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October 17, 2018

## Interpace Diagnostics (Nasdaq/IDYG)

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**BUY**
**Rapid Pace for Interpace**

*Interpace develops and commercializes molecular diagnostic tests and related first line assays principally focused on early detection of patients at high risk of cancer*

### Investment Highlights

**1) Interpace has put together six consecutive quarters of unit and revenue growth**, culminating in the most recent 43% revenue increase for Q2/2018, to \$5.5 million. What's more, in the quarter the Company was able to reduce both operating losses and cash burn thanks to improved gross margins and steady overhead expense control. Contributing to positive results over the last 18-month period were new product launches in the thyroid cancer diagnostic area, product line extensions in the pancreatic cancer diagnostic market, and increased reimbursement coverage for tests overall.

**2) Going forward, the Company is expected to keep its revenue growth and bottom-line improvement momentum for the rest of this year and into next.** Interpace management has very recently reiterated its target of \$20 million in revenues for 2018, and we are forecasting that the Company will post revenues of \$21.6 million in 2018E, or 36% above 2017, with expected operating losses reduced this year as well. And for 2019E, we are forecasting that the Company will see revenue growth of 30% to \$28 million, reduced operating losses, and near break-even EBITDA and operating cash flow.

**3) In addition to solid financial results, the Company has recently completed a number of recent initiatives on the operations and corporate side.** These include renewing the Company's major lab lease in Pittsburgh and beginning an expansion of this facility, returning to full compliance for Nasdaq trading requirements, expanding its in-house billing and reimbursement team, acquiring certain assets out of bankruptcy and transitioning clients in the thyroid diagnostic area from former competitor Rosetta Genomics, adding to clinical evidence in support of several products, increasing cash balances while eliminating long-term debt, increasing investor relations awareness, and finally expanding product reimbursement coverage to ensure continued revenue growth.

**Current Price** **\$1.34**
**Price Target** **\$4.20**

Estimates	F2016A	F2017A	F2018E
Revenues(\$000s)	\$13,085	\$15,897	\$21,560
1Q March	3,035	3,470	4,809 A
2Q June	3,612	3,855	5,501 A
3Q September	3,316	4,202	5,500 E
4Q December	3,122	4,370	5,750 E
EPS (diluted)	(\$4.59)	(\$0.77)	(\$0.32)
1Q March	(2.66)	0.55	(0.11) A
2Q June	(1.29)	(0.65)	(0.07) A
3Q September	(4.13)	(0.15)	(0.07) E
4Q December	3.24	(0.19)	(0.07) E

EBITDA/Share	(\$1.02)	(\$0.07)	(\$0.13)
EV/EBITDA (x)	N/A	N/A	N/A

<b>Stock Data</b>	
52-Week Range	\$0.77-1.78
Shares Outstanding (mil.)	28.3
Market Capitalization (mil.)	\$37.9
Enterprise Value (mil.)	\$27.8
Debt to Capital (6/18)	0.0%
Book Value/Share (6/18)	\$1.36
Price/Book	1.0 x
Average Trading Volume (3-month)	718,300
Insider Ownership	0.5%
Institutional Ownership	16.0%
Short interest (Millions)	2.5
Dividend / Yield	\$0.00/0.0%



Price target and ratings changes over the past 3 yrs:  
 Initiated - October 17, 2018 - Buy - Price Target \$4.20

## Conclusion

Interpace Diagnostics has put together an impressive product portfolio and corporate turn-around over the past several years, culminating in historical and forecasted rapid revenue growth and lessening operating losses and operating cash burn. Still, due to the Company's small market capitalization, these shares continue to trade at significant valuation discounts to its peer diagnostic products/genomics group. However, with recent new product launches and product line extensions, new partnerships in the reimbursement, development and co-marketing arenas, an improved balance sheet and increased investor relations profile, as well as a number of near-term milestones anticipated, we believe IDXG shares will soon catch the eye of both long-term value investors and short-term event-driven investors as positive news flow and financial progress continues, and thus we are initiating coverage on IDXG shares with a BUY rating and 12-18 month price target of \$4.20 per share.






## Company Business/History

Interpace Diagnostics is a fully integrated commercial and bioinformatics company that develops and provides clinically useful molecular diagnostic tests and pathology services. The Company develops and commercializes molecular diagnostic tests and related first line assays principally focused on early detection of patients at high risk of cancer and leverages the latest technology and personalized medicine for better patient diagnosis and management. The company currently has four commercialized molecular tests:

- PancreGEN, an integrated molecular pathology platform used for the diagnosis and prognosis of pancreatic cancer from pancreatic cysts and lesions;
- ThyGeNEXT, a Next Generation Sequencing-based mutation profile that identifies mutations from thyroid nodules that are highly indicative of thyroid cancer when traditional cytology is indeterminate;
- ThyraMIR, a proprietary, miRNA-based classifier that assists physicians in identifying those thyroid nodules least likely to be malignant when traditional cytology is indeterminate; and
- RespriDx, used for distinguishing lesions in the lung that represent new tumors from those caused by metastases from other organs.

The Company also has a development portfolio that includes BarreGEN for Barrett's Esophagus, a test that enables physicians to identify those patients with this common diagnosis that are most likely to progress to esophageal cancer so intervention can be performed.

The chart below depicts the Company's product portfolio along with related intellectual property:

	 <b>ThyGeNEXT</b> THYROID ONCOGENE PANEL	 <b>ThyraMIR</b> THYROID MIRNA CLASSIFIER	 <b>PANCREGEN</b> PANCREATIC CANCER RISK CLASSIFIER	 <b>RespriDx</b>	 <b>BARREGEN</b> ESOPHAGEAL CANCER RISK CLASSIFIER
Indication	Thyroid Cancer	Thyroid Cancer	Pancreatic & Biliary Cancer	Lung Cancer	Esophageal Cancer
Diagnostic Test	NGS Panel for Thyroid Cancer	MicroRNA Risk Classifier for Thyroid Cancer	Risk-Stratifies Pancreatic Cysts & Pancreaticobiliary Solid Lesions	Risk of New Primary Cancer Formation vs. Metastases or Recurrence	Risk-Stratifies for Esophageal Cancer
Total Market Opportunity	\$350 mn <sup>1</sup>	\$350 mn <sup>1</sup>	\$300mn - \$370mn <sup>1</sup>	Up to \$90mn <sup>1</sup>	\$1bn - \$1.5bn <sup>1</sup>
Diagnostic Report	Rules In Thyroid Cancer	Rules Out Thyroid Cancer	Rules In and Rules Out Pancreatic and Biliary Cancer	Rules In and Rules Out New Primary Cancer Formation	Rules In Higher Risk of Progression to Esophageal Cancer
Lives Covered	Over 275 mn	Over 275 mn	Over 97 mn	Over 100 mn	Soft Launch in 2017
Patents or Proprietary Assets	2 US Patents Pending 5 ex-US Patents Pending	Proprietary Algorithm	5 Patents Issued	Proprietary Algorithm	2 Patents Pending

Source: Interpace Diagnostics

Interpace Diagnostics was formed in April, 2014 as a Division of PDI, Inc., which was created in 1998 as a public company that provided contract sales services to pharmaceutical companies. After the sale of the pharmaceutical contract sales business in December of 2015, Interpace Diagnostics Group became the sole operating company and the name PDI was changed to Interpace Diagnostics Group, Inc., while the public company status and ticker symbol remained the same (NASDAQ: IDYG). Interpace Diagnostics is an independent molecular diagnostics company providing services to specialty physicians and medical centers throughout the US and in a limited number of international markets as well.

## Product Portfolio

The molecular diagnostics and bioinformatics segment is highly fragmented, with numerous science-based companies that have clinical tests or data solutions that are on the market or ready or near ready to be marketed. A vast majority of these companies have limited experience bringing a test to market, and many of them do not have sufficient capital to build an infrastructure to effectively commercialize their products or tests. Due to their complexity, most molecular diagnostic tests and bioinformatics databases require a specialized go-to-market strategy that includes messaging to physicians, hospitals, and potentially patients and managed care organizations as well as to pharma companies that are developing therapeutically-relevant products. Additionally, robust data and clinical studies are often necessary to demonstrate to physicians, managed care organizations, guideline developers and other potential customers the benefit and utility of the assays and services offered.

Oncology, which represents the third largest medical area after infectious disease and blood screening, is one of the fastest growing segments of the molecular diagnostics and bioinformatics market. The Centers for Medicare and Medicaid Services (CMS) of the Department of Health and Human Services estimated in June 2014 that there were more than 5,900 independent clinical reference laboratories and specialty clinics, and more than 8,900 hospital-based laboratories, in the United States.

Interpace is developing and commercializing molecular diagnostic tests to detect genetic alterations that are associated with gastrointestinal, endocrine and lung cancer risk, which are principally focused on early detection and identification of high potential progressors to cancer. The company's tests assist healthcare providers in distinguishing between patients at risk for progression to cancer versus non-progressors. Thus, as part of a comprehensive diagnostic and treatment plan, these tests allow healthcare providers to determine whether surgery or active surveillance is most appropriate, avoiding unnecessary surgeries in those at low risk, thereby reducing healthcare costs and potential risks associated with surgery.

## Gastrointestinal Cancer Products – PancraGEN

Interpace's current gastrointestinal cancer risk diagnostic assay, PancraGEN, is based on the Company's PathFinderTG platform. PathFinderTG is designed to use advanced clinical algorithms to accurately stratify patients according to risk of cancer by assessing panels of DNA abnormalities in patients who have pancreaticobiliary lesions (cysts or solid masses) with potential for cancer. PathFinderTG is supported by the Company's

state of the art  
CLIA-certified,  
and CAP-  
accredited  
laboratory in  
Pittsburgh,

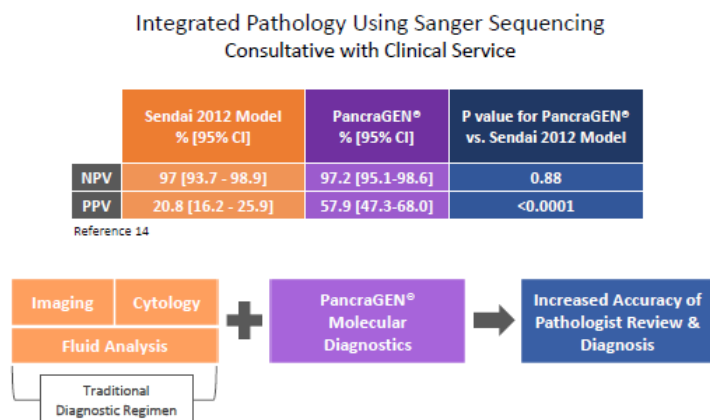


Pennsylvania. The Pittsburgh laboratory is a major commercial-scale and development Center of Excellence

where the Company processes the majority of its current and future oncology-related commercial tests, and also supports its gastrointestinal development activities through this laboratory.

Accurate detection of pancreatic cancer risk is crucial. Pancreatic cancer is now the third leading cause of cancer deaths in the US with an average 5-year survival rate of just 8.2%, according to The Centers for Disease Control and Prevention's (CDC) SEER database. PancraGEN is designed to determine the risk of malignancy in pancreatic cysts and pancreaticobiliary solid lesions. The Company believes that PancraGEN is the leading integrated molecular diagnostic test for determining risk of pancreaticobiliary malignancy currently available on the market, with a currently estimated immediate addressable market for PancraGEN of approximately 130,000 indeterminate pancreaticobiliary lesions or approximately \$350 million annually, based on the current size of the patient population and current and anticipated reimbursement rates.

To date, PancraGEN has been used in about 30,000 clinical cases. The National Pancreatic Cyst Registry study published in *Endoscopy* in 2015 demonstrated the clinical validity of PancraGEN in that it more accurately determined the malignant potential of pancreatic cysts than the Sendai 2012 EUS criteria for detection of malignant pancreatic cystic lesions to help ensure that surgery is reserved for the most appropriate patients. When molecular analysis is not performed, the vast majority of all surgeries for pancreatic cysts are for benign disease. The American Gastroenterological Association 2015 *Guidelines* support the basic principle that too many pancreatic surgeries are being performed unnecessarily on benign lesions. In addition, the 2016 guidelines published by the American Society of Gastroenterology Endoscopy (ASGE) in *Gastrointestinal Endoscopy* included a specific recommendation for use of molecular testing in specific circumstances where other types of testing and analysis have not provided sufficient data on which to determine the best course of action for patient treatment. Thus, PancraGEN provides a highly reliable diagnostic option for distinguishing between patients with pancreatic cysts who are at risk for developing pancreatic cancer. The graphic below outlines PancraGEN's integrated molecular pathology and the major scientific evidence that has been published to date to support this product:



#### PancraGEN®

- Combination of 2 oncogenes and 10 genomic loci associated with key tumor suppressor genes + DNA quantity predicting potential biological behavior
- Expanded testing to solid pancreaticobiliary lesions (SPL), including biliary brushings
  - Three recent publications showing high specificity (>97%) and demonstrating clinical utility (see below)
- Major papers:
  - ✓ SPL (2017): 100 patients with 100% specificity
  - ✓ SPL (2018): 232 patients with 97% specificity & changes in disease management decisions
  - ✓ SPL (E2018): Prospective study with 101 patients with 97% specificity

Source: Interspace Diagnostics

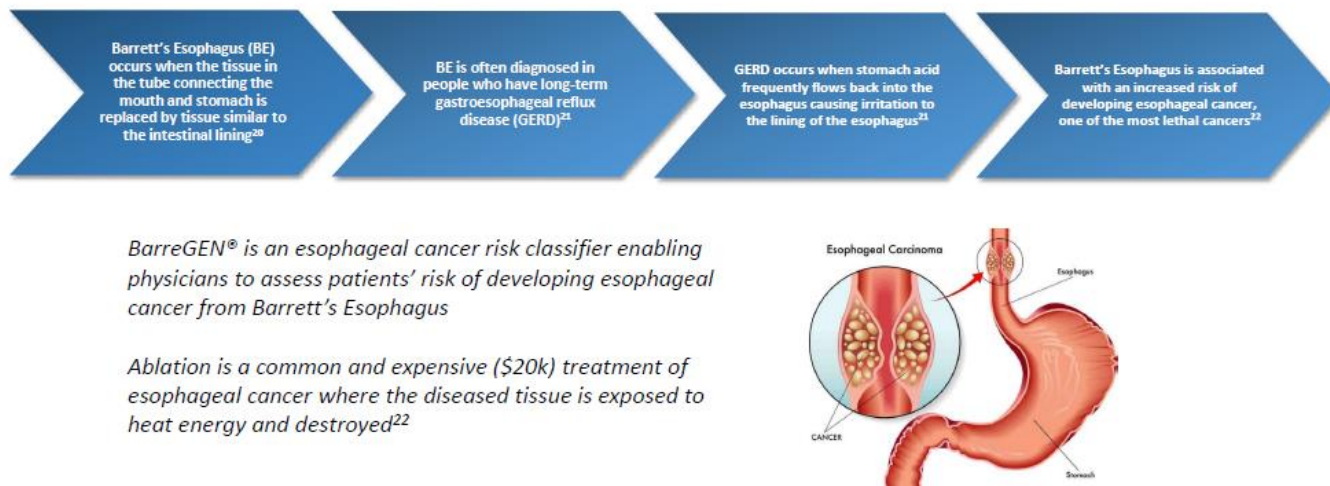
### Gastrointestinal Cancer Products – BarreGEN

Interspace has also developed a cancer risk classifier assay, BarreGEN, which is designed to evaluate patients with Barrett's esophagus, an upper gastrointestinal condition that can progress into esophageal cancer.





BarreGEN, which is also run on the PathFinderTG platform, is distributed today on a limited basis through a Clinical Evaluation Program (CEP) allowing the Company to gather additional data, perform clinical studies and seek initial reimbursement. The Company preliminarily estimates that the total market for BarreGEN is approximately \$1.5 to \$2 billion annually, based on the current size of the patient population and anticipated reimbursement rates comparable to those received currently for PancraGEN for pancreatic cysts. The Company has initiated a “soft” launch of BarreGEN in 2018, but longer-term it is believed that BarreGEN can also be an excellent product to partner in this potentially large market. The graphic below depicts the links between Barrett’s Esophagus and Esophageal cancer and the benefits of a potential diagnostic test vis-à-vis current treatment options:



Source: Intercept Diagnostics

## Endocrine Cancer Products – ThyGeNEXT and ThyraMIR

Interpace currently markets and sells a dual platform endocrine cancer risk diagnostic assay. The incidence of thyroid nodules is on the rise. ThyGeNEXT is a next-generation DNA and RNA sequencing oncogene panel



and when applied to indeterminate FNA, provides a highly specific “rule-in” test with over 80% positive predictive value in predicting whether a patient’s thyroid nodule is cancerous. ThyGeNEXT works synergistically with the Company’s second endocrine cancer diagnostic test, ThyraMIR, which is based on measuring the expression level of 10 distinct microRNAs and is designed to provide a highly sensitive “rule-out” test to accurately categorize a mutation negative indeterminate FNA as being benign or malignant. Testing is performed by Interpace in its state-of-the-art CLIA certified, CAP accredited laboratories in Pittsburgh, Pennsylvania and New Haven, Connecticut. The Company estimates the total market for its endocrine cancer assays is approximately \$350 million annually based on the current size of the patient population, estimated numbers of indeterminate fine needle aspirations (FNAs) and current and anticipated reimbursement rates. ThyGeNEXT is used by some customers as a base-line oncogene panel assessment and approximately 80% of such users will reflex to also using ThyraMIR as a more specific evaluation.

Endocrinologists evaluate thyroid nodules for possible cancer by collecting cells through FNA biopsies that are then analyzed by cyto-pathologists to determine whether or not a thyroid nodule is cancerous. It is estimated that up to 35% or up to approximately 100,000 of FNAs analyzed annually yield indeterminate results, meaning they cannot be diagnosed as definitely being malignant or benign by cytopathology alone. Traditionally, guidelines recommended that some patients with indeterminate cytopathology results undergo surgery to remove all or part of their thyroid to obtain an accurate diagnosis by looking directly at the thyroid tissue. Historically, according to a study published by Wang, et al. in 2011, in approximately 77% of these cases, the thyroid nodule proves to be benign. In addition to exposing a patient to unnecessary surgical risk and incurring costs, surgery can lead to a lifetime of thyroid hormone replacement therapy. Interpace's ThyGeNEXT and ThyraMIR assays are aimed at significantly improving the ability of physicians to determine an accurate diagnosis of an indeterminate FNA result. The graphic below outlines competitive advantages of the Company's ThyGeNEXT/ThyraMIR diagnostic tests:



Test Performance [95% CI]	Combined mutation & miRNA testing (ThyGeNEXT™ & ThyraMIR®)*	Mutation testing alone (ThyGeNEXT™)*	Genetic Sequencing Classifier with messenger RNA testing*	
PPV (%)	74% [58-86]	81% [54-96]	47% [36 - 58]	Sensitivity: 91% [79 - 98]
NPV (%)	94% [85-98]	64% [47-79]	96% [90 - 99]	Specificity: 68% [60 - 76]
Cancer Prevalence	32%	32%	24%	

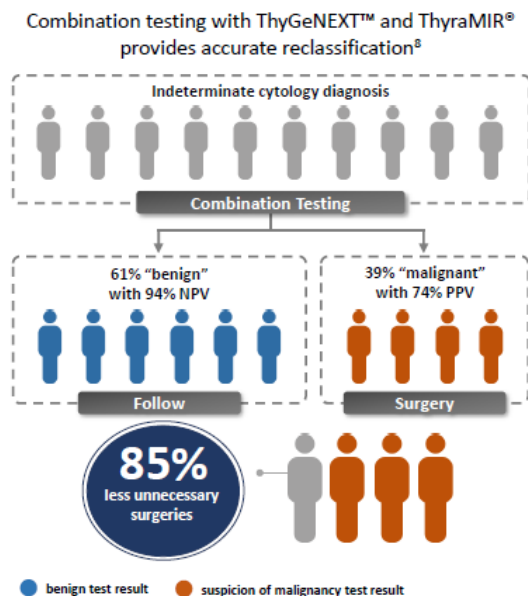
ThyGeNEXT™ and ThyraMIR® combination testing addresses a unmet clinical need for more actionable information in the management of indeterminate thyroid nodules

ThyGeNEXT™ Offers 8 oncogenic mutations + fusions and is the "rule in" assessment

Only commercial test that can be performed from FNA and/or cytology slides

ThyraMIR® measures the expression of 10 microRNAs and the combination with ThyGeNEXT™ yields both high NPV and high PPV

ThyGeNEXT™ and ThyraMIR® combination testing can accurately "Rule in" and "Rule out" the risk of malignancy



Source: Intercept Diagnostics

In August 2018, Interpace announced the acquisition of certain assets of Rosetta Genomics through a bankruptcy auction, including laboratory equipment, and further that select former Rosetta customers have transitioned their accounts to Interpace's thyroid assays.

## Lung Cancer Product - RespriDx Test and Metastatic versus Primary Platform

RespriDx compares the mutational fingerprint of two or more sites of cancer to determine whether the neoplastic deposits are representative of a recurrence (metastasis) of lung cancer or a new primary or independent tumor. The test defines the



presence or absence of cancer in atypical cytology by comparing the mutational profile with that of known previous cancer. Microdissection is used to obtain areas of cellular atypia, followed by PCR –based analysis for loss of heterozygosity (LOH) using a panel of markers in proximity to 16 tumor suppressor genes including P16, PTEN, TP 53, and others. RespriDx assists physicians in determining the most appropriate course of treatment, whether chemotherapy, surgery, or other modalities. The chart below outlines attributes and mechanisms of action of RespriDx:

*Mutations of tumor suppressor genes and/or oncogenes are frequently identified in human cancers and often appear before detectable physical changes occur*

**RespriDx™ allows you to:**

- Define the primary site of formation in relationship to multiple sites of metastatic spread
- Define the presence or absence of lung cancer in atypical cytology by comparing the mutational fingerprint with that of a known previous cancer
- Apply the “cancer of origin” technology in other cancers, such as breast and gynecological
- Compare the mutational fingerprint of two or more cancer cites to determine if the cancer is a recurrence or a new primary cancer
- Differentiate multi-centric carcinoma versus the intra-organ spread of one cancer



*Source: Intercept Diagnostics*

## Research and Development

The Company conducts most of its research and development activities at its CLIA certified and CAP accredited laboratories in Pittsburgh, Pennsylvania and New Haven, Connecticut. Research and development efforts primarily focus on providing data and analyses necessary to support and improve the Company’s existing products on the market. Additionally, research and development activities provide product line extension of existing products as well as new product opportunities utilizing proprietary platforms and extensive bioinformatics repositories and data bases.

Interpace currently focuses most of its research and development efforts on enhancing existing molecular diagnostic tests. The Company may enter into collaborative relationships with research and academic institutions for the development of additional or enhanced molecular diagnostic tests to further increase the depth and breadth of molecular diagnostic test offerings. Also, where appropriate, the Company may also enter into licensing agreements with collaborative partners to both license intellectual property for use in molecular diagnostic test panels as well as licensing such intellectual property out, as appropriate. The chart below outlines past and ongoing clinical publications in support of the Company’s current product line:

Product	Study Type	N	Key Points	Published		Expected Completion					
				2017	2018	2018	2019	2020	2021	2022	
ThyGenX® & ThyraMIR®	Cytology Slide Validation	47	ThyGenX® & ThyraMIR® can be performed on cytology slides with high accuracy								
ThyGenX® & ThyraMIR®	Data Mining and Bioinformatics	2,685	Data mining clinical, mutation, and microRNA results shows that combination ThyGenX® and ThyraMIR® testing is required to effectively risk stratify thyroid nodules								
ThyGenEXT™	Validation of ThyGenEXT™	162	Additional markers strongly associated with aggressive forms of thyroid cancer have successfully undergone analytical and clinical validation								
ThyGenEXT™ & ThyraMIR®	Multicenter, Prospective Validation	~200	Combination testing effectively rules in and rules out thyroid cancer and identifies aggressive cancers								
ThyGenX® & ThyraMIR®	Registry Clinical Utility	~1,000	Combination of ThyGenX® & ThyraMIR® testing impacts decisions for surgery, rules in malignancy, and rules out malignancy over time								
PancraGEN®	Prospective Clinical Validation	100	PancraGEN® results increase detection of otherwise undetected solid pancreatic and biliary cancers with high specificity								
PancraGEN®	Registry Clinical Validation and Utility	232	PancraGEN® results increase detection of otherwise undetected solid pancreatic and biliary cancers and changes management decisions that improve patient outcomes								
PancraGEN®	Prospective Clinical Validation	101	PancraGEN® results increase detection of solid pancreatic and biliary cancers with high specificity								
PancraGEN®	Datamining and Bioinformatics	478	PancraGEN® DNA abnormalities better predict outcomes of worrisome pancreatic cysts and determine need for surgery								
PancraGEN®	Multicenter, Prospective RCT Clinical Utility	>1,000	PancraGEN® results change GI decisions for surgery of pancreatic cysts and those decisions improve patient outcomes								
BarreGEN®	Clinical Validation	~250	BarreGEN® rules in higher risk of progression to esophageal cancer such that targeted cancer preventative therapy can be performed for patients with Barrett's Esophagus								













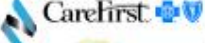
















Source: Intercept Diagnostics

## Sales and Marketing

Interpace's commercialization efforts are currently focused in cancers in endocrinology, gastroenterology and lung. Communication of the molecular diagnostic marketing messaging and value propositions are done principally through two field-based sales teams of approximately 24 representatives and managers. Additionally, the Company communicates through print, digital advertising, a web presence, peer-reviewed publications, and trade show exhibits. The Company believes that its molecular diagnostic assays provide value to payers, physicians and patients by improving patient care and lowering healthcare costs through avoidance of unnecessary surgeries, reducing the morbidity associated with unnecessary surgeries for patients, and providing better diagnostic and prognostic insights to physicians. Furthermore, Interpace supports the value propositions of its molecular diagnostic tests through rigorous science and the accumulation of bioinformatics data that demonstrate clinical and analytical validity as well as clinical utility, and how they actually impact physicians' decisions. The Company's repository of bioinformatics data accumulated in over 37,000 cases using PancraGEN and over 20,000 cases using its thyroid assays is currently a valuable tool in developing analytics and potentially an even more valuable tool in the future.

The Company also communicates to payers, integrated delivery systems and hospital systems about the value of its molecular diagnostic tests through highly trained professionals who are experienced in reimbursement and business to business selling and through face to face meetings, phone calls, digital communications and advisory boards. The company has developed health economic analyses and budget impact models and incorporates these along with clinical validation studies and clinical utility studies to demonstrate molecular diagnostic tests' value to this distinct and important constituency. A graphic analysis of the Company's product portfolio, average pricing, reimbursement, and insurance coverage is shown below:



	 <b>ThyGeNEXT™</b> THYROID QNCDGNE PANEL	 <b>ThyraMIR™</b> THYROID RNA CLASSIFIER	 <b>PANCRAGEN™</b> PANCREATIC CANCER RISK CLASSIFIER	 <b>RespriDX™</b>
List Price	\$1,675	\$4,000	\$4,000	\$4,500
Average Realized Revenue	\$1,100	\$2,000	\$2,600	\$2,600
Molecular Billing Code	81445	PLA 0018U	81479	81479
Insurance Coverage	 <b>LabCorp</b> Geisinger Caring	 <b>LabCorp</b> Geisinger Caring	 <b>Humana</b>	 <b>UnitedHealthcare</b>
	 <b>UnitedHealthcare</b>  <b>KAISER PERMANENTE</b> Various affiliates of:  <b>BlueCross BlueShield</b>  <b>CareFirst</b>  <b>NOVITAS SOLUTIONS Medicare</b>  <b>Aetna</b>  <b>EmblemHealth</b>  <b>Cigna</b>  <b>Oxford Health Plans</b>	 <b>UnitedHealthcare</b>  <b>KAISER PERMANENTE</b> Various affiliates of:  <b>BlueCross BlueShield</b>  <b>CareFirst</b>  <b>NOVITAS SOLUTIONS Medicare</b>  <b>Aetna</b>  <b>EmblemHealth</b>  <b>Cigna</b>  <b>Oxford Health Plans</b>	 Various affiliates of:  <b>BlueCross BlueShield</b>  <b>TRICARE</b>  <b>NOVITAS SOLUTIONS Medicare</b>  <b>Galaxy Health Network</b>  <b>ChoiceCare</b>  <b>MultiPlan</b>	 <b>UnitedHealthcare</b>  <b>Independence</b>  <b>Saint Barnabas Medical Center</b>  <b>fallonhealth</b>  <b>RWJBarnabas Health</b>  <b>HIGHMARK</b>  <b>Cigna</b>  <b>Aetna</b> Various affiliates of:  <b>BlueCross BlueShield</b>  <b>Horizon</b>  <b>Berkshire Blue Cross Blue Shield of New Jersey</b>

Source: Interpace Diagnostics

Reimbursement progress is key for any molecular diagnostic company. The Company has been highly successful in expanding the reimbursement of its products over the past two years, as evidenced by these recent highlights:

- In April 2017, Interpace announced that UnitedHealthcare (UNH, Not Rated), the largest health plan in the United States, has agreed to cover the ThyraMIR test used in assessing indeterminate thyroid nodule fine needle aspirate (FNA) biopsies. The coverage is now in effect and is subject to members' specific benefit plan design;
- In June 2017, Interpace announced the signing of a new national contract with Aetna (AET, Not Rated) for the ThyGenX and ThyraMIR molecular tests for indeterminate thyroid nodules. The agreement covers many of Aetna's health plan products, including commercial and Medicare Advantage plans. This agreement was the first national provider contract with a national health plan and means that the Company will now be part of Aetna's laboratory network for these services. The agreement went into effect August 15, 2017;
- In July 2017, the Company announced that Cigna (CI, NR), one of the largest national health plans in the United States, has agreed to cover Interpace's ThyGenX test for Cigna's 15 million members nationwide, with coverage effective immediately. Cigna's coverage when combined with Aetna, UnitedHealthcare, Medicare and other payers brought the total number of covered lives for ThyGenX to approximately 275 million patients nationwide;
- In August 2017, the Company announced that Oxford Health Plans (a division of UnitedHealthcare) began to cover the ThyraMIR test. Oxford offers health care benefits to employers primarily in New York, New Jersey, and Connecticut making it one of the largest health plans in the heavily populated tri-state Region;

- In September 2017, the American Medical Association (AMA) assigned a new, discreet Current Procedural Terminology (CPT) code to facilitate reimbursement of ThyraMIR, simplifying and expediting the process in submitting claims and securing reimbursement;
- In October 2017, Medicare announced that reimbursement for the ThyGenX molecular test for indeterminate thyroid nodules would increase by 40% starting January 1, 2018. Medicare represents approximately 40% of the volume for the ThyGenX test;
- In February 2018, the Company announced that Horizon Blue Cross Blue Shield of New Jersey, the oldest and largest health plan in New Jersey covering 3.8 million patients living in the Northeastern United States, has agreed to cover ThyGenX and ThyraMIR for its members effective January 9, 2018;
- In March 2018, Interpace announced coverage of ThyGenX and ThyraMIR by four new Blue Cross Blue Shield Plans: Blue Cross Blue Shield of Arizona; Blue Cross Blue Shield of South Carolina; Wellmark Blue Cross Blue Shield of Iowa; and Wellmark Blue Cross Blue Shield of South Dakota. These four plans combined represent over 5 million members;
- In March 2018 Interpace announced entering into a laboratory services agreement with Acupath Laboratories, Inc. based in Plainview, New York (on Long Island), whereby Acupath's Commercial team will be selling ThyGenX (now ThyGeNEXT) and ThyraMIR as part of its menu for endocrinologists, endocrine surgeons, and other physicians focused on the diagnosis and treatment of thyroid cancer;
- In April 2018, Interpace entered into an agreement with BJC Healthcare of St. Louis, Missouri, one of the largest non-profit, integrated healthcare systems in the United States. The Agreement enables all physicians across the BJC system access to both ThyGenX (now ThyGeNEXT) and ThyraMIR for patients with indeterminate thyroid nodules;
- In May 2018, the Company announced that they had entered into an agreement with Vanderbilt University Medical Center (VUMC) based in Nashville, Tennessee, one of the largest academic medical centers in the country. The agreement enables all physicians across the Vanderbilt system access to both ThyGenX (now ThyGeNEXT) and ThyraMIR for patients with indeterminate thyroid nodules;
- In May 2018, the Company announced that 14 Blue Cross Blue Shield plans across the country have published favorable coverage policies since the beginning of 2018 for ThyGenX (now ThyGeNEXT) and ThyraMIR, the Company's molecular tests for indeterminate thyroid nodules. The list of plans includes many of the largest Blue Cross Blue Shield plans in the country, including the previously announced Blue Shield of California and Horizon Blue Cross Blue Shield of New Jersey. As a result of these fourteen new policies, over 75 million members participating in these plans now have coverage for ThyGenX (now ThyGeNEXT) and ThyraMIR testing;
- In June 2018, Interpace announced coverage of ThyGenX (now ThyGeNEXT) and ThyraMIR by Blue Cross Blue Shield of Florida, the largest health plan in Florida, with over three million members. As of July 2018 there are twenty-seven regional Blue Cross Blue Shield regional payers who have agreed to provide coverage for ThyGenX (now ThyGeNEXT) and ThyraMIR;
- In July 2018, the Company announced the expansion of the application of PancraGEN beyond pancreatic cysts to include both biliary strictures and solid pancreatic lesions while gaining further Guideline support in the marketplace. PancraGEN is the first and only commercially available integrated molecular pathology test for pancreaticobiliary cancers; and
- In July 2018, Interpace announced that Cigna, one of the nation's largest health plan providers, has also agreed to cover ThyraMIR, the first microRNA gene expression classifier for thyroid nodules, as medically necessary. This is in addition to its coverage of ThyGenX, (now ThyGeNEXT) as previously announced in 2017.

## Competition

Interpace competes in its diagnostic markets with a number of companies in the diagnostic products and clinical laboratory area, typically on a product-by-product area. In the thyroid cancer diagnostic market, the Company's highest profile competitor is Veracyte (VCYT, Not Rated), which markets a molecular thyroid nodule cancer diagnostic test (Afirma) that is the current market leader and competes with ThyGeNEXT and ThyraMIR tests. In addition, Quest Diagnostics (DGX, Not Rated) currently offers a diagnostic test similar to an earlier version of the ThyGenX test and recently announced an agreement to distribute the Afirma test in partnership with Veracyte. Other competitors in the thyroid diagnostic area include CBLPath (Private), Rosetta Genomics (see above), Accelerate Diagnostics, (AXDX, NR), Cancer Genetics (CGIX, Neutral), Genomic Health (GHDX, NR), NeoGenomics (NEO, NR), and Trovagene (TROV, NR). The chart below outlines competitive benefits for Interpace's ThyGeNEXT and ThyraMIR, as compared with Veracyte's Afirma and CBL's ThyroSeq v3:

Molecular Test Characteristics	ThyGeNEXT™ + ThyraMIR®	Afirma Gene Sequencing Classifier (GSC)	ThyroSeqv3
<b>Markers/Mutations</b>	10 Gene Point Mutation analysis combined with 38 RNA translocation (fusion) analysis + miRNA Classifier that utilizes 10 miRNAs	1,115 core genes make up the GSC; It is used in combination with a malignancy classifier; This testing uses mRNA + machine learning	112 genes, providing information on >12,000 mutation hotspots and >120 gene fusion types; The test utilizes a Genomic Classifier based on the algorithmic analysis of all detected genetic alterations
<b>Sensitivity</b>	89% Overall <sup>8</sup> , 99% for TERT	91% (Analytical Validation Study) <sup>10</sup>	91% (Data yet to be published) <sup>11</sup>
<b>Specificity</b>	85% <sup>8</sup>	68% (Analytical Validation Study) <sup>10</sup>	85% (Data yet to be published) <sup>11</sup>
<b>NPV</b>	94% <sup>8</sup>	96% (Analytical Validation Study) <sup>10</sup>	97% (Data yet to be published) <sup>11</sup>
<b>PPV</b>	74% <sup>8</sup>	47% (Analytical Validation Study) <sup>10</sup>	64% (Data yet to be published) <sup>11</sup>
<b>Rate of Benign Nodule Correctly Identified by Test (20% CA Prev.)</b>	68.1% <sup>8</sup>	54.6% <sup>8</sup>	65.3% <sup>8</sup>
<b>Includes BRAF V600E</b>	YES	YES	YES
<b>Includes Markers of Aggressiveness: TERT &amp; ALK</b>	YES	NO	YES
<b>Can Detect Medullary Thyroid Cancer (MTC)</b>	YES (miR-375 + RET)	YES	YES
<b>Test has a Parathyroid Marker</b>	YES	YES	YES
<b>TAT (turnaround time)</b>	10-14 Business Days (Vial) 14-20 Business Days (Slides)	14 Days	14 + Days
<b>Specimen Requirement</b>	1 FNA pass inserted into vial of RNARetain solution or 1 cytology slide with at least 60 cells	2 FNA passes placed into preservative solution	1 Full Dedicated Pass expressed into preservative solution
<b>Refrigeration Requirement</b>	NO	YES; Vial must be refrigerated upon collection and shipped on cold packs	YES; No longer than 3 hours at room temperature (+15 to +25°C); No longer than 24 hours at +2 to +8°C, i.e. in a refrigerator
<b>Test Analyzes Exact Cells Used to Make Cytology Diagnosis</b>	YES, when testing performed using cytology slide	NO	NO
<b>Patient Assistance Program</b>	YES	YES	YES

Source: Interpace Diagnostics

Currently, there are no direct competitors in the pancreatic cancer diagnostic space, although the University of Pittsburgh Medical Center recently began offering its PancreaSeq, a laboratory test which, unlike the Company's PancreaGEN, does not integrate any additional information to fully characterize a patient's risk for pancreatic cancer. In the esophageal cancer diagnostic market, NeoGenomics is marketing a Barrett's assay, and Cernostics (Private) is in the process of developing assays and LDTs for Barrett's esophagus.

## Intellectual Property

Currently, the Company owns two issued United States Patents and seven international patents (in Europe, Japan, Australia and Canada) related to methods of treating a patient that has pancreatic ductal adenocarcinoma (PDAC) using the expression pattern of certain microRNAs to identify the patient as having PDAC and treating the identified patient and to methods of measuring carcinoembryonic antigen in a biological sample. In addition, the Company has ten pending patent applications in the United States and three pending patent applications in Brazil, Canada, and Israel. Provided all maintenance fees and annuities are paid, the Company's issued United States patents expire in either 2032 or 2034 and the foreign patents expire in 2027 or 2031.

## **Manufacturing and Operations**

Interpace owns and operates two CLIA-certified, CAP-accredited clinical reference laboratories, located in Pittsburgh, Pennsylvania and New Haven, Connecticut. In addition, last year Interpace announced the renewal and expansion of an agreement with LabCorp (LH, Nor Rated) to co-market ThyraMIR along with ThyGeNEXT and also announced the Company had entered into a Laboratory Services Agreement with ARUP Laboratories, whereby ARUP is utilizing Interpace as a laboratory services provider for its menu of molecular testing services. ARUP is a private company owned and affiliated with the University of Utah which offers an extensive lab testing menu of highly complex and unique medical tests in clinical and anatomic pathology, and whose clients include more than half of the nation's university teaching hospitals and children's hospitals.

Earlier this year, the Company renewed its laboratory lease in Pittsburgh and has since initiated a construction project to more than double the size of this CLIA- and CAP-certified lab. Other operationally-targeted progress made this year includes the expansion of the Company's in-house billing and reimbursement team with a focus on improving collections and completion of an independent assessment of the Company's in-house Laboratory Information Systems (LIMS).

## **Recent Results and Balance Sheet/Cash Flow**

Interpace reported strong financial results for their most recent Q2/2018 quarter in August, including record revenues of \$5.5 million, up 43% year-over-year, and a reduced operating loss and net loss of \$1.9 million, or (\$0.07) per share, as compared to an operating loss of \$3.6 million and a net loss of \$6.3 million after one-time charges, or (\$0.65) per share, for the prior year period. Revenue growth during Q2/2018 was led by increases in both thyroid cancer diagnostics tests, due to the launch of the next-generation ThyGeNEXT and the addition of the former Rosetta Genomics thyroid business, and in the pancreatic cancer diagnostic area, as the Company expanded the market for its PancraGEN product beyond pancreatic cysts to include both biliary strictures and solid pancreatic lesions. Additional reimbursement coverage also boosted results for the quarter, which showed improved gross margins of 59%, as compared to 51% in the prior year period, due to the aforementioned increased reimbursement as well as economies of scale from higher test volumes. Higher revenues, improved gross margins and lower general and administrative costs in Q2/2018 were able to more than compensate for higher R&D and sales and marketing expenses this year (needed to fuel growth), leading to the reduced net losses. Net cash used in operations for the quarter was \$2.5 million, an improvement over the \$4.4 million needed for the second quarter of 2017, and at the end of the second quarter the Company had \$10.1 million in cash on hand. Adjusted EBITDA, a metric more closely related to actual cash needed during the period, declined to \$563,000 in Q2/2018 from \$2.4 million in the same period one year ago.



The Company's balance sheets for the periods Q4/2017 ending December 2017 and Q2/2018 ending June 2018 are shown below:

<u>Balance Sheets</u>		
	(\$000s)	
<u>Assets:</u>	<u>12/31/17</u>	<u>6/30/18</u>
<u>Current Assets</u>		
Cash and equivalents	\$15,199	\$10,084
Accounts receivable, net	3,437	7,647
Other current assets	<u>1,172</u>	<u>1,474</u>
Total current	19,808	19,205
Property and equipment, net	654	640
Other intangible assets, net	33,105	31,480
Other long-term assets	<u>31</u>	<u>31</u>
TOTAL ASSETS	\$53,598	\$51,356
 <u>Liabilities:</u>		
<u>Current liabilities</u>		
Accounts payable	\$391	\$1,173
Accrued salaries and bonuses	1,394	938
Other accrued expenses	5,004	4,304
Current liabilities from disc. operations	<u>1,302</u>	<u>939</u>
Total current	8,091	7,354
Contingent consideration	1,349	1,111
Other long-term liabilities	<u>4,289</u>	<u>4,339</u>
Total liabilities	13,729	12,804
Stockholders' equity	<u>39,869</u>	<u>38,552</u>
TOTAL LIAB & EQ	\$53,598	\$51,356

Source: Dawson James Securities and Company Documents

## Outlook/Growth Drivers

Interpace management has recently reiterated financial guidance for 2018 as a whole, specifically reaching revenues of over \$20 million for the year. Thus, we are estimating that the Company will post revenues of \$5.5 million in Q3/2018 and \$5.75 million for Q4/2018, both representing year-over-year revenue growth of over 30%. This equates to total revenues of \$21.6 million for 2018E as a whole or an increase of 36% over 2017 actual results, and net losses of (\$0.07) per share for both Q3/2018 and Q4/2018 and (\$0.32) per share for 2018E as a whole. Financial results for Q3/2018 are expected to be released on November 13, 2018.

Among the factors expected to contribute to continued positive financial results for Interpace for the remaining two quarters of this year are:

- Growth in thyroid cancer diagnostics product revenue, led by recently launched next generation product ThyGeNEXT, initial contributions from acquired assets and clientele of Rosetta Genomics and broader insurance reimbursement;
- Growth in pancreatic cancer diagnostic revenue, fueled by additional indications for PancraGEN; and
- Continued improvement in expense line items including gross margins, fueled by economies of scale from higher product volumes as well as capital improvements, for example at the Company's Pittsburgh lab facility.

For 2019E, we are forecasting that the same positive factors contributing to results in 2018E will keep this momentum going into next year, including revenue growth of over 30% to \$28.0 million, and reduced net losses of \$5.6 million or (\$0.20) per share, with EBITDA reaching near break-even. Also expected to begin contributing to 2019E results is Interpace's new BarreGEN product, currently in an expanded Clinical Evaluation Program but now gaining key opinion leaders, clinical evidence, and reimbursement support.

## Management

**Jack Stover** serves as President and CEO of Interpace, and also as a Director. Prior experience for Mr. Stover before joining the Company includes management positions with Zebec Therapeutics, Antares Pharma (ATRS, Not Rated), Targeted Nano Therapeutics, Gynetics, B. Braun Medical and Sicor. Mr. Stover is also a Certified Public Accountant and formerly was a Partner with Coopers & Lybrand.

**Greg Richard** is Chief Commercial Officer at Interpace Diagnostics. His over 25 years of relevant experience includes management positions with Aetna, Genentech, Quest Diagnostics (DGX, Not Rated), and LabCorp (LH, Not Rated).

**Jim Early** joined Interpace as Chief Financial Officer in October 2016. Prior to joining the Company, he held financial management positions at AbGenomics, Zebec Therapeutics, Synageva BioPharma, Anesthesiologists Associated, Inc., Zila Pharmaceuticals, and Schein Pharmaceutical. Mr. Early is a Certified Public Accountant.

Other key members of the Interpace management team include **Dr. Syd Finkelstein**, Chief Scientific Officer, and also a board certified pathologist and Adjunct Professor of Pathology at Drexel University and the founder of RedPath Integrated Pathology, which was acquired by Interpace Diagnostics in 2014; **Dr. Sara A. Jackson**, VP of Clinical Development with 15 years of experience in biomedical research and development; **Glenn Gershon**, SVP of Operations, who has nearly 30 years of biotechnology industry experience; **Dr. Christina M. Narick**, VP of Pathology and a board-certified anatomic and clinical pathologist; and **Dr. Alidad Mireskandari**, VP of Business Development and previously with JS Genetics, Nomura and BNP Paribas.

In addition to Jack Stover, Interpace's Board of Directors also includes **Stephen J. Sullivan**, Chairman of the Board since June 2016 and former CEO of Harlan Laboratories; **Dr. Joseph Keegan**, formerly CEO at ForteBio and Molecular Diagnostics; and **Dr. Felice Schnoll-Sussman**, currently Associate Professor of Clinical Medicine at Weill Medical College of Cornell University.

## Stock Valuation/Comparables

We have compiled a six-stock comparison group for Interpace Diagnostics comprised of diagnostic/genomic companies, including Luminex (LMNX, Not Rated), Danaher (DHR, Not Rated), CareDx (CDNA, Not Rated), ChemBio Diagnostics (CEMI, Not Rated), GenMark Diagnostics (GNMK, Not Rated), and Veracyte (VCYT, Not Rated). Since IDXG is not forecast to be profitable for 2018E, we are employing our revenue forecasts for this fiscal year in order to place a long-term target valuation on IDXG shares. Many of the comparable companies in our group, in particular smaller firms, are expected to show significant revenue growth this year and next due to new products or technologies. On average, our comparable stock group shows valuation multiples of 5.6X estimated revenues for fiscal 2018E. IDXG's valuation metrics related to price/revenues estimates for 2018E show a considerable discount to our comparable group, and thus, employing the

price/revenue multiple estimated for this calendar year (2018E) of 5.6X multiplied by our estimated revenues for IDXG of \$21.6 million for 2018E, we have derived a valuation and long-term price target of \$4.20 for IDXG shares, thus, we are initiating shares of IDXG with a Buy rating and 12-18 month price target of \$4.20 per share.

## Risk Factors

**In addition to normal economic and market risk factors that impact most equities and the common risks shared by Interpace Diagnostics with other companies in the industry, we believe an investment in IDXG involves the following risks:**

- **Reliance on key management** – At present, IDXG relies on several key members of its management team who either founded the Company or its predecessors or have been in key executive positions for an extended period of time. Should one or more of these key executives leave the Company, IDXG could find it difficult to replace their long-standing knowledge of operations and industry expertise.
- **Reliance on partnerships** – To date, IDXG has signed a number of co-marketing and development agreements for its diagnostic tests and laboratory services. Thus, in the future certain factors related to product marketing and/or new product development may be determined by third parties and out of the control of Company management.
- **Limited stock liquidity** – Trading volume in IDXG stock is comparatively light and these shares have a relatively limited history of trading compared with other healthcare stocks. As such, news regarding IDXG, its target market, partners and/or competitors could lead to significant volatility in the stock price.
- **Competitive Markets** – The Company and its partners compete in its target diagnostic markets with a number of companies, many of which are considerably larger than the Company. There can be no assurance that the Company and its partners will be able to successfully compete and launch new products into these competitive markets in the future.
- **FDA and regulatory risks** – IDXG and its development partners are subject to regulatory review for ongoing diagnostic tests, principally the US Food and Drug Administration's approval and laboratory review processes. In addition, the quality assurance and manufacture of the Company's diagnostic products are subject to ongoing oversight and regulation, and any negative correspondence from the FDA or other regulatory agencies could have an adverse effect on the ongoing operations of the Company.
- **Lack of historic profitability** - IDXG has not achieved operating profitability in recent years, and according to our forecasts may not be expected to do so in the near future. Although the Company maintains adequate cash reserves at the present time, there can be no assurance the Company will not need to raise additional working capital in the future should operating losses continue.
- **Need to defend patents and other intellectual property** – IDXG currently holds a number of granted and pending US and International patents on its products and technologies, some of which expire in the near future. The Company may be required to defend its patents in the US and overseas in the future, and there can be no assurance these defenses will be successful.

Companies mentioned in this report:

Genomic Health (GHDX, Not Rated)  
Danaher (DHR, Not Rated)  
GenMark Diagnostics (GNMK, Not Rated)  
Luminex (LMNX, Not Rated)  
Laboratory Corporation (LH, Not Rated)  
CareDx (CDNA, Not Rated)  
ChemBio Diagnostics (CEMI, Not Rated)  
Veracyte (VCYT, Not Rated)  
Quest Diagnostics (DGX, Not Rated)  
Acupath (Private)  
CBLPath (Private)  
Rosetta Genomics, now Genoptix (Private)  
Accelerate Diagnostics (AXDX, NR)  
Cancer Genetics (CGIX, Neutral)  
NeoGenomics (NEO, NR)  
Trovogene (TROV, NR)  
UnitedHealthcare (UNH, NR)  
Aetna (AET, NR)  
Cigna (CI, NR)  
Antares Pharma (ATRS, Not Rated),



Robert M. Wasserman

**Interpace Diagnostics Group, Inc.**  
**Consolidated Statements of Income**  
 (In 000s, except per share data)

FYE December	2014	2015	2016	1Q17 March	2Q17 June	3Q17 September	4Q17 December	2017	1Q18 March	2Q18 June	3Q18E September	4Q18E December	2018E	2019E
Revenue, net	\$1,474	\$9,432	\$13,085	\$3,470	\$3,855	\$4,202	\$4,370	\$15,897	\$4,809	\$5,501	\$5,500	\$5,750	\$21,560	\$28,000
Cost of revenue	1,268	6,910	6,641	1,771	1,879	2,069	1,639	7,358	2,580	2,247	2,250	2,390	9,377	11,000
Gross profit	206	2,522	6,444	1,699	1,976	2,133	2,731	8,539	2,229	3,254	3,250	3,450	12,183	17,000
Operating Expenses														
Sales and marketing	604	10,358	5,462	1,136	1,555	1,816	2,060	6,567	1,991	2,095	2,100	2,150	8,336	8,800
Research and development	255	2,292	1,647	306	413	483	259	1,461	501	518	550	600	2,169	2,500
General and administrative	14,314	16,922	10,504	1,522	2,793	2,116	2,723	9,154	2,172	1,726	1,750	1,800	7,448	8,000
Acquisition-related and other one-time	2,859	13,358	(4,727)	(4,963)	813	813	987	(2,350)	813	813	810	810	3,246	3,200
Total operating expenses	18,032	42,930	12,886	(1,999)	5,574	5,228	6,029	14,832	5,477	5,152	5,210	5,360	21,199	22,500
Income (loss) from operations	(17,826)	(40,408)	(6,442)	3,698	(3,598)	(3,095)	(3,298)	(6,293)	(3,248)	(1,898)	(1,960)	(1,910)	(9,016)	(5,500)
Other income (expense)														
Interest expense	(602)	(3,705)	(2,144)	(254)	(216)	(40)	0	(510)	0	0	0	0	0	0
Other income (expense) incl. disc. ops.	(2,675)	19,618	92	(1,027)	(2,793)	(223)	(1,764)	(5,807)	61	(11)	(10)	(10)	30	(50)
Total other (expense)	(3,277)	15,913	(2,052)	(1,281)	(3,009)	(263)	(1,764)	(6,317)	61	(11)	(10)	(10)	30	(50)
Income (loss) before tax	(21,103)	(24,495)	(8,494)	2,417	(6,607)	(3,358)	(5,062)	(12,610)	(3,187)	(1,909)	(1,970)	(1,920)	(8,986)	(5,550)
Income tax (benefit)	(2,030)	(13,136)	(162)	2	(301)	(42)	(55)	(392)	6	8	10	10	34	50
Net income (loss)	(16,073)	(11,359)	(8,332)	2,414	(6,306)	(3,316)	(5,007)	(12,215)	(3,193)	(1,917)	(1,980)	(1,930)	(9,020)	(5,600)
Basic income per share	(\$1.08)	(\$0.73)	(\$4.59)	\$0.56	(\$0.65)	(\$0.15)	(\$0.19)	(\$0.77)	(\$0.11)	(\$0.07)	(\$0.07)	(\$0.07)	(\$0.32)	(\$0.20)
Diluted income per share	(\$1.08)	(\$0.73)	(\$4.59)	\$0.55	(\$0.65)	(\$0.15)	(\$0.19)	(\$0.77)	(\$0.11)	(\$0.07)	(\$0.07)	(\$0.07)	(\$0.32)	(\$0.20)
Basic shares outstanding	14,901	15,475	1,816	4,294	9,657	22,028	26,874	15,766	27,855	27,933	28,300	28,500	28,147	28,700
Diluted shares outstanding	14,901	15,475	1,816	4,384	9,657	22,028	26,874	15,766	27,855	27,933	28,300	28,500	28,147	28,700
Key ratios:														
Revenue growth	N/A	539.9%	38.7%	14.3%	6.7%	26.7%	40.0%	21.5%	38.6%	42.7%	30.9%	31.6%	35.6%	29.9%
Gross margins	14.0%	26.7%	49.2%	49.0%	51.3%	50.8%	62.5%	53.7%	46.4%	59.2%	59.1%	60.0%	40.0%	60.7%
Sales & Marketing/revenue	41.0%	109.8%	41.7%	32.7%	40.3%	43.2%	47.1%	41.3%	41.4%	38.1%	38.2%	37.4%	38.7%	31.4%
R&D/revenue	17.3%	24.3%	12.6%	8.8%	10.7%	11.5%	5.9%	9.2%	10.4%	9.4%	10.0%	10.4%	10.1%	8.9%
G & A/revenue	971.1%	179.4%	80.3%	43.9%	72.5%	50.4%	62.3%	57.6%	45.2%	31.4%	31.8%	31.3%	34.5%	28.6%
Tax Rate	-23.8%	-53.6%	-1.9%	0.1%	4.6%	1.3%	1.1%	-3.1%	0.2%	0.4%	0.5%	0.5%	0.4%	0.9%
Deprec. amort & non-cash comp.	4,500	10,100	4,420	1,224	1,100	1,000	1,425	4,750	1,400	1,300	1,300	1,300	5,300	5,500
Cash Flow/share	(\$0.78)	(\$0.08)	(\$2.15)	\$0.83	(\$0.54)	(\$0.11)	(\$0.13)	(\$0.47)	(\$0.06)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.13)	(\$0.00)
EBITDA/share	(\$0.56)	(\$1.11)	(\$1.02)	\$1.12	(\$0.23)	(\$0.09)	(\$0.07)	(\$0.07)	(\$0.07)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.13)	(\$0.00)

**Balance Sheets**

(\$000s)

	12/31/17	6/30/18
<b>Assets:</b>		
<b>Current Assets</b>		
Cash and equivalents	\$15,199	\$10,084
Accounts receivable, net	3,437	7,647
Other current assets	1,172	1,474
Total current	19,808	19,205
Property and equipment, net	654	640
Other intangible assets, net	33,105	31,480
Other long-term assets	31	31
<b>TOTAL ASSETS</b>	<b>\$53,598</b>	<b>\$51,356</b>
<b>Liabilities:</b>		
<b>Current liabilities</b>		
Accounts payable	\$391	\$1,173
Accrued salaries and bonuses	1,394	938
Other accrued expenses	5,004	4,304
Current liabilities from disc. operations	1,302	929
Total current	8,091	7,354
Contingent consideration	1,349	1,111
Other long-term liabilities	4,289	4,339
Total liabilities	13,729	12,804
Stockholders' equity	39,869	38,552
<b>TOTAL LIAB &amp; EQ</b>	<b>\$53,598</b>	<b>\$51,356</b>

**Quarterly Earnings Comparisons**

	March	June	September	December	Total
<b>Revenues (in \$Mill)</b>					
2014					\$1,474
2015					9,432
2016	3,035	3,612	3,316	3,122	13,085
2017	3,470	3,855	4,202	4,370	15,897
2018E	4,809	5,501	5,500	5,750	21,560
<b>Earnings per Share (diluted)</b>					
2014					(\$1.08)
2015					(0.73)
2016	(2.66)	(1.29)	(4.13)	3.24	(4.59)
2017	0.55	(0.65)	(0.15)	(0.19)	(0.77)
2018E	(0.11)	(0.07)	(0.07)	(0.07)	(0.32)

Source: Dawson James Securities, Inc. estimates; Company documents

## **Important Disclosures:**

### **Price Chart:**



### **Price target and ratings changes over the past 3 years:**

Initiated – Buy – October 17, 2018 – Price Target \$4.20

Dawson James Securities, Inc. (the “Firm”) is a member of the Financial Industry Regulatory Authority (“FINRA”) and the Securities Investor Protection Corporation (“SIPC”).

The Firm does not make a market in the securities of the subject company(s). The Firm has NOT engaged in investment banking relationships with IDYG in the prior twelve months, as a manager or co-manager of a public offering and has NOT received compensation resulting from those relationships. The Firm may seek compensation for investment banking services in the future from the subject company(s). The Firm has received other compensation from the subject company(s) in the last 12 months for services unrelated to managing or co-managing of a public offering.

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#### **Ratings Definitions:**

- 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) **Sell:** 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.

	<b>Company Coverage</b>		<b>Investment Banking</b>	
<b>Ratings Distribution</b>	<b># of Companies</b>	<b>% of Total</b>	<b># of Companies</b>	<b>% of Totals</b>
Market Outperform (Buy)	32	91%	10	31%
Market Perform (Neutral)	3	9%	0	0%
Market Underperform (Sell)	0	0%	0	0%
<b>Total</b>	<b>35</b>	<b>100%</b>	<b>10</b>	<b>29%</b>

#### **Analyst Certification:**

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