

### Biotechnology

**CODX - NASDAQ** February 18, 2020

<b>Closing Price 2/14/20</b>	<b>\$3.32</b>
Rating:	Buy
12-Month Target Price:	(prior \$2.00) \$5.00
52-Week Range:	\$0.69 - \$4.24
Market Cap (M):	82.7
Shares O/S (M):	24.9
Float:	68.0%
Avg. Daily Volume (000):	3,883.1
Debt (M):	\$0.0
Dividend:	\$0.00
Dividend Yield:	0.0%
Risk Profile:	Speculative
Fiscal Year End:	December

#### Total Revenues ('000)

	2018A	2019E	2020E
1Q	10	3A	649
2Q	10	62A	678
3Q	10	41A	734
4Q	10	100	762
<b>FY</b>	<b>40</b>	<b>206</b>	<b>2,823</b>
Prior	—	—	2,037

#### Total Expenses ('000)

	2018A	2019E	2020E
1Q	1,287	1,258A	1,684
2Q	1,363	1,427A	1,758
3Q	1,673	1,692A	1,904
4Q	1,825	1,847	1,977
<b>FY</b>	<b>6,148</b>	<b>6,224</b>	<b>7,323</b>
Prior	—	—	7,166



## Co-Diagnostics, Inc.

**Buy**

### Rapid Development of Coronavirus Test Puts CODX in Focus; Raising PT to \$5

#### Summary

- Co-Diagnostics (CDI) shares have risen significantly in recent weeks as the company moves forward with its novel test for coronavirus 2019-nCoV. The test is now available for research institutions, and as of 2/10/20, the company announced the first of its sales of its new coronavirus test in China (terms not disclosed).
- A key factor to focus on is the speed at which CDI was able to develop the test. 2019-nCoV was only really learned about on a global scale on 12/31/19 and CDI designed its test by 1/23. This highlights not just the platform's versatility, but also CDI's ability to produce tests in a time efficient manner as future threats emerge. We saw this with the Zika test and other viral tests from CDI. Note that the company has viral testing manufacturing facilities on the ground in India via its joint venture with CoSara Diagnostics.
- With a rising valuation, CDI was able to raise a combined ~\$15M in two equity financings (1/28, 2/13), which extended the company's cash runway well into 2021, positioning it to unlock value in its commercial-stage infectious diseases testing platform. We factor in dilution, roll our metrics forward to 2020, and lower the risk adjustment in our commercial model to 30%, from 75%; the net result raises our 12-month price target to \$5, from \$2.

#### Details

**Coronaviruses (CoV):** Common human coronaviruses include alpha and beta coronavirus, as well as MERS (Middle East Respiratory Syndrome), SARS (Severe Acute Respiratory Syndrome), and now 2019-nCoV, which has captured headlines with an initial outbreak in China, determination of human-to-human transmission, and the first reported cases in the US ([LINK](#)). Coronaviruses cause respiratory and intestinal infections in humans, though not considered to be highly pathogenic until the SARS outbreak in China in the early 2000s. About 10 years after SARS, MERS emerged in the Middle East. Both MERS and SARS are thought to have originated in bats. On 1/9/20, the World Health Organization reported a novel new strain of coronavirus, 2019-nCoV, emerged in Wuhan, China. The virus has infected more than ~70k+ thus far, resulting in >1,400 deaths, though some studies estimate the number of infected at several times that. 2019-nCoV rapidly induces a pneumonia-like illness.

Many questions around coronavirus remain, such as: Have we seen the extent of the outbreak? Will there be widespread outbreaks in Western countries like the US (17 reported cases)? Will the outbreak be quelled with warmer weather in the Spring (like we see with influenza)? Will therapies and/or vaccines be developed? In regards to testing, the revenue opportunity for companies like CDI will depend on questions like these.

However, there is a key takeaway for CDI investors. The company has demonstrated the ability to rapidly develop tests for emerging diseases like Zika and Ebola, and now the coronavirus, thereby highlighting the versatility of its platform, as well as demonstrating that the company will be able to develop tests for future emerging outbreaks. Considering the platform, the versatility of the testing, the unique CoPrimer approach, and the valuation of the company (despite rising in 2020 with activity in coronavirus), there is still more upside in CODX shares, in our view.

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**CoPrimers and the primer dimer (P-D) challenge.** The problem with standard **polymerase chain reaction (PCR)** tests is that the primers themselves can be amplified (P-Ds) and mask amplification of the target DNA, which is a challenge for essentially anyone who uses PCR tests. CoPrimers solve this problem with a unique design consisting of a capture sequence linked to a short primer, which cannot bind its target DNA without first being positioned by the capture sequence. This effectively eliminates P-Ds and drives more robust amplification too. In a head-to-head study vs. 'normal' primers, PCR reactions were spiked with P-Ds and took only 60 P-Ds to start masking the target DNA with normal primers, yet with 150M spiked, there were no P-Ds with CoPrimers; a 2.5M-fold reduction. In the context of infectious disease (ID), this creates a more accurate test.

**CDI coronavirus test.** The CDI test is able to detect 2019-nCoV in asymptomatic patients, which is critical for preventing spread as the incubation period can be as long as 14 days, and takes around 45 minutes. Additionally, the test is high-throughput with the ability to run 48 samples at once, which is important, considering that governments are target clients, it is cost efficient. One of the reasons the development for 2019-nCoV has been so rapid is the CoDx design software, which automates the discovery process and helps design the CoPrimers faster than could be done by hand. The test has been validated and the first research use only sales have been made.

In our view, coronavirus is unlikely to be a major revenue driver in and of itself, but is important because it demonstrates CDI's ability to rapidly develop tests for emerging diseases and highlights the versatility of its platform.

**Media appearances should lead to increased visibility.** One of the key factors driving additional upside of CODX shares, in our view, is the increased visibility that comes with media attention. Coronavirus has been center stage across the news cycle and with that, CDI has been in the spotlight. CEO Dwight Egan has been interviewed on Fox Business ([VIDEO LINK](#)), CNBC ([VIDEO LINK](#)), and Yahoo! Finance ([VIDEO LINK](#)), and was the subject of a BioWorld ([PDF LINK](#)) article.

**Recent financings.** With a rising valuation, CDI has strengthened its balance sheet with two registered direct offerings at-the-market, one for \$5M on 1/28/20 for 3.4M shares at \$1.45/share, and the other for \$10.2M on 2/13/20 for 3.3M shares at \$3.08/share. With \$15M in cash, the company now has more than two years of capital at its current burn rate, which should provide breathing room to drive the launches of its commercial products.

**Model update.** We have factored in the results of the company's two recent capital raises. We are also factoring in the impact of CDI rapidly developing a test for 2019-nCoV. In particular, we view this as de-risking of the platform, as a real-world example of how quickly CDI can develop a test in response to a novel viral outbreak. We also see the increased media attention as a positive, which could help drive adoption, lowering commercial risk for the ID platform. As such, we have decreased our risk adjustment to 30%, from 75%. Along with rolling metrics forward to 2020, the net result is an increase in our price target to \$5, from \$2.

Co-Diagnostics, Inc.: Income Statement (\$000)	2018A	1Q19A	2Q19A	3Q19A	4Q19E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
.. YE December 31																
<b>Revenue:</b>																
PCR Testing Kits (Infectious Disease)	40	3		20	50	73	1,573	4,340	6,083	12,786	20,158	28,250	44,538	54,614	69,702	86,189
PCR Testing Kits (Agriculture)	-	-	12	21	50	83	1,000	2,500	6,000	8,000	12,000	15,000	20,000	25,000	30,000	40,000
PCR Testing Kits (Liquid Biopsy)	-	-	-	-	-	-	-	398	1,279	2,739	3,911	6,283	8,972	12,012	15,437	20,667
Services, incl multiplex testing	-	-	-	-	-	-	250	1,500	3,500	5,000		6,050	6,655	7,321	8,053	8,858
Vector Control Products			50			50										
<b>Net revenue</b>	<b>40</b>	<b>3</b>	<b>62</b>	<b>41</b>	<b>100</b>	<b>206</b>	<b>2,823</b>	<b>8,738</b>	<b>16,861</b>	<b>28,525</b>	<b>41,569</b>	<b>55,583</b>	<b>80,166</b>	<b>98,946</b>	<b>123,192</b>	<b>155,714</b>
<b>Collaborative revenue:</b>																
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Collaborative Revenue</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>							
<b>Total Revenue</b>	<b>40</b>	<b>3</b>	<b>62</b>	<b>41</b>	<b>100</b>	<b>206</b>	<b>2,823</b>	<b>8,738</b>	<b>16,861</b>	<b>28,525</b>	<b>41,569</b>	<b>55,583</b>	<b>80,166</b>	<b>98,946</b>	<b>123,192</b>	<b>155,714</b>
<b>Gross Margins:</b>																
Cost of Goods Sold	9	0	39	20	100	160	565	1,748	3,372	5,705	8,314	11,117	16,033	19,789	24,638	31,143
<b>%Gross Margin</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>							
<b>Gross Profit</b>	<b>31</b>	<b>3</b>	<b>23</b>	<b>21</b>	<b>-</b>	<b>47</b>	<b>2,259</b>	<b>6,991</b>	<b>13,489</b>	<b>22,820</b>	<b>33,256</b>	<b>44,466</b>	<b>64,132</b>	<b>79,157</b>	<b>98,554</b>	<b>124,571</b>
<b>Operating Expenses:</b>																
Research and Development	1,361	347	313	331	404	1,395	1,674	2,009	2,109	2,215	2,325	2,442	2,564	2,692	2,826	2,968
<b>%R&amp;D</b>	<b>33%</b>	<b>11%</b>	<b>5%</b>	<b>8%</b>	<b>4%</b>	<b>7%</b>	<b>6%</b>	<b>2%</b>	<b>2%</b>	<b>8%</b>	<b>6%</b>	<b>4%</b>	<b>3%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>
Selling, General and Administrative	4,736	896	1,060	1,323	1,343	4,622	5,085	6,102	6,407	6,727	7,063	7,417	7,787	8,177	8,586	9,015
<b>%SG&amp;A</b>	<b>11%</b>	<b>29%</b>	<b>17%</b>	<b>32%</b>	<b>13%</b>	<b>23%</b>	<b>18%</b>	<b>7%</b>	<b>4%</b>	<b>2%</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>
Depreciation and amortization	51	14	16	17		47										
<b>Total Expenses</b>	<b>6,148</b>	<b>1,258</b>	<b>1,427</b>	<b>1,692</b>	<b>1,847</b>	<b>6,224</b>	<b>7,323</b>	<b>9,858</b>	<b>11,888</b>	<b>14,647</b>	<b>17,703</b>	<b>20,975</b>	<b>26,384</b>	<b>30,658</b>	<b>36,050</b>	<b>43,125</b>
<b>Operating Income (Loss)</b>	<b>(6,118)</b>	<b>(1,254)</b>	<b>(1,366)</b>	<b>(1,650)</b>	<b>(1,747)</b>	<b>(6,017)</b>	<b>(4,500)</b>	<b>(1,120)</b>	<b>4,973</b>	<b>13,878</b>	<b>23,867</b>	<b>34,608</b>	<b>53,781</b>	<b>68,288</b>	<b>87,142</b>	<b>112,588</b>
Interest expense	(135)	(106)		(0)		(106)	-	-	-	-	-	-	-	-	-	-
Interest income	20	0	20	12		32	-	-	-	-	-	-	-	-	-	-
Loss on extinguishment of debt	-					-	-	-	-	-	-	-	-	-	-	-
Gain on disposition of assets		1				1	-	-	-	-	-	-	-	-	-	-
Net loss from investment in joint venture	(39)	(9)		(110)		(119)	-	-	-	-	-	-	-	-	-	-
Gain on equity method investment in joint venture			2			2	-	-	-	-	-	-	-	-	-	-
<b>Total Other Income</b>	<b>(154)</b>	<b>(114)</b>	<b>21</b>	<b>(98)</b>	<b>-</b>	<b>(190)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Pretax Income</b>	<b>(6,272)</b>	<b>(1,368)</b>	<b>(1,344)</b>	<b>(1,748)</b>	<b>(1,747)</b>	<b>(6,208)</b>	<b>(4,500)</b>	<b>(1,120)</b>	<b>4,973</b>	<b>13,878</b>	<b>23,867</b>	<b>34,608</b>	<b>53,781</b>	<b>68,288</b>	<b>87,142</b>	<b>112,588</b>
Taxes on income	-	-	-	-	-	-	-	-	-	-	-	692	2,689	5,463	8,714	11,259
<b>Tax Rate</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>2%</b>	<b>5%</b>	<b>8%</b>	<b>10%</b>	<b>10%</b>							
<b>GAAP Net Income (Loss)</b>	<b>(6,272)</b>	<b>(1,368)</b>	<b>(1,344)</b>	<b>(1,748)</b>	<b>(1,747)</b>	<b>(6,208)</b>	<b>(4,500)</b>	<b>(1,120)</b>	<b>4,973</b>	<b>13,878</b>	<b>23,867</b>	<b>33,916</b>	<b>51,092</b>	<b>62,825</b>	<b>78,428</b>	<b>101,329</b>
<b>Total comprehensive loss</b>	<b>(6,272)</b>	<b>(1,368)</b>	<b>(1,344)</b>	<b>(1,748)</b>	<b>(1,747)</b>	<b>(6,208)</b>	<b>(4,500)</b>	<b>(1,120)</b>	<b>4,973</b>	<b>13,878</b>	<b>23,867</b>	<b>33,916</b>	<b>51,092</b>	<b>62,825</b>	<b>78,428</b>	<b>101,329</b>
<b>GAAP-EPS</b>	<b>(0.50)</b>	<b>(0.09)</b>	<b>(0.08)</b>	<b>(0.10)</b>	<b>(0.10)</b>	<b>(0.37)</b>	<b>(0.22)</b>	<b>(0.05)</b>	<b>0.24</b>	<b>0.66</b>	<b>1.13</b>	<b>1.60</b>	<b>2.39</b>	<b>2.93</b>	<b>3.64</b>	<b>4.69</b>
GAAP-EPS (Dil)	(0.50)	(0.09)	(0.08)	(0.10)	(0.10)	(0.37)	(0.22)	(0.05)	0.24	0.66	1.13	1.60	2.39	2.93	3.64	4.69
Wgtd Avg Shrs (Bas) - '000s	12,485	16,067	17,018	17,329	17,346	16,940	20,843	20,926	21,010	21,094	21,179	21,264	21,349	21,435	21,520	21,607
Wgtd Avg Shrs (Dil) - '000s	12,485	16,067	17,018	17,329	17,346	16,940	20,843	20,926	21,010	21,094	21,179	21,264	21,349	21,435	21,520	21,607

Source: Company reports and Maxim

## DISCLOSURES

## Co-Diagnostics, Inc. Rating History as of 02/14/2020

powered by: BlueMatrix



## Maxim Group LLC Ratings Distribution

As of: 02/17/20

		% of Coverage Universe with Rating	% of Rating for which Firm Provided Banking Services in the Last 12 months
<b>Buy</b>	Fundamental metrics and/or identifiable catalysts exist such that we expect the stock to outperform its relevant index over the next 12 months.	84%	47%
<b>Hold</b>	Fundamental metrics are currently at, or approaching, industry averages. Therefore, we expect this stock to neither outperform nor underperform its relevant index over the next 12 months.	16%	34%
<b>Sell</b>	Fundamental metrics and/or identifiable catalysts exist such that we expect the stock to underperform its relevant index over the next 12 months.	0%	0%

\*See valuation section for company specific relevant indices

I, Jason McCarthy, Ph.D., attest that the views expressed in this research report accurately reflect my personal views about the subject security and issuer. Furthermore, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendation or views expressed in this research report.

The research analyst(s) primarily responsible for the preparation of this research report have received compensation based upon various factors, including the firm's total revenues, a portion of which is generated by investment banking activities.

**Maxim Group makes a market in Co-Diagnostics, Inc.**

**Maxim Group managed/co-managed/acted as placement agent for an offering of the securities for Co-Diagnostics, Inc. in the past 12 months.**

**Maxim Group received compensation for investment banking services from Co-Diagnostics, Inc. in the past 12 months.**

**Maxim Group expects to receive or intends to seek compensation for investment banking services from Co-Diagnostics, Inc. in the next 3 months.**

**CODX:** Fo Co-Diagnostics we use the BTK (Biotechnology Index) as the relative index.

**Valuation Methods**

**CODX:** We model CoPrimer revenue streams across infectious diseases and agriculture in 2019, followed by liquid biopsy in 2021. A risk adjustment of 30% is factored in based on development, commercialization risk, competition and other factors. A 30% discount is applied to the free cash flow, discounted EPS, and sum-of-the-parts models, which are equally weighted to derive a 12-month price target.

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### Price Target and Investment Risks

**CODX:** Aside from general market and other economic risks, risks particular to our price target and rating for Co-Diagnostics include: (1) the regulatory and clinical risk associated with product development; (2) the ability to access capital and the very high likelihood that the company will need to raise additional capital; (3) the rate and degree of progress of product development; (4) the rate of regulatory approval and timelines to potential commercialization of products; (5) the reliance on collaborators and/or potential collaborators from which there could be unforeseen delays and expenses; (6) the requirements for marketing authorization from regulatory bodies in the United States and other countries, as well as potential differences in clinical trial (if needed) requirements in different regions; (7) the liquidity and market volatility of the company's equity securities; (8) regulatory and manufacturing requirements and uncertainties; (9) product and technology developments by competitors; (10) inability, if product(s) is/are approved to gain adequate market share and maintain adequate revenue growth; (11) Potential negative impact of tax-reform legislation; (12) Impact of competition in the space from competitors with more resources and commercial infrastructure may negatively effect Co-Diagnostics and limit opportunity; (13) The ability of the company to maintain its exchange listing.

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### RISK RATINGS

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Risk ratings take into account both fundamental criteria and price volatility.

**Speculative – Fundamental Criteria:** This is a risk rating assigned to early-stage companies with minimal to no revenues, lack of earnings, balance sheet concerns, and/or a short operating history. Accordingly, fundamental risk is expected to be significantly above the industry. **Price Volatility:** Because of the inherent fundamental criteria of the companies falling within this risk category, the price volatility is expected to be significant with the possibility that the investment could eventually be worthless. Speculative stocks may not be suitable for a significant class of individual investors.

**High – Fundamental Criteria:** This is a risk rating assigned to companies having below-average revenue and earnings visibility, negative cash flow, and low market cap or public float. Accordingly, fundamental risk is expected to be above the industry. **Price Volatility:** The price volatility of companies falling within this category is expected to be above the industry. High-risk stocks may not be suitable for a significant class of individual investors.

**Medium – Fundamental Criteria:** This is a risk rating assigned to companies that may have average revenue and earnings visibility, positive cash flow, and is fairly liquid. Accordingly, both price volatility and fundamental risk are expected to approximate the industry average.

**Low – Fundamental Criteria:** This is a risk rating assigned to companies that may have above-average revenue and earnings visibility, positive cash flow, and is fairly liquid. Accordingly, both price volatility and fundamental risk are expected to be below the industry.

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ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST

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