2% 30% 994 2030 5,055,276 0,1% 151,658 15,0% 22,749 22,635 0,2% 30%
BCDA-02 Heart Failure E.U. Prevallance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,0% 0,0% 30,000 0,2% 30%	2020 9,072,000 0,8% 498,960 0,0% 0,0% 0,2% 30%	2021 9,144,576 0,8% 502,982 0,0% 0 30,120 \$ 0,2% 30% \$ 2021 5,010,005 0,1% 15,030 0,0% 0 \$ 0,0% 2,0% \$ 2021 2021	2022 9,217,733 0,8% 506,975 0 0 30,180 0,2% 30% - \$ 2022 5,015,015 0,1% 150,450 0,0% - \$ 0,2% 30% - \$ 2022	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% - \$ 2023 5,020,030 0,1% 10,601 0,0% 0 - \$ 0 0 - \$ 20,24 30,24 10,000 10,00	2024 9,365,806 0,8% 515,119 0 30,301 0,2% 307% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0 - 0,2% 307% - \$ 2024	2025 9,440,733 0,8% 519,240 10,385 10,2% 10,385 0,2% 30,362 0,2% 30% 95 \$ 2025 0,1% 10,002 0 0 0 0 0 0 0 2% 30% 30%	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 207 207 5,035,105 0,1% 151,053 0,0% 0 - \$ 0,0% 30% 257 \$ 2026 2026	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 2027 0,1% 151,204 2,0% 3,024 2,250 0,2% 30%	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 0,1% 151,355 5,0% 7,568 22,545 0,2% 30% 2028	2029 9.746,481 0.8% 536,056 20.0% 107,211 30,665 0.2% 30% 984 \$ 2029 0.1% 151,507 10.0% 15,151 22,590 0.2% 30% 30% 30%	2030 9,824,453 0,824,453 20,0% 108,069 30,667 0,22% 30% 994 151,658 15,0% 22,749 22,639 30% 22,749 22,639 30% 30% 30% 40% 151,658 150% 30% 40% 154,058 150% 154,058 150% 154,058 150% 154,058 150% 154,058 154,058 155% 156% 1
BCDA-92 Heart Failure E.U. Prevaliance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Share Penetration Mumber of Patients Procedures Cost of Therapy S Price Growth Probability of Success U.S. Annual Sales (M) S BCDA-03 Heart Failure U.S. Prevaliance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy S Price Growth Probability of Success U.S. Annual Sales (M) S BCDA-03 Heart Failure E.U. Prevalance CHF	2019 9,000,000 0,0% 495,000 0,0% 0,0% 0,2% 30% - \$ 2019 5,000,000 0,1% 150,000 0,0% 0 - \$ 0,2% 30% - \$ 2019 9,000,000	2020 9,072,000 0,8% 498,960 0,0% 0 30,060 \$ 0,2% 30% 2020 5,005,000 0,1% 150,150 0 0 - \$ 0,2% 30%	2021 9,144,576 0,8% 502,982 0,0% 30,120 \$ 2,2% 30% \$ 2021 5,010,005 0,1% 150,300 0 - \$ 0,2% 30% \$ \$ 2021 9,018,009	9,217,733 9,217,733 0,8% 506,975 0,0% 0,2% 30% 2022 5,015,015 0,1% 150,450 0,0% 0 - \$ 0,2% 30% - \$	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% - \$ 2023 5,020,030 0,1% 150,601 0 \$ 0,2% 30% - \$ \$ 2023 9,036,054	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 30% \$ \$ 2024 5,025,050 0,1% 150,752 0 0 0 0 .2% 30% \$ \$ 2024 9,045,090	2025 9,440,733 0,8% 519,240 2,0% 10,385 30,362 \$ 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,902 0 \$ 0,2% 30% \$ \$ 0,2% 30% \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 2076 2076 5,05,105 0,1% 151,053 0 0	2027 9,502,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 462 2027 5,040,140 0,1% 151,204 2,0% 3,024 2,2,550 0,2% 3,024 2,2,50 0,2% 3,024 2,2,50 0,2% 3,024 2,2,50 0,2% 3,024 2,2,50 0,2% 3,024 2,2,50 0,2% 3,024 2,2,50 0,2% 3,024 3,024 2,2,50 0,2% 3,024	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 2028 5,045,180 0,1% 151,355 0,2% 30% 7,568 22,545 0,2% 30% 51 \$ 20,2% 9,081,325	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 \$ 0,2% 30% 984 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,550 0,2% 30% 103 \$	2030 9,824,453 0,8% 540,345 20,00% 108,069 30,667 0,2% 30% 994 5,055,276 0,1% 15,058 15,00% 22,749 22,635 0,2% 30% 15,058 15,00% 1
BCDA-02 Heart Failure E.U. Prevallance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,0% 0,0% 30,000 0,2% 30%	2020 9,072,000 0,8% 498,960 0.0% 30,060 \$0,2% 30% \$2020 5,005,000 0,1% 150,150 0 - \$0,2% 30% \$- \$2020 9,009,000	2021 9,144,576 0,8% 502,982 0,0% 0 30,120 \$ 0,2% 30% \$ 2021 5,010,005 0,1% 15,030 0,0% 0 \$ 0,0% 2,0% \$ 2021 2021	2022 9,217,733 0,8% 506,975 0 0 30,180 0,2% 30% - \$ 2022 5,015,015 0,1% 150,450 0,0% - \$ 0,2% 30% - \$ 2022	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% - \$ 2023 5,020,030 0,1% 10,601 0,0% 0 - \$ 0 0 - \$ 20,24 30,24 10,000 10,00	2024 9,365,806 0,8% 515,119 0 30,301 0,2% 307% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0 - 0,2% 307% - \$ 2024	2025 9,440,733 0,8% 519,240 10,385 10,385 30,362 93 5 2025 5,030,075 0,1% 150,902 0 \$ 0,2% 30% \$ \$ 2025 9,054,135	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 207 207 5,035,105 0,1% 151,053 0,0% 0 - \$ 0,0% 30% 257 \$ 2026 2026	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 2027 0,1% 151,204 2,0% 3,024 2,250 0,2% 30%	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 0,1% 151,355 5,0% 7,568 22,545 0,2% 30% 2028	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 \$0,276 30% 984 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,550 0,2% 30% 103 \$ 2029 9,090,406	2030 9,824,453 0,824,453 20,0% 108,069 30,667 0,22% 30% 994 151,658 15,0% 22,749 22,639 30% 22,749 22,639 30% 30% 30% 40% 151,658 150% 30% 40% 154,058 150% 154,058 150% 154,058 150% 154,058 150% 154,058 154,058 155% 156% 1
BCDA-02 Heart Failure E.U. Prevallance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevallance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure E.U. Prevallance (M) BCDA-03 Heart Failure E.U. Prevallance (M)	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,0% 0,0% 30,000 0,0% 10,000 0,1% 150,000 0,0% 0,0% 150,000 0,0% 150,00	2020 9,072,000 0,8% 498,960 0,0% 0 30,660 0,2% 30%	2021 9,144,576 0,8% 502,952 0,0% 0 30,120 \$ 0,2% 30%	2022 9,217,733 0,8% 506,975 0 0 30,180 0,2% 30% - \$ 2022 5,015,015 0,1% 150,450 0,0% - \$ 2028 30% - \$ 2029 9,027,027 0,1%	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30%	2024 9.365,806 0.8% 515,119 0 30,301 0.2% 30% - \$ 2024 5,025,050 0.1% 150,752 0.0% 0 - 0.2% 30% - \$ 2024 9,045,090 0.1%	2025 9,440,733 0,8% 519,240 12,0% 10,385 0,2% 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 10,0% 0 0 0 0 0 0 2,2% 30% 30% 30% 30% 30% 30% 30% 30% 30% 30	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 207 207 207 0,1% 151,053 0,0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 2027 5,040,140 0,1% 151,204 2,20% 3,024 2,250 0,2% 30% 2027 9,072,253 0,1%	2028 9,669,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 5,045,180 0,1% 151,355 5,0% 7,568 22,545 0,2% 30% 2028 9,081,325 0,1%	2029 9.746,481 0.8% 536,056 20.0% 107,211 30,605 0.2% 30% 984 \$ 2029 5.050,226 0.1% 151,507 10.0% 15,151 22,590 0.2% 30% 103 \$ 2029 9.090,406 0.1%	2030 9.824,453 0.8% 540,345 20.0% 108,069 30,667 0.2% 30% 994 2030 15,0% 20,0% 30% 15,0% 20,0% 30% 20,0% 30% 20,0% 30% 30% 30% 30% 30% 30% 30% 3
BCDA-92 Heart Failure E.U. Prevaliance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevaliance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevaliance CHF Market Size Growth (Annual) Sales (M) \$ BCDA-93 Heart Failure E.U. Prevalence CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,2% 30%	2020 9,072,000 0,8% 498,960 0,0% 0,0% 30,00 0,2% 30% 5,005,000 0,1% 150,150 0 - \$ 0,2% 30% 5 2020 9,009,000 0,1% 270,270	2021 9,144,576 0,8% 0,8% 502,982 0,0% 30,10 0,2% 30% 5,20 2021 5,010,005 0,1% 150,300 0 - \$ 0,2% 30% - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,2% 30% 0 - \$ 0,0% 0 - \$ 0 - \$ 0,0% 0 - \$ 0	2022 9,217,733 0,8% 506,975 0,0% 0,2% 30% 30% 50,245 5,015,015 0,1% 150,450 0 - \$ 0,2% 30% - \$ 0,2% 30% - \$ 0,2% 30% - \$ 0,2% 30% - \$ 2022 9,027,027 0,1% 270,811	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% - \$ 2023 5,020,030 0,1% 150,601 0 - \$ 0,2% 30% - \$ \$ 2023 9,036,054 0,1% 271,082 0,0%	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 30% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0 \$ 2024 9,045,090 0,1% 271,353 0,0%	2025 9,440,733 0,8% 519,240 10,385 30,362 0,2% 30,362 \$ 0,2% 30,675 0,1% 150,802 0,2% 30% \$ \$ 2025 0,0% 0 \$ \$ 0,2% 30% 205 0,0% 0 \$ 0,2% 30% 205 0,0% 0 205 0 2	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 30% 287 5 5,035,105 0,1% 151,053 0	2027 9,502,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 462 5 5,040,140 0,1% 151,204 2,0% 3,024 22,550 0,2% 30% 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20	2028 9,689,128 9,689,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 5,045,180 0,1% 151,355 0,2% 30% 51 \$ 2026 0,1% 15,585 0,2% 30% 51 \$ 2024 0,1% 15,585 0,2% 30% 51 \$ 2024 15,045 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,056 15,066 15	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 0,2% 30% 384 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,590 0,2% 30% 103 \$ 20,200 0,1% 22,711 10,0%	2030 9,824,453 0,8% 540,345 20,0% 108,069 30,667 0,2% 30% 94 15,056
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevalance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Cost of Therapy	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,0% 0,0% 0,0% 0,0% 0,0%	2020 9,072,000 0,8% 498,960 0,0% 0,2% 30,660 \$0,2% \$0,005,000 0,1% 150,150 0,0% 0 0 0 0 0 0 2020 9,009,000 0,1% 270,270 0,0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2021 9,144,576 0,8% 502,982 0,0% 0 30,120 \$ 0,2% 30%	2022 9,217,733 0,8% 506,975 0 0 30,180 0,2% 30%	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30%	2024 9,365,806 0,8% 515,119 0 30,301 0,2% 307% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0	2025 9,440,733 0,8% 519,240 12,0% 10,385 0,2% 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 10,09% 0 0 0 0 22% 2025 9,064,135 0,1% 271,624 0,0% 0 - \$ \$ 2025 9,064,135 0,1% 271,624 0,0%	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 207 207 5,035,105 0,1% 151,053 0,0% 0 - \$ 2026 9,063,189 0,1% 271,896 0,0% 0 - \$ \$ 2026 9,063,189 0,1% 271,896 0,0%	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 2027 5,040,140 0,1% 151,204 2,2% 3,024 22,500 0,2% 30% 20 20 20 20 20 20 20 20 20 20	2028 9,689,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 5,045,180 0,1% 151,355 5,50% 7,568 22,545 30% 2028 9,081,325 0,1% 272,440 272,440 13,622 29,559	2029 9.746,481 0.8% 536,056 20.0% 107,211 30,665 0.2% 30% 984 \$ 2029 5.050,226 0.1% 151,507 10.0% 15,151 22,590 \$ 0.2% 30% 103 \$ 2029 9.090,406 0.1% 272,712 10.0% 27,271 10.0% 27,271 29,618	2030 9,824,453 0,8% 540,345 20,0% 108,069 30,667 0,2% 30% 994 2030 5,055,276 151,658 15,0% 22,749 22,635 22,635 22,635 20,0% 30% 152,0% 30% 152,0% 30% 152,0% 152,0% 154,0%
BCDA-92 Heart Failure E.U. Prevaliance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Market Share Penetration Number of Patients Procedures Cost of Therapy Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure U.S. Prevaliance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure Frobability of Success U.S. Annual Sales (M) \$ BCDA-93 Heart Failure E.U. Prevaliance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Share Penetration Number of Patients Procedures Cost of Therapy	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,2% 30% 5,000,000 0,1% 150,000 0,0% 0 - \$ 0,2% 2019 9,000,000 0,1% 270,000 0,0% 0 0,0% 0 0,0% 0 0 0,0% 0 0 0,0% 0 0 0 0	2020 9,072,000 0,8% 498,960 0,0% 0,0% 30,00 0,2% 30% 5,005,000 0,1% 150,150 0 - \$ 0,2% 30% 5,005,000 0,1% 2020 9,009,000 0,1% 270,270 0,0% 0 \$ \$ 0,0%	2021 9,144,576 0,8% 502,982 0,0% 30,10 0,2% 30% 5,2021 5,010,005 0,1% 150,300 0 - \$ 0,2% 30% 5 2021 9,018,009 0,1% 270,540 0,0% 0 - \$ 0,0%	2022 9,217,733 0,8% 506,975 0,0% 0,2% 30% 30% 50,21% 150,450 0,0% 0 - \$ 0,2% 30% - \$ 0,2% 2022 9,027,027 0,1% 0,0% 0 - \$ 2022 9,027,027 0,1% 0,0% 0 - \$ 270,811 0,0%	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30% - \$ 2023 5,020,030 0,1% 150,601 0 \$ 0,2% 30% - \$ 9,036,054 0,1% 271,082 0,0% 0 - \$ 0,2%	2024 9,365,806 0,8% 515,119 0 30,301 \$ 0,2% 307% - \$ 2024 5,025,050 0,1% 150,752 0	2025 9,440,733 0,8% 519,240 10,385 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 150,802 0 \$ 0 \$ 2025 9,054,135 0,1% 271,624 0,0% 0 \$ 205 0,1%	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 30% 267 5 5,035,105 0,1% 151,053 0	2027 9,502,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 462 5 2027 5,040,140 0,1% 151,204 2,0% 3,024 22,550 0,2% 30% 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 21 \$ 21 \$	2028 9,689,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 2028 5,045,180 0,1% 151,355 0,2% 30% 7,588 22,545 0,2% 30% 51 \$ 2028 9,081,325 0,1% 15,0% 7,50% 15,50%	2029 9,746,481 0,8% 536,056 20,0% 107,211 30,605 0,2% 30% 984 \$ 2029 5,050,226 0,1% 151,507 10,0% 15,151 22,550 0,2% 30% 103 \$ 22,590 0,1% 22,571 10,0% 15,161 22,560 0,1% 22,571 10,0% 10,1% 22,580 0,2% 30%	2030 9,824,463 0,8% 540,345 20,00% 108,669 30,667 0,2% 307 10,2% 307 15,058
BCDA-02 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Chronic Myocardial Ischemia) for Therapy Market Size Growth (Annual) Market Size Growth (Annual) Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure U.S. Prevalance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Number of Patients Procedures Cost of Therapy \$ Price Growth Probability of Success U.S. Annual Sales (M) \$ BCDA-03 Heart Failure E.U. Prevalance CHF Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Market Size Growth (Annual) Candidates (Class II & III) for Therapy Cost of Therapy	2019 9,000,000 0,8% 495,000 0,0% 0,0% 0,0% 0,0% 0,0% 0,0% 0,0%	2020 9,072,000 0,8% 498,960 0,0% 0,2% 30,660 \$0,2% \$0,005,000 0,1% 150,150 0,0% 0 0 0 0 0 0 2020 9,009,000 0,1% 270,270 0,0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2021 9,144,576 0,8% 502,982 0,0% 0 30,120 \$ 0,2% 30%	2022 9,217,733 0,8% 506,975 0 0 30,180 0,2% 30%	2023 9,291,474 0,8% 511,031 0 30,241 0,2% 30%	2024 9,365,806 0,8% 515,119 0 30,301 0,2% 307% - \$ 2024 5,025,050 0,1% 150,752 0,0% 0	2025 9,440,733 0,8% 519,240 12,0% 10,385 0,2% 30,362 0,2% 30% 95 \$ 2025 5,030,075 0,1% 10,09% 0 0 0 0 22% 2025 9,064,135 0,1% 271,624 0,0% 0 - \$ \$ 2025 9,064,135 0,1% 271,624 0,0%	2026 9,516,259 0,8% 523,394 6,0% 31,404 30,423 0,2% 207 207 5,035,105 0,1% 151,053 0,0% 0 - \$ 2026 9,063,189 0,1% 271,896 0,0% 0 - \$ \$ 2026 9,063,189 0,1% 271,896 0,0%	2027 9,592,389 0,8% 527,581 10,0% 52,758 30,483 0,2% 30% 482 2027 5,040,140 0,1% 151,204 2,2% 3,024 22,500 0,2% 30% 20 20 20 20 20 20 20 20 20 20	2028 9,689,128 0,8% 531,802 15,0% 79,770 30,544 0,2% 30% 731 \$ 2028 5,045,180 0,1% 151,355 5,50% 7,568 22,545 30% 2028 9,081,325 0,1% 272,440 272,440 13,622 29,559	2029 9.746,481 0.8% 536,056 20.0% 107,211 30,665 0.2% 30% 984 \$ 2029 5.050,226 0.1% 151,507 10.0% 15,151 22,590 \$ 0.2% 30% 103 \$ 2029 9.090,406 0.1% 272,712 10.0% 27,271 10.0% 27,271 29,618	2030 9,824,463 0,9% 540,345 20,0% 108,069 30,667 0,2% 30% 505,276 15,0% 22,749 22,635 22,635 22,749 22,635 22,749 22,635 20,0% 15,

Source: Dawson James Estimates

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Exhibit 18. Comparables. The attached chart reviews some of the comparable regenerative medicine-based companies. We believe notable mentions for Blue Rock Therapeutics and Sana Biotechnology. Blue Rock was acquired in August 2019 by Bayer for \$1 billion. What's important is that Blue Rock is developing a universal pluripotent stem cells into authentic, functional cells that can be used as allogeneic cellular therapies to treat a broad array of diseases. Bayer announced the acquisition of their remaining stake for approximately \$240 million in cash to be paid upfront at closing and an additional \$360 million payable upon achievement of predefined development milestones. With Bayer currently holding 40.8% stake, the investment corresponds to a total company value of Blue Rock Therapeutics of approximately \$1 billion. Sana was founded by former executives of June and includes Steve Harr MD and a former biotechnology analyst and Hans Bishop and has been backed by ARCH Ventures and F-Prime Capital.

Company Name	Ticker	Share Price	Market Cap (\$MM)	Cash (\$MM)	Enterprise Value (\$MM)	Last QTR's Burn Rate	QTR's of Cash Remaining	R&D (\$MM)	SG&A (\$MM)	Shares Outstanding (MM)
Athorovo	ATHX	00.70	# 500	\$33	\$406	(\$16)		\$12	\$16	196
Athersys		\$2.70	\$529		•			· ·		
BioCardia	BCDA	\$2.29	\$28	\$3	\$14	(\$5)		\$3	\$5	12
Mesoblast	MESO	\$13.00	\$1,449	\$104	\$1,360	(\$8)		\$13	\$8	117
Pluristem	PSTI	\$8.78	\$219	\$7	\$143	(\$8)		\$6	\$7	25
Vericel	VCEL	\$14.99	\$674	\$46	\$619	(\$5)		\$4	\$22	45
Average (s)	-X	\$8.35	\$580	\$38	\$508	(\$8)		7	11	79
BioCardia	BCDA	\$2.29	\$28.29	\$3	\$14	(\$5)		3	5	12

Source: Data is from FactSet as of 7/7/2020

Valuation. We value BioCardia based on the revenues in our product models, which are reduced by 70% rate cut or a 30% probability of success. This suggests we are leaving a lot of upside in our estimates on good data. We apply assumptions for FDA product approvals, launch dates, and product attributes to estimate revenues. These estimates feed into our income statement through the year 2030. Our price target is derived from an equal-weighted average of free cash flow (FCFF), discounted EPS (EPS), and sum-of-the-parts (SOP) models. For companies that are well established with mature products and revenues, we typically discount at a 10% rate, for companies in the early stages of product commercialization we typically use a higher rate, 15%. For BioCardia, we use a 30% risk rate as the company is not yet profitable. This risk rate is in addition to the therapeutic cut (70%) in our product models. The result of this methodology is a price target of \$24.00 per share.

Exhibit 19. Discounted Free Cash Flow Model

	Price larget \$	23												
	Year	2020												
DCF Valuation Using FCF (mln):														
units ('000)			2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT			(14,709)	(15,544)	(15,189)	(27,353)	10,270	84,137	339,759	497,501	1,120,811	1,849,568	2,452,570	2,831,575
Tax Rate			0%	0%	0%	10%	18%	20%	24%	24%	24%	28%	30%	34%
EBIT(1-t)			(14,709)	(15,544)	(15,189)	(24,618)	8,422	67,309	258,217	378,101	851,816	1,331,689	1,716,799	1,868,839
CapEx														
Depreciation			78	22	-	-	-	-	-	-	-	-	-	-
Change in NWC														
FCF			(14,631)	(15,522)	(15,189)	(24,618)	8,422	67,309	258,217	378,101	851,816	1,331,689	1,716,799	1,868,839
PV of FCF			(6,660)	(5,435)	(4,091)	(5,100)	1,342	8,251	24,350	27,427	135,751	163,251	161,893	135,562
Discount Rate			30%											
Long Term Growth Rate			1%											
Terminal Cash Flow			6,508,717											
Terminal Value YE2030			472,130											
NPV			1,115,332											
NPV-Debt			1,016											
Shares out (thousands)			48,143	2030E										
NPV Per Share		\$	23											
Source: Dawson James														

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Exhibit 20. EPS Model

2	
Current Year	2020
Year of EPS	2030
Earnings Multiple	10
Discount Factor	30%
Selected Year EPS	\$ 38.82
NPV	\$ 28.00

Source: Dawson James estimates.

		Discou	nt Rate and Ea	rnings Multiple 2030 E		Constant	
		5%	10%	15%	20%	25%	30%
Earnings Multiple	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00 \$	
	5	\$119.00	\$75.00	\$48.00	\$31.00	\$21.00 \$	14.00
	10	\$238.00	\$150.00	\$96.00	\$63.00	\$42.00 \$	28.00
	15	\$357.00	\$224.00	\$144.00	\$94.00	\$63.00 \$	42.00
	20	\$477.00	\$299.00	\$192.00	\$125.00	\$83.00 \$	56.00
	25	\$596.00	\$374.00	\$240.00	\$157.00	\$104.00 \$	70.00
	30	\$715.00	\$449.00	\$288.00	\$188.00	\$125.00 \$	84.00
	35	\$834.00	\$524.00	\$336.00	\$219.00	\$146.00 \$	99.00

Source: Dawson James

Exhibit 21. Sum-of-the-Parts Model

BioCardia	LT Gr	Discount Rate	Yrs. to Mkt	% Success	Peak Sales MM's	Term Val
BCDA-01 CardiAMP cell therapy US	1%	30%	3	30%	\$1,550	\$5,346
NPV						\$6.07
BCDA-01 CardiAMP cell therapy US	1%	30%	3	30%	\$4,186	\$14,434
NPV						\$16.38
BCDA-02 CardiALLO cell therapy US	1%	30%	4	30%	\$1,204	\$4,152
NPV						\$3.62
BCDA-02 CardiALLO cell therapy EU	1%	30%	4	30%	\$3,314	\$11,428
NPV						\$9.97
BCDA-03 CardiALLO cell therapy US	1%	50%	5	30%	\$515	\$1,051
NPV						\$0.34
BCDA-02 CardiALLO cell therapy EU	1%	50%	5	30%	\$1,215	\$2,480
NPV						\$0.81
Net Margin						40%
MM Shrs OS (2030E)		_	•	•		48
Total						\$21

Source: Dawson James

Risk Analysis

In addition to the typical risks associated with development stage specialty pharmaceutical companies, potential risks specific to BioCardia are as follows:

Partnership risk. The company is also expected to make agreements with partners for additional products, but there can be no assurances that the company will be able to secure favorable partnerships.

Commercial risk. There are no assurances that the company will be able to achieve significant sales, market share, or become profitable.

Clinical and regulatory risk. Lead products need to complete clinical trials. It is difficult to complete enrollment which could lead to a delay of the trial. Trials may not produce the results expected from previous research or be sufficient for regulatory approval.

Financial risk. The company may need to raise capital in the marketplace, and there can be no assurances that the company will be able to successfully raise capital and or do so, at favorable terms.

Legal and intellectual property risk. The company may have to defend its patents and technical know-how, and there can be no assurances that the patents will not be infringed or will be held as valid if challenged, and or that the company may infringe on third parties' patents.

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Exhibit 22. Income Statement

Biocardia Inc: Income Statement (\$000)																	
BCDA: YE December	2018A	2019E	1Q20A	2Q20E	3Q20E	4Q20E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net product revenue	282	300	5	0	1	1	7	7									
Collaboration agreement revenue	343	382	33	27	25	25	110	116									
BCDA-01 CardiaAMP Cell Therapy revenues US		0					0	0	0	30,362	91,359	183,267	214,453	245,825	308,203	432,780	465,085
BCDA-01 CardiaAMP Cell Therapy revenues EU									0	0	0	82,470	248,153	414,829	832,149	1,001,577	1,255,729
BCDA-02 CardiaAMP Cell Therapy revenues US										25,677	65,286	132,796	202,586	274,714	349,241	355,188	361,237
BCDA-02 CardiaAMP Cell Therapy revenues EU										-		94,590	28,661	482,474	730,959	984,374	994,234
BCDA-03 CardALLO Cell Therapy revenues US													-	20,413	51,185	102,677	154,477
BCDA-03 CardALLO Cell Therapy revenues EU	-												_	48,174	120,796	242,317	364.566
Total Product Sales	625	599	38	27	26	26	117	123	-	56.039	156.645	493.123	693.853	1,486,428	2.392.533	3,118,913	3.595.329
Product Sales & Royalties & Milestones		-	-	-	-	-	- '	-	_	56,039	156,645	316,062	417,039	589,125	829,425	1,132,962	1,345,366
Expenses																	
Cost of goods sold	517	543	4	0	8	8	20	37	0	14,010	39,161	118,349	159,586	327,014	502,432	623,783	719,066
			30%	30%	30%	30%	17%	30%	#DIV/0!	25%	25%	24%	23%	22%	21%	20%	20%
Research and Development	8,453	8,876	2,786	2,224	2,330	2,423	9,319	9,785	10,275	10,788	11,328	11,894	12,489	13,113	13,769	14,457	15,180
·	•														•		
Selling, general and administrative	5,757	6,045	1,857	1,377	1,587	1,650	6,347	6,664	18,000	22,000	23,100	24,255	25,468	26,741	28,078	29,482	30,956
Total expenses	14,727	15,192	4,647	3,601	3,924	4,081	16,254	16,158	27,709	46,142	72,901	153,776	196,784	366,072	543,442	666,843	764,280
Operating income (Loss)	(14,102)	(14,593)	(4,609)	(3,574)	(3,898)	(4,055)	(16,137)	(16,035)	(27,709)	9,897	83,745	339,347	497,069	1,120,357	1,849,091	2,452,069	2,831,049
Interest expense																	
Interest Income	118	23	16														
Other expense	(3)	(1)	(1)														
Total other income	115	(1)	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pretax Income	(13,987)	(14,571)	(4,594)	(3,574)	(3,898)	(4,055)	(16,137)	(16,035)	(27,709)	9,897	83,745	339,347	497,069	1,120,357	1,849,091	2,452,069	2,831,049
Income Tax Benefit (Provision)	ľ	-	-	-	-	-	· -	- 1	(2,771)	1,781	16,749	81,443	119,297	268,886	517,745	735,621	962,557
Tax Rate	0%	0%	0%	0%	0%	0%	0%	0%	10%	18%	20%	24%	24%	24%	28%	30%	34%
GAAP Net Income (loss)	(13,987)	(14,571)	(4,594)	(3,574)	(3,898)	(4,055)	(16,137)	(16,035)	(24,938)	8,115	66,996	257,904	377,772	851,471	1,331,346	1,716,449	1,868,492
Deemed Dividend on Preferred Stock																	
GAAP-EPS	(0.37)	(0.92)	(0.67)	(0.46)	(0.18)	(0.19)	(1.11)	(0.52)	(0.78)	0.25	2.07	7.94	11.59	26.02	40.52	52.04	56.42
GAAP EPS (dil)	(0.37)	(0.96)	(0.67)	(0.46)	(0.18)	(0.19)	(1.11)	(0.41)	(0.59)	0.19	1.58	6.05	8.83	19.81	30.86	39.62	42.96
Weighted shares basic	38,285	15,761	6,832	7,711	21,861	21,883	14,572	30,699	32,076	32,204	32,333	32,463	32,593	32,723	32,854	32,986	33,118
Weighted shares dil	38,285	15,136	6,832	7,711	21,861	21,883	14,572	39,460	42,126	42,294	42,464	42,634	42,805	42,976	43,148	43,321	43,495

Source: Dawson James estimates.



Companies mentioned in this report:

Bayer (BAYRY): Not Covered Blue Rock Therapeutics (acquired by Bayer) June (acquired by Celgene – CELG, Not Covered). Sana Biotech (Private)

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Important Disclosures:

Price Chart:



Price target and ratings changes over the past three years:

Initiated – Buy – September 17, 2019 – Price Target \$24.00

Update - Buy - November 20, 2019 - Price Target \$24.00

Update - Buy - February 18, 2020 - Price Target \$24.00

Update - Buy - May 5, 2020 - Price Target \$24.00

Update – Buy – July 7, 2020 – Price Target \$24.00

Update – Buy – August 13, 2020 – Price Target \$24.00

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Information about valuation methods and risks can be found in the "STOCK VALUATION" and "RISK ANALYSIS" sections of this report.

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- 1) **Buy**: The analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
- 2) Neutral: The analyst believes the price of the stock is fairly valued for the next 12-18 months:
- 3) **Sel**l: The analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

The following chart reflects the range of current research report ratings for all companies followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services.

	Company Co	verage	Investment Banking			
Ratings Distribution	# of Companies	% of Total	# of Companies	% of Totals		
Market Outperform (Buy)	23	85%	4	17%		
Market Perform (Neutral)	4	15%	1	25%		
Market Underperform (Sell)	0	0%	0	0%		
Total	27	100%	5	19%		

Analyst Certification:

The analyst(s) whose name appears on this research report certifies that 1) all of the views expressed in this report accurately reflect his (their) personal views about any and all of the subject securities or issuers discussed; and 2) no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst in this research report; and 3) all Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.

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