UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period From ______to ______

Commission file number: 001-36309

INOGEN, INC.

(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**33-0989359** **(I.R.S. Employer Identification No.)**
326 Bollay Drive **Goleta, California** **(Address of principal executive offices)**	**93117** **(Zip Code)**

(805) 562-0500
(Registrant's telephone number, including area code)

None
(Former name, former address and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 31, 2018, the registrant had 21,522,602 shares of common stock, par value $0.001, outstanding.

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INOGEN, INC.

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

Inogen, Inc.
Consolidated Balance Sheets
(amounts in thousands)

	September 30, 2018	December 31, 2017
	(unaudited)	
Assets		
Current assets		
Cash and cash equivalents	$ 176,282	$ 142,953
Marketable securities	47,574	30,991
Accounts receivable, net	34,250	31,444
Inventories, net	30,621	18,842
Deferred cost of revenue	401	361
Income tax receivable	2,356	1,313
Prepaid expenses and other current assets	8,066	2,584
Total current assets	299,550	228,488
Property and equipment		
Rental equipment, net	44,515	49,349
Manufacturing equipment and tooling	7,669	6,858
Computer equipment and software	6,434	5,484
Furniture and equipment	1,385	746
Leasehold improvements	2,888	1,598
Land and building	125	125
Construction in process	3,660	408
Total property and equipment	66,676	64,568
Less accumulated depreciation	(43,661)	(44,465)
Property and equipment, net	23,015	20,103
Goodwill	2,288	2,363
Intangible assets, net	4,103	4,717
Deferred tax asset - noncurrent	26,282	18,636
Other assets	1,874	765
Total assets	$ 357,112	$ 275,072

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Consolidated Balance Sheets (continued)
(amounts in thousands, except share and per share amounts)

	September 30, 2018	December 31, 2017
	(unaudited)	
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable and accrued expenses	$ 26,769	$ 20,626
Accrued payroll	11,904	6,877
Warranty reserve - current	3,539	2,505
Deferred revenue - current	3,549	3,533
Income tax payable	369	345
Total current liabilities	46,130	33,886
Long-term liabilities		
Warranty reserve - noncurrent	5,703	3,666
Deferred revenue - noncurrent	12,781	9,402
Deferred tax liability - noncurrent	338	348
Other noncurrent liabilities	896	729
Total liabilities	65,848	48,031
Commitments and contingencies (Note 8)		
Stockholders' equity		
Common stock, $0.001 par value per share; 200,000,000 authorized; 21,503,012 and 20,976,350 shares issued and outstanding as of September 30, 2018 and December 31, 2017, respectively	21	21
Additional paid-in capital	240,101	218,109
Retained earnings	50,439	8,639
Accumulated other comprehensive income	703	272
Total stockholders' equity	291,264	227,041
Total liabilities and stockholders' equity	$ 357,112	$ 275,072

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Consolidated Statements of Comprehensive Income
(unaudited)
(amounts in thousands, except share and per share amounts)

	Three months ended September 30, 2018	Three months ended September 30, 2017	Nine months ended September 30, 2018	Nine months ended September 30, 2017
Revenue				
Sales revenue	$ 89,712	$ 63,137	$ 255,283	$ 167,141
Rental revenue	5,579	5,893	16,297	18,510
Total revenue	95,291	69,030	271,580	185,651
Cost of revenue				
Cost of sales revenue	42,810	31,401	124,726	81,307
Cost of rental revenue, including depreciation of $1,689 and $2,366 for the three months ended and $5,820 and $7,577 for the nine months ended, respectively	3,668	4,459	11,844	13,863
Total cost of revenue	46,478	35,860	136,570	95,170
Gross profit				
Gross profit-sales revenue	46,902	31,736	130,557	85,834
Gross profit-rental revenue	1,911	1,434	4,453	4,647
Total gross profit	48,813	33,170	135,010	90,481
Operating expense				
Research and development	2,096	1,375	5,287	3,944
Sales and marketing	26,339	13,095	67,376	35,569
General and administrative	9,982	10,368	29,230	28,568
Total operating expense	38,417	24,838	101,893	68,081
Income from operations	10,396	8,332	33,117	22,400
Other income (expense)				
Interest income	895	221	2,111	468
Other income (expense)	8	264	(596)	994
Total other income, net	903	485	1,515	1,462
Income before provision (benefit) for income taxes	11,299	8,817	34,632	23,862
Provision (benefit) for income taxes	(5,133)	1,479	(7,168)	2,254
Net income	16,432	7,338	41,800	21,608
Other comprehensive income (loss), net of tax				
Change in foreign currency translation adjustment	(47)	115	137	312
Change in net unrealized gains (losses) on foreign currency hedging	102	(196)	577	(442)
Less: reclassification adjustment for net (gains) losses included in net income	(354)	305	(286)	297
Total net change in unrealized gains (losses) on foreign currency hedging	(252)	109	291	(145)
Change in net unrealized gains (losses) on available-for-sale investments	3	13	3	71
Total other comprehensive income (loss), net of tax	(296)	237	431	238
Comprehensive income	$ 16,136	$ 7,575	$ 42,231	$ 21,846
Basic net income per share attributable to common stockholders (Note 5)	$ 0.77	$ 0.35	$ 1.97	$ 1.05
Diluted net income per share attributable to common stockholders (Note 5)	$ 0.73	$ 0.33	$ 1.86	$ 0.99
Weighted-average number of shares used in calculating net income per share attributable to common stockholders:				
Basic common shares	21,324,256	20,753,789	21,175,286	20,622,848
Diluted common shares	22,659,052	21,998,660	22,512,125	21,832,544

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Consolidated Statements of Stockholders' Equity
(amounts in thousands, except share amounts)

	Three months ended September 30, 2018 and September 30, 2017					
	Common stock		Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Total stockholders' equity
	Shares	Amount				
Balance, June 30, 2017	20,709,797	$ 21	$ 205,883	$ 1,907	$ (34)	$ 207,777
Stock-based compensation	41,574	—	2,523	—	—	2,523
Employee stock purchases	12,718	—	798	—	—	798
Stock options exercised	87,607	—	2,613	—	—	2,613
Net income	—	—	—	7,338	—	7,338
Other comprehensive income	—	—	—	—	237	237
Balance, September 30, 2017 (unaudited)	20,851,696	$ 21	$ 211,817	$ 9,245	$ 203	$ 221,286
Balance, June 30, 2018	21,321,543	$ 21	$ 231,879	$ 34,007	$ 999	$ 266,906
Stock-based compensation	—	—	3,216	—	—	3,216
Employee stock purchases	13,519	—	1,360	—	—	1,360
Restricted stock awards issued	3,557	—	—	—	—	—
Vesting of restricted stock units	8,707	—	—	—	—	—
Shares withheld related to net restricted stock settlement	(3,022)	—	(801)	—	—	(801)
Stock options exercised	158,708	—	4,447	—	—	4,447
Net income	—	—	—	16,432	—	16,432
Other comprehensive income	—	—	—	—	(296)	(296)
Balance, September 30, 2018 (unaudited)	21,503,012	$ 21	$ 240,101	$ 50,439	$ 703	$ 291,264

	Nine months ended September 30, 2018 and September 30, 2017					
	Common stock		Additional paid-in capital	Retained earnings (accumulated deficit)	Accumulated other comprehensive income (loss)	Total stockholders' equity
	Shares	Amount				
Balance, December 31, 2016	20,389,860	$ 20	$ 194,466	$ (12,363)	$ (35)	$ 182,088
Stock-based compensation	41,574	—	6,630	—	—	6,630
Employee stock purchases	24,523	—	1,379	—	—	1,379
Stock options exercised	395,739	1	9,342	—	—	9,343
Net income	—	—	—	21,608	—	21,608
Other comprehensive income	—	—	—	—	238	238
Balance, September 30, 2017 (unaudited)	20,851,696	$ 21	$ 211,817	$ 9,245	$ 203	$ 221,286
Balance, December 31, 2017	20,976,350	$ 21	$ 218,109	$ 8,639	$ 272	$ 227,041
Stock-based compensation	—	—	9,783	—	—	9,783
Employee stock purchases	25,532	—	2,348	—	—	2,348
Restricted stock awards issued	56,609	—	—	—	—	—
Vesting of restricted stock units	15,372	—	—	—	—	—
Shares withheld related to net restricted stock settlement	(5,575)	—	(1,103)	—	—	(1,103)
Stock options exercised	434,724	—	10,964	—	—	10,964
Net income	—	—	—	41,800	—	41,800
Other comprehensive income	—	—	—	—	431	431
Balance, September 30, 2018 (unaudited)	21,503,012	$ 21	$ 240,101	$ 50,439	$ 703	$ 291,264

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Consolidated Statements of Cash Flows
(unaudited)
(amounts in thousands)

	Nine months ended September 30, 2018	Nine months ended September 30, 2017
Cash flows from operating activities		
Net income	$ 41,800	$ 21,608
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	8,521	9,257
Loss on rental units and other fixed assets	848	934
Gain on sale of former rental assets	(409)	(62)
Provision for sales returns and doubtful accounts	14,089	10,319
Provision for rental revenue adjustments	2,157	3,828
Provision for inventory obsolescence and other inventory losses	319	222
Stock-based compensation expense	9,783	6,630
Deferred income taxes	(7,646)	2,035
Changes in operating assets and liabilities:		
Accounts receivable	(19,233)	(16,826)
Inventories	(12,828)	(3,481)
Deferred cost of revenue	(40)	40
Income tax receivable	(1,047)	(1,155)
Prepaid expenses and other current assets	(5,483)	(1,421)
Other noncurrent assets	(1,082)	—
Accounts payable and accrued expenses	6,191	9,103
Accrued payroll	5,033	717
Warranty reserve	3,071	2,085
Deferred revenue	3,395	2,987
Income tax payable	34	131
Other noncurrent liabilities	167	535
Net cash provided by operating activities	47,640	47,486
Cash flows from investing activities		
Purchases of available-for-sale investments	(50,285)	(35,367)
Maturities of available-for-sale investments	33,705	23,076
Investment in intangible assets	(350)	(15)
Investment in property and equipment	(7,240)	(2,083)
Production and purchase of rental equipment	(3,475)	(2,682)
Proceeds from sale of former assets	680	129
Payment for acquisition, net of cash acquired	—	(4,447)
Net cash used in investing activities	(26,965)	(21,389)

(continued on next page)

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Consolidated Statements of Cash Flows (continued)
(unaudited)
(amounts in thousands)

	Nine months ended September 30,	
	2018	**2017**
Cash flows from financing activities		
Proceeds from stock options exercised	10,964	9,343
Proceeds from employee stock purchases	2,348	1,379
Payment of employment taxes related to release of restricted stock	(1,103)	—
Net cash provided by financing activities	12,209	10,722
Effect of exchange rates on cash	445	23
Net increase in cash and cash equivalents	33,329	36,842
Cash and cash equivalents, beginning of period	142,953	92,851
Cash and cash equivalents, end of period	$ 176,282	$ 129,693
Supplemental disclosures of cash flow information		
Cash paid during the period for income taxes, net of refunds received	$ 1,631	$ 1,164
Supplemental disclosure of non-cash transactions		
Property and equipment in accounts payable and accrued liabilities	$ 161	$ 104

See accompanying condensed notes to the consolidated financial statements.

Inogen, Inc.
Condensed Notes to the Consolidated Financial Statements
(unaudited)
(amounts in thousands, except share and per share amounts)

1. Business overview

Inogen, Inc. (Company or Inogen) was incorporated in Delaware on November 27, 2001. The Company is a medical technology company that primarily develops, manufactures and markets innovative portable oxygen concentrators used to deliver supplemental long-term oxygen therapy to patients suffering from chronic respiratory conditions. Traditionally, these patients have relied on stationary oxygen concentrator systems for use in the home and oxygen tanks or cylinders for mobile use, which the Company calls the delivery model. The tanks and cylinders must be delivered regularly and have a finite amount of oxygen, which requires patients to plan activities outside of their homes around delivery schedules and a finite oxygen supply. Additionally, patients must attach long, cumbersome tubing to their stationary concentrators simply to enable mobility within their homes. The Company's proprietary Inogen One® systems concentrate the air around the patient to offer a single source of supplemental oxygen anytime, anywhere with a portable device weighing approximately 2.8 or 4.8 pounds with a single battery. The Company's Inogen One G4® and Inogen One G3® have up to 2.6 and 4.7 hours of battery life, respectively, with a single battery and can be plugged into an outlet when at home, in a car, or in a public place with outlets available. The Company's Inogen One systems reduce the patient's reliance on stationary concentrators and scheduled deliveries of tanks with a finite supply of oxygen, thereby improving patient quality of life and fostering mobility.

Portable oxygen concentrators represented the fastest-growing segment of the Medicare oxygen therapy market between 2012 and 2017. The Company estimates based on 2017 Medicare data that the number of patients using portable oxygen concentrators represents approximately 10.8% of the total addressable oxygen market in the United States, although the Medicare data does not account for private insurance and cash-pay patients in the market. Based on 2016 industry data, the Company believes it was the leading worldwide manufacturer of portable oxygen concentrators. The Company was the first oxygen therapy manufacturer to employ a direct-to-consumer marketing strategy, meaning the Company advertises directly to patients, processes their physician paperwork, and provides clinical support as needed. While other manufacturers have also begun direct-to-consumer marketing campaigns to drive patient sales, the Company believes it is the only manufacturer of portable oxygen concentrators that employs a direct-to-consumer rental strategy in the United States, meaning the Company bills Medicare or insurance on their behalf. To pursue a direct-to-consumer rental strategy, the Company's manufacturing competitors would need to meet national accreditation and state-by-state licensing requirements and secure Medicare billing privileges, as well as compete with the home medical equipment providers who many of the Company's manufacturing competitors sell to across their entire homecare business.

Since adopting the Company's direct-to-consumer strategy in 2009, the Company has directly sold or rented more than 519,000 of its Inogen oxygen concentrators as of September 30, 2018.

The Company incorporated Inogen Europe Holding B.V., a Dutch limited liability company, on April 13, 2017. The Company owns all outstanding stock of Inogen Europe Holding B.V., which became a wholly owned subsidiary of the Company. On May 4, 2017, the Company, through its wholly owned subsidiary, Inogen Europe Holding B.V., acquired all issued and outstanding capital stock of MedSupport Systems B.V. (MedSupport).

2. Basis of presentation and summary of significant accounting policies

The accompanying consolidated financial statements are unaudited. The consolidated balance sheet at December 31, 2017 has been derived from the audited consolidated financial statements of the Company. The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP) for interim financial information, and in management's opinion, includes all adjustments, consisting of only normal recurring adjustments, necessary for the fair statement of the Company's financial position, its results of operations, stockholders' equity and cash flows for the interim periods presented. The results of operations for the three and nine months ended September 30, 2018 are not necessarily indicative of the results to be expected for the full fiscal year or any other period.

The accompanying consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on February 27, 2018. There have been no significant changes in the Company's accounting policies from those disclosed in its Annual Report on Form 10-K filed with the SEC on February 27, 2018.

Basis of consolidation

The consolidated financial statements include the accounts of Inogen, Inc. and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated.

Use of estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Management bases these estimates and assumptions upon historical experience, existing and known circumstances, authoritative accounting pronouncements and other factors that management believes to be reasonable. Significant areas requiring the use of management estimates relate to revenue recognition and determining the stand-alone selling price (SSP) of performance obligations, inventory and rental asset valuations and write-downs, accounts receivable allowances for bad debts, returns and adjustments, warranty expense, stock compensation expense, depreciation and amortization, income tax provision and uncertain tax positions, fair value of financial instruments, and fair value of acquired intangible assets and goodwill. Actual results could differ from these estimates.

Revenue

The Company generates revenue primarily from sales and rentals of its products. The Company's products consist of its proprietary line of oxygen concentrators and related accessories. Other revenue, which is included in sales revenue on the consolidated statements of comprehensive income, consists of repair services and freight revenue for product shipments.

Sales revenue

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. Revenue from product sales is generally recognized upon shipment of the product but is deferred for certain transactions when control has not yet transferred to the customer.

The Company's product is generally sold with a right of return and the Company may provide other incentives, whic h are accounted for as variable consideration when estimating the amount of revenue to recognize. Returns and incentives are estimated at the time sales revenue is recognized. The provisions for estimated returns are made based on known claims and estimates of additional returns based on historical data and future expectations. Sales revenue incentives within the Company's contracts are estimated based on the most likely amounts expected on the related sales transaction and recorded as a reduction to revenue at the time of sale in accordance with the terms of the contract. Accordingly, revenue is recognized net of allowances for estimated returns and incentives.

The Company also offers a lifetime warranty for direct-to-consumer sales of its portable concentrators. For a fixed price, the Company agrees to provide a fully functional portable oxygen concentrator for the remaining life of the patient. Lifetime warranties are only offered to patients upon the initial sale of portable oxygen concentrators by the Company and are non-transferable. Lifetime warranties are considered to be a distinct performance obligation that are accounted for separately from its sale of portable oxygen concentrators with a standard warranty of three years.

The revenue is allocated to the distinct lifetime warranty performance obligation based on a relative SSP method. The Company has vendor-specific objective evidence of the selling price for its equipment. To determine the selling price of the lifetime warranty, the Company uses its best estimate of the SSP for the distinct performance obligation as the lifetime warranty is neither separately priced nor is the selling price available through third-party evidence. To calculate the selling price associated with the lifetime warranties, management considered the profit margins of the overall business, the average estimated cost of lifetime warranties and the price of extended warranties. Revenue from the distinct lifetime warranty is deferred after the delivery of the equipment for three years and recognized on a straight-line basis during the fourth and fifth year, which is the estimated usage period of the contract based on the average patient life expectancy.

Revenue from the sale of the Company's repair services is recognized when the performance obligations are satisfied, and collection of the receivables is probable. Other revenue from sale of replacement parts and non-warranty repair services is generally recognized when product is shipped to customers.

(amounts in thousands, except share and per share amounts)

Freight revenue consists of fees associated with the deployment of products internationally and domestically when expedited freight options are requested or when minimum order quantities are not met. Freight revenue is generally recognized upon shipment of the product but is deferred if control has not yet transferred to the customer. Shipping and handling costs for sold products and rental assets shipped to the Company's customers are included on the consolidated statements of comprehensive income as part of cost of sales revenue and cost of rental revenue, respectively.

The payment terms and conditions of customer contracts vary by customer type and the products and services offered. For certain products or services and customer types, the Company requires payment before the products or services are delivered to the customer. The timing of sales revenue recognition, billing and cash collection results in billed accounts receivable and deferred revenue in the consolidated balance sheet.

Contract liabilities primarily consist of deferred revenue related to lifetime warranties on direct-to-consumer sales revenue when cash payments are received in advance of services performed under the contract. The contract with the customer states the final terms of the sale, including the description, quantity, and price of each product or service purchase. The increase in deferred revenue related to lifetime warranties for the nine months ended September 30, 2018 was primarily driven by $4,914 of payments received in advance of satisfying the distinct performance obligation, partially offset by $992 of revenues recognized that were included in the deferred revenue balance as of December 31, 2017. Lifetime warranties on direct-to-consumer sales revenue of $14,742 and $10,820 as of September 30, 2018 and December 31, 2017, respectively, are classified within deferred revenue – current and noncurrent deferred revenue in the consolidated balance sheet.

The Company elected to apply the practical expedient in accordance with Accounting Standards Codification (ASC) 606—*Revenue Recognition* and did not evaluate contracts of one year or less for the existence of a significant financing component. The Company does not expect any revenue to be recognized over a multi-year period with the exception of revenue related to lifetime warranties.

The Company's sales revenue is primarily derived from the sale of its Inogen One systems, Inogen At Home systems, and related accessories to individual consumers, home medical equipment providers, distributors, the Company's private label partner and resellers worldwide. Sales revenue is classified into two areas: business-to-business sales and direct-to-consumer sales. The following table sets forth the Company's sales revenue disaggregated by sales channel and geographic region:

	Three months ended September 30,		Nine months ended September 30,	
Revenue by region and category	**2018**	**2017**	**2018**	**2017**
Business-to-business domestic sales	$ 30,263	$ 22,919	$ 91,222	$ 61,534
Business-to-business international sales	21,142	17,186	58,807	43,528
Direct-to-consumer domestic sales	38,307	23,032	105,254	62,079
Total sales revenue	$ 89,712	$ 63,137	$ 255,283	$ 167,141

Rental revenue

The Company recognizes equipment rental revenue over the non-cancelable lease term, which is one month, less estimated adjustments, in accordance with ASC 840 —*Leases*. The Company has separate contracts with each patient that are not subject to a master lease agreement with any third-party payor. The Company evaluates the individual lease contracts at lease inception and the start of each monthly renewal period to determine if there is reasonable assurance that the bargain renewal option associated with the potential capped free rental period would be exercised. Historically, the exercise of such bargain renewal option is not reasonably assured at lease inception and most subsequent monthly lease renewal periods. If the Company determines that the reasonable assurance threshold for an individual patient is met at lease inception or at a monthly lease renewal period, such determination would impact the bargain renewal period for an individual lease. The Company would first consider the lease classification issue (sales-type lease or operating lease) and then appropriately recognize or defer rental revenue over the lease term, which may include a portion of the capped rental period.

The lease term begins on the date products are shipped to patients and are recorded at amounts estimated to be received under reimbursement arrangements with third-party payors, including Medicare, private payors, and Medicaid. Due to the nature of the industry and the reimbursement environment in which the Company operates, certain estimates are required to record net revenue and accounts receivable at their net realizable values. Inherent in these estimates is the risk that they will have to be revised or updated as additional information becomes available. Specifically, the complexity of many third-party billing arrangements and the uncertainty of reimbursement amounts for certain services from certain payors may result in adjustments to amounts originally recorded. Such adjustments are typically identified and recorded at the point of cash application, claim denial or account review. The Company adjusts revenue for historical trends on revenue adjustments due to timely filings, deaths, hospice, and other types of analyzable adjustments on a monthly basis. Accounts receivable are reduced by an allowance for doubtful accounts which provides for those accounts from which payment is not expected to be received although product was delivered, and revenue was earned. The determination that an account is uncollectible, and the ultimate write-off of that account occurs once collection is considered to be not probable, and it is written-off and charged to the allowance at that time. Amounts billed but not earned due to the timing of the billing cycle are deferred and recognized in rental revenue on a straight-line basis over the monthly billing period. For example, if the first day of the billing period does not fall on the first of the month, then a portion of the monthly billing period will fall in the subsequent month and the related revenue and cost would be deferred based on the service days in the following month.

Rental revenue is recognized as upon transfer of control of promised products or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services, less estimated adjustments. Revenue not billed at the end of the period is reviewed for the probability of collection and accrued if collection is probable. Rental revenue is not guaranteed, and payment will cease if the patient no longer needs oxygen or returns the equipment. Rental revenue is recognized at estimated allowable amounts that reflect the full consideration the Company expects to receive in exchange for the equipment; transfers to secondary insurances or patient responsibility have no net effect on revenue. Rental revenue is earned for that entire month if the patient is on service on the first day of the 30-day period commencing on the recurring date of service for a particular claim, regardless if there is a change in condition or death after that date.

Included in rental revenue are unbilled amounts for which the revenue recognition criteria had been met as of period-end but were not yet billed to the payor. The estimate of net unbilled rental revenue recognized is based on historical trends and estimates of future collectability. In addition, the Company estimates potential future adjustments and write-offs of these unbilled amounts and includes these estimates in the allowance for adjustments and write-offs of rental revenue which is netted against gross receivables.

Recently issued accounting pronouncements not yet adopted

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*. The new guidance will require organizations that lease assets—referred to as "lessees"—to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases with lease terms of more than twelve months. This will increase the reported assets and liabilities – in some cases very significantly. ASU No. 2016-02 will take effect for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption will be permitted for all entities. In January 2018, the FASB issued ASU No. 2018-01, *Land Easement Practice Expedient for Transition to Topic 842*, which is an amendment to ASU No. 2016-02 that offers a practical expedient for accounting for land easements. This practice expedient allows an entity the option of not evaluating existing land easements under ASC 842. New or modified land easements will still require evaluation under ASC 842 on a prospective basis beginning on the date of adoption. The Company anticipates adopting the standard using the modified retrospective transition method at the adoption date of January 1, 2019 that would not require restatement of its comparative periods presented. As permitted under the transition guidance, the Company will carry forward the assessment of whether the Company's contracts contain or are leases, classification of the Company's leases and remaining lease terms. While the Company continues to evaluate the effect of adopting this guidance on the consolidated financial statements and related disclosures, the Company expects its operating leases, as disclosed in Note 8 – Commitments and contingencies, will be subject to the new standard. The Company intends to recognize right-of-use assets and operating lease liabilities on the consolidated balance sheets upon adoption, which will increase the Company's total assets and liabilities.

In June 2016, the FASB issued ASU No. 2016-13, *Accounting for Credit Losses (Topic 326)*. The new standard requires the use of an "expected loss" model on certain types of financial instruments. The standard also amends the impairment model for available-for-sale debt securities and requires estimated credit losses to be recorded as allowances instead of reductions to amortized cost of the securities. The ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those years, with early adoption permitted. The Company is evaluating the new guidance but does not expect it to have a material impact on the Company's consolidated financial statement presentation or results.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment*. The new guidance eliminates step two of the goodwill impairment test. Under the new guidance, an entity should recognize an impairment charge for the amount by which a reporting unit's carrying value exceeds its fair value. The ASU is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company is currently evaluating the effect of the new guidance but does not expect it to have a material impact on the Company's consolidated financial statement presentation or results.

In August 2017, the FASB issued ASU No. 2017-12, *Derivatives and Hedging*, which changes both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results, in order to better align an entity's risk management activities and financial reporting for hedging relationships. The amendments expand and refine hedge accounting for both nonfinancial and financial risk components and align the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. ASU No. 2017-12 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those annual reporting periods, with early adoption permitted. The Company intends to adopt the standard on January 1, 2019 and is still evaluating the impact that this guidance will have on the Company's consolidated financial statement presentation or results.

In January 2018, the FASB issued ASU No. 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. The new guidance permits entities the option to reclassify tax effects that are stranded in accumulated other comprehensive income as a result of the implementation of the Tax Cuts and Jobs Act to retained earnings. The Company intends to adopt the standard on January 1, 2019 and does not expect it to have a material impact on the Company's consolidated financial statement presentation or results.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*. The new guidance modifies the accounting for nonemployee share-based payments. The Company intends to adopt the standard on January 1, 2019 and does not expect it to have a material impact on the Company's consolidated financial statement presentation or results.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*. The new guidance modifies the disclosure requirements on fair value measurements. The ASU is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. While the Company continues to evaluate the effect of adopting this guidance, the Company expects the fair value disclosures related to marketable securities, as disclosed in Note 3 – Fair value of financial instruments, will be subject to the new standard.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. The new guidance clarifies the accounting for implementation costs in cloud computing arrangements. The ASU is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company plans to adopt the standard in the fourth quarter of 2018 and does not expect it to have a material impact on the Company's consolidated financial statement presentation or results.

Recently adopted accounting pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers*, which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU No. 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. ASU No. 2014-09 defines a five-step process to achieve this core principle and, in doing so, more judgment and estimates may be required within the revenue recognition process than are required under existing U.S. GAAP. In March 2016, the FASB issued ASU No. 2016-08, *Revenue with Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)* , which is an amendment to ASU No. 2014-09 that improved the operability and understandability of implementation guidance of principal versus agent considerations by clarifying the determination of principal versus agent. The Company completed its adoption plan including assessment of the Company's revenue streams and analysis of all outstanding contracts by application of the five-step model to those contracts and revenue streams. The Company adopted the standard on January 1, 2018, using the modified retrospective method. The Company finalized its analysis and the adoption of this standard did not have a material impact on the consolidated financial statements and internal controls over financial reporting.

In January 2017, the FASB issued ASU No. 2017-01, *Clarifying the Definition of a Business*. The new guidance revises the definition of a business and provides new guidance in evaluating when a set of transferred assets and activities is a business. The Company adopted this standard on January 1, 2018. The adoption of this ASU did not have a material effect on the Company's consolidated financial statement presentation or results.

Business segments

The Company operates and reports in only one operating and reportable segment – development, manufacturing, marketing, sales, and rental of respiratory products. Management reports financial information on a consolidated basis to the Company's chief operating decision maker.

3. Fair value of financial instruments

The Company's financial instruments consist of cash and cash equivalents, marketable securities, accounts receivable, accounts payable and accrued expenses. The carrying values of its financial instruments approximate fair value based on their short-term nature.

Fair value accounting

Accounting Standards Codification (ASC) 820 — *Fair Value Measurements and Disclosures*, creates a single definition of fair value, establishes a framework for measuring fair value in U.S. GAAP and expands disclosures about fair value measurements. ASC 820 emphasizes that fair value is a market-based measurement, not an entity-specific measurement, and states that a fair value measurement is to estimate the price at which an orderly transaction to sell an asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. Assets and liabilities adjusted to fair value in the balance sheet are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Level inputs, as defined by ASC 820, are as follows:

Level input	Input definition
Level 1	Inputs are unadjusted, quoted prices for identical assets or liabilities in active markets at the measurement date.
Level 2	Inputs, other than quoted prices included in Level 1 that are observable for the asset or liability through corroboration with market data at the measurement date.
Level 3	Unobservable inputs that reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date.

The Company obtained the fair value of its available-for-sale investments, which are not in active markets, from a third-party professional pricing service using quoted market prices for identical or comparable instruments, rather than direct observations of quoted prices in active markets. The Company's professional pricing service gathers observable inputs for all of its fixed income securities from a variety of industry data providers (e.g., large custodial institutions) and other third-party sources. Once the observable inputs are gathered, all data points are considered, and the fair value is determined. The Company validates the quoted market prices provided by its primary pricing service by comparing their assessment of the fair values against the fair values provided by its investment managers. The Company's investment managers use similar techniques to its professional pricing service to derive pricing as described above. As all significant inputs were observable, derived from observable information in the marketplace or supported by observable levels at which transactions are executed in the marketplace, the Company has classified its available-for-sale investments within Level 2 of the fair value hierarchy.

(amounts in thousands, except share and per share amounts)

The following table summarizes fair value measurements by level for the assets measured at fair value on a recurring basis for cash, cash equivalents and marketable securities:

	As of September 30, 2018				
	Adjusted cost	Gross unrealized gains/(losses)	Fair value	Cash and cash equivalents	Marketable securities
Cash	$ 25,257	$ —	$ 25,257	$ 25,257	$ —
Level 1:					
Money market accounts	151,025	—	151,025	151,025	—
Level 2:					
Corporate bonds	16,106	(15)	16,091	—	16,091
U.S. Treasury securities	31,486	(3)	31,483	—	31,483
Total	$ 223,874	$ (18)	$ 223,856	$ 176,282	$ 47,574

	As of December 31, 2017				
	Adjusted cost	Gross unrealized losses	Fair value	Cash and cash equivalents	Marketable securities
Cash	$ 46,237	$ —	$ 46,237	$ 46,237	$ —
Level 1:					
Money market accounts	93,430	—	93,430	93,430	—
Level 2:					
Certificates of deposit	11,010	(4)	11,006	490	10,516
Corporate bonds	20,789	(21)	20,768	2,796	17,972
Agency mortgage-backed securities	2,005	(1)	2,004	—	2,004
U.S. Treasury securities	499	—	499	—	499
Total	$ 173,970	$ (26)	$ 173,944	$ 142,953	$ 30,991

The following table summarizes the estimated fair value of the Company's investments in marketable securities, accounted for as available-for-sale securities and classified by the contractual maturity date of the securities:

	September 30, 2018
Due within one year	$ 47,574

Derivative instruments and hedging activities

The Company transacts business in foreign currencies and has international sales and expenses denominated in foreign currencies, subjecting the Company to foreign currency risk. The Company has entered into foreign currency forward contracts, generally with maturities of twelve months or less, to reduce the volatility of cash flows primarily related to forecasted revenue denominated in certain foreign currencies. These contracts allow the Company to sell Euros in exchange for U.S. dollars at specified contract rates. Forward contracts are used to hedge forecasted sales over specific months. Changes in the fair value of these forward contracts designed as cash flow hedges are recorded as a component of accumulated other comprehensive income (loss) within stockholders' equity and are recognized in the consolidated statements of comprehensive income during the period which approximates the time the corresponding sales occur. The Company may also enter into foreign exchange contracts that are not designated as hedging instruments for financial accounting purposes. These contracts are generally entered into to offset the gains and losses on certain asset and liability balances until the expected time of repayment. Accordingly, any gains or losses resulting from changes in the fair value of the non-designated contracts are reported in other expense, net in the consolidated statements of comprehensive income. The gains and losses on these contracts generally offset the gains and losses associated with the underlying foreign currency-denominated balances, which are also reported in other income (expense), net.

(amounts in thousands, except share and per share amounts)

The Company records the assets or liabilities associated with derivative instruments and hedging activities at fair value based on Level 2 inputs in other current assets or other current liabilities, respectively, in the consolidated balance sheet. The Company had a related receivable of $386 and a payable of $66 as of September 30, 2018 and December 31, 2017, respectively. The Company classifies the foreign currency derivative instruments within Level 2 in the fair value hierarchy as the valuation inputs are based on quoted prices and market observable data of whether it is designated and qualifies for hedge accounting.

The Company documents the hedging relationship and its risk management objective and strategy for undertaking the hedge, the hedging instrument, the hedged transaction, the nature of the risk being hedged, how the hedging instrument's effectiveness in offsetting the hedged risk will be assessed prospectively and retrospectively, and a description of the method used to measure ineffectiveness. The Company assesses hedge effectiveness and ineffectiveness at a minimum quarterly but may assess it monthly. For derivative instruments that are designed and qualify as part of a cash flow hedging relationship, the effective portion of the gain or loss on the derivative is reported in other comprehensive income and reclassified into earnings in the same periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current period earnings.

The Company will discontinue hedge accounting prospectively when it determines that the derivative is no longer effective in offsetting cash flows attributable to the hedge risk. The cash flow hedge is de-designated because a forecasted transaction is not probable of occurring, or management determines to remove the designation of the cash flow hedge. In all situations in which hedge accounting is discontinued and the derivative remains outstanding, the Company continues to carry the derivative at its fair value on the balance sheet and recognizes any subsequent changes in the fair value in earnings. When it is probable that a forecasted transaction will not occur, the Company will discontinue hedge accounting and recognize immediately in earnings gains and losses that were accumulated in other comprehensive income related to the hedging relationship.

Accumulated other comprehensive income

The components of accumulated other comprehensive income were as follows:

	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale investments	Unrealized gains (losses) on cash flow hedges	Accumulated other comprehensive income
Balance as of December 31, 2017	$ 363	$ (17)	$ (74)	$ 272
Other comprehensive gain	137	3	291	431
Balance as of September 30, 2018	$ 500	$ (14)	$ 217	$ 703

Comprehensive income is the total net earnings and all other non-owner changes in equity. Except for net income, foreign currency translation adjustments and unrealized gains and losses on cash flow hedges and available-for-sale investments, the Company does not have any transactions or other economic events that qualify as comprehensive income.

4. Balance sheet components

Cash, cash equivalents and marketable securities

The Company considers all short-term highly liquid investments with a maturity of three months or less to be cash equivalents. Cash equivalents are recorded at cost plus accrued interest, which is considered adjusted cost, and approximates fair value. Certificates of deposit and agency mortgage-backed securities are included in cash equivalents and marketable securities based on the maturity date of the security. Short-term investments are included in marketable securities in the current period presentation.

The Company considers investments with maturities greater than three months, but less than one year, to be marketable securities. Investments are classified as available-for-sale and are reported at fair value with unrealized gains or losses, if any, reported, net of tax, in accumulated other comprehensive income (loss). All income generated and realized gains or losses from investments are recorded to other income (expense).

(amounts in thousands, except share and per share amounts)

The Company reviews its investments to identify and evaluate investments that have an indication of possible impairment. Factors considered in determining whether a loss is temporary include the length of time and extent to which fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, and the Company's intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. Credit losses and other-than-temporary impairments are declines in fair value that are not expected to recover and are charged to other income (expense), net. Cash, cash equivalents and marketable securities consist of the following:

Cash and cash equivalents	**September 30, 2018**	**December 31, 2017**
Cash	$ 25,257	$ 46,237
Money market accounts	151,025	93,430
Certificates of deposit	—	490
Corporate bonds	—	2,796
Total cash and cash equivalents	$ 176,282	$ 142,953
Marketable securities		
Certificates of deposit	—	$ 10,516
Corporate bonds	16,091	17,972
Agency mortgage-backed securities	—	2,004
U.S. Treasury securities	31,483	499
Total marketable securities	$ 47,574	$ 30,991

Accounts receivable and allowance for bad debts, returns, and adjustments

Accounts receivable are customer obligations due under normal sales and rental terms. The Company performs credit evaluations of the customers' financial condition and generally does not require collateral. The allowance for doubtful accounts is maintained at a level that, in management's opinion, is adequate to absorb potential losses related to accounts receivable and is based upon the Company's continuous evaluation of the collectability of outstanding balances. Management's evaluation takes into consideration such factors as past bad debt experience, economic conditions and information about specific receivables. The Company's evaluation also considers the age and composition of the outstanding amounts in determining their net realizable value.

The allowance for doubtful accounts is based on estimates, and ultimate losses may vary from current estimates. As adjustments to these estimates become necessary, they are reported in earnings in the periods in which they become known. This allowance is increased by bad debt provisions charged to bad debt expense, net of recoveries, in operating expense and is reduced by direct write-offs.

The Company generally does not allow returns from providers for reasons not covered under its standard warranty provisions. Therefore, provision for sales returns applies primarily to direct-to-consumer sales. This reserve is calculated based on actual historical return rates under the Company's 30-day return program and is applied to the related sales revenue for the last month of the quarter reported.

The Company also records an allowance for rental revenue adjustments which is recorded as a reduction of rental revenue and net rental accounts receivable balances. These adjustments result from contractual adjustments, audit adjustments, untimely claims filings, or billings not paid due to another provider performing same or similar functions for the patient in the same period, all of which prevent billed revenue from becoming realizable. The allowance is based on historical revenue adjustments as a percentage of rental revenue billed and unbilled during the related period.

When recording the allowance for doubtful accounts, the bad debt expense account (general and administrative expense account) is charged; when recording allowance for sales returns, the sales returns account (contra sales revenue account) is charged; and when recording the allowance for rental reserve adjustments, the rental revenue adjustments account (contra rental revenue account) is charged.

(amounts in thousands, except share and per share amounts)

As of September 30, 2018 and December 31, 2017, included in accounts receivable on the consolidated balance sheets were earned but unbilled receivables of $937 and $1,470, respectively. These balances reflect gross unbilled receivables prior to any allowances for adjustments and write-offs. The Company consistently applies its allowance estimation methodology from period-to-period. The Company's best estimate is made on an accrual basis and adjusted in future periods as required. Any adjustments to the prior period estimates are included in the current period. As additional information becomes known, the Company adjusts its assumptions accordingly to change its estimate of the allowance.

Gross accounts receivable balance concentrations by major category as of September 30, 2018 and December 31, 2017 were as follows:

Gross accounts receivable	**September 30, 2018**	**December 31, 2017**
Rental (1)	$ 4,616	$ 6,236
Business-to-business & other receivables (2)	33,041	28,474
Total gross accounts receivable	$ 37,657	$ 34,710

Net accounts receivable (gross accounts receivable, net of allowances) balance concentrations by major category as of September 30, 2018 and December 31, 2017 were as follows:

Net accounts receivable	**September 30, 2018**	**December 31, 2017**
Rental (1)	$ 2,782	$ 4,212
Business-to-business & other receivables (2)	31,468	27,232
Total net accounts receivable	$ 34,250	$ 31,444

(1) Rental includes Medicare, Medicaid/other government, private insurance and patient pay.

(2) Business-to-business receivables included one customer with a gross accounts receivable balance of $13,207 and $10,394 as of September 30, 2018 and December 31, 2017, respectively. This customer received extended payment terms through a direct financing plan offered. The Company also has a credit insurance policy in place, which allocated up to $18,000 in coverage as of September 30, 2018 and allocated up to $12,000 in coverage as of December 31, 2017 for this customer with a $400 deductible and 10% retention.

The following tables set forth the accounts receivable allowances as of September 30, 2018 and December 31, 2017:

Allowances - accounts receivable	**September 30, 2018**	**December 31, 2017**
Doubtful accounts	$ 1,205	$ 1,415
Rental revenue adjustments	869	947
Sales returns	1,333	904
Total allowances - accounts receivable	$ 3,407	$ 3,266

Concentration of credit risk

Financial instruments that potentially subject the Company to concentration of credit risk consist principally of cash, cash equivalents, marketable securities and accounts receivable. At times, cash account balances may be in excess of the amounts insured by the Federal Deposit Insurance Corporation (FDIC). However, management believes the risk of loss to be minimal. The Company performs periodic evaluations of the relative credit standing of these institutions and has not experienced any losses on its cash and cash equivalents to date. The Company has entered into hedging relationships with a single counterparty to offset the forecasted Euro-based revenues. The credit risk has been reduced due to a net settlement arrangement whereby the Company is allowed to net settle transactions with a single net amount payable by one party to the other.

(amounts in thousands, except share and per share amounts)

Concentration of customers and vendors

The Company primarily sells its products to traditional home medical equipment providers, distributors, and resellers in the United States and in foreign countries on a credit basis. The Company also sells its products direct-to-consumers on a primarily prepayment basis. One single customer represented more than 10% of the Company's total revenue for the nine months ended September 30, 2018 and September 30, 2017. One customer with an accounts receivable balance of $13,207 represented more than 10% of the Company's net accounts receivable balance as of September 30, 2018, and two customers with accounts receivable balances of $10,394 and $6,459, respectively, each represented more than 10% of the Company's net accounts receivable balance as of December 31, 2017.

The Company currently purchases raw materials from a limited number of vendors, which resulted in a concentration of three major vendors. The three major vendors supply the Company with raw materials used to manufacture the Company's products. For the nine months ended September 30, 2018, the Company's three major vendors accounted for 19.8%, 12.6%, and 9.6%, respectively, of total raw material purchases. For the nine months ended September 30, 2017, the Company's three major vendors accounted for 19.9%, 13.9% and 9.7%, respectively, of total raw material purchases.

A portion of revenue is earned from sales outside the United States. Approximately 77.2% and 77.2% of the non-U.S. revenue for the three months ended September 30, 2018 and September 30, 2017, respectively, were invoiced in Euros. Approximately, 76.7% and 75.2% of the non-U.S. revenue for the nine months ended September 30, 2018 and September 30, 2017, respectively, were invoiced in Euros. A breakdown of the Company's revenue from U.S. and non-U.S. sources for the three and nine months ended September 30, 2018 and September 30, 2017 is as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2018	**2017**	**2018**	**2017**
U.S. revenue	$ 74,149	$ 51,844	$ 212,773	$ 142,123
Non-U.S. revenue	21,142	17,186	58,807	43,528
Total revenue	$ 95,291	$ 69,030	$ 271,580	$ 185,651

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using a standard cost method, including material, labor and manufacturing overhead, whereby the standard costs are updated at least quarterly to reflect approximate actual costs using the first-in, first-out (FIFO) method. The Company records adjustments at least quarterly to inventory for potentially excess, obsolete, slow-moving or impaired items. The Company recorded noncurrent inventory related to inventories that are expected to be realized or consumed after one year of $672 and $644 as of September 30, 2018 and December 31, 2017, respectively. Noncurrent inventories are primarily related to raw materials purchased in bulk to support long-term expected repairs to reduce costs and are classified in other assets. Inventories that are considered current consist of the following:

	September 30, 2018	December 31, 2017
Raw materials and work-in-progress	$ 26,777	$ 16,324
Finished goods	4,490	2,917
Less: reserves	(646)	(399)
Inventories	$ 30,621	$ 18,842

(amounts in thousands, except share and per share amounts)

Property and equipment

Property and equipment are stated at cost. Depreciation and amortization are calculated using the straight-line method over the assets' estimated useful lives as follows:

Rental equipment	1.5-5 years
Manufacturing equipment and tooling	2-5 years
Computer equipment and software	2-3 years
Furniture and equipment	3-5 years
Leasehold improvements	Lesser of estimated useful life or remaining lease term

Expenditures for additions, improvements and replacements are capitalized and depreciated to a salvage value of $0. Repair and maintenance costs on rental equipment are included in cost of rental revenue on the consolidated statements of comprehensive income. Repair and maintenance expense, which includes labor, parts and freight, for rental equipment was $545 and $463 for the three months ended September 30, 2018 and September 30, 2017, respectively, and $1,734 and $1,808 for the nine months ended September 30, 2018 and September 30, 2017, respectively.

Included within property and equipment is construction in process, primarily related to the design and engineering of tooling, jigs and other machinery. In addition, this item also includes computer software or development costs that have been purchased but have not completed the final configuration process for implementation into the Company's systems. These items have not been placed in service; therefore, no depreciation or amortization was recognized for these items in the respective periods.

Depreciation and amortization expense related to rental equipment and other property and equipment are summarized below for the three and nine months ended September 30, 2018 and September 30, 2017, respectively.

	Three months ended September 30,		Nine months ended September 30,	
	2018	**2017**	**2018**	**2017**
Rental equipment	$ 1,689	$ 2,366	$ 5,820	$ 7,577
Other property and equipment	691	469	1,772	1,427
Total depreciation and amortization	$ 2,380	$ 2,835	$ 7,592	$ 9,004

Property and equipment and rental equipment with associated accumulated depreciation are summarized below for September 30, 2018 and December 31, 2017, respectively.

Property and equipment	**September 30, 2018**	**December 31, 2017**
Rental equipment, net of allowances of $639 and $754, respectively	$ 44,515	$ 49,349
Other property and equipment	22,161	15,219
Property and equipment	66,676	64,568
Accumulated depreciation		
Rental equipment	32,605	34,754
Other property and equipment	11,056	9,711
Accumulated depreciation	43,661	44,465
Property and equipment, net		
Rental equipment, net of allowances of $639 and $754, respectively	11,910	14,595
Other property and equipment	11,105	5,508
Property and equipment, net	$ 23,015	$ 20,103

(amounts in thousands, except share and per share amounts)

Long-lived assets

The Company accounts for the impairment and disposition of long-lived assets in accordance with ASC 360 — *Property, Plant, and Equipment*. In accordance with ASC 360, long-lived assets to be held are reviewed for events or changes in circumstances that indicate that their carrying value may not be recoverable. The Company periodically reviews the carrying value of long-lived assets to determine whether or not impairment to such value has occurred. No impairments were recorded during the three months or nine months ended September 30, 2018 and September 30, 2017.

Goodwill

The changes in the carrying amount of goodwill for the nine months ended September 30, 2018 were as follows:

Balance as of December 31, 2017	$ 2,363
Translation adjustment	(75)
Balance as of September 30, 2018	$ 2,288

Intangible assets

There were no impairments recorded related to the Company's intangible assets during the three months or nine months ended September 30, 2018 and September 30, 2017. Amortization expense for intangible assets for the three months ended September 30, 2018 and September 30, 2017 was $332 and $101, respectively, and for the nine months ended September 30, 2018 and September 30, 2017 was $929 and $253, respectively.

The following tables represent the net carrying values of intangible assets as of the respective dates:

September 30, 2018	**Average estimated useful lives (in years)**	**Gross carrying amount**	**Accumulated amortization**	**Net amount**
Licenses	10	$ 185	$ 151	$ 34
Patents and websites	5	4,173	1,476	2,697
Customer relationships	4	1,392	493	899
Non-compete agreement	2.3	232	123	109
Commercials	2-3	653	289	364
Total		$ 6,635	$ 2,532	$ 4,103

December 31, 2017	**Average estimated useful lives (in years)**	**Gross carrying amount**	**Accumulated amortization**	**Net amount**
Licenses	10	$ 185	$ 137	$ 48
Patents and websites	5	4,173	959	3,214
Customer relationships	4	1,437	240	1,197
Non-compete agreement	3	240	52	188
Commercials	2-3	303	233	70
Total		$ 6,338	$ 1,621	$ 4,717

(amounts in thousands, except share and per share amounts)

Annual estimated amortization expense for intangibles for each of the succeeding fiscal years is summarized as follows:

	September 30, 2018
Remaining 3 months of 2018	$ 337
2019	1,240
2020	1,136
2021	846
2022	544
Thereafter	—
	$ 4,103

Current liabilities

Accounts payable and accrued expenses as of September 30, 2018 and December 31, 2017 consisted of the following:

	September 30, 2018	December 31, 2017
Accounts payable	$ 13,134	$ 9,541
Accrued inventory (in-transit and unvouchered receipts) and trade payables	10,124	7,252
Accrued purchasing card liability	2,095	2,381
Accrued franchise, sales and use taxes	523	479
Other accrued expenses	893	973
Accounts payable and accrued expenses	$ 26,769	$ 20,626

Accrued payroll as of September 30, 2018 and December 31, 2017 consisted of the following:

	September 30, 2018	December 31, 2017
Accrued bonuses	$ 5,141	$ 3,086
Accrued wages and other payroll related items	4,597	1,746
Accrued vacation	1,861	1,338
Accrued employee stock purchase plan deductions	305	707
Accrued payroll	$ 11,904	$ 6,877

5. Earnings per share

Earnings per share (EPS) is computed in accordance with ASC 260—*Earnings per Share* and is calculated using the weighted-average number of common shares outstanding during each period. Diluted EPS assumes the conversion, exercise or issuance of all potential common stock equivalents (which can include dilution of outstanding stock options, restricted stock units and restricted stock awards) unless the effect is to reduce a loss or increase the income per share. For purposes of this calculation, common stock subject to repurchase by the Company, options are considered to be common stock equivalents and are only included in the calculation of diluted earnings per share when their effect is dilutive.

Basic earnings per share is calculated using the Company's weighted-average outstanding common shares. Diluted earnings per share is calculated using the Company's weighted-average outstanding common shares including the dilutive effect of stock awards as determined under the treasury stock method.

(amounts in thousands, except share and per share amounts)

The computation of EPS is as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2018	**2017**	**2018**	**2017**
Numerator—basic and diluted:				
Net income	$ 16,432	$ 7,338	$ 41,800	$ 21,608
Denominator:				
Weighted-average common shares - basic common stock [(1)]	21,324,256	20,753,789	21,175,286	20,622,848
Weighted-average common shares - diluted common stock	22,659,052	21,998,660	22,512,125	21,832,544
Net income per share - basic common stock	$ 0.77	$ 0.35	$ 1.97	$ 1.05
Net income per share - diluted common stock	$ 0.73	$ 0.33	$ 1.86	$ 0.99
Denominator calculation from basic to diluted:				
Weighted-average common shares - basic common stock [(1)]	21,324,256	20,753,789	21,175,286	20,622,848
Stock options and other dilutive awards	1,334,796	1,244,871	1,336,839	1,209,696
Weighted-average common shares - diluted common stock	22,659,052	21,998,660	22,512,125	21,832,544
Shares excluded from diluted weighted-average shares:				
Stock options	—	64,498	—	64,498
Restricted stock units and restricted stock awards	24,579	90,083	28,737	95,783
Shares excluded from diluted weighted-average shares	24,579	154,581	28,737	160,281

(1) Unvested restricted stock units and restricted stock awards are not included as shares outstanding in the calculation of basic earnings per share. Vested restricted stock units and restricted stock awards are included in basic earnings per share if all vesting and performance criteria have been met. Performance-based restricted stock units and restricted stock awards are included in the number of shares used to calculate diluted earnings per share as long as all applicable performance criteria are met, and their effect is dilutive. Restricted stock awards are eligible to receive all dividends declared on the Company's common shares during the vesting period; however, such dividends are not paid until the restrictions lapse.

The computations of diluted net income attributable to common stockholders exclude common stock options, restricted stock units and restricted stock awards, which were anti-dilutive for the three months and nine months ended September 30, 2018 and September 30, 2017, respectively.

6. Income taxes

The Company accounts for income taxes in accordance with ASC 740—*Income Taxes*. Under ASC 740, income taxes are recognized for the amount of taxes payable or refundable for the current period and deferred tax liabilities and assets are recognized for the future tax consequences of transactions that have been recognized in the Company's consolidated financial statements or tax returns. A valuation allowance is provided when it is more likely than not that some portion, or all, of the deferred tax asset will not be realized.

The Company accounts for uncertainties in income tax in accordance with ASC 740-10—*Accounting for Uncertainty in Income Taxes*. ASC 740-10 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. This accounting standard also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

The Company recognizes interest and penalties on taxes, if any, within its income tax provision on its consolidated statements of comprehensive income. No significant interest or penalties were recognized during the periods presented.

On December 22, 2017, the Tax Cuts and Jobs Act (TCJA) was enacted into law, which significantly changes existing U.S. tax law and includes numerous provisions that affect the Company's business. Changes include, but are not limited to, a corporate tax rate decrease from 34% to 21% effective for tax years beginning after December 31, 2017, expensing of capital expenditures, the transition of U.S. international taxation from a worldwide tax system to a territorial system, a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings, and limitations on the deductibility of certain executive compensation and other deductions. The Company is required to recognize the effect of the tax law changes in the period of enactment, including the transition tax, re-measuring the Company's U.S. deferred tax assets and liabilities, as well as reassessing the net realizability of the Company's deferred tax assets and liabilities. During the fourth quarter of 2017, the Company recorded a provisional net charge of $7,578 related to the TCJA due to the remeasurement of the deferred taxes. There was no impact related to the one-time transition tax on the mandatory deemed repatriation of foreign earnings.

As of September 30, 2018, the Company has not completed the accounting for the income tax effects of the TCJA. No further changes have been made to the provisional amounts reported for the transition tax or the remeasurement of the deferred taxes during the nine months ended September 30, 2018. For the foreign derived intangible income, executive compensation, and other deductions, the Company recorded an estimate in the effective tax rate for the nine months ended September 30, 2018. The Company has not yet determined a policy election with respect to whether to record deferred taxes for basis differences expected to reverse as a result of the global intangible low tax income provisions in future periods or use the period cost method.

Given the significant complexity of the TCJA, the Company will continue to evaluate and analyze the impact of this legislation. New guidance from regulators, interpretation of the law, and refinement of the Company's estimates from ongoing analysis of data and tax positions may change the provisional amounts.

The Company has operations in the U.S., multiple U.S. states and the Netherlands. The statute of limitations has expired for all tax years prior to 2013 for federal jurisdictions and the Netherlands, and 2012 to 2013 for various state tax jurisdictions. However, the net operating loss generated on the Company's federal and state tax returns in prior years may be subject to adjustments by the federal and state tax authorities.

The Company determined the income tax provision for interim periods using an estimate of the Company's annual effective tax rate, adjusted for discrete items arising in that quarter. In each quarter, the Company updates its estimated annual effective tax rate, and if the estimated annual effective tax rate changes, a cumulative adjustment is recorded in that quarter. The Company's quarterly income tax provision and quarterly estimate of the annual effective tax rate are subject to volatility due to several factors, including our ability to accurately predict the proportion of our income (loss) before provision for income taxes in multiple jurisdictions, the tax effects of our stock-based compensation, and the effects of its acquisition and the integration of that acquisition.

7. Stockholders' equity

The Company has a 2002 Stock Incentive Plan (2002 Plan) as amended, under which the Company granted options to purchase shares of its common stock. As of September 30, 2018, options to purchase 7,825 shares of common stock remained outstanding under the 2002 Plan. The 2002 Plan was terminated in March 2012 in connection with the adoption of the 2012 Plan, and, accordingly, no new options are available for issuance under this plan. The 2002 Plan continues to govern outstanding awards granted thereunder.

The Company has a 2012 Equity Incentive Plan (2012 Plan) under which the Company granted options to purchase shares of its common stock. As of September 30, 2018, options to purchase 257,461 shares of common stock remained outstanding under the 2012 Plan. The 2012 Plan was terminated in connection with the Company's initial public offering in February 2014, and accordingly, no new options are available for issuance under this plan. The 2012 Plan continues to govern outstanding awards granted thereunder.

The Company has a 2014 Equity Incentive Plan (2014 Plan) that provides for the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to the Company's employees and any parent and subsidiary corporation's employees, and for the grant of nonstatutory stock options, restricted stock, restricted stock units, restricted stock awards, stock appreciation rights, performance units and performance shares to its employees, directors and consultants and its parent and subsidiary corporations' employees and consultants.

As of September 30, 2018, awards with respect to 1,278,875 shares of the Company's common stock were outstanding, and 1,911,811 shares of common stock remained available for issuance under the 2014 Plan. The shares available for issuance under the 2014 Plan will be increased by any shares returned to the 2002 Plan, 2012 Plan and the 2014 Plan as a result of expiration or termination of awards (provided that the maximum number of shares that may be added to the 2014 Plan pursuant to such previously granted awards under the 2002 Plan and 2012 Plan is 2,328,569 shares). The number of shares available for issuance under the 2014 Plan also is increased annually on the first day of each fiscal year by an amount equal to the least of:

- 895,346 shares;

(amounts in thousands, except share and per share amounts)

- 4% of the outstanding shares of common stock as of the last day of the Company's immediately preceding fiscal year; or
- such other amount as the Company's board of directors may determine.

For 2018, an additional 839,054 shares were added to the 2014 Plan share reserve pursuant to the provision described above.

Stock options

Options typically expire between seven and ten years from the date of grant and vest over one to four year terms. Options have been granted to employees, directors and consultants of the Company, as determined by the board of directors, at the deemed fair market value of the shares underlying the options at the date of grant.

The activity for stock options under the Company's stock plans is as follows:

	Options	Price per share	Weighted-average exercise price	Remaining weighted-average contractual terms (in years)	Per share average intrinsic value
Outstanding as of December 31, 2017	1,836,426	\$0.60-\$83.30	\$ 30.77	4.58	\$ 88.31
Granted	—	—	—		
Exercised	(434,724)	0.60-58.95	25.22		
Forfeited	(625)	24.52	24.52		
Expired	—	—	—		
Outstanding as of September 30, 2018	1,401,077	\$0.75-\$83.30	\$ 32.50	4.03	\$ 211.62
Vested and exercisable as of September 30, 2018	1,048,407	\$0.75-\$83.30	\$ 28.95	3.93	\$ 215.17
Vested and expected to vest as of September 30, 2018	1,377,950	\$0.75-\$83.30	\$ 32.32	4.03	\$ 211.80

The unrecognized compensation expense related to non-vested stock-based compensation granted under the Plans as of September 30, 2018 and September 30, 2017 was \$5,158 and \$11,401, respectively.

S***tock incentive awards***

The Company grants restricted stock units (RSUs) and restricted stock awards (RSAs) under the 2014 Plan (Stock Awards). The Stock Awards vest either based solely on the satisfaction of time-based service conditions or on the satisfaction of time-based service conditions combined with performance criteria. Stock Awards are subject to forfeiture if the holder's services to the Company terminate before vesting.

Stock Awards granted with only time-based service vesting conditions generally vest over a four-year service period, as defined in the terms of each award. Stock Awards that vest based on the satisfaction of time-based service conditions combined with performance criteria generally vest over a three-year service and performance period, based on performance criteria established at the time of the grant of the award. The portion of the Stock Award that is earned may exceed, be equal to or be less than the targeted number of shares subject to the Stock Award depending on whether the performance criteria are met.

(amounts in thousands, except share and per share amounts)

Stock Awards activity for the nine months ended September 30, 2018, is summarized below:

	Time-based	Performance and time-based	Total	Weighted-average grant date fair value per share
Unvested restricted stock units outstanding as of December 31, 2017	42,028	13,109	55,137	$ 90.05
Granted	30,033	—	30,033	143.19
Vested	(11,002)	(4,370)	(15,372)	89.05
Forfeited/canceled	(1,452)	—	(1,452)	104.81
Unvested restricted stock units outstanding as of September 30, 2018 (1)	59,607	8,739	68,346	$ 113.32
Unvested and expected to vest restricted stock units outstanding as of September 30, 2018			63,449	$ 114.10
Unvested restricted stock awards outstanding as of December 31, 2017	20,789	20,785	41,574	$ 91.52
Granted	22,645	33,964	56,609	130.89
Vested	(5,198)	(6,928)	(12,126)	91.52
Forfeited/canceled	—	—	—	—
Unvested restricted stock awards outstanding as of September 30, 2018 (1)	38,236	47,821	86,057	$ 115.38
Unvested and expected to vest restricted stock awards outstanding as of September 30, 2018			68,621	$ 115.77

(1) Outstanding restricted stock units and restricted stock awards are based on the maximum payout of the targeted number of shares.

As of September 30, 2018, the unrecognized compensation cost related to unvested employee restricted stock units and restricted stock awards was $11,781, excluding estimated forfeitures. This amount is expected to be recognized over a weighted-average period of 2.7 years.

Employee stock purchase plan

The Company's 2014 Employee Stock Purchase Plan (ESPP) provides for the grant to all eligible employees an option to purchase stock under the ESPP, within the meaning Section 423 of the Internal Revenue Code. The ESPP permits participants to purchase common stock through payroll deductions of up to 15% of their eligible compensation, which includes a participant's base straight time gross earnings, incentive compensation, bonuses, overtime and shift premium, but exclusive of payments for equity compensation and other similar compensation. A participant may purchase a maximum of 1,500 shares during a purchase period. Amounts deducted and accumulated by the participant are used to purchase shares of the Company's common stock at the end of each six-month period. The purchase price of the shares will be 85% of the lower of the fair market value of the Company's common stock on the first trading day of each offering period or on the exercise date. The offering periods are currently approximately six months in length beginning on the first business day on or after March 1 and September 1 of each year and ending on the first business day on or after September 1 and March 1 approximately six months later.

As of September 30, 2018, a total of 746,448 shares of common stock were available for sale pursuant to the ESPP.

The number of shares available for sale under the ESPP is increased annually on the first day of each fiscal year by an amount equal to the least of:

- 179,069 shares;
- 1.5% of the outstanding shares of the Company's common stock on the last day of the Company's immediately preceding fiscal year; or
- such other amount as may be determined by the administrator.

(amounts in thousands, except share and per share amounts)

For 2018, an additional 179,069 shares were added to the ESPP share reserve pursuant to the provision described above.

Stock-based compensation

Stock-based compensation expense recognized for the three months and nine months ended September 30, 2018 and September 30, 2017 was as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2018	**2017**	**2018**	**2017**
Stock-based compensation expense by type of award:				
Stock option plan awards	$ 1,348	$ 2,012	$ 4,847	$ 5,811
Restricted stock units and restricted stock awards	1,679	402	4,334	450
Employee stock purchase plan	189	109	602	369
Total stock-based compensation expense	$ 3,216	$ 2,523	$ 9,783	$ 6,630

Employee stock-based compensation expense was calculated based on awards of stock options, restricted stock units and restricted stock awards ultimately expected to vest based on the Company's historical award cancellations. The employee stock-based compensation expense recognized for the nine months ended September 30, 2018 and September 30, 2017 has been reduced for estimated forfeitures of stock option plan awards at a rate of 7.3% and 7.3%, respectively. The employee stock-based compensation expense recognized for the nine months ended September 30, 2018 and September 30, 2017 has been reduced for estimated forfeitures of restricted stock at a rate of 4.7% and 6.0%, respectively. ASC 718 – *Compensation-Stock Compensation* requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

For the three months and nine months ended September 30, 2018 and September 30, 2017, stock-based compensation expense recognized under ASC 718, included in cost of revenue, research and development expense, sales and marketing expense, and general and administrative expense, was as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2018	**2017**	**2018**	**2017**
Cost of revenue	$ 187	$ 205	$ 719	$ 608
Research and development	348	260	1,010	733
Sales and marketing	630	407	1,761	1,069
General and administrative	2,051	1,651	6,293	4,220
Total stock-based compensation expense	$ 3,216	$ 2,523	$ 9,783	$ 6,630

401(k) retirement savings plan

The Company maintains a 401(k) retirement savings plan for the benefit of eligible employees. Under the terms of this plan, eligible employees are able to make contributions to the plan on a tax-deferred basis. The Company began matching employees' contributions, effective January 1, 2017. The Company contributed $650, net of forfeitures, to the 401(k) plan for the nine months ended September 30, 2018 and $430, net of forfeitures, for the nine months ended September 30, 2017.

(amounts in thousands, except share and per share amounts)

8. Commitments and contingencies

Leases and non-cancelable contractual obligations

The Company leases its facilities and certain equipment under operating leases that expire through September 2024. As of September 30, 2018, the minimum aggregate payments due under operating leases and specified non-cancelable contractual obligations, which consist of software license and maintenance agreements, are summarized as follows:

	Operating leases	Related party leases	Non-cancelable contractual obligations	Total
Remaining 3 months of 2018	$ 546	$ 8	$ 144	$ 698
2019	2,450	31	578	3,059
2020	2,212	10	578	2,800
2021	1,593	—	457	2,050
2022	1,273	—	—	1,273
Thereafter	2,132	—	—	2,132
	$ 10,206	$ 49	$ 1,757	$ 12,012

As a result of the MedSupport acquisition, the Company leases a property owned by a related party. Rent expense for the property was $8 and $24 for the three and nine months ended September 30, 2018, respectively.

Rent expense of $453 and $289 for the three months ended September 30, 2018 and September 30, 2017, respectively, and $1,183 and $829 for the nine months ended September 30, 2018 and September 30, 2017, respectively, was included in the accompanying consolidated statements of comprehensive income.

Purchase obligations

The Company had approximately $61,600 of outstanding purchase orders with its outside vendors and suppliers as of September 30, 2018.

Warranty obligations

Accruals for estimated standard warranty expenses are made at the time that the associated revenue is recognized. The provisions for estimated warranty obligations are made based on known claims and estimates of additional returns and warranty obligations based on historical data and future expectations. The following table identifies the changes in the Company's aggregate product warranty liabilities for the nine and twelve-month periods ended September 30, 2018 and December 31, 2017, respectively:

	September 30, 2018	December 31, 2017
Product warranty liability at beginning of period	$ 6,171	$ 3,480
Accruals for warranties issued	5,992	5,275
Adjustments related to preexisting warranties (including changes in estimates)	200	200
Settlements made (in cash or in kind)	(3,121)	(2,784)
Product warranty liability at end of period	$ 9,242	$ 6,171

Legislation and HIPAA

The healthcare industry is subject to numerous laws and regulations of federal, state and local governments. These laws and regulations include, but are not necessarily limited to, matters such as licensure, accreditation, government healthcare program participation requirements, reimbursement for patient services, and Medicare and Medicaid fraud and abuse. Government activity has continued with respect to investigations and allegations concerning possible violations of fraud and abuse statutes and regulations by healthcare providers. Violations of these laws and regulations could result in exclusion from government healthcare programs together with the imposition of significant fines and penalties, as well as significant repayments for patient services previously billed.

The Company believes that it is in compliance in all material respects with applicable fraud and abuse regulations and other applicable government laws and regulations. Compliance with such laws and regulations can be subject to future government review and interpretation as well as regulatory actions unknown or unasserted at this time.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) ensures health insurance portability, reduces healthcare fraud and abuse, guarantees security and privacy of health information, and enforces standards for health information. The Health Information Technology for Economic and Clinical Health Act (HITECH Act) imposes notification requirements of certain security breaches relating to protected health information. The Company believes it complies in all material respects with the provisions of those regulations that are applicable to the Company's business.

Legal proceedings

The Company is party to various legal proceedings arising in the normal course of business. The Company carries insurance, subject to specified deductibles under the policies, to protect against losses from certain liabilities and costs. At this time, the Company does not anticipate that any of these other proceedings will have a material adverse effect on the Company's business. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources, and other factors.

9. Foreign currency exchange contracts and hedging

As of September 30, 2018 and September 30, 2017, the Company's total non-designated and designated derivative contracts had notional amounts totaling approximately $4,105 and $27,310, respectively, and $2,251 and $11,117, respectively. These contracts were comprised of offsetting contracts with the same counterparty, each expires within one to six months, and had an unrealized gain of approximately $291, net of tax, during the nine months ended September 30, 2018, and an unrealized loss of approximately $145, net of tax, during the nine months ended September 30, 2017.

The nonperformance risk of the Company and the counterparty did not have a material impact on the fair value of the derivatives. During the nine months ended September 30, 2018 and September 30, 2017, there were no ineffective portions relating to these hedges and the hedges remained effective through their respective settlement dates. As of September 30, 2018, the Company had thirty-nine designated hedges and seven non-designated hedges. As of September 30, 2017, the Company had fifteen designated hedges and three non-designated hedges.

Item 2: Management’s Discussion and Analysis of Financial Condition and Results of Operations

Forward-Looking Statements

The following discussion and analysis should be read together with our consolidated financial statements and the condensed notes to those statements included elsewhere in this Quarterly Report on Form 10-Q. This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are based on our management’s beliefs and assumptions and on information currently available to our management. The forward-looking statements are contained principally in the section entitled “Risk Factors” and this Management’s Discussion and Analysis of Financial Condition and Results of Operations. Forward-looking statements include, but are not limited to, statements concerning the following:

- information concerning our possible or assumed future cash flow, revenue, sources of revenue and results of operations, operating and other expenses;
- our assessment of reimbursement rate changes, the continued impact from competitive bidding, and future changes in rental revenue;
- our expectations regarding regulatory approvals and government and third-party payor coverage and reimbursement;
- our ability to develop new products, improve our existing products and increase the value of our products;
- our expectations regarding Inogen Capital;
- our expectations regarding the timing of new product and product improvement launches, as well as product features and specifications;
- market share expectations, unit sales, business strategies, financing plans, expansion of our business, competitive position, industry environment, and potential growth opportunities;
- our expectations regarding the market size, market growth and the growth potential for our business;
- our ability to sustain and manage growth, including our ability to develop new products and enter new markets;
- our expectations regarding the average selling price and manufacturing costs of our products, including our expectations to continue to reduce average unit costs for our systems and the impact of the recent reduction in the retail price of our products;
- our expectation to expand our sales and marketing channels, including through hiring additional sales representatives, and expanding our advertising campaigns;
- our expectations with respect to our European and U.S. facilities and our expectations with respect to our contract manufacturer in Europe;
- our ability to successfully acquire and integrate companies and assets and the anticipated benefits from our acquisition of MedSupport;
- our expectations regarding the impact and implementation of trade regulations on our supply chain;
- our expectations regarding excess tax benefits from stock-based compensation;
- our expectations of future accounting pronouncements or changes in our accounting policies;
- our assessments and estimates of our effective tax rate;
- our internal control environment;
- the effects of seasonal trends on our results of operations and estimated hiring plans;
- our expectation that our existing capital resources and the cash to be generated from expected product sales and rentals will be sufficient to meet our projected operating and investing requirements for at least the next twelve months; and
- the effects of competition.

Forward-looking statements include statements that are not historical facts and can be identified by terms such as “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” or similar expressions and the negatives of those terms.

Forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in Part II, Item 1A, “Risk Factors,” elsewhere in this Quarterly Report on Form 10-Q and in our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for us to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this Quarterly Report on Form 10-Q may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

This Quarterly Report on Form 10-Q also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

“Inogen,” “Inogen One,” “Inogen One G2,” “Inogen One G3,” “G4,” “G5,” “Oxygenation,” “Live Life in Moments, not Minutes,” “Never Run Out of Oxygen,” “Oxygen Therapy on Your Terms,” “Oxygen.Anytime.Anywhere,” “Reclaim Your Independence,” “Intelligent Delivery Technology,” “Inogen At Home,” and the Inogen design are registered and/or pending trademarks with the United States Patent and Trademark Office of Inogen, Inc. We own trademark registrations for the mark “Inogen” in Australia, Canada, South Korea, Mexico, Europe (European Union Registration), and Japan. We own a pending application for the mark “Inogen” in China and a pending International Registration for the mark “Inogen” designating Colombia, Europe (European Union Application), Iceland, India, Israel, New Zealand, Norway, Singapore, Switzerland and Turkey. We own a trademark registration for the mark “□□□□□” in Japan. We own trademark registrations for the mark “Inogen One” in Australia, Canada, China, South Korea, Mexico, and Europe (European Union Registration). We own a trademark registration for the mark “Satellite Conserver” in Canada. We own a trademark registration for the mark “Inogen At Home” in Europe (European Union Registration). We own trademark registrations for the mark “G4” in Europe (European Union Registration) and the United Kingdom. Other service marks, trademarks, and trade names referred to in this Quarterly Report on Form 10-Q are the property of their respective owners.

In this Quarterly Report on Form 10-Q, “we,” “us” and “our” refer to Inogen, Inc. and its subsidiaries.

The following discussion of our financial condition and results of operations should be read together with our consolidated financial statements and the accompanying condensed notes to those statements included elsewhere in this document. Also, forward-looking statements represent our management’s beliefs and assumptions only as of the date of this Quarterly Report on Form 10-Q.

Critical accounting policies and significant estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements which have been prepared in accordance with generally accepted accounting principles in the United States of America, or U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and related disclosure of contingent assets and liabilities, revenue and expenses at the date of the financial statements. Generally, we base our estimates on historical experience and on various other assumptions in accordance with U.S. GAAP that we believe to be reasonable under the circumstances. Actual results may differ from these estimates and such differences could be material to the financial position and results of operations.

There have been no material changes in our critical accounting policies and estimates in the preparation of our consolidated financial statements during the three and nine months ended September 30, 2018 compared to those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on February 27, 2018.

Overview

We are a medical technology company that primarily develops, manufactures and markets innovative portable oxygen concentrators used to deliver supplemental long-term oxygen therapy to patients suffering from chronic respiratory conditions. Traditionally, these patients have relied on stationary oxygen concentrator systems for use in the home and oxygen tanks or cylinders for mobile use, which we call the delivery model. The tanks and cylinders must be delivered regularly and have a finite amount of oxygen, which requires patients to plan activities outside of their homes around delivery schedules and a finite oxygen supply. Additionally, patients must attach long, cumbersome tubing to their stationary concentrators simply to enable mobility within their homes. Our proprietary Inogen One® systems concentrate the air around the patient to offer a single source of supplemental oxygen anytime, anywhere with a portable device weighing approximately 2.8 or 4.8 pounds with a single battery. We believe our Inogen One systems reduce the patient's reliance on stationary concentrators and scheduled deliveries of tanks with a finite supply of oxygen, thereby improving patient quality of life and fostering mobility.

In May 2004, we received 510(k) clearance from the U.S. Food and Drug Administration, or the FDA, for our Inogen One portable oxygen concentrator. From our launch of the Inogen One in 2004, through 2008, we derived our revenue almost exclusively from sales to healthcare providers and distributors. In December 2008, we acquired Comfort Life Medical Supply, LLC in order to secure access to the Medicare rental market and began accepting Medicare reimbursement for our oxygen solutions in certain states. At the time of the acquisition, Comfort Life Medical Supply, LLC had an active Medicare billing number but few other assets and limited business activities. In January 2009, following the acquisition of Comfort Life Medical Supply, LLC, we initiated our direct-to-consumer marketing strategy and began selling Inogen One systems directly to patients and building our Medicare rental business in the United States. In April 2009, we became a Durable, Medical Equipment, Prosthetics, Orthotics, and Supplies accredited Medicare supplier by the Accreditation Commission for Health Care. We were the first oxygen therapy manufacturer to employ a direct-to-consumer marketing strategy, meaning we advertise directly to patients, process their physician paperwork, and provide clinical support as needed, which we believe has contributed to our market leadership position in the portable oxygen concentrator market. While other manufacturers have also begun direct-to-consumer marketing campaigns to drive patient sales, we believe we are the only portable oxygen concentrator manufacturer that employs a direct-to-consumer rental marketing strategy in the United States, meaning we bill Medicare or insurance on their behalf.

We derive the majority of our revenue from the sale and rental of our Inogen One system and related accessories to patients, insurance carriers, home healthcare providers and distributors, including our private label partner. Our Inogen One system includes a concentrator, battery, power supply and carry bag. We sell multiple configurations of our Inogen One systems with various batteries, accessories, warranties, power cords and language settings. We also rent our products to Medicare beneficiaries and patients with other insurance coverage to support their oxygen needs as prescribed by a physician as part of a care plan. Our goal is to design, build and market oxygen solutions that redefine how oxygen therapy is delivered. To accomplish this goal and to grow our revenue, we intend to continue to:

- *Expand our domestic sales and marketing channels* . During the year ended December 31, 2017, we increased our inside sales representatives to 263 from 177 as of December 31, 2016 in support of our direct-to-consumer domestic sales. We also opened a new facility in Cleveland, Ohio in the third quarter of 2017. In that facility, we expect to have approximately 500 employees by year-end 2020 with at least two-thirds of those employees expected to be sales representatives, which in conjunction with planned increases in marketing expenditures, is anticipated to increase our direct-to-consumer sales. We are also focused on building our domestic business-to-business partnerships, including relationships with distributors, key accounts, resellers, our private label partner, and traditional home medical equipment (HME) providers. We also plan to launch Inogen Capital, an HME-focused financing program, in the fourth quarter of 2018, which we believe will support HME providers in securing financing to help convert their businesses to a non-delivery portable oxygen concentrator business model. Inogen Capital will be financed through a third party to provide direct lease financing between the third party and our HME customer with no recourse obligation to us for events of default. We believe Inogen Capital will be a valuable tool for smaller homecare providers that have historically been capital constrained.
- *Invest in our product offerings to develop innovative products*. We expended $2.1 million and $1.4 million for the three months ended September 30, 2018 and September 30, 2017, respectively, and $5.3 million and $3.9 million for the nine months ended September 30, 2018 and September 30, 2017, respectively, in research and development expenses, and we intend to continue to make such investments in the foreseeable future. We launched our fourth-generation portable oxygen concentrator, the Inogen One G4, in May 2016. The Inogen One G4 weighs 2.8 pounds, versus 4.8 pounds for our Inogen One G3, and is approximately half the size of the Inogen One G3. The sound level is 40 dBA at setting 2 and it produces up to 630 ml/minute of oxygen output. We estimate that it is suitable for more than 85% of supplemental long-term ambulatory oxygen therapy patients who contact us. The Inogen One G4 system is also less expensive to manufacture than our Inogen One G3 system. We are also developing our next-generation portable oxygen concentrator, the Inogen One G5. We expect to launch the Inogen One G5 in the first half of 2019. Similar to the Inogen One G4 launch, we expect to first roll out the Inogen One G5 through our direct-to-consumer channel, followed by the domestic business-to-business channel, and lastly into our international business-to-business channel. We expect that the Inogen One G5 will produce a higher oxygen capacity output, be smaller in size, and have a longer battery life than the Inogen One G3. Thus, we expect the Inogen One G5 to obsolete the Inogen One G3 over the intermediate term. We also plan to launch Inogen Connect, our new connectivity platform on our Inogen One G4 systems before year-end 2018 in the direct-to-consumer channel followed by the domestic business-to-business channel by the end of the first quarter of 2019. We also expect to launch

the platform with the Inogen One G5 in the first half of 2019. Inogen Connect will be compatible with Apple and Android platforms and include patient features such as purity status, battery life, product support functions, notification alerts, and remote software updates. We believe home oxygen providers will also find features such as remote troubleshooting, equipment health checks, and location tracking to help drive operational efficiencies when transitioning away from the oxygen tank delivery model.

- *Increase international business-to-business adoption.* Although our main growth opportunity remains portable oxygen concentrator adoption in the United States given the relatively low penetration rate, we are keenly aware of the large international market opportunity. In order to take advantage of these international opportunities, we have built out an infrastructure over the past few years, which includes sales in 46 international countries and a contract manufacturing partner, Foxconn, located in the Czech Republic to support European sales volumes. Further, we are also in the process of developing regulatory and sales pathways to capture opportunities in new and emerging markets. We expect to enter the Chinese market by year-end 2020. Over time, as the U.S. and European markets mature, our growth will depend on our ability to drive POC adoption in emerging markets, where limited oxygen therapy treatment exists today.

We have been developing and refining the manufacturing of our Inogen One systems since 2004. While nearly all of our manufacturing and assembly processes were originally outsourced, assembly of the compressors, sieve beds, concentrators and certain manifolds were brought in-house in order to improve quality control and reduce cost. In support of our European sales, we established a physical presence in Europe by acquiring our former distributor, MedSupport, on May 4, 2017 and began production of our Inogen One G3 concentrators in the fourth quarter of 2017 using a contract manufacturer to improve our ability to service our European customers. Our contract manufacturer produces the vast majority of the Inogen One G3 concentrators required to support our European demand. We expect to maintain our assembly operations for our Inogen One concentrators and Inogen At Home concentrators at our facilities in Richardson, Texas and Goleta, California. This has allowed us to continue to expand our manufacturing capacity and redirect our U.S. manufacturing activities to focus on growth in the U.S., on our latest product, the Inogen One G4, and on our upcoming launch of the Inogen One G5.

We also use lean manufacturing practices to maximize manufacturing efficiency. We rely on third-party manufacturers to supply several components of our Inogen One and Inogen At Home systems. We typically enter into supply agreements for these components that specify quantity and quality requirements and delivery terms. In certain cases, these agreements can be terminated by either party upon relatively short notice. We have elected to source certain key components from single sources of supply, including our batteries, motors, valves, and some molded plastic components. We believe that maintaining a single source of supply allows us to control production costs and inventory levels and to manage component quality. However, any reduction or halt in supply from one of these single-source suppliers could limit our ability to manufacture our products or devices until a replacement supplier is found and qualified.

Historically, we have generated a majority of our revenue from sales and rentals to customers in the United States. For the three months ended September 30, 2018 and September 30, 2017, approximately 22.2% and 24.9%, respectively, and 21.6% and 23.5% for the nine months ended September 30, 2018 and September 30, 2017, respectively, of our total revenue was from sales to customers outside the United States, primarily in Europe. Approximately 77.2% and 77.2% of the non-U.S. revenue for the three months ended September 30, 2018 and September 30, 2017, respectively, and 76.7% and 75.2% for the nine months ended September 30, 2018 and September 30, 2017, respectively, was invoiced in Euros with the remainder invoiced in United States dollars. As of September 30, 2018, we sold our products in 46 countries outside the United States through our wholly owned subsidiary, distributors or directly to large “house” accounts, which include gas companies, HME oxygen providers, and resellers. In those instances, we sell to and bill the distributor or “house” accounts directly, leaving responsibility for the patient billing, support and clinical setup to the local provider.

Our total revenue was $95.3 million and $69.0 million for the three months ended September 30, 2018 and September 30, 2017, respectively, and $271.6 million and $185.7 million for the nine months ended September 30, 2018 and September 30, 2017, respectively. The increase was primarily due to growth in sales revenue associated with the increases in direct-to-consumer and business-to-business sales of our Inogen One systems. We generated net income of $16.4 million and $7.3 million for the three months ended September 30, 2018 and September 30, 2017, respectively, and $41.8 million and $21.6 million for the nine months ended September 30, 2018 and September 30, 2017, respectively. We generated Adjusted EBITDA of $16.3 million and $14.1 million for the three months ended September 30, 2018 and September 30, 2017, respectively, and $50.8 million and $39.3 million for the nine months ended September 30, 2018 and September 30, 2017, respectively (see “Non-GAAP financial measures” for reconciliations between U.S. GAAP and non-GAAP results). As of September 30, 2018, our retained earnings were $50.4 million.

Sales revenue

Our future financial performance will be driven in part by the growth in sales of our Inogen One systems, and, to a lesser extent, sales of batteries, other accessories, and sales of our Inogen At Home stationary oxygen concentrators. We plan to grow our system sales in the coming years through multiple strategies including: expanding our direct-to-consumer sales efforts through hiring additional sales representatives, investing in consumer awareness through increased marketing efforts, expanding our sales infrastructure and efforts outside of the United States, expanding our business-to-business sales through key partnerships, and enhancing our product offerings through additional product launches. As our product offerings grow, we solicit feedback from our customers and focus our research and development efforts on continuing to improve patient preference and reduce the total cost of the product in order to further drive sales of our products. For example, in the second quarter of 2018, we completed a direct-to-consumer pricing elasticity trial which indicated that by lowering our price we can expand access to our products and increase sales volumes while also improving our total gross margin profile. Accordingly, as of June 1, 2018, we reduced the starting retail minimum advertised price for our Inogen One G3 and Inogen One G4 systems.

Our direct-to-consumer sales process involves numerous interactions with the individual patient, the physician and the physician's staff, and includes an in-depth analysis and review of our product, the patient's diagnosis and prescribed oxygen therapy, including procuring an oxygen prescription. The patient may consider whether to finance the product through an Inogen-approved third-party or purchase the equipment. Product is not deployed until both the prescription and payment are received. Once a full system is deployed, the patient has 30 calendar days to return the product, subject to the payment of a minimal processing and handling fee. Approximately 7-14% of consumers who purchase a system return the system during this 30-day return period.

Our business-to-business efforts are focused on selling to distributors, HME oxygen providers, our private label partner and resellers, who are based inside and outside of the United States. This process involves interactions with various key customer stakeholders including sales, purchasing, product testing, and clinical personnel. Businesses that have patient demand that can be met with our oxygen concentrator systems place purchase orders to secure product deployment. This may be influenced based on outside factors, including the result of tender offerings, changes in insurance plan coverage, and overall changes in the net oxygen therapy patient population. Products are shipped freight on board (FOB) Inogen dock domestically, and based on financial history and profile, businesses may either prepay or receive extended payment terms. Products are shipped both FOB Inogen dock and Delivery Duty Paid (DDP) for certain international shipments depending on the shipper used. DDP shipments are Inogen's property until title has transferred which is upon duty being paid and delivered to the customer. As a result of these factors, product purchases can be subject to changes in demand by customers.

We sold approximately 52,400 systems in the three months ended September 30, 2018 compared to 36,000 systems for the same period in 2017. We sold approximately 152,500 systems in the nine months ended September 30, 2018 compared to 94,000 systems for the same period in 2017. Management focuses on system sales as an indicator of current business success.

Rental revenue

Our direct-to-consumer rental process involves numerous interactions with the individual patient, the physician and the physician's staff. The process includes an in-depth analysis and review of our product, the patient's diagnosis and prescribed oxygen therapy, and their medical history to confirm the appropriateness of our product for the patient's oxygen therapy and compliance with Medicare and private payor billing requirements, which often necessitates additional physician evaluation and/or testing as well as a Certificate of Medical Necessity. Once the product is deployed, the patient receives direction on product use and may receive a clinical titration from our licensed staff to confirm the product meets the patient's medical oxygen needs prior to billing. As a result, the time from initial contact with a patient to billing can vary significantly and be up to one month or longer.

We expect rental revenue to be down approximately 10% in 2018 as compared to 2017, primarily due to our continued focus on sales versus rentals. We expect rental revenue to modestly increase in 2019 as compared to 2018. We plan to add new rental patients on service in future periods through multiple strategies, including expanding our direct-to-consumer marketing efforts while hiring additional sales representatives, investing in patient and physician awareness, and securing additional insurance contracts. However, patients may come off our services due to death, a change in their condition, a change in location, a change in healthcare provider or other factors. In each case, we maintain asset ownership and can redeploy assets as appropriate following such events. Given the length and uncertainty of our patient acquisition cycle and potential returns we have experienced in the past, and likely will experience in the future, fluctuations in our net new patient setups will occur on a period-to-period basis and we may experience negative net patient additions in future periods. At this time, we do not plan to offer our Inogen One G4 system to rental patients but will continue to use the Inogen One G3 system as the primary ambulatory solution deployed in our rental fleet. We plan to use the Inogen One G5 system in our rental fleet once production of the Inogen One G3 system is discontinued.

A portion of rentals include a capped rental period during which no additional reimbursement is allowed unless additional criteria are met. In this scenario, the ratio of billable patients to total patients on service is critical to maintaining rental revenue growth as patients on service increases. Medicare has noted a certain percentage of beneficiaries, approximately 25%, based on their review of Medicare claims, reach the 36^{th} month of eligible reimbursement and enter the capped rental period. Our capped patients as a percentage of total patients on service was approximately 18.1% as of September 30, 2018 compared to approximately 17.1% as of September 30, 2017. The percentage of capped patients may fluctuate over time as new patients come on service, patients come off of service before and during the capped rental period, and existing patients enter the capped rental period.

As of September 30, 2018, we had approximately 27,500 oxygen rental patients, a decrease from approximately 31,600 oxygen rental patients as of September 30, 2017. Management focuses on patients on service as a leading indicator of likely future rental revenue; however, actual rental revenue recognized is subject to a variety of other factors, including reimbursement levels by payor, patient location, the number of capped patients, write-offs for uncollectable balances, and rental revenue adjustments.

Reimbursement

We rely heavily on reimbursement from the Centers for Medicare and Medicaid Services (CMS), and secondarily, from private payors, Medicaid and patients for our rental revenue.

For the three months and nine months ended September 30, 2018, approximately 79.9% and 77.2%, respectively, of our rental revenue was derived from Medicare's service reimbursement programs. The U.S. list price for our stationary oxygen rentals (HCPCS E1390) is $260 per month and the U.S. list price for our oxygen generating portable equipment (OGPE) rentals (HCPCS E1392) is $70 per month. Effective January 1, 2017, the Medicare allowable for stationary oxygen rentals (E1390) ranges from $66.53 to $77.16 per month and the OGPE rentals (E1392) ranges from $36.14 to $41.91 per month. These are the two primary codes that we bill to Medicare and other payors for our oxygen product rentals.

As of January 1, 2011, Medicare phased in the competitive bidding program. The competitive bidding program impacts the amount Medicare reimburses suppliers of durable medical equipment rentals, including portable oxygen concentrators. The program is defined geographically, with suppliers submitting bids to provide medical equipment for specific product categories within a specified geographic region called competitive bidding areas, or CBAs. Once bids have been placed, an individual company's bids within a product category are aggregated and weighted by each product's market share in the category. The weighted-average price is then indexed against all bidding suppliers. Medicare determines a "clearing price" out of these weighted-average prices, at which a sufficient number of suppliers have indicated they will support patients in the category. This threshold is typically designed to generate theoretical supply that is twice the expected demand. Bids for each modality among the suppliers that made the cut are then arrayed to determine what Medicare will reimburse for each product category and geographic area. The program has strict anti-collusion guidelines to ensure bidding is truly competitive. A competitive bidding contract lasts up to three years once implemented, after which the contract can be subject to a new round of bidding. Discounts off the standard Medicare allowable occur in CBAs where contracts have been awarded as well as in cases where private payors pay less than this allowable. Competitive bidding rates are based on the zip code where the patient resides. Rental revenue includes payments for product, disposables, and customer service/support.

In the CBAs covered under round two re-compete of the competitive bidding program, which began July 1, 2016, the Medicare allowable for stationary oxygen rentals (E1390) ranges from $70.00 to $89.86 per month (average of $76.84 per month) and the OGPE rentals (E1392) ranges from $33.97 to $42.00 per month (average of $37.90 per month). In the CBAs covered under round one 2017 of the competitive bidding program, which began January 1, 2017, the Medicare allowable for stationary oxygen rentals (E1390) ranges from $70.04 to $90.01 per month (average of $77.97 per month) and the OGPE rentals (E1392) ranges from $35.11 to $37.15 per month (average of $36.06 per month).

As of January 1, 2016, all areas previously not subject to competitive bidding program (non-competitive bidding areas or "non-CBAs") have experienced reductions in the Medicare fee schedule for durable medical equipment, prosthetics, orthotics and supplies (DMEPOS). The fee schedules in the non-CBAs were adjusted based on regional averages of the single payment amounts that apply to the competitive bidding program (Adjusted Fee Schedule). The regional prices are limited by a national ceiling (110% of the average of the regional prices) and a national floor (90% of the average regional prices). From January 1, 2016 to June 30, 2016, the reimbursement rates for these non-CBAs (with dates of service from January 1, 2016 to June 30, 2016) were 50% of the un-adjusted fee schedule amount plus 50% of the Adjusted Fee schedule amount. As of July 1, 2016, Medicare reimbursed DMEPOS at 100% of the Adjusted Fee Schedule amount. However, in December 2016, the 21st Century Cures Act ("Cures Act") was passed, which included a provision to roll-back the second cut to the non-CBA areas that was effective July 1, 2016 through December 31, 2016. Pricing in these areas was increased to the rates experienced in the period from January 1, 2016 through June 30, 2016. This led to a benefit in rental revenue of $2.0 million in the fourth quarter of 2016 and $0.2 million in the first quarter of 2017. Effective January 1, 2017, rates are set at 100% of the Adjusted Fee Schedule amount, based on the regional competitive bidding rates. The Cures Act also called for a study of the impact of the competitive bidding pricing on rural areas and accelerated the implementation of the Omnibus bill passed in December 2015 to require state Medicaid agencies to match Medicare fee schedule reimbursement rates (including single payment amounts in applicable areas), effective as of January 1, 2018, including for oxygen.

The competitive bidding regions are defined as follows:

Region Name	States Covered
Far West	CA, NV, OR, WA
Great Lakes	IL, IN, MI, OH, WI
Mideast	DC, DE, MD, NJ, NY, PA
New England	CT, MA, NH, RI
Plains	IA, KS, MN, MO, NE
Rocky Mountain	CO, ID, UT
Southeast	AL, AR, FL, GA, KY, LA, NC, SC, TN, VA
Southwest	AZ, NM, OK, TX

In addition to regional pricing, CMS imposed different pricing on “frontier states” and rural areas. CMS defines frontier states as states where more than 50% of the counties in the state have a population density of 6 people or less per square mile and rural states are defined as states where more than 50% of the population lives in rural areas per census data. Current frontier states include MT, ND, SD and WY; rural states include ME, MS, VT and WV; and non-contiguous United States areas include AK, HI, Guam and Puerto Rico. For frontier and rural states, and frontier and rural zip codes in non-frontier/rural states, the single payment amount will be the national ceiling (110% of the average of the regional prices) to account for higher servicing costs in these areas. For non-contiguous United States areas, single payment amounts will be the higher of the national ceiling, or the average of competitive bidding pricing from these areas, if the areas had been bid through competitive bidding. We estimate that less than 10% of our patients would be eligible to receive the 110% of the regional prices for rural and frontier areas based on the geographic locations of our current patient population.

CMS has also re-bid for competitive bidding round two re-compete, which is associated with approximately 50% of the Medicare market, with contracts which began on July 1, 2016 and will continue through December 31, 2018. CMS updated the product categories and the competitive bidding areas in the round two re-compete contracts. Respiratory equipment now includes oxygen, oxygen equipment, continuous positive airway pressure devices, respiratory assist devices and related supplies and accessories. Nebulizers are now their own separate product category instead of being included in the respiratory equipment category. Round two re-compete is in the same geographic areas that were included in the original round two. However, as a result of the Office of Management and Budget’s updates to the original 91 round two metropolitan statistical areas, there are now 90 metropolitan statistical areas for round two re-compete and 117 competitive bidding areas (CBAs). Any CBA that was previously located in multi-state metropolitan statistical areas was redefined so that no CBA is included in more than one state. The round two re-compete competitive bidding areas have nearly the same zip codes as the round two competitive bidding areas; the associated changes in the zip codes since competitive bidding was implemented are reflective in this round two re-compete.

CMS has also re-bid for the round one 2017 contracts effective January 1, 2017 through December 31, 2018. In round one 2017, there are 9 metropolitan statistical areas and 13 CBAs to ensure there are no multi-state CBAs. We estimate approximately 9% of the Medicare market was impacted by the round one 2017 contracts.

The following table sets forth the current Medicare standard allowable reimbursement rates and the average of reimbursement rates applicable in Metropolitan Statistical Areas covered by rounds one and two of competitive bidding.

	Round two average 7/1/13-6/30/16	Round one re-compete average 1/1/14-12/31/16	Round two re-compete average 7/1/16-12/31/18	Round one 2017 average 1/1/17-12/31/18
E1390 (stationary oxygen rentals)	$ 93.07	$ 95.74	$ 76.84	$ 77.97
E1392 (portable oxygen rentals)	42.72	38.08	37.90	36.06
Total	$ 135.79	$ 133.82	$ 114.74	$ 114.03

In addition to reducing the Medicare reimbursement rates in the Metropolitan Statistical Areas (MSAs), the competitive bidding program has effectively reduced the number of oxygen suppliers that can participate in the Medicare program. Based on industry data analyzing the number of unique supplier companies by state from July 2013 to April 2017, there has been a 41% decrease in the numbers of DMEPOS suppliers who have an active NPI number. We believe that approximately 59% of the Medicare market was covered by round one and round two of competitive bidding.

Cumulatively in round one, round two, round one re-compete, round two re-compete and round one 2017, we were offered contracts for a substantial majority of the CBAs and product categories for which we submitted bids. However, there is no guarantee that we will garner additional market share as a result of these contracts. The contracts include products that may require us to subcontract certain services or products to third parties, which must be approved by CMS. As of July 2018, we currently operate in all 50 states in the U.S. We did not sell or rent to patients in Hawaii due to the licensure requirements from inception to June 2018.

Moreover, we cannot guarantee that we will be offered contracts in subsequent rounds of competitive bidding. In all five rounds of competitive bidding in which we have participated, we have gained access to certain CBAs and been excluded from other CBAs.

Following round one of competitive bidding, we were excluded from providing services to Medicare beneficiaries in the Kansas City-MO-KS, Miami-Fort Lauderdale-Pompano Beach-FL, and Orlando-Kissimmee-FL CBAs. We had access to six CBAs of the nine regions subject to competitive bidding round one for the respiratory product category.

After round one re-compete of competitive bidding, we were excluded from providing services to Medicare beneficiaries in the following CBAs: Cleveland-Elyria-Mentor-OH, Cincinnati-Middleton-OH-KY-IN, Miami-Fort Lauderdale-Pompano Beach-FL, Orlando-Kissimmee-Sanford-FL, Pittsburg-PA, and Riverside-San Bernardino-Ontario-CA. We gained access to the Kansas City-MO -KS CBA. We had access to three CBAs of the nine regions subject to competitive bidding round one re-compete for the respiratory product category.

After round one 2017 of competitive bidding, we have been excluded from the Chester-Lancaster and York Counties-SC CBA, which we previously won under round one re-compete. We also have been excluded from the Miami-Fort Lauderdale-West Palm Beach-FL and Orlando-Kissimmee-Sanford-FL CBAs. We have access to 10 of the 13 CBAs in which we bid for the respiratory product category: Charlotte-Concord-Gastonia-NC, Cincinnati-OH, Cleveland-Elyria-OH, Covington-Florence-Newport-KY, Dallas-Fort Worth-Arlington-TX, Dearborn-Franklin-Ohio, and Union Counties-IN, Kansas City-MO, Kansas City-Overland Park-Ottawa-KS, Pittsburgh-PA, and Riverside-San Bernardino-Ontario-CA. We have access to ten CBAs of the thirteen regions subject to competitive bidding round one 2017 for the respiratory product category.

After round two of competitive bidding, we were excluded from 12 CBAs: Akron-OH, Cape Coral-Fort Myers-FL, Deltona-Daytona Beach-Ormond Beach-FL, Honolulu-HI, Jacksonville-FL, Lakeland-Winter Haven-FL, Memphis-TN-MS-AR, North Port-Bradenton-Sarasota-FL, Ocala-FL, Palm Bay-Melbourne-Titusville-FL, Tampa-St. Petersburg-Clearwater-FL, and Toledo-OH. We had access to 88 CBAs of the 100 regions subject to competitive bidding round two for the respiratory product category.

After round two re-compete of competitive bidding, we were excluded from the following CBAs that we had previously won under round two: Allentown-Bethlehem-Easton-PA, Asheville-NC, Augusta-Richmond County-GA, Camden-NJ, Catoosa-Dade-Walker Counties-GA, Elizabeth-Lakewood-New Brunswick-NJ, Flint-MI, Greensboro-High Point-NC, Greenville-Anderson-Mauldin-SC, Jersey City-Newark-NJ, Las Vegas-Henderson-Paradise-NV, Little Rock-North Little Rock-Conway-AR, Louisville-Jefferson County-KY, Mercer County-PA, Poughkeepsie-Newburgh-Middletown-NY, Raleigh-NC, Scranton-Wilkes-Barre-Hazelton-PA, Stockton-Lodi-CA, Syracuse-NY, Wilmington-DE, and Youngstown-Warren-Boardman-OH. We were also excluded from the following CBAs in both round two and round two re-compete: Akron-OH and Toledo-OH. We gained access to certain Medicare markets in Cape-Coral-Fort Myers-FL, Deltona-Daytona Beach-Ormond Beach-FL, Jacksonville-FL, Lakeland-Winter Haven-FL, North Port-Sarasota-Bradenton-FL, Ocala-FL, Palm Bay-Melbourne-Titusville-FL, and Tampa-St. Petersburg-Clearwater-FL. We have access to 93 CBAs of the 117 regions subject to competitive bidding round two re-compete for the respiratory product category.

Effective January 1, 2017, we believe we have access to over 85% of the Medicare oxygen therapy market based on our analysis of the 103 CBAs that we have won out of the 130 total CBAs. These 130 CBAs represent approximately 59% of the market with the remaining approximately 41% of the market not subject to competitive bidding. The loss of access to the CBAs where we were not awarded contracts is not expected to lead to a material adverse impact on our rental business. Medicare revenue, including patient co-insurance and deductible obligations, represented 4.7% of our total revenue in the three months ended September 30, 2018 and 4.6% of our total revenue in the nine months ended September 30, 2018. The decline in total revenue resulting from the loss of competitive bidding contracts in the areas that we were excluded from was partially offset by the "grandfathering" of existing Medicare patients (discussed below), rentals to patients with third-party insurance coverage, or Medicare patients paying out-of-pocket to purchase our products. Our revenue from Medicare in the 27 CBAs where we were not offered contracts as of January 1, 2017 was approximately \$0.1 million and \$0.2 million in the three months ended September 30, 2018 and September 30, 2017, respectively, and \$0.4 million and \$0.7 million in the nine months ended September 30, 2018 and September 30, 2017, respectively.

Under the competitive bidding program, DME suppliers that are not awarded a competitive bid contract in a CBA and product category which the DME supplier had previously been awarded a competitive bid contract may "grandfather" existing patients on service beginning on the effective date of the competitive bidding round. This means DME suppliers may retain all existing patients and continue to receive reimbursement for them, so long as the new reimbursement rate is accepted by the DME supplier and the beneficiary chooses to continue to receive equipment from the supplier. For example, a supplier that received a round two contract but not a round two re-compete contract may elect to "grandfather' the patients that it serviced through the round two contract period. Suppliers must either keep or release all patients under this "grandfathering" arrangement in each CBA; a supplier may not select specific individuals to retain or release. Suppliers can continue to sell equipment in CBAs where they were not awarded contracts to patients paying out-of-pocket or with third-party insurance coverage.

We have elected to “grandfather” and retain all patients in CBAs in which we were not awarded contracts. In addition, we continue to accept patients in CBAs where we did not receive contracts through private insurance. We also pursue retail sales of our equipment to patients in those areas.

Medicare reimbursement for oxygen rental equipment is limited to a maximum of 36 months within a 60-month service period, and the equipment remains the property of the home oxygen supplier. The supplier that billed Medicare for the 36th month of service continues to be responsible for the patient’s oxygen therapy needs for months 37 through 60, and there is generally no additional reimbursement for oxygen generating portable equipment for these later months. CMS does not separately reimburse suppliers for oxygen tubing, cannulas and supplies that may be required for the patient. The supplier is required to keep the equipment provided in working order and in some cases, CMS will reimburse for repair costs. At the end of the five-year useful life of the equipment, the patient may request replacement equipment and, if he or she can be re-qualified for the Medicare benefit, a new maximum 36-month payment cycle out of the next 60 months of service would begin. The supplier may not arbitrarily issue new equipment. We have analyzed the potential impact to revenue associated with patients in the capped rental period and have deferred $0 associated with the capped rental period for the three months and nine months ended September 30, 2018 and September 30, 2017, respectively.

Our obligations to service Medicare patients over the contract rental period include supplying working equipment that meets each patient’s oxygen needs pursuant to his/her doctor’s prescription and certificate of medical necessity form and supplying all disposables required for the patient to operate the equipment, including cannulas, filters, replacement batteries, carts and carry bags, as needed. If the equipment malfunctions, we must repair or replace the equipment. We determine what equipment the patient receives, as long as that equipment meets the physician’s prescription, and we can deploy used assets in working order as long as the prescription requirements are met. We must also procure a recertification of the certificate of medical necessity from the patient’s doctor to confirm the patient’s need for oxygen therapy one year after the patient first receives oxygen therapy and one year after each new 36-month reimbursement period begins. The patient can choose to receive oxygen supplies and services from another supplier at any time, but the supplier may only transition the patient to another supplier in certain circumstances.

In addition to the adoption of the competitive bidding program, from 2010 through 2015, Medicare reimbursement rates for oxygen rental services in non-CBAs were eligible to receive mandatory annual updates based upon the Consumer Price Index for all Urban Consumers, or CPI-U. For 2014, the CPI-U was +1.8%, but the multi-factor productivity adjustment (Adjustment) was -0.8%, so the net result was a 1.0% increase in fee schedule payments in 2014 for items and services provided in areas not subject to competitive bidding. However, by law, the stationary oxygen equipment codes payment amounts must be adjusted on an annual basis, as necessary, to ensure budget neutrality of the new payment class for oxygen generating portable equipment (OGPE). Thus, the increase in allowable payment amounts for stationary oxygen equipment codes increased 0.5% from 2013 to 2014. For 2015, the CPI-U was +2.1%, but the Adjustment was -0.6%, so the net result was a 1.5% increase in fee schedule payments in 2015 for stationary oxygen equipment for items and services not included in an area subject to competitive bidding. Beginning in 2016, the standard allowable for all areas was set based on regional averages of the competitive bidding prices as described previously and no fees were based on non-competitive bidding. Accordingly, we do not anticipate future adjustments to the reimbursable fees based upon changes in CPI-U. However, as of January 1, 2017 and January 1, 2018 the Medicare reimbursement rates in the non-CBAs were adjusted to ensure budget neutrality based on the increased usage of the OGPE class that led to lower rates in these areas. Effective January 1, 2018, Medicare rates for stationary oxygen (code E1390) declined by 1.2% in non-CBA areas.

On November 4, 2016, CMS published a final rule in the Federal Register imposing additional regulations on the competitive bidding process. The final rule requires bidders choosing to participate in the competitive bidding program to obtain a $0.05 million surety bond for each CBA in which they bid. If a bidder does not accept a contract offer when its composite bid is at or below the median composite bid rate for suppliers used in the calculation of the single payment amount, the bid surety bond for the applicable CBA will be forfeited to CMS. In instances where the bidder does not meet the forfeiture conditions specified in the final rule, the bid surety bond liability will be returned to the bidder within 90 days of the public announcement of the contract suppliers for the CBA. Currently, there are 130 CBAs, which would mean a bidding supplier could incur a surety bond obligation with forfeiture conditions of up to $6.5 million. The final rule also changes the bid limits for individual items for future rounds of competitive bidding to reflect the 2015 unadjusted fee schedule to avoid a downward trend in bid pricing, to ensure the long-term viability of the competitive bidding program, and to allow suppliers to take into account both decreases and increases in costs in determining their bids. The rule also finalizes an appeals process for all breach of contract actions that CMS may take under the competitive bidding program. Lastly, the final rule sets forth a provision for lead item bidding for certain product categories in future bidding rounds to prevent the creation of price inversions, which occurred in round two of competitive bidding. Lead item bidding means that all HCPCS codes for similar items will be grouped together and priced relative to the bid for the “lead item,” as calculated by CMS.

On November 2, 2017, a bi-partisan bill was introduced in the House of Representatives that would provide relief from competitive bidding in non-bid areas. This bill has 155 co-sponsors as of September 30, 2018. If passed, the bill would extend a retroactive delay of a second round of reimbursement cuts for Medicare beneficiaries from January 1, 2017 to January 1, 2019 based on the reimbursement rates effective on January 1, 2016. The legislation also proposes to remedy a double-dip cut to oxygen payments caused by the misapplication of a 2006 budget neutrality offset balancing increased utilization for oxygen generating portable equipment with lower reimbursement for stationary equipment.

On February 12, 2018, the current presidential administration sent Congress a 2019 budget proposal that included language on competitive bidding. Specifically, the proposal would eliminate the requirement under the competitive bidding program that CMS pay a single payment amount based on the median bid price, proposing instead that CMS pay winning suppliers at their own bid amounts. Additionally, this proposal would expand competitive bidding to all areas of the country, including rural areas, which will be based on competition in those areas rather than on competition in urban areas. This specific proposal is estimated to save the government $6.5 billion over 10 years. In addition to changes to competitive bidding, the 2019 budget proposal would enable CMS not to impose the face-to-face requirement on all providers for durable medical equipment. Furthermore, the proposal seeks to address excessive billing of durable medical equipment that requires refills or serial claims. Specifically, Medicare would gain authority to test whether using a benefits manager for serial durable medical equipment claims would result in lower improper payments and reductions in inappropriate utilization. The benefits manager would be responsible for ensuring beneficiaries were receiving the correct quantity of supplies or service for the appropriate time period. Lastly, the proposal would expand prior authorization to additional items and services that are both high-cost and at high-risk for improper payments. These provisions were not included in the latest omnibus budget, so it is unclear if any of these proposals will be implemented. We believe additional cuts to reimbursement would continue to drive conversion to non-delivery technologies, including POCs.

On May 9, 2018, CMS released an Interim Final Rule to resume the 50/50 blended rate schedule for the period of June 1, 2018 through December 31, 2018 in rural and non-contiguous areas not subject to the competitive bidding program. We estimate that this will increase rental revenue by approximately $0.5 million in 2018.

On July 11, 2018, CMS released a new proposal to change the payment rules for Durable Medical Equipment Prosthetics, Orthotics, and Supplies (DMEPOS), including our portable oxygen concentrators. This includes a proposal that when the current competitive bidding contracts expire December 31, 2018, beneficiaries can obtain DMEPOS items from any enrolled Medicare supplier. In addition if this proposal is approved, the next competitive bidding round, which is expected to be delayed 18 to 24 months, will include multiple provisions to improve the program including: implementing lead item pricing, revising the definition of composite bid to mean the bid submitted by the supplier for the lead item in the product category, establishing a new method for single payment amounts based on maximum winning bids instead of median bids and establishing new separate payment classes for portable gaseous, portable liquid, and high flow portable liquid categories. In addition, CMS proposes to establish a new methodology for ensuring that all new classes for oxygen and equipment are budget neutral. Lastly, this proposal includes three different fee schedule adjustment methodologies depending on the area in which items and services are furnished: (1) one fee schedule adjustment methodology for DMEPOS items and services furnished on/after January 1, 2019 in areas currently in CBAs, in the event of a gap in competitive bidding; (2) another fee schedule adjustment methodology for items and services furnished from January 1, 2019 through December 31, 2020, in areas that are currently not CBAs, are not rural areas, and are located in the contiguous United States; and (3) another fee schedule adjustment methodology for items and services furnished from January 1, 2019 through December 31, 2020, in areas that are currently not CBAs and are either rural areas or non-contiguous areas. We expect the final ruling to be published in November 2018.

On November 1, 2018, CMS released the DMEPOS final rule to change the DMEPOS competitive bidding program and fee schedule payment rules. Effective January 1, 2019, beneficiaries may receive DME from any Medicare enrolled supplier until new contracts are in effect under the next round of competitive bidding, which is not expected until January 1, 2021. Reimbursement rates will be set at the current pricing level throughout the United States for all Medicare patients, subject to Consumer Price Index (CPI) and budget neutrality adjustments. Pricing in competitive bidding areas will be subject to annual CPI adjustments beginning in 2019 until the next bidding round takes place. However, CMS is also changing the calculation on budget neutrality to apply the offset to all oxygen and oxygen equipment classes beginning January 1, 2019 instead of previously only applying these adjustments to the stationary oxygen code E1390. It is not yet clear whether the increase associated with the CPI adjustment or the decrease associated with the budget neutrality provision will have a bigger impact on our 2019 Medicare reimbursement rates, but we expect clarity on this before year-end. In addition, this final rule extends the 50/50 blended reimbursement rates in rural and non-contiguous areas that were set to expire on December 31, 2018 until December 31, 2020. This rule also establishes new payment classes for liquid oxygen equipment and high flow portable liquid oxygen contents. This rule also finalized revisions to the DMEPOS Competitive Bidding program for rounds bid in the future. These revisions include implementing lead item pricing and setting reimbursement at the maximum winning bid rate instead of the median winning bid rate.

As of September 30, 2018, we had 91 contracts with Medicaid and private payors. These contracts qualify us as an in-network provider for these payors. As a result, patients can rent or purchase our systems at the same patient obligation as other in-network oxygen suppliers. Based on our patient population, we believe at least 30% of all oxygen therapy patients are covered by private payors. Private payors typically provide reimbursement at a rate between 60% and 100% of Medicare allowables for in-network providers, and although private payor plans can have 36-month capped rental periods similar to Medicare, they typically do not. We anticipate that private payor reimbursement levels will generally be reset in accordance with Medicare payment amounts established through competitive bidding.

We cannot predict the full extent to which reimbursement for our products will be affected by competitive bidding, the 2019 federal budget or future federal budgets, or by initiatives to reduce costs for private payors. We believe that we are well positioned to respond to the changing reimbursement environment because our product offerings are innovative, patient-focused and cost-effective. We have historically been able to reduce our costs through scalable manufacturing, better sourcing, continuous innovation, and reliability improvements, as well as innovations that reduce our product service costs by minimizing exchanges, such as user replaceable batteries. As a result of design changes, supplier negotiations, bringing manufacturing and assembly largely in-house and our commitment to driving efficient manufacturing processes, we have reduced our overall system cost 58% from 2009 to 2017. We intend to continue to seek ways to reduce our cost of revenue through manufacturing and design improvements.

Basis of presentation

The following describes the line items set forth in our consolidated statements of comprehensive income.

Revenue

We classify our revenue in two main categories: sales revenue and rental revenue. There will be fluctuations in mix between business-to-business sales, direct-to-consumer sales and rental revenue from period-to-period. Inogen One and Inogen At Home system selling prices and gross margins may fluctuate as we introduce new products, reduce our product costs, have changes in purchase volumes, and as currency variations occur. For example, the gross margin for our Inogen One G4 system is higher than our Inogen One G3 system due to lower manufacturing costs and similar average selling prices. Thus, to the extent our sales of our Inogen One G4 systems are higher than sales of our Inogen One G3 systems, our overall gross margins should improve and, conversely, to the extent our sales of our Inogen One G3 systems are higher than sales of our Inogen One G4 systems, our overall gross margins should decline. Quarter-over-quarter results may vary due to seasonality in both the international and domestic markets. For example, we typically experience higher total sales in the second and third quarter, as a result of consumers traveling and vacationing during warmer weather in the spring and summer months, but this may vary year-over-year. As more HME providers adopt portable oxygen concentrators in their businesses, we expect our historical seasonality in the domestic business-to-business channel could change as well, which was previously influenced mainly by consumer buying patterns. Direct-to-consumer sales seasonality may also be impacted by the number of sales representatives and the amount of marketing spend in each quarter.

Sales revenue

Our sales revenue is primarily derived from the sale of our Inogen One systems, Inogen At Home systems, and related accessories to individual consumers, our private label partner, HME providers, distributors and resellers worldwide. Sales revenue is classified into two areas: business-to-business sales and direct-to-consumer sales. For the three months ended September 30, 2018 and September 30, 2017, business-to-business sales as a percentage of total sales revenue were 57.3% and 63.5%, respectively. For the nine months ended September 30, 2018 and September 30, 2017, business-to-business sales as a percentage of total sales revenue were 58.8% and 62.9%, respectively. Generally, our direct-to-consumer sales have higher gross margins than our business-to-business sales.

We also offer a lifetime warranty for direct-to-consumer sales of our portable oxygen concentrators. For a fixed price, we agree to provide a fully functional portable oxygen concentrator for the remaining life of the patient. Lifetime warranties are only offered to patients upon the initial sale of portable oxygen concentrators by the Company and are non-transferable. Lifetime warranties are considered to be a distinct performance obligation that are accounted for separately from the sale of portable oxygen concentrators with a standard warranty of three years.

The revenue is allocated to the distinct lifetime warranty performance obligation based on a relative stand-alone selling price (SSP) method. We have vendor-specific objective evidence of the selling price for our equipment. To determine the selling price of the lifetime warranty, we use our best estimate of the SSP for the distinct performance obligation as the lifetime warranty is neither separately priced nor is the selling price available through third-party evidence. To calculate the selling price associated with the lifetime warranties, management considered the profit margins of the overall business, the average estimated cost of lifetime warranties and the price of extended warranties. Revenue from the distinct lifetime warranty is deferred after the delivery of the equipment for three years and recognized on a straight-line basis during the fourth and fifth year, which is the estimated usage period of the contract based on the average patient life expectancy.

Other sales revenue consists of repair services and freight revenue for product shipments.

Rental revenue

Our rental revenue is primarily derived from the rental of our Inogen One and Inogen At Home systems to patients through reimbursement from Medicare, private payors and Medicaid, which typically also includes a patient responsibility component for patient co-insurance and deductibles. We expect our rental revenue to be down approximately 10% in 2018 as compared to 2017, primarily due to a decline in patients on service. Medicare reimbursement rates in 2018 were impacted by a roughly 1.2% decline in monthly stationary rates in non-competitive bidding areas due to a fee schedule adjustment. In addition, effective June 1, 2018 Medicare reimbursement rates in rural and non-contiguous areas not subject to competitive bidding increased to the previous rates effective December 31, 2017. We estimate rental revenue in 2018 will increase by approximately $0.5 million associated with this interim final rule. We also expect that our rental revenue will be impacted by the number of sales representatives, the level of and response from potential customers to direct-to-consumer marketing spend, product launches, and other uncontrollable factors such as changes in the market and competition.

We recognize equipment rental revenue over the non-cancelable lease term, which is one month, less estimated adjustments, in accordance with ASC 840 — *Leases*. We have a separate contract with each patient that is not subject to a master lease agreement with any payor. The lease term begins on the date products are shipped to patients and is recorded at amounts estimated to be received under reimbursement arrangements with third-party payors, including Medicare, private payors, and Medicaid. Due to the nature of the industry and the reimbursement environment in which we operate, certain estimates are required to record net revenue and accounts receivable at their net realizable values. Inherent in these estimates is the risk that they will have to be revised or updated as additional information becomes available. Specifically, the complexity of many third-party billing arrangements and the uncertainty of reimbursement amounts for certain services from certain payors may result in adjustments to amounts originally recorded. Such adjustments are typically identified and recorded at the point of cash application, claim denial or account review. Amounts billed but not earned due to the timing of the billing cycle are deferred and recognized in revenue on a straight-line basis over the monthly billing period. For example, if the first day of the billing period does not fall on the first of the month, then a portion of the monthly billing period will fall in the subsequent month and the related revenue and cost would be deferred based on the service days in the following month. Included in rental revenue are unbilled amounts for which the revenue recognition criteria had been met as of period-end but were not billed. The estimate of unbilled rental revenue accrual is reported net of adjustments that are based on historical trends and estimates of future collectability.

Cost of revenue

Cost of sales revenue

Cost of sales revenue consists primarily of costs incurred in the production process, including costs of component materials, assembly labor and overhead, warranty, provisions for slow-moving and obsolete inventory, rework and delivery costs for items sold. Labor and overhead expenses consist primarily of personnel-related expenses, including wages, bonuses, benefits, and stock-based compensation for manufacturing, logistics, repair and quality assurance employees, and temporary labor. They also include manufacturing freight in, depreciation expense, facilities costs and materials. We provide a 3-year, 5-year or lifetime warranty on Inogen One systems sold and a 3-year warranty on Inogen At Home systems sold. We established a reserve for the cost of future warranty repairs based on historical warranty repair costs incurred as well as historical failure rates. Provisions for warranty obligations, which are included in cost of sales revenue, are provided for at the time of revenue recognition.

We continue to make progress towards lowering the average unit costs of our Inogen One and Inogen At Home systems as a result of our ongoing efforts to develop lower-cost systems, negotiate with our suppliers, improve our manufacturing processes, and increase production volume and yields. In the second quarter of 2018, we also signed an additional lease in Richardson, Texas to expand our current manufacturing facilities by approximately 23,000 square feet due to increased production volumes. At the same time, recent United States policies related to global trade and tariffs may also increase the Company's average unit cost. For these reasons, we expect sales gross margin percentage to fluctuate over time based on the sales channel mix, product mix, and changes in average selling prices and cost per unit.

The current economic environment has introduced greater uncertainty with respect to potential trade regulations, including changes to United States policies related to global trade and tariffs. The Company continues to monitor the recently announced Section 301 tariffs being imposed by the United States on certain imported Chinese materials and products in addition to potential retaliatory responses from other nations. Following an analysis of the most recent tariff announcement, the Company currently expects the overall financial impact to our business to be a low single digit percentage increase to the average unit cost effective January 1, 2019.

Cost of rental revenue

Cost of rental revenue consists primarily of depreciation expense; service costs for rental patients, including rework costs, material, labor, freight, and consumable disposables; and logistics costs.

We expect rental gross margin percentage to increase in 2018 compared to 2017, primarily associated with higher rental revenue per patient. In addition, we expect the average cost of rental revenue per patient to decline in future periods as a result of our ongoing efforts to reduce average unit costs of our systems, including reductions in depreciation, service costs, and logistics costs.

Operating expense

Research and development

Our research and development expense consists primarily of personnel-related expenses, including wages, bonuses, benefits and stock-based compensation for research and development and engineering employees, allocated facility costs, laboratory supplies, product development materials, consulting fees and related costs, and testing costs for new product launches and enhancements to existing products. We have made substantial investments in research and development since our inception. Our research and development efforts have focused primarily on the tasks required to enhance our technologies and to support development and commercialization of new and existing products. We plan to continue to invest in research and development activities to stay at the forefront of patient preference in oxygen therapy devices. We expect research and development expense to increase in absolute dollars in future periods as we continue to invest in our engineering and technology teams to support our new and enhanced product research and development efforts and manufacturing line support.

Sales and marketing

Our sales and marketing expense primarily supports our direct-to-consumer strategy and consists mainly of personnel-related expenses, including wages, bonuses, commissions, benefits, and stock-based compensation for sales, marketing, customer service and clinical service employees. It also includes expenses for media and advertising, printing, informational kits, dues and fees, including credit card fees, sales promotional and marketing activities, travel and entertainment expenses as well as allocated facilities costs. Sales and marketing expense increased throughout 2017 and in the nine months ended September 30, 2018, primarily due to an increase in the sales force and marketing expenses. We expect a further increase in future periods as we continue to invest in our business, including expanding our sales and sales support team, increasing media spend to drive consumer awareness, and increasing patient support costs as our patient and customer base increases. We also opened a new facility in Cleveland, Ohio in the third quarter of 2017. In that facility, we expect to have approximately 500 employees by year-end 2020 with at least two-thirds of those employees expected to be sales representatives, which is expected to increase our sales and marketing costs. However, we are expecting to receive certain partially offsetting business development incentives of up to $3.5 million based on our forecasted headcount additions and facility tenant improvement costs. We also established a physical presence in Europe by acquiring our former distributor, MedSupport on May 4, 2017. This acquisition has increased sales and marketing costs but has also improved customer service and repair services in the European markets.

General and administrative

Our general and administrative expense consists primarily of personnel-related expenses, including wages, bonuses, benefits, and stock-based compensation for employees in our compliance, finance, medical billing, human resources, and information technology departments as well as facilities costs, bad debt expense, and board of directors' expenses, including stock-based compensation. In addition, general and administrative expense includes professional services, such as legal, patent registration and defense costs, insurance, consulting and accounting services, including audit and tax services, and travel and entertainment expenses.

We expect general and administrative expense to increase in future periods as the number of administrative personnel grows and we continue to introduce new products, broaden our customer base and grow our business. We expect general and administrative expense to increase in absolute dollars as we continue to invest in corporate infrastructure to support our growth including personnel-related expenses, professional services fees and compliance costs associated with operating as a public company. Those costs include increases in our accounting, human resources, IT personnel, additional consulting, legal and accounting fees, insurance costs, board members' compensation and the costs of maintaining compliance with Section 404 of the Sarbanes-Oxley Act of 2002.

Other income (expense), net

Our other income (expense), net consists primarily of foreign currency gains and (losses) as well as interest income earned on cash equivalents and marketable securities.

Income taxes

We account for income taxes in accordance with ASC 740—*Income Taxes*. Under ASC 740, income taxes are recognized for the amount of taxes payable or refundable for the current period and deferred tax liabilities and assets are recognized for the future tax consequences of transactions that have been recognized in our consolidated financial statements or tax returns. A valuation allowance is provided when it is more likely than not that some portion, or all, of the deferred tax asset will not be realized.

We account for uncertainties in income tax in accordance with ASC 740-10—*Accounting for Uncertainty in Income Taxes*. ASC 740-10 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. This accounting standard also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

The accounting for stock-based compensation will increase or decrease our effective tax rate based upon the difference between our stock-based compensation expense and the deductions taken on our U.S. tax return, which depends upon the stock price at the time of employee option exercise or award vesting. We recognize excess tax benefits on a discrete basis and we anticipate our effective tax rate will vary from quarter-to-quarter depending on our stock price in each period.

Results of operations

Comparison of three months ended September 30, 2018 and September 30, 2017

Revenue

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	2018	2017	$	%	2018	2017
Sales revenue	$ 89,712	$ 63,137	$ 26,575	42.1 %	94.1 %	91.5 %
Rental revenue	5,579	5,893	(314)	-5.3 %	5.9 %	8.5 %
Total revenue	$ 95,291	$ 69,030	$ 26,261	38.0 %	100.0 %	100.0 %

Sales revenue increased $26.6 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or an increase of 42.1% over the comparable period. The increase was primarily attributable to a 16,400-unit increase in the number of oxygen systems sold. We sold approximately 52,400 oxygen systems during the three months ended September 30, 2018 compared to approximately 36,000 oxygen systems sold during the three months ended September 30, 2017, or an increase of 45.6%. The increase in the number of systems sold resulted mainly from an increase in direct-to-consumer sales in the United States, primarily due to an increase in sales representatives as well as increased sales and marketing expenditures, and an increase in worldwide business-to-business sales, primarily due to traditional HME purchases.

Rental revenue decreased $0.3 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or a decrease of 5.3% from the comparable period. The decrease in rental revenue was primarily related to a decline in rental patients on service which declined 13.0% from the comparative period, partially offset by higher rental revenue per patient on service.

(amounts in thousands)	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
Revenue by region and category	2018	2017	$	%	2018	2017
Business-to-business domestic sales	$ 30,263	$ 22,919	$ 7,344	32.0 %	31.7 %	33.2 %
Business-to-business international sales	21,142	17,186	3,956	23.0 %	22.2 %	24.9 %
Direct-to-consumer domestic sales	38,307	23,032	15,275	66.3 %	40.2 %	33.4 %
Direct-to-consumer domestic rentals	5,579	5,893	(314)	-5.3 %	5.9 %	8.5 %
Total revenue	$ 95,291	$ 69,030	$ 26,261	38.0 %	100.0 %	100.0 %

Domestic sales in direct-to-consumer and business-to-business channels increased 66.3% and 32.0%, respectively, for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. The increase in direct-to-consumer sales was primarily due to the hiring of additional inside sales representatives, increased marketing expenditures, our expansion of marketing strategies, and our continued focus on direct-to-consumer sales. We also benefited from increased direct-to-consumer sales associated with the direct-to-consumer pricing trial and subsequent lowering of retail pricing effective June 1, 2018. The increase in domestic business-to-business sales was primarily driven by continued adoption by traditional HME providers, and increased consumer demand for our products due to our marketing efforts as well as the marketing efforts of our business partners.

Business-to-business international sales increased 23.0% for the three months ended September 30, 2018 compared to the three months ended September 30, 2017, primarily due to increases in sales from our partners in Europe. As of September 30, 2018, we sold our products in 46 countries outside of the United States, and we plan to continue to expand our presence in other countries as the opportunities present themselves. Of our international sales revenue in the three months ended September 30, 2018, 87.6% was sold in Europe versus 90.1% in the comparative period in 2017.

In future periods, sales may be impacted by seasonal factors. For example, we typically experience higher total sales in the second and third quarter, as a result of consumers traveling and vacationing during warmer weather in the spring and summer months, but this may vary year-over-year. As more HME providers adopt portable oxygen concentrators in their businesses, we expect that this could change our historical seasonality in the domestic business-to- business channel as well, which was previously influenced mainly by consumer buying patterns. Direct-to-consumer sales seasonality may also be impacted by the number of sales representatives and the amount of marketing spend in each quarter.

Cost of revenue and gross profit

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Cost of sales revenue	$ 42,810	$ 31,401	$ 11,409	36.3 %	44.9 %	45.5 %
Cost of rental revenue	3,668	4,459	(791)	-17.7 %	3.9 %	6.4 %
Total cost of revenue	$ 46,478	$ 35,860	$ 10,618	29.6 %	48.8 %	51.9 %
Gross profit - sales revenue	$ 46,902	$ 31,736	$ 15,166	47.8 %	49.2 %	46.0 %
Gross profit - rental revenue	1,911	1,434	477	33.3 %	2.0 %	2.1 %
Total gross profit	$ 48,813	$ 33,170	$ 15,643	47.2 %	51.2 %	48.1 %
Gross margin percentage - sales revenue	52.3 %	50.3 %				
Gross margin percentage- rental revenue	34.3 %	24.3 %				
Total gross margin percentage	51.2 %	48.1 %				

We manufacture our subassemblies and/or products in our Richardson, Texas and Goleta, California facilities. We also began production of our Inogen One G3 concentrators in the fourth quarter of 2017 using a contract manufacturer, Foxconn, located in the Czech Republic to improve our ability to service our European customers. Our manufacturing process includes final assembly, testing, and packaging to quality and customer specifications. Cost of sales revenue increased $11.4 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or an increase of 36.3% over the comparable period. The increase in cost of sales revenue was primarily attributable to an increase in the number of systems sold, partially offset by reduced bill of material costs for our products associated with design changes, better sourcing and price discounts resulting from increased volumes. We expect cost of sales revenue as a percentage of sales revenue in future periods to fluctuate based on customer mix, product mix, and changes in sales prices and cost per unit.

Cost of rental revenue decreased $0.8 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or a decrease of 17.7% from the comparable period. The decrease in cost of rental revenue was primarily attributable to a decrease in rental asset depreciation expense, mainly associated with a decrease in patients on service. Cost of rental revenue included $1.7 million of rental asset depreciation for the three months ended September 30, 2018 and $2.4 million for the three months ended September 30, 2017.

Gross margin percentage is defined as revenue less cost of revenue divided by revenue. Sales revenue gross margin percentage increased to 52.3% for the three months ended September 30, 2018 from 50.3% for the three months ended September 30, 2017. The increase in sales gross margin percentage was primarily related to an increase in sales mix toward higher margin domestic direct-to-consumer sales and lower cost per unit, partially offset by a reduction in business-to-business average selling prices associated with higher volumes and lower direct-to-consumer pricing effective June 1, 2018. Total worldwide business-to-business sales revenue accounted for 57.3% of total sales revenue in the third quarter of 2018 versus 63.5% in the third quarter of 2017. We expect sales gross margin to fluctuate over time based on changes in the sales channel mix, product mix, average selling prices and cost per unit.

Rental revenue gross margin percentage increased to 34.3% for the three months ended September 30, 2018 from 24.3% for the three months ended September 30, 2017, primarily due to increased rental revenue per patient on service and lower cost of rental revenue mainly due to lower depreciation costs.

Research and development expense

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Research and development expense	$ 2,096	$ 1,375	$ 721	52.4 %	2.2 %	2.0 %

Research and development expense increased $0.7 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017, or an increase of 52.4% over the comparable period, primarily attributable to increases of $0.4 million in personnel-related expenses.

Sales and marketing expense

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Sales and marketing expense	$ 26,339	$ 13,095	$ 13,244	101.1 %	27.6 %	19.0 %

Sales and marketing expense increased $13.2 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or an increase of 101.1% over the comparable period. The increase was primarily attributable to increases of $5.9 million of sales and marketing personnel-related expenses as a result of the increased headcount (which included increases of $3.7 million in wages, benefits and payroll tax expense, $1.5 million in commissions expense, $0.4 million in bonus expense and $0.2 million in stock compensation expense), $5.4 million in media spending to supply leads for the increased number of sales force headcount hired, $0.8 million in credit card processing fees, $0.4 million in customer service and clinical personnel-related expenses and $0.3 million for dues, fees and license costs. In the three months ended September 30, 2018, we spent $8.8 million in media and advertising costs versus $3.4 million in the comparative period in 2017.

General and administrative expense

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
General and administrative expense	$ 9,982	$ 10,368	$ (386)	-3.7 %	10.5 %	15.0 %

General and administrative expense decreased $0.4 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or a decrease of 3.7% from the comparable period. The decrease was primarily attributable to decreases of $1.5 million in patent defense costs and $0.9 million of bad debt expense. These decreases were partially offset by an increase of $1.0 million of personnel-related expenses (which included increases of $0.5 million in wages, benefits and payroll tax expense, $0.4 million in stock compensation expense and $0.1 million in bonus expense).

Bad debt expense, expressed as a percentage of total revenue, was 0.4% and 1.8% in the three months ended September 30, 2018 and September 30, 2017, respectively.

Other income

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Interest income	$ 895	$ 221	$ 674	305.0 %	0.9 %	0.3 %
Other income	8	264	(256)	-97.0 %	0.0 %	0.4 %
Total other income	$ 903	$ 485	$ 418	86.2 %	0.9 %	0.7 %

Total other income increased $0.4 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or an increase of 86.2% over the comparable period. The increase was primarily due to an increase of $0.7 million in interest income on cash equivalents and marketable securities, partially offset by a decrease of $0.3 million in other income related to foreign currency fluctuations arising from transactions in Euros at a lower Euro exchange rate to the U.S. dollar.

Income tax expense (benefit)

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Income tax expense (benefit)	$ (5,133)	$ 1,479	$ (6,612)	-447.1 %	-5.4 %	2.1 %
Effective income tax rate	*-45.4 %*	*16.8 %*				

Income tax expense (benefit) decreased $6.6 million for the three months ended September 30, 2018 from the three months ended September 30, 2017 from the comparative period, primarily attributable to excess benefits recognized from stock-based compensation and the impact of changes in the federal tax rate associated with the Tax Cuts and Jobs Act (TCJA), partially offset by a 28.2% increase in income before tax expense (benefit).

Our effective tax rate in the third quarter of 2018 decreased compared to 2017, primarily due to the changes in the federal tax rate associated with the TCJA. In the third quarter of 2018, excess tax benefits recognized from stock-based compensation decreased our income tax expense by $8.1 million and our effective tax rate by 71.8%, as compared to the tax rate without such benefits. For comparison, in the third quarter of 2017, excess tax benefits recognized from stock-based compensation decreased our income tax expense by $1.7 million and our effective tax rate by 19.7%, as compared to the tax rate without such benefits.

Net income

	Three months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Net income	$ 16,432	$ 7,338	$ 9,094	123.9 %	17.2 %	10.6 %

Net income increased $9.1 million for the three months ended September 30, 2018 from the three months ended September 30, 2017, or an increase of 123.9% over the comparable period. The increase in net income was primarily related to the increase in revenue of 38.0% and a lower effective tax rate.

Comparison of nine months ended September 30, 2018 and September 30, 2017

Revenue

	Nine months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Sales revenue	$ 255,283	$ 167,141	$ 88,142	52.7 %	94.0 %	90.0 %
Rental revenue	16,297	18,510	(2,213)	-12.0 %	6.0 %	10.0 %
Total revenue	$ 271,580	$ 185,651	$ 85,929	46.3 %	100.0 %	100.0 %

Sales revenue increased $88.1 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or an increase of 52.7% over the comparable period. The increase was primarily attributable to a 58,500-unit increase in the number of oxygen systems sold. We sold approximately 152,500 oxygen systems during the nine months ended September 30, 2018 compared to approximately 94,000 oxygen systems sold during the nine months ended September 30, 2017, or an increase of 62.2%. The increase in the number of systems sold resulted primarily from an increase in direct-to-consumer sales in the United States, mainly due to an increase in sales representatives, as well as increased sales and marketing expenditures, and an increase in worldwide business-to-business sales, primarily due to traditional HME purchases and continued strong private label demand.

Rental revenue decreased $2.2 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or a decrease of 12.0% from the comparable period. The decrease in rental revenue was primarily related to a decline in rental patients on service which decreased 13.0% from the comparative period. The first nine months of 2017 also included $0.2 million of additional revenue associated with the Cures Act that did not repeat in the first nine months of 2018.

(amounts in thousands)	Nine months ended September 30,		Change 2018 vs. 2017		% of Revenue	
Revenue by region and category	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Business-to-business domestic sales	$ 91,222	$ 61,534	$ 29,688	48.2 %	33.6 %	33.1 %
Business-to-business international sales	58,807	43,528	15,279	35.1 %	21.6 %	23.5 %
Direct-to-consumer domestic sales	105,254	62,079	43,175	69.5 %	38.8 %	33.4 %
Direct-to-consumer domestic rentals	16,297	18,510	(2,213)	-12.0 %	6.0 %	10.0 %
Total revenue	$ 271,580	$ 185,651	$ 85,929	46.3 %	100.0 %	100.0 %

Domestic sales in direct-to-consumer and business-to-business channels increased 69.5% and 48.2%, respectively, for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The increase in direct-to-consumer sales was primarily due to the hiring of additional inside sales representatives, increased marketing expenditures, our expansion of marketing strategies, and our continued focus on direct-to-consumer sales. The increase in domestic business-to-business sales was primarily the result of increased demand from our private label partner and traditional HME providers as well as increased consumer demand for our products due to our marketing efforts as well as the marketing efforts of our business partners.

Business-to-business international sales increased 35.1% for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017, primarily due to increases in sales from our partners in Europe and favorable currency exchange rates. As of September 30, 2018, we sold our products in 46 countries outside of the United States, and we plan to continue to expand our presence in other countries as the opportunities present themselves. Of our international sales revenue in the nine months ended September 30, 2018, 88.4% was sold in Europe versus 84.8% in the comparative period in 2017, primarily because sizable unit orders in South Korea in the first nine months of 2017 did not repeat in the first nine months of 2018. We also acquired our former distributor, MedSupport, in the second quarter of 2017, which also contributed to increased international revenues in the first nine months of 2018.

In future periods, sales may be impacted by seasonal factors. For example, we typically experience higher total sales in the second and third quarter, as a result of consumers traveling and vacationing during warmer weather in the spring and summer months, but this may vary year-over-year. As more HME providers adopt portable oxygen concentrators in their businesses, we expect that this could change our historical seasonality in the domestic business-to- business channel as well, which was previously influenced mainly by consumer buying patterns. Direct-to-consumer sales seasonality may also be impacted by the number of sales representatives and the amount of marketing spend in each quarter.

Cost of revenue and gross profit

	Nine months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Cost of sales revenue	$ 124,726	$ 81,307	$ 43,419	53.4 %	45.9 %	43.8 %
Cost of rental revenue	11,844	13,863	(2,019)	-14.6 %	4.4 %	7.5 %
Total cost of revenue	$ 136,570	$ 95,170	$ 41,400	43.5 %	50.3 %	51.3 %
Gross profit - sales revenue	$ 130,557	$ 85,834	$ 44,723	52.1 %	48.1 %	46.2 %
Gross profit - rental revenue	4,453	4,647	(194)	-4.2 %	1.6 %	2.5 %
Total gross profit	$ 135,010	$ 90,481	$ 44,529	49.2 %	49.7 %	48.7 %
Gross margin percentage - sales revenue	51.1 %	51.4 %				
Gross margin percentage- rental revenue	27.3 %	25.1 %				
Total gross margin percentage	49.7 %	48.7 %				

We manufacture our subassemblies and/or products in our Richardson, Texas and Goleta, California facilities. We also began production of our Inogen One G3 concentrators in the fourth quarter of 2017 using a contract manufacturer, Foxconn, located in the Czech Republic to improve our ability to service our European customers. Our manufacturing process includes final assembly, testing, and packaging to quality and customer specifications. Cost of sales revenue increased $43.4 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or an increase of 53.4% over the comparable period. The increase in cost of sales revenue was primarily attributable to an increase in the number of systems sold, partially offset by reduced bill of material costs for our products associated with design changes, better sourcing and price discounts resulting from increased volumes. We expect cost of sales revenue as a percentage of sales revenue in future periods to fluctuate based on customer mix, product mix, and changes in sales prices and cost per unit.

Cost of rental revenue decreased $2.0 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or a decrease of 14.6% from the comparable period. The decrease in cost of rental revenue was primarily attributable to a decrease in rental asset depreciation expense. Cost of rental revenue included $5.8 million of rental asset depreciation for the nine months ended September 30, 2018 and $7.6 million for the nine months ended September 30, 2017.

Gross margin percentage is defined as revenue less cost of revenue divided by revenue. Sales revenue gross margin percentage decreased to 51.1% for the nine months ended September 30, 2018 from 51.4% for the nine months ended September 30, 2017. The decrease in sales gross margin percentage was primarily related to a reduction in domestic business-to-business average selling prices based on increased volumes and lower direct-to-consumer pricing, partially offset by an increase in sales mix toward higher margin domestic direct-to-consumer sales and lower cost per unit. Average business-to-business selling prices declined over the same period in the prior year, primarily due to mix related to increased volume from our private label partner and secondarily associated with pricing discounts associated with increased volumes worldwide. Total worldwide business-to-business sales revenue accounted for 58.8% of total sales revenue in the first nine months of 2018 versus 62.9% in the first nine months of 2017. We expect sales gross margin to fluctuate over time based on changes in the sales channel mix, product mix, average selling prices and cost per unit.

Rental revenue gross margin percentage increased to 27.3% for the nine months ended September 30, 2018 from 25.1% for the nine months ended September 30, 2017, primarily due to lower depreciation costs.

Research and development expense

	Nine months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Research and development expense	$ 5,287	$ 3,944	$ 1,343	34.1%	1.9%	2.1%

Research and development expense increased $1.3 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017, or an increase of 34.1% over the comparable period, primarily due to an increase of $1.0 million in personnel-related expenses.

Sales and marketing expense

	Nine months ended September 30,		Change 2018 vs. 2017		% of Revenue	
(amounts in thousands)	**2018**	**2017**	**$**	**%**	**2018**	**2017**
Sales and marketing expense	$ 67,376	$ 35,569	$ 31,807	89.4%	24.8%	19.2%

Sales and marketing expense increased $31.8 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or an increase of 89.4% over the comparable period. The increase was primarily attributable to increases of $15.6 million of sales and marketing personnel-related expenses as a result of the increased headcount (which included increases of $8.6 million in wages, benefits and payroll tax expense, $4.8 million in commissions expense, $1.3 million in bonus expense, $0.7 million in stock compensation expense, and $0.3 million in recruiting and relocation expense), $11.8 million in media spending to supply leads for the increased number of sales force headcount hired, $1.7 million in credit card processing fees, $1.2 million in customer service and clinical personnel-related expenses, and $1.0 million in dues, fees and license costs. In the nine months ended September 30, 2018, we spent $19.9 million in media and advertising costs versus $8.2 million in the comparative period in 2017.

General and administrative expense

(amounts in thousands)	Nine months ended September 30, 2018	Nine months ended September 30, 2017	Change 2018 vs. 2017 $	Change 2018 vs. 2017 %	% of Revenue 2018	% of Revenue 2017
General and administrative expense	$ 29,230	$ 28,568	$ 662	2.3 %	10.8 %	15.4 %

General and administrative expense increased $0.7 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or an increase of 2.3% over the comparable period. The increase was primarily attributable to $4.0 million of personnel-related expenses (which included increases of $2.1 million in stock compensation expense, $1.4 million in wages, benefits and payroll tax expense, and $0.6 million in bonus expense) and $0.7 million of increased amortization expense. These increases were partially offset by a decrease of $3.5 million of patent defense costs and $1.8 million of bad debt expense as well as an increase of $0.3 million of net proceeds from the sale of former rental assets.

Bad debt expense, expressed as a percentage of total revenue, was 0.5% and 1.7% in the nine months ended September 30, 2018 and September 30, 2017, respectively.

Other income, net

(amounts in thousands)	Nine months ended September 30, 2018	Nine months ended September 30, 2017	Change 2018 vs. 2017 $	Change 2018 vs. 2017 %	% of Revenue 2018	% of Revenue 2017
Interest income	2,111	468	1,643	351.1 %	0.8 %	0.3 %
Other income (expense)	(596)	994	(1,590)	-160.0 %	-0.2 %	0.5 %
Total other income, net	$ 1,515	$ 1,462	$ 53	3.6 %	0.6 %	0.8 %

Total other income, net, remained relatively flat for the nine months ended September 30, 2018 from the nine months ended September 30, 2017. An increase of $1.6 million in interest income on cash equivalents and marketable securities was offset by a decrease of $1.6 million in other income (expense) related to foreign currency losses arising from increased transactions in Euros at a lower Euro exchange rate to the U.S. dollar compared to foreign currency gains recorded in the comparable period.

Income tax expense (benefit)

(amounts in thousands)	Nine months ended September 30, 2018	Nine months ended September 30, 2017	Change 2018 vs. 2017 $	Change 2018 vs. 2017 %	% of Revenue 2018	% of Revenue 2017
Income tax expense (benefit)	$ (7,168)	$ 2,254	$ (9,422)	-418.0 %	-2.6 %	1.2 %
Effective income tax rate	*-20.7 %*	*9.4 %*				

Income tax expense (benefit) decreased $9.4 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, primarily attributable to an increase of excess benefits recognized from stock-based compensation and the impact of changes in the federal tax rate associated with the Tax Cuts and Jobs Act (TCJA), partially offset by a 45.1% increase in income before income tax expense (benefit).

Our effective tax rate in the first nine months of 2018 decreased compared to 2017, primarily due to the changes in the federal tax rate associated with the TCJA. In the first nine months of 2018, excess tax benefits recognized from stock-based compensation decreased our income tax expense by $15.2 million and our effective tax rate by 44.0%, as compared to the tax rate without such benefits. For comparison, in the first nine months of 2017, excess tax benefits recognized from stock-based compensation decreased our income tax expense by $6.4 million and our effective tax rate by 27.0%, as compared to the tax rate without such benefits.

Net income

(amounts in thousands)	Nine months ended September 30, 2018	Nine months ended September 30, 2017	Change 2018 vs. 2017 $	Change 2018 vs. 2017 %	% of Revenue 2018	% of Revenue 2017
Net income	$ 41,800	$ 21,608	$ 20,192	93.4 %	15.4 %	11.6 %

Net income increased $20.2 million for the nine months ended September 30, 2018 from the nine months ended September 30, 2017, or an increase of 93.4% over the comparable period. The increase in net income was primarily related to the increase in revenues of 46.3% and a lower effective tax rate.

Contractual obligations

We obtain individual components for our products from a wide variety of individual suppliers. Consistent with industry practice, we acquire components through a combination of purchase orders, supplier contracts, and open orders based on projected demand information. Where appropriate, the purchases are applied to inventory component prepayments that are outstanding with the respective supplier. As of September 30, 2018, we had purchase obligations with outside vendors and suppliers of approximately $61.6 million of which the timing varies depending on demand, current supply on hand and other factors. The obligations normally do not extend beyond twelve-month time frames. As of September 30, 2018, we had minimum aggregate payments of $12.0 million due under operating leases, related party leases and specified non-cancelable contractual obligations related to software license and maintenance agreements.

On May 1, 2018, we entered into an amendment to the lease agreement for our Cleveland facility (the "Cleveland Lease Amendment") to expand such facility. The Cleveland Lease Amendment has a term that will expire on September 30, 2024. Following the Cleveland Lease Amendment, we are currently leasing approximately 54,139 square feet of office space in our Cleveland facility and pursuant to the terms of the Cleveland Lease Amendment we may expand to up to 93,634 square feet. Base rent following the Cleveland Lease Amendment will increase as we take possession of additional square footage in each office increment. The aggregate future minimum lease payments under this lease, as amended, are approximately $6.7 million. For additional information regarding our total obligations under our operating leases, refer to Note 8 – Commitments and contingencies in the condensed notes to our consolidated financial statements included in this report.

Except as indicated above, there have been no other material changes, outside of the ordinary course of business, in our outstanding contractual obligations from those disclosed within "Management's Discussion and Analysis of Financial Condition and Results of Operations" section contained in our Annual Report on Form 10-K filed with the SEC on February 27, 2018.

Off-balance sheet arrangements

We do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or for any other contractually narrow or limited purpose. However, from time-to-time, we enter into certain types of contracts that contingently require us to indemnify parties against third-party claims including certain real estate leases, supply purchase agreements, and directors and officers. The terms of such obligations vary by contract and in most instances a maximum dollar amount is not explicitly stated therein. Generally, amounts under these contracts cannot be reasonably estimated until a specific claim is asserted thus no liabilities have been recorded for these obligations on our balance sheets for any of the periods presented.

Liquidity and capital resources

As of September 30, 2018, we had cash and cash equivalents of $176.3 million, which consisted of highly-liquid investments with a maturity of three months or less. In addition, we held marketable securities of $47.6 million in available-for-sale corporate bonds and U.S. Treasury securities, which had maturities greater than three months. Since inception, we have received net proceeds of $91.7 million from the issuance of redeemable convertible preferred stock and convertible preferred stock and $52.5 million ($49.7 million net proceeds) in connection with the sale of common stock in our initial public offering. Since 2013, we have received $39.0 million from proceeds related to stock option exercises and our employee stock purchase plan. For the nine months ended September 30, 2018 and September 30, 2017, we received $13.3 million and $10.7 million, respectively, in proceeds related to these stock programs.

Our principal uses of cash for liquidity and capital resources in the nine months ended September 30, 2018 consisted of net purchases of available-for-sale investments of $16.6 million and our capital expenditures of $11.1 million including additional rental equipment, intangible assets, and other property, plant and equipment. The uses of cash were partially offset by $0.7 million of gross proceeds received from the sale of former rental assets.

We believe that our current cash, cash equivalents, marketable securities, and the cash to be generated from expected product sales and rentals will be sufficient to meet our projected operating and investing requirements for at least the next twelve months. However, our liquidity assumptions may prove to be incorrect, and we could utilize our available financial resources sooner than we currently expect. Our future funding requirements will depend on many factors, including market acceptance of our products; the cost of our research and development activities; payments from customers; the cost, timing, and outcome of litigation or disputes relating to intellectual property rights, our products, employee relations, cyber security incidents, or otherwise; the cost and timing of regulatory clearances or approvals; the cost and timing of establishing additional sales, marketing, and distribution capabilities; and the effect of competing technological and market developments. In the future, we may acquire businesses or technologies from third parties, and we may decide to raise additional capital through debt or equity financing to the extent we believe this is necessary to successfully complete these acquisitions. Our future capital requirements will also depend on many additional factors, including those set forth in the section of this Quarterly Report on Form 10-Q entitled "Risk Factors."

If we require additional funds in the future, we may not be able to obtain such funds on acceptable terms, or at all. In the future, we may also attempt to raise additional capital through the sale of equity securities or through equity-linked or debt financing arrangements. If we raise additional funds by issuing equity or equity-linked securities, the ownership of our existing stockholders will be diluted. If we raise additional financing by the incurrence of indebtedness, we will be subject to increased fixed payment obligations and could also be subject to restrictive covenants, such as limitations on our ability to incur additional debt, and other operating restrictions that could adversely impact our ability to conduct our business. Any future indebtedness we incur may result in terms that could be unfavorable to equity investors. There can be no assurances that we will be able to raise additional capital, which would adversely affect our ability to achieve our business objectives. In addition, if our operating performance during the next twelve months is below our expectations, our liquidity and ability to operate our business could be adversely affected.

The following tables show a summary of our cash flows and working capital for the periods and as of the dates indicated:

(amounts in thousands)	Nine months ended September 30,		Change 2018 vs. 2017	
Summary of consolidated cash flows	**2018**	**2017**	**$**	**%**
Cash provided by operating activities	$ 47,640	$ 47,486	$ 154	0.3 %
Cash used in investing activities	(26,965)	(21,389)	(5,576)	26.1 %
Cash provided by financing activities	12,209	10,722	1,487	13.9 %
Effect of exchange rates on cash	445	23	422	1834.8 %
Net increase in cash and cash equivalents	$ 33,329	$ 36,842	$ (3,513)	-9.5 %

(amounts in thousands) **Working capital**	**September 30, 2018**	**December 31, 2017**
Cash and cash equivalents	$ 176,282	$ 142,953
Marketable securities	47,574	30,991
Accounts receivable, net	34,250	31,444
Inventories, net	30,621	18,842
Deferred cost of revenue	401	361
Income tax receivable	2,356	1,313
Prepaid expenses and other current assets	8,066	2,584
Total current assets	299,550	228,488
Accounts payable and accrued expenses	26,769	20,626
Accrued payroll	11,904	6,877
Warranty reserve-current	3,539	2,505
Deferred revenue-current	3,549	3,533
Income tax payable	369	345
Total current liabilities	46,130	33,886
Net working capital	$ 253,420	$ 194,602

Operating activities

We derive operating cash flows from cash collected from the sale and rental of our products and services. These cash flows received are partially offset by our use of cash for operating expenses to support the growth of our business. Net income in each period has increased associated with increased revenue, improving product mix and lower cost of revenue.

Net cash provided by operating activities for the nine months ended September 30, 2018 consisted primarily of our net income of $41.8 million and non-cash expense items such as provision for sales returns and doubtful accounts of $14.1 million, stock-based compensation expense of $9.8 million, depreciation of equipment and leasehold improvements and amortization of our intangibles of $8.5 million, provision for rental revenue adjustments of $2.2 million, and loss on disposal of rental equipment and other fixed assets of $0.8 million. These were partially offset by an increase in deferred tax assets of $7.6 million and gain on sale of former rental assets of $0.4 million. The net changes in operating assets and liabilities resulted in a net use of cash of $21.8 million.

Net cash provided by operating activities for the nine months ended September 30, 2017 consisted primarily of our net income of $21.6 million and non-cash expense items such as provision for sales returns and doubtful accounts of $10.3 million, depreciation and amortization of our intangibles, equipment and leasehold improvements of $9.3 million, stock-based compensation expense of $6.6 million, provision for rental revenue adjustments of $3.8 million, deferred tax assets of $2.0 million and loss on disposal of rental equipment and other fixed assets of $0.9 million. The net changes in operating assets and liabilities resulted in a net decrease in cash of $7.3 million. The net decrease was primarily due to a net increase of $22.9 million in accounts receivable, inventories, income tax receivable, prepaid expenses and other current assets, partially offset by net increases of $9.1 million of accounts payable and accrued expenses, $3.0 million of deferred revenue, $2.1 million of warranty reserve, $0.7 million of accrued payroll and $0.5 million of other noncurrent liabilities.

Investing activities

Net cash used in investing activities for each of the periods presented included cash used in the production and purchase of rental assets, manufacturing tooling, and computer equipment and software to support our expanding business as well as net (purchases) maturities of available-for-sale investments.

For the nine months ended September 30, 2018, we had $50.3 million of purchases that we invested in certificates of deposits, corporate bonds, agency mortgage-backed securities, and U.S. Treasury securities with maturities greater than three months that were classified as marketable securities, partially offset by $33.7 million in maturities of available-for-sale investments. In addition, we invested $11.1 million in the production and purchase of rental assets and other property, equipment, and leasehold improvements, partially offset from gross proceeds received from the sale of former rental assets of $0.7 million.

For the nine months ended September 30, 2017, we had $35.4 million of purchases that we invested in certificates of deposits, corporate bonds, and agency mortgage-backed securities with maturities greater than three months that were classified as marketable securities, partially offset by $23.1 million in maturities of available-for-sale investments. In addition, we invested $4.8 million in the production and purchase of rental assets and other property, equipment, and leasehold improvements, and acquired MedSupport for a net cash payment of $4.4 million, partially offset from gross proceeds received from the sale of former rental assets of $0.1 million.

We expect to continue investing in property, equipment and leasehold improvements as we expand our operations. Our business is inherently capital intensive. For example, we expend significant manufacturing and production expense in connection with the development and production of our oxygen concentrator products and, in connection with our rental business, we incur expense in the deployment of rental products to our patients. Investments will continue to be required in order to grow our sales revenue and continue to supply and replace rental equipment to our rental patients on service.

Financing activities

Historically, we have funded our operations through our sales and rental revenue, the issuance of preferred and common stock, and the incurrence of indebtedness.

For the nine months ended September 30, 2018, net cash provided by financing activities consisted of $13.3 million from the proceeds received from stock options that were exercised and purchases under our employee stock purchase program, partially offset by the payment of employment taxes related to the vesting of restricted stock awards and restricted stock units of $1.1 million.

For the nine months ended September 30, 2017, net cash provided by financing activities consisted of $10.7 million from the proceeds received from stock options that were exercised and purchases under our employee stock purchase program.

Working capital

Working capital at any specific point in time is subject to many variables including seasonality, inventory management, and the timing of cash receipts and payments.

Current assets increased $71.1 million during the nine months ended September 30, 2018 from December 31, 2017, primarily due to an increase in cash, cash equivalents and marketable securities of $49.9 million driven by strong cash flows from operations as well as increases of $11.8 million in net inventories, $5.5 million in prepaid expenses and other current assets, $2.8 million in net accounts receivable, and $1.0 million in income tax receivable.

Gross accounts receivable increased $2.9 million during the nine months ended September 30, 2018 from December 31, 2017, primarily due to an increase in gross business-to-business accounts receivable and other receivables balance of $4.6 million primarily as a result of higher sales in the third quarter of 2018 versus the fourth quarter of 2017 where total sales revenues were $89.7 million and $58.4 million, respectively, partially offset by a decrease in gross rental accounts receivable balance of $1.6 million. Allowances on accounts receivable increased $0.1 million during the nine months ended September 30, 2018 from December 31, 2017, primarily due to an increase in the allowance for sales returns of $0.4 million from the comparative consolidated balance sheet date as a result of higher sales in the third quarter of 2018 versus the fourth quarter of 2017, partially offset by a decrease in the allowance for rental revenue bad debt of $0.3 million from the comparative consolidated balance sheet date.

Allowances on accounts receivable vary based on credit quality, age, and accounts receivable source. Rental revenue has higher allowances on accounts receivable versus sales revenue due to the nature of the collectability of these balances.

Current liabilities increased by $12.2 million during the nine months ended September 30, 2018 from December 31, 2017, primarily due to an increase in accounts payable and accrued expenses of $6.1 million, mainly caused by the timing of payments for higher levels of inventory as well as increases in accrued payroll of $5.0 million and warranty reserve of $1.0 million.

Sources of funds

Our cash provided by operating activities in the nine months ended September 30, 2018 was $47.6 million compared to $47.5 million in the nine months ended September 30, 2017. As of September 30, 2018, we had cash and cash equivalents of $176.3 million.

Use of funds

Our principal uses of cash are funding our new rental asset deployments and other capital purchases, operations, and other working capital requirements. Over the past several years, our revenue has increased significantly from year-to-year and, as a result, our cash flows from customer collections have increased as have our profits. As a result, our cash provided by operating activities has increased over time and now is a significant source of capital to the business, which we expect to continue in the future.

We may need to raise additional funds to support our investing operations, and such funding may not be available to us on acceptable terms, or at all. If we are unable to raise additional funds when needed, our operations and ability to execute our business strategy could be adversely affected. We may seek to raise additional funds through equity, equity-linked or debt financings. If we raise additional funds through the incurrence of indebtedness, such indebtedness would have rights that are senior to holders of our equity securities and could contain covenants that restrict our operations. Any additional equity financing may be dilutive to our stockholders.

Non-GAAP financial measures

EBITDA, Adjusted EBITDA, and Non-GAAP net income are financial measures that are not calculated in accordance with U.S. GAAP. We define EBITDA as net income excluding interest income, interest expense, taxes and depreciation and amortization. Adjusted EBITDA also excludes stock-based compensation. Non-GAAP net income, which we previously referred to as “Adjusted Net Income,” excludes certain tax benefit adjustments. Below, we have provided a reconciliation of EBITDA, Adjusted EBITDA and Non-GAAP net income to our net income, the most directly comparable financial measure calculated and presented in accordance with U.S. GAAP. EBITDA, Adjusted EBITDA and Non-GAAP net income should not be considered alternatives to net income or any other measure of financial performance calculated and presented in accordance with U.S. GAAP. Our EBITDA, Adjusted EBITDA and non-GAAP net income may not be comparable to similarly titled measures of other organizations because other organizations may not calculate EBITDA, Adjusted EBITDA and Non-GAAP net income in the same manner as we calculate these measures.

We include EBITDA, Adjusted EBITDA and Non-GAAP net income in this Quarterly Report on Form 10-Q because they are important measures upon which our management assesses our operating performance. We use EBITDA, Adjusted EBITDA and non-GAAP net income as key performance measures because we believe they facilitate operating performance comparisons from period-to-period by excluding potential differences primarily caused by variations in capital structures, tax positions, the impact of depreciation and amortization expense on our fixed assets and the impact of stock-based compensation expense. Because EBITDA, Adjusted EBITDA and Non-GAAP net income facilitate internal comparisons of our historical operating performance on a more consistent basis, we also use EBITDA, Adjusted EBITDA and Non-GAAP net income for business planning purposes, to incentivize and compensate our management personnel, and in evaluating acquisition opportunities. In addition, we believe EBITDA, Adjusted EBITDA and Non-GAAP net income and similar measures are widely used by investors, securities analysts, ratings agencies, and other parties in evaluating companies in our industry as a measure of financial performance and debt-service capabilities.

Our uses of EBITDA, Adjusted EBITDA and Non-GAAP net income have limitations as analytical tools, and you should not consider them in isolation or as a substitute for analysis of our results as reported under U.S. GAAP. Some of these limitations are:

- EBITDA and Adjusted EBITDA do not reflect our cash expenditures for capital equipment or other contractual commitments;
- although depreciation and amortization are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and EBITDA and Adjusted EBITDA do not reflect capital expenditure requirements for such replacements;
- EBITDA and Adjusted EBITDA do not reflect changes in, or cash requirements for, our working capital needs;
- EBITDA and Adjusted EBITDA do not reflect the interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- Non-GAAP net income does not reflect the tax benefits adjustments recorded based on U.S. GAAP; and
- other companies, including companies in our industry, may calculate EBITDA, Adjusted EBITDA and Non-GAAP net income measures differently, which reduces their usefulness as a comparative measure.

In evaluating EBITDA, Adjusted EBITDA and Non-GAAP net income, we anticipate that in the future we will incur expenses within these categories similar to this presentation. Our presentation of EBITDA, Adjusted EBITDA and Non-GAAP net income should not be construed as an inference that our future results will be unaffected by certain expenses. When evaluating our performance, you should consider EBITDA, Adjusted EBITDA and Non-GAAP net income alongside other financial performance measures, including U.S. GAAP results.

The following table presents a reconciliation of EBITDA, Adjusted EBITDA and Non-GAAP net income to our net income, the most comparable U.S. GAAP measure, for each of the periods indicated:

(amounts in thousands)	Three months ended September 30,		Nine months ended September 30,	
Non-GAAP EBITDA and Adjusted EBITDA	**2018**	**2017**	**2018**	**2017**
Net income	$ 16,432	$ 7,338	$ 41,800	$ 21,608
Non-GAAP adjustments:				
Interest income	(895)	(221)	(2,111)	(468)
Provision for income taxes	(5,133)	1,479	(7,168)	2,254
Depreciation and amortization	2,712	2,936	8,521	9,257
EBITDA (non-GAAP)	13,116	11,532	41,042	32,651
Stock-based compensation	3,216	2,523	9,783	6,630
Adjusted EBITDA (non-GAAP)	$ 16,332	$ 14,055	$ 50,825	$ 39,281

(amounts in thousands)	Three months ended September 30,		Nine months ended September 30,	
Non-GAAP net income	**2018**	**2017**	**2018**	**2017**
Net income	$ 16,432	$ 7,338	$ 41,800	$ 21,608
Non-GAAP adjustments:				
2017 U.S. tax reform (1)	—	—	—	—
Non-GAAP net income	$ 16,432	$ 7,338	$ 41,800	$ 21,608

(1) On December 22, 2017, the TCJA was enacted into law, which significantly changes existing U.S. tax law and includes numerous provisions that affect the Company. During the fourth quarter of 2017, the Company recorded an estimated one-time net charge due to the impact of

changes in the tax rate, primarily on deferred tax assets. There were no related charges during the three months and nine months ended September 30, 2018.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to various market risks, including fluctuation in interest rates, foreign currency, and exchange rates. Market risk is the potential loss arising from adverse changes in market rates and prices. We do not hold or issue financial instruments for trading purposes.

Interest rate fluctuation risk

The principal market risk we face is interest rate risk. We had cash and cash equivalents of $176.3 million as of September 30, 2018, which consisted of highly-liquid investments with a maturity of three months or less, and $47.6 million of marketable securities with maturity dates of greater than three months and less than twelve months. The primary goals of our investment policy are liquidity and capital preservation. We do not enter into investments for trading or speculative purposes. We believe that we do not have any material exposure to changes in the fair value of these assets as a result of changes in interest rates due to the short-term nature of our cash and cash equivalents. Declines in interest rates, however, would reduce future investment income. We considered the historical volatility of short-term interest rates and determined that it was reasonably possible that an adverse change of 100 basis points could be experienced in the near term. A hypothetical 1.00% (100 basis points) increase in interest rates would not have materially impacted the fair value of our marketable securities as of September 30, 2018 and December 31, 2017. If overall interest rates had decreased by 1.00% (100 basis points), our interest income would not have been materially affected for the three months or nine months ended September 30, 2018 or September 30, 2017.

Foreign currency exchange risk

The majority of our revenue is denominated in U.S. dollars while the majority of our European sales are denominated in Euros. In addition, we acquired MedSupport with net assets denominated in Euros in the second quarter of 2017. Our results of operations, certain balance sheet balances and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. The volatility of exchange rates depends on many factors that we cannot forecast with reliable accuracy. We have experienced and will continue to experience fluctuations in our net income or loss as a result of transaction gains or losses related to revaluing certain current asset and current liability balances that are denominated in currencies other than the functional currency in which they are recorded. The effect of a 10% adverse change in exchange rates on foreign denominated cash, receivables and payables as of September 30, 2018 would not have had a material effect on our financial position, results of operations or cash flows. As our operations in countries outside of the United States grow, our results of operations and cash flows will be subject to fluctuations due to changes in foreign currency exchange rates, which could harm our business in the future.

We began entering into foreign exchange forward contracts to protect our forecasted U.S. dollar-equivalent earnings from adverse changes in foreign currency exchange rates in December 2015. These hedging contracts reduce, but will not entirely eliminate, the impact of adverse currency exchange rate movements on revenue. We performed a sensitivity analysis assuming a hypothetical 10% adverse movement in foreign exchange rates to the hedging contracts and the underlying exposures described above. As of September 30, 2018, the analysis indicated that these hypothetical market movements would not have a material effect on our financial position, results of operations or cash flows. We estimate prior to any hedging activity that a 10% adverse change in exchange rates on our foreign denominated sales would have resulted in a $4.3 million decline in revenue for the first nine months of 2018. We designate these forward contracts as cash flow hedges for accounting purposes. The fair value of the forward contract is separated into intrinsic and time values. The fair value of forward currency-exchange contracts is sensitive to changes in currency exchange rates. Changes in the time value are coded in other income (expense), net. Changes in the intrinsic value are recorded as a component of accumulated other comprehensive income and subsequently reclassified into revenue to offset the hedged exposures as they occur.

Inflation risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, we might not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

Item 4. Controls and Procedures

Evaluation of disclosure controls and procedures

The Company maintains a system of disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which are designed to provide reasonable assurance that information required to be disclosed in the reports that the Company files or submits under the Exchange Act, is recorded, processed, summarized and reported accurately and completely within the time periods specified in the SEC’s rules and forms. These disclosure controls and procedures include, among other processes, controls and procedures designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Due to inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Further, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions over time, or that the degree of compliance with the policies and procedures may deteriorate. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2018. Based upon the evaluation described above, our Chief Executive Officer and Chief Financial Officer concluded that, as of September 30, 2018, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in internal control over financial reporting

There has been no change in our internal control over financial reporting during the three months ended September 30, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on effectiveness of controls

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Because of the inherent limitations in any control system, misstatements due to error or fraud may occur and not be detected.

Part II. OTHER INFORMATION

Item 1. Legal Proceedings

In the normal course of business, we are from time to time involved in various legal proceedings or potential legal proceedings, including matters involving employment, product liability and intellectual property. We carry insurance, subject to specified deductibles under our policies, to protect against losses from certain liabilities and costs. At this time, we do not anticipate that any of these proceedings will have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Item 1A. Risk Factors

We operate in a rapidly changing environment that involves numerous uncertainties and risks. In addition to the other information included in this Quarterly Report on Form 10-Q, the following risks and uncertainties may have a material and adverse effect on our business, financial condition, results of operations, or stock price. You should consider these risks and uncertainties carefully, together with all of the other information included or incorporated by reference in this Quarterly Report on Form 10-Q. The risks and uncertainties described below may not be the only ones we face. If any of the risks or uncertainties we face were to occur, the trading price of our securities could decline, and you may lose all or part of your investment. This Quarterly Report on Form 10-Q also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of factors that are described below and elsewhere in this report.

Risks related to our business and strategy

We face intense international, national, regional and local competition and if we are unable to compete successfully, it could have an adverse effect on our revenue, revenue growth rate, if any, and market share.

The oxygen therapy market is a highly competitive industry. We compete with a number of manufacturers and distributors of portable oxygen concentrators, as well as providers of other oxygen therapy solutions such as home delivery of oxygen tanks or cylinders, stationary concentrators, transfilling concentrators, and liquid oxygen.

Our significant manufacturing competitors are Respironics (a subsidiary of Koninklijke Philips N.V.), Invacare Corporation, AirSep Corporation and SeQual Technologies (subsidiaries of Chart Industries, Inc.), DeVilbiss Healthcare (a subsidiary of Drive Medical), O2 Concepts, Precision Medical and Gas Control Equipment. Given the relatively straightforward regulatory path in the oxygen therapy device manufacturing market, we expect that the industry will become increasingly competitive in the future. For example, three major competitors (Respironics, Chart Industries, and Invacare) have implemented direct-to-consumer sales models which may increase their competitiveness and sales to patients, however these strategies are limited to direct-to-consumer sales and do not include direct-to-consumer rentals where they would be responsible to meet national accreditation and state-by-state licensing requirements and secure Medicare billing privileges. Manufacturing companies compete for sales to providers primarily on the basis of price, quality/reliability, financing, bundling, product features, and service.

For many years, Lincare, Inc. (a subsidiary of the Linde Group), Apria Healthcare, Inc., QMES, LLC, and Rotech Healthcare, Inc. have been among the market leaders in providing oxygen therapy, while the remaining oxygen therapy market is serviced by local providers. Because many oxygen therapy providers were either excluded from contracts in the Medicare competitive bidding process or will have difficulty providing service at the prevailing Medicare reimbursement rates, we expect more industry consolidation. Oxygen therapy providers compete primarily on the basis of product features and service, rather than price, since reimbursement levels are established by Medicare and Medicaid, or by the individual determinations of private payors.

Some of our competitors are large, well-capitalized companies with greater resources than we have. As a consequence, they are able to spend more aggressively on product development, marketing, sales and other product initiatives than we can. Some of these competitors have:

- significantly greater name recognition;
- established relationships with healthcare professionals, customers and third-party payors;
- established distribution networks;
- additional lines of products, and the ability to offer rebates or bundle products to offer higher discounts, longer warranties, financing or extended terms, other incentives to gain a competitive advantage;

- greater history in conducting research and development, manufacturing, marketing and obtaining regulatory approval for oxygen device products; and
- greater financial and human resources for product development, sales and marketing, and patent litigation.

As a result, our competitors may be able to respond more quickly and effectively than we can due to new or changing opportunities, technologies, standard regulatory and reimbursement development and customer requirements. In light of these advantages that our competitors maintain, even if our technology and direct-to-consumer distribution strategy is more effective than the technology and distribution strategy of our competitors, including those who have adopted or may in the future adopt direct-to-consumer sales models, current or potential customers might accept competitor products and services in lieu of purchasing our products. We anticipate that we will face increased competition in the future as existing companies and competitors develop new or improved products and distribution strategies and as new companies enter the market with new technologies and distribution strategies. We may not be able to compete effectively against these organizations. Our ability to compete successfully and to increase our market share is dependent upon our reputation for providing responsive, professional and high-quality products and services and achieving strong customer satisfaction. Increased competition in the future could adversely affect our revenue, revenue growth rate, margins and market share.

If we are unable to continue to enhance our existing products and develop and market new products that respond to customer needs and preferences and achieve market acceptance, we may experience a decrease in demand for our products and our business could suffer.

We may not be able to compete as effectively with our competitors, and ultimately satisfy the needs and preferences of our customers, unless we can continue to enhance existing products and develop new innovative products. Product development requires significant financial, technological and other resources. While we expended $2.1 million and $1.4 million for the three months ended September 30, 2018 and September 30, 2017, respectively, and $5.3 million and $3.9 million for the nine months ended September 30, 2018 and September 30, 2017, respectively, for research and development efforts, we cannot assure that this level of investment will be sufficient to maintain a competitive advantage in product innovation, which could cause our business to suffer. Product improvements and new product introductions also require significant planning, design, development, patent protection, and testing at the technological, product, and manufacturing process levels and we may not be able to timely develop product improvements or new products or obtain necessary patent protection and regulatory clearances or approvals for such product improvements or new products in a timely manner, or at all. Our competitors' new products may enter the market before our new products reach market, be more effective with more features, obtain better market acceptance, or render our products obsolete. Any new products that we develop may not receive market acceptance or otherwise generate any meaningful sales or profits for us relative to our expectations based on, among other things, existing and anticipated investments in manufacturing capacity and commitments to fund advertising, marketing, promotional programs and research and development.

We depend on a limited number of customers for a significant portion of our sales revenue and the loss of, or a significant shortfall in demand from, these customers could have a material adverse effect on our financial condition and operating results.

We receive a significant amount of our sales revenue from a limited number of customers, including distributors, HME oxygen providers, our private label partner and resellers. For the three months ended September 30, 2018 and September 30, 2017, sales revenue to our top 10 customers accounted for approximately 35.8% and 39.9%, respectively, of our total revenue. No single customer represented more than 10% of our total revenue for the three months ended September 30, 2018 and one customer represented over 10% of our total revenue for the three months ended September 30, 2017. For the nine months ended September 30, 2018 and September 30, 2017, sales revenue to our top 10 customers accounted for approximately 38.7% and 39.2%, respectively, of our total revenue. For the nine months ended September 30, 2018 and September 30, 2017, we have one customer who was over 10% of our total revenue. We expect that sales to relatively few customers will continue to account for a significant percentage of our total revenue in future periods. However, we can provide no assurance that any of these customers or any of our other customers will continue to utilize our products at current levels, pricing, or at all, and our revenue could fluctuate significantly due to changes in economic conditions, the use of competitive products, or the loss of, reduction of business with, or less favorable terms with any of our largest customers. Our future success will significantly depend upon the timing and volume of business from our largest customers and the financial and operational success of these customers. If we were to lose one of our key customers or have a key customer significantly reduce its volume of business with us, our revenue may be materially reduced and there would be an adverse effect on our business, financial conditions and results of operations.

We obtain some of the components, subassemblies and completed products included in our Inogen One systems and our Inogen At Home from a single source or a limited group of manufacturers or suppliers, and the partial or complete loss of one of these manufacturers or suppliers could cause significant production delays, an inability to meet customer demand and a substantial loss in revenue.

We utilize single-source suppliers for some of the components and subassemblies we use in our Inogen One systems and our Inogen At Home systems. For example, we have elected to source certain key components from single sources of supply, including our batteries, motors, valves, and some molded plastic components. Our dependence on single-source suppliers of components may expose us to several risks, including, among other things:

- our suppliers may encounter financial hardships as a result of unfavorable economic and market conditions unrelated to our demand for components, which could inhibit their ability to fulfill our orders and meet our requirements;
- suppliers may fail to comply with regulatory requirements, be subject to lengthy compliance, validation or qualification periods, or make errors in manufacturing components that could negatively affect the performance or safety of our products or cause delays in supplying of our products to our customers;
- newly identified suppliers may not qualify under the stringent quality regulatory standards to which our business is subject;
- we or our suppliers may not be able to respond to unanticipated changes in customer orders, and if orders do not match forecasts, we or our suppliers may have excess or inadequate inventory of materials and components;
- we may be subject to price fluctuations due to a lack of long-term supply arrangements for key components;
- we may experience delays in delivery by our suppliers due to customs clearing delays, shipping delays, scarcity of raw materials or changes in demand from us or their other customers;
- we or our suppliers may lose access to critical services and components, resulting in an interruption in the manufacture, assembly and shipment of our systems;
- our suppliers may be subject to allegations by other parties of misappropriation of proprietary information in connection with their supply of products to us, which could inhibit their ability to fulfill our orders and meet our requirements;
- fluctuations in demand for products that our suppliers manufacture for others may affect their ability or willingness to deliver components to us in a timely manner;
- our suppliers may wish to discontinue supplying components or services to us; and
- we may not be able to find new or alternative components or reconfigure our system and manufacturing processes in a timely manner if the necessary components become unavailable.

We have in the past experienced supply problems with some of our suppliers and may again experience problems in the future. For example, we have previously had issues with our suppliers sourcing certain components of our Inogen One products. If we had not been able to obtain sufficient quantities of the required component, we would have been required to delay manufacturing until additional supplies became available, or we would have been required to validate an alternative component. We may not be able to quickly establish additional or replacement suppliers, particularly for our single source components or subassemblies. Any interruption or delay in the supply of components or subassemblies, or our inability to obtain components or subassemblies from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products.

In addition, we may be deemed to manufacture or contract to manufacture products that contain certain minerals that have been designated as “conflict minerals” under the Dodd-Frank Wall Street Reform and Consumer Protection Act. As a result, we may be required to perform due diligence to determine the origin of such minerals and disclose and report whether or not such minerals originated in the Democratic Republic of the Congo or adjoining countries. The implementation of these new requirements could adversely affect the sourcing, availability, and pricing of minerals used in the manufacture of our products. In addition, we may incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. If any of these risks materialize, costs could significantly increase and our ability to meet demand for our products could be impacted. If we are unable to satisfy commercial demand for our Inogen One systems and Inogen At Home systems in a timely manner, our ability to generate revenue would be impaired, market acceptance of our products could be adversely affected, and customers may instead purchase or use alternative products. In addition, we could be forced to secure new or alternative components and subassemblies through a replacement supplier. Finding alternative sources for these components and subassemblies could be difficult in certain cases and may entail a significant amount of time and disruption. In some cases, we would need to change the components or subassemblies if we sourced them from an alternative supplier. This, in turn, could require a redesign of our Inogen One systems and Inogen At Home systems and, potentially, require additional Food and Drug Administration (FDA) clearance or approval before we could use any redesigned product with new components or subassemblies, thereby causing further costs and delays that could adversely affect our business, financial condition and operating results.

A significant majority of our rental patients who use our product have health coverage under the Medicare program, and recently enacted and future changes in the reimbursement rates or payment methodologies under Medicare, Medicaid and other government programs have affected and could continue to materially and adversely affect our business and operating results.

As a provider of oxygen product rentals, we depend heavily on Medicare reimbursement as a result of the higher proportion of elderly persons suffering from chronic respiratory conditions. Medicare Part B, or Supplementary Medical Insurance Benefits, provides coverage to eligible beneficiaries that include items of durable medical equipment for use in the home, such as oxygen equipment and other respiratory devices. We believe that more than 60% of oxygen therapy patients in the United States have primary coverage under Medicare Part B. For the three months ended September 30, 2018 and September 30, 2017, we derived 4.7% and 6.0%, respectively, and for the nine months ended September 30, 2018 and September 30, 2017, we derived 4.6% and 7.3%, respectively, of our total revenue from Medicare's program or beneficiaries (including patient co-insurance obligations). There are increasing pressures on Medicare to control healthcare costs and to reduce or limit reimbursement rates for home medical products.

Legislation, including the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, the Deficit Reduction Act of 2005, the Medicare Improvements for Patients and Providers Act of 2008, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, and the 21st Century Cures Act (Cures Act) contain provisions that directly impact reimbursement for the durable medical equipment products provided by us:

- The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 significantly reduced reimbursement for inhalation drug therapies beginning in 2005, reduced payment amounts for certain durable medical equipment, including oxygen, beginning in 2005, froze payment amounts for other covered home medical equipment items through 2008, established a competitive bidding program for home medical equipment and implemented quality standards and accreditation requirements for durable medical equipment suppliers.
- The Deficit Reduction Act of 2005 limited the total number of continuous rental months for which Medicare will pay for oxygen equipment to 36 months, after which time there is generally no additional reimbursement to the supplier (other than for periodic, in-home maintenance and servicing). The Deficit Reduction Act of 2005 also provided that title of the equipment would transfer to the beneficiary, which was later repealed by the Medicare Improvements for Patients and Providers Act of 2008. For purposes of the rental cap, the Deficit Reduction Act of 2005 provided for a new 36-month rental period that began January 1, 2006 for all oxygen equipment. After the 36th continuous month during which payment is made for the oxygen equipment, the supplier is generally required to continue to furnish the equipment during the period of medical need for the remainder of the useful lifetime of the equipment, provided there are no breaks in service due to medical necessity that exceed 60 days. The reasonable useful lifetime for our portable oxygen equipment is 60 months. After 60 months, if the patient requests, and the patient meets Medicare coverage criteria, the rental cycle starts over and a new 36-month rental period begins. There are no limits on the number of 60-month cycles over which a Medicare patient may receive benefits and an oxygen therapy provider may receive reimbursement, so long as such equipment continues to be medically necessary for the patient. We anticipate that the Deficit Reduction Act of 2005 oxygen payment rules will continue to negatively affect our net revenue on an ongoing basis, as each month additional customers reach the capped rental period in month thirty-seven, resulting in potentially two or more years without rental income from these customers. Our capped patients as a percentage of total patients on service was approximately 18.1% as of September 30, 2018, which is slightly higher than the capped patients as a percentage of total patients on service of approximately 17.1% as of September 30, 2017. The percentage of capped patients may fluctuate over time as new patients come on service, patients come off of service before and during the capped rental period, and existing patients enter the capped rental period. We cannot predict the potential impact to rental revenues in future periods associated with patients in the capped rental period.
- The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, includes, among other things, new face-to-face physician encounter requirements for certain durable medical equipment and home health services, and a requirement that by 2016, the competitive bidding process must be nationalized or prices in non-competitive bidding areas must be adjusted to match competitive bidding prices. As of January 1, 2017, CMS has decreased prices for durable medical equipment in non-competitive bidding areas to match competitive bidding prices.

- The Cures Act was passed in December 2016 and included a provision to roll-back the second cut to the non-CBA areas that was effective July 1, 2016 through December 31, 2016. Reimbursement in these areas was increased to the rates experienced in the period from January 1, 2016 through June 30, 2016. This led to a benefit in rental revenue of $2.0 million in the fourth quarter of 2016 and $0.2 million in the first quarter of 2017. Effective January 1, 2017, rates are set at 100% of the adjusted fee schedule amount, based on the regional competitive bidding rates. The Cures Act also called for a study of the impact of the competitive bidding pricing on rural areas.

These legislative provisions as currently in effect have had and will continue to have a material and/or adverse effect on our business, financial condition and operating results.

The Health and Human Services (HHS) Office of Inspector General (OIG) has recommended states to review Medicaid reimbursement for durable medical equipment (DME) and supplies. The OIG cites an earlier report estimating that four states (California, Minnesota, New York, and Ohio) could have saved more than $18.1 million on selected DME items if their Medicaid prices were comparable to those under round one of the Medicare competitive bidding program. Since issuing those reports, the OIG identified $12 million in additional savings that the four states could have obtained on the selected items by using pricing similar to the Medicare round two competitive bidding and national mail-order programs. In light of varying Medicaid provider rates for DME and the potential for lower spending, the OIG recommends that CMS (1) seek legislative authority to limit state Medicaid DME reimbursement rates to Medicare program rates, and (2) encourage further reduction of Medicaid reimbursement rates through competitive bidding or manufacturer rebates (the OIG did not determine the cost of implementing a rebate or competitive bidding program in each state). This was effective beginning January 1, 2018.

On January 28, 2016, the Department of Health and Human Services (DHHS) published a final rule to implement Medicare's face-to-face provisions for home health and DME under the Medicaid program, effective July 1, 2016. Medicaid programs are run by state agencies that must coordinate with state legislative bodies, therefore the state agencies have until July 1, 2017 or July 1, 2018 (depending on the timing of their legislative sessions) to allow state agencies to publish compliant initiatives on this rule. All states except Montana, Nevada, North Dakota, and Texas were expected to initiate this requirement effective July 1, 2017. Montana, Nevada, North Dakota, and Texas are expected to implement the requirements by July 1, 2018. The Medicaid definition of medical supplies, equipment and appliances were aligned with the Medicare definitions. In addition, the DHHS is implementing the requirement for a face-to-face visit related to the beneficiary's primary need for medical equipment within 6 months prior to the start of certain durable medical equipment services, including oxygen. These legislative provisions, when enacted, could have an adverse impact on our business, financial conditions and operating results.

Due to budgetary shortfalls, many states are considering, or have enacted, cuts to their Medicaid programs. These cuts have included, or may include, elimination or reduction of coverage for our products, amounts eligible for payment under co-insurance arrangements, or payment rates for covered items. Continued state budgetary pressures could lead to further reductions in funding for the reimbursement for our products which, in turn, would adversely affect our business, financial condition and results of operations.

On January 17, 2017, the U.S. Department of Health and Human Services published a final rule effective March 20, 2017 to address the appeals backlog that includes allowing certain decisions to be made by the Medicare Appeals Council to set precedent for lower levels of appeal, expansion of the pool of available adjudicators, and increasing decision-making consistency among the levels of appeal. In addition, it included provisions to improve the efficiency by streamlining the appeals process, allowing attorneys to handle some procedural matters at the administrative law judge level, and proposed funding increases and legislative actions outlined in the federal budget for 2017. DHHS estimates this could eliminate the backlog in appeals by 2021. However, if this plan is not effective, the appeals backlog could increase, which could increase our collection times and decrease our cash flow, increase billing administrative costs, and/or increase the provision for rental revenue adjustments, which would adversely affect our business financial condition and results of operations.

The competitive bidding process under Medicare could negatively affect our business and financial condition.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 requires the Secretary of Health and Human Services to establish and implement programs under which competitive acquisition areas are established throughout the United States for purposes of awarding contracts for the furnishing of competitively priced items of durable medical equipment, including oxygen equipment.

As of January 1, 2011, Medicare phased in the competitive bidding program. The competitive bidding program impacts the amount Medicare reimburses suppliers of durable medical equipment rentals, including portable oxygen concentrators. The program is defined geographically, with suppliers submitting bids to provide medical equipment for specific product categories within a specified geographic region called competitive bidding areas, or CBAs. Once bids have been placed, an individual company's bids within a product category are aggregated and weighted by each product's market share in the category. The weighted-average price is then indexed against all bidding suppliers. Medicare determines a “clearing price” out of these weighted-average prices, at which a sufficient number of suppliers have indicated they will support patients in the category. This threshold is typically designed to generate theoretical supply that is twice the expected demand. Bids for each modality among the suppliers that made the cut are then arrayed to determine what Medicare will reimburse for each product category and geographic area. The program has strict anti-collusion guidelines to ensure bidding is truly competitive. A competitive bidding contract lasts up to three years, once implemented, after which the contract can be subject to a new round of bidding. Discounts off the standard Medicare allowable occur in CBAs where contracts have been awarded as well as in cases where private payors pay less than this allowable. Competitive bidding rates are based on the zip code where the patient resides. Rental revenue includes payments for product, disposables, and customer service/support.

As of January 1, 2016, all areas previously not subject to the competitive bidding program (non-competitive bidding areas or “non-CBAs”) have experienced reductions in the Medicare fee schedule for DMEPOS. The fee schedules in the non-CBAs were adjusted based on regional averages of the single payment amounts that apply to the competitive bidding program (Adjusted Fee Schedule). The regional prices are limited by a national ceiling (110% of the average of the regional prices) and a national floor (90% of the average regional prices). From January 1, 2016 to June 30, 2016, the reimbursement rates for these non-CBAs (with dates of service from January 1, 2016 to June 30, 2016) were 50% of the un-adjusted fee schedule amount plus 50% of the Adjusted Fee Schedule amount. As of July 1, 2016, Medicare reimbursed DMEPOS at 100% of the Adjusted Fee Schedule amount. However, in December 2016, the Cures Act was passed, which included a provision to roll-back the second cut to the non-CBA areas that was effective July 1, 2016 through December 31, 2016. Pricing in these areas was increased to the rates experienced in the period from January 1, 2016 through June 30, 2016. This led to a benefit in rental revenue of $2.0 million in the fourth quarter of 2016 and $0.2 million in the first quarter of 2017. Effective January 1, 2017, rates are set at 100% of the adjusted fee schedule amount, based on the regional competitive bidding rates. The Cures Act also called for a study of the impact of the competitive bidding pricing on rural areas and accelerated the implementation of the Omnibus bill passed in December 2015 that requires state Medicaid agencies to match Medicare fee schedule reimbursement rates (including single payment amounts in applicable areas), effective as of January 1, 2018, including for oxygen.

The competitive bidding regions are defined as follows:

Region Name	States Covered
Far West	CA, NV, OR, WA
Great Lakes	IL, IN, MI, OH, WI
Mideast	DC, DE, MD, NJ, NY, PA
New England	CT, MA, NH, RI
Plains	IA, KS, MN, MO, NE
Rocky Mountain	CO, ID, UT
Southeast	AL, AR, FL, GA, KY, LA, NC, SC, TN, VA
Southwest	AZ, NM, OK, TX

In addition to regional pricing, CMS imposed different pricing on “frontier states” and rural areas. CMS defines frontier states as states where more than 50% of the counties in the state have a population density of 6 people or less per square mile and rural states are defined as states where more than 50% of the population lives in rural areas per census data. Current frontier states include MT, ND, SD and WY; rural states include ME, MS, VT and WV; and non-contiguous United States areas include AK, HI, Guam and Puerto Rico. For frontier and rural states, and frontier and rural zip codes in non-frontier/rural states, the single payment amount will be the national ceiling (110% of the average of the regional prices) to account for higher servicing costs in these areas. For non-contiguous United States areas, single payment amounts will be the higher of the national ceiling, or the average of competitive bidding pricing from these areas, if the areas had been bid through competitive bidding. We estimate that less than 10% of our patients would be eligible to receive the 110% of the regional prices for rural and frontier areas based on the geographic locations of our current patient population.

With regard to round two re-compete, which began on July 1, 2016, CMS updated the product categories and the competitive bidding areas. Respiratory equipment includes oxygen, oxygen equipment, continuous positive airway pressure devices, respiratory assist devices and related supplies and accessories. Nebulizers are now a separate product category from respiratory equipment. Round two re-compete is in the same geographic areas that were included in the original round two. However, as a result of the Office of Management and Budget’s updates to the original 91 round two metropolitan statistical areas, there are now 90 metropolitan statistical areas for round two re-compete and 117 CBAs. Any CBA that was previously located in multi-state metropolitan statistical areas was redefined so that no CBA is included in more than one state. The round two re-compete CBAs have nearly the same zip codes as the round two CBAs; the associated changes in the zip codes since competitive bidding was implemented are reflective in this round two re-compete.

In round one 2017, there were 9 metropolitan statistical areas and 13 CBAs to make sure each CBA does not cross state boundaries. We estimate approximately 9% of the Medicare market was impacted by these contracts which began on January 1, 2017 and continue through December 31, 2018.

To the extent that we are not successful in future competitive bidding rounds, we may lose access to patients in CBAs in which we are not awarded contracts, which would adversely affect our business, financial condition and results of operation. Moreover, any items and services provided by the Company to Medicare patients that reside in non-CBAs will be affected by the reimbursement reductions aimed at bringing national reimbursement in line with the competitive bidding program single payment amounts.

On April 16, 2015, the Medicare Access and CHIP Reauthorization Act of 2015 was signed into law which requires Medicare suppliers that bid under the DMEPOS competitive bidding program to obtain a $0.05 million to $0.1 million bid surety bond for each CBA. The provision is intended to prevent suppliers from submitting not-binding, "low-ball" bids that artificially drive down prices and jeopardize beneficiary access to equipment. If the supplier bids at or lower than the median composite bid rate and does not accept a contract offered for a CBA, the bid bond would be forfeited. The Act also codifies that competitive bidding contracts can only be awarded to suppliers that meet applicable state licensure requirements. We will incur additional expense to obtain the appropriate surety bonds in the CBAs where we win contracts in future competitive bidding rounds. As of January 1, 2017, there are 13 CBAs under contract in round one 2017 and 117 CBAs under contract in round two re-compete. CBAs are defined by Medicare and are subject to change at each new bidding period.

On November 4, 2016, CMS published a final rule in the Federal Register imposing additional regulations on the competitive bidding process. The final rule requires bidders choosing to participate in the competitive bidding program to obtain a $0.05 million surety bond for each CBA in which they bid. If a bidder does not accept a contract offer when its composite bid is at or below the median composite bid rate for suppliers used in the calculation of the single payment amount, the bid surety bond for the applicable CBA will be forfeited to CMS. In instances where the bidder does not meet the forfeiture conditions specified in the final rule, the bid surety bond liability will be returned to the bidder within 90 days of the public announcement of the contract suppliers for the CBA. Currently, there are 130 CBAs, which would mean a bidding supplier could incur a surety bond obligation with forfeiture conditions of up to $6.5 million. The final rule also changes the bid limits for individual items for future rounds of competitive bidding to reflect the 2015 unadjusted fee schedule to avoid a downward trend in bid pricing, to ensure the long-term viability of the competitive bidding program, and to allow suppliers to take into account both decreases and increases in costs in determining their bids. The rule also finalizes an appeals process for all breach of contract actions that CMS may take under the competitive bidding program. Lastly, the final rule sets forth a provision for lead item bidding for certain product categories in future bidding rounds to prevent the creation of price inversions, which occurred in round two of competitive bidding. Lead item bidding means that all HCPCS codes for similar items will be grouped together and priced relative to the bid for the "lead item," as calculated by CMS.

On November 2, 2017, a bi-partisan bill was introduced in the House of Representatives that would provide relief from competitive bidding in non-bid areas. As of September 30, 2018, there were 156 co-sponsors on this bill. If passed, the bill would extend a retroactive delay of a second round of reimbursement cuts for Medicare beneficiaries from January 1, 2017 to January 1, 2019 based on the reimbursement rates effective on January 1, 2016. The legislation also proposes to remedy a double-dip cut to oxygen payments caused by the misapplication of a 2006 budget neutrality offset balancing increased utilization for oxygen generating portable equipment with lower reimbursement for stationary equipment.

On May 9, 2018, CMS released an Interim Final Rule to resume the 50/50 blended rate schedule for the period of June 1, 2018 through December 31, 2018 in rural and non-contiguous areas not subject to the competitive bidding program. We estimate that this will increase rental revenue by approximately $0.5 million in 2018.

On July 11, 2018, CMS released a new proposal to change the payment rules for Durable Medical Equipment Prosthetics, Orthotics, and Supplies (DMEPOS), including our portable oxygen concentrators. This includes a proposal that when the current competitive bidding contracts expire December 31, 2018, beneficiaries can obtain DMEPOS items from any enrolled Medicare supplier. In addition if this proposal is approved, the next competitive bidding round, which is expected to be delayed 18 to 24 months, will include multiple provisions to improve the program including: implementing lead item pricing, revising the definition of composite bid to mean the bid submitted by the supplier for the lead item in the product category, establishing a new method for single payment amounts based on maximum winning bids instead of median bids, and establishing new separate payment classes for portable gaseous, portable liquid, and high flow portable liquid categories. In addition, CMS proposes to establish a new methodology for ensuring that all new classes for oxygen and equipment are budget neutral. Lastly, this proposal includes three different fee schedule adjustment methodologies depending on the area in which items and services are furnished: (1) one fee schedule adjustment methodology for DMEPOS items and services furnished on/after January 1, 2019 in areas currently in CBAs, in the event of a gap in competitive bidding; (2) another fee schedule adjustment methodology for items and services furnished from January 1, 2019 through December 31, 2020, in areas that are currently not CBAs, are not rural areas, and are located in the contiguous United States; and (3) another fee schedule adjustment methodology for items and services furnished from January 1, 2019 through December 31, 2020, in areas that are currently not CBAs and are either rural areas or non-contiguous areas. Comments on this proposed rule were accepted through September 10, 2018.

On November 1, 2018, CMS released the DMEPOS final rule to change the DMEPOS competitive bidding program and fee schedule payment rules. Effective January 1, 2019, beneficiaries may receive DME from any Medicare enrolled supplier until new contracts are in effect under the next round of competitive bidding, which is not expected until January 1, 2021. Reimbursement rates will be set at the current pricing level throughout the United States for all Medicare patients, subject to Consumer Price Index (CPI) and budget neutrality adjustments. Pricing in competitive bidding areas will be subject to annual CPI adjustments beginning in 2019 until the next bidding round takes place. However, CMS is also changing the calculation on budget neutrality to apply the offset to all oxygen and oxygen equipment classes beginning January 1, 2019 instead of previously only applying these adjustments to the stationary oxygen code E1390. It is not yet clear whether the increase associated with the CPI adjustment or the decrease associated with the budget neutrality provision will have a bigger impact on our 2019 Medicare reimbursement rates, but we expect clarity on this before year-end. In addition, this final rule extends the 50/50 blended reimbursement rates in rural and non-contiguous areas that were set to expire on December 31, 2018 until December 31, 2020. This rule also establishes new payment classes for liquid oxygen equipment and high flow portable liquid oxygen contents. This rule also finalized revisions to the DMEPOS Competitive Bidding program for rounds bid in the future. These revisions include implementing lead item pricing and setting reimbursement at the maximum winning bid rate instead of the median winning bid rate.

Although we continue to monitor developments regarding the implementation of the competitive bidding program, we cannot predict the outcome of the competitive bidding program on our business when fully implemented, nor the Medicare payment rates that will be in effect in future years for the items subject to competitive bidding, including our products. We expect that the stationary oxygen and non-delivery ambulatory oxygen payment rates will continue to fluctuate, and a large negative payment adjustment would adversely affect our business, financial conditions and results of operations.

The Medicare Fee-For-Service (FFS) sequestration reduction has and may continue to negatively impact our revenue and profits.

Medicare FFS claims with dates of service on or after April 1, 2013 are subject to a 2% reduction in Medicare payment, including claims for DMEPOS, including in competitive bidding areas. The claims payment adjustment is applied to all claims after determining co-insurance, any applicable deductible, and any applicable Medicare secondary payment adjustments. These reductions are included in rental revenue adjustments. This sequestration reduction will continue until further notice. As a result, this could adversely affect our financial conditions and results of operations.

Healthcare reform measures may have a material adverse effect on our business and results of operations.

In the United States, the legislative landscape, particularly as it relates to healthcare regulation and reimbursement coverage, continues to evolve. In March 2010, the Patient Protection and Affordable Care Act was passed, which has the potential to substantially change healthcare financing by both governmental and private insurers, and significantly impact the U.S. medical device industry. In addition, as discussed above, the Patient Protection and Affordable Care Act also expands round two of the competitive bidding program to a total of 117 CBAs, and in 2016 prices in non-CBAs were adjusted to match competitive bidding prices.

In addition, other legislative changes have been proposed and adopted in the United States since the Patient Protection and Affordable Care Act was enacted. On August 2, 2011, the Budget Control Act of 2011 created, among other things, measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers up to 2% per fiscal year, which went into effect on April 1, 2013, and will remain in effect through 2024 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012 which, among other things, further reduced Medicare payments to certain providers, including physicians, hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressures.

In addition to the legislative changes discussed above, the Patient Protection and Affordable Care Act also requires healthcare providers to voluntarily report and return an identified overpayment within 60 days after identifying the overpayment. Failure to repay the overpayment within 60 days will result in the claim being considered a "false claim" and the healthcare provider will be subject to False Claims Act liability.

State legislative bodies also have the right to enact legislation that would impact requirements of home medical equipment providers, including oxygen therapy providers. Some states have already enacted legislation that would require in-state facilities. We are monitoring all state requirements to maintain compliance with state-specific legislation and access to service patients in these states. To the extent such legislation is enacted, it could result in increased administrative costs or otherwise exclude us from doing business in a particular state, which would adversely impact our business, financial condition and operating results.

We face uncertainties that might result from modification or repeal of any of the provisions of the Patient Protection and Affordable Care Act, including as a result of current and future executive orders and legislative actions. The impact of those changes on us and potential effect on the durable medical equipment industry as a whole is currently unknown. But, any changes to the Patient Protection and Affordable Care Act are likely to have an impact on our results of operations and may have a material adverse effect on our results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States may have on our business.

We depend upon reimbursement from Medicare, private payors, Medicaid and payments from patients for a significant portion of our revenue, and if we fail to manage the complex and lengthy reimbursement process, our business and operating results could suffer.

A significant portion of our rental revenue is derived from reimbursement by third-party payors. We accept assignment of insurance benefits from customers and, in a majority of cases, invoice and collect payments directly from Medicare, private payors and Medicaid, as well as direct from patients under co-insurance provisions. For the three months ended September 30, 2018 and September 30, 2017, approximately 5.9% and 8.5%, respectively, and for the nine months ended September 30, 2018 and September 30, 2017, approximately 6.0% and 10.0%, respectively, of our total revenue was derived from Medicare, private payors, Medicaid, and individual patients who directly receive reimbursement from third-party payors.

Our financial condition and results of operations may be affected by the healthcare industry's reimbursement process, which is complex and can involve lengthy delays between the time that a product is delivered to the consumer and the time that the reimbursement amounts are settled. Depending on the payor, we may be required to obtain certain payor-specific documentation from physicians and other healthcare providers before submitting claims for reimbursement. Certain payors have filing deadlines and they will not pay claims submitted after such time. We are also subject to extensive pre-payment and post-payment audits by governmental and private payors that could result in material delays, refunds of monies received or denials of claims submitted for payment under such third-party payor programs and contracts. We cannot ensure that we will be able to continue to effectively manage the reimbursement process and collect payments for our products promptly. If we fail to manage the complex and lengthy reimbursement process, it would adversely affect our business, financial conditions and results of operations.

Failure to obtain private payor contracts and future reductions in reimbursement rates from private payors could have a material adverse effect on our financial condition and operating results.

A portion of our revenue is derived from private payors. Based on our patient population, we estimate at least 30% of potential customers have non-Medicare insurance coverage, and we believe these patients represent a younger and more active patient population that will be drawn to the quality-of-life benefits of our solution. Failing to maintain and obtain private payor contracts from private insurance companies and employers and secure in-network provider status could have a material adverse effect on our financial condition and operating results. In addition, private payors are under pressure to increase profitability and reduce costs. In response, certain private payors are limiting coverage or reducing reimbursement rates for the products we provide. We believe that private payor reimbursement levels will generally be reset in accordance with the Medicare payment amounts determined by competitive bidding. We cannot predict the extent to which reimbursement for our products will be affected by competitive bidding or by initiatives to reduce costs for private payors. Failure to obtain or maintain private payor contracts or the unavailability of third-party coverage or inadequacy of reimbursement for our products would adversely affect our business, financial conditions and results of operations.

We do not have long-term supply contracts with many of our third-party suppliers.

We purchase components and subassemblies from third-party suppliers, including some of our single-source suppliers, through purchase orders and do not have long-term supply contracts with many of these third-party suppliers. Many of our third-party suppliers, therefore, are not obligated to perform services or supply products to us for any specific period, in any specific quantity or at any specific price, except as may be provided in a particular purchase order. We do not maintain large volumes of inventory from most of these suppliers. If we inaccurately forecast demand or fail to place orders timely enough relative to fluctuating lead time requirements for components or subassemblies, our ability to manufacture and commercialize our Inogen One systems and Inogen At Home systems could be delayed and our competitive position and reputation could be harmed. In addition, if we fail to effectively manage our relationships with these suppliers, we may be required to change suppliers which would be time consuming and disruptive and could adversely affect our business, financial condition and operating results.

If our manufacturing facilities become unavailable or inoperable, we will be unable to continue manufacturing our Inogen One systems and Inogen At Home systems and, as a result, our business, financial condition, and operating results will be harmed until we are able to secure a new facility.

We assemble our Inogen One concentrators and Inogen At Home concentrators at our facilities in Richardson, Texas and Goleta, California. In the fourth quarter of 2017, we began using a contract manufacturer in Europe to assemble our Inogen One G3 concentrators for our European customers. No other manufacturing facilities are currently available to us, particularly facilities of the size and scope of our Texas facility. Our facilities and the equipment we use to manufacture our Inogen One systems and Inogen At Home systems would be costly to replace and could require substantial lead time to procure, repair or replace. Our facilities may be harmed or rendered inoperable by natural or man-made disasters, including fire, flood, earthquakes and power outages, which may render it difficult or impossible for us to manufacture our products for some period of time. If any of our facilities become unavailable to us, we cannot provide assurances that we will be able to secure and equip a new manufacturing facility on acceptable terms, in a timely manner. The inability to manufacture our products, combined with delays in replacing parts inventory and manufacturing supplies and equipment, may result in the loss of customers and/or harm our reputation, and we may be unable to reestablish relationships with those customers in the future. Although we have insurance coverage for certain types of disasters which may help us recover some of the costs of damage to our property and lost income from the disruption of our business, insurance coverage of certain perils may be limited or unavailable at cost effective rates and may therefore not be sufficient to cover any or all of our potential losses and may not continue to be available to us on acceptable terms, or at all. If our manufacturing capabilities are impaired, we may not be able to manufacture, store, and ship our products in sufficient quantity or a cost effective or timely manner, which would adversely impact our business, financial condition, and operating results.

We intend to rely upon a third-party contract manufacturer for certain manufacturing operations and our business and results of operations may be adversely affected by risks associated with their business, financial condition, and the geography in which they operate.

Beginning in the fourth quarter of 2017, we began utilizing a third-party contract manufacturer located in the Czech Republic for production of a portion of our Inogen One G3 concentrators. There are a number of risks associated with our dependence on a contract manufacturer, including:

- reduced control over delivery schedules and planning;
- reliance on the quality assurance procedures of a third party;
- risks associated with our contract manufacturer failing to manufacture our products according to our specifications, quality regulations, including the FDA’s Quality System regulations, or otherwise manufacturing products that we or regulatory authorities deem to be unsuitable for commercial use;
- risks associated with our contract manufacturer’s ability to successfully undergo FDA and other regulatory authority quality inspections;
- potential uncertainty regarding manufacturing yields and costs;
- availability of manufacturing capability and capacity, particularly during periods of high demand;
- risks and uncertainties associated with the location or country where our products are manufactured, including potential manufacturing disruptions caused by social, geopolitical or environmental factors;
- changes in U.S. law or policy governing foreign trade, manufacturing, development and investment in the countries where we manufacture our products, including the World Trade Organization Information Technology Agreement or other free trade agreements;
- delays in delivery by suppliers due to customs clearing delays, shipping delays, scarcity of raw materials and changes in demand from us or their other customers;
- limited warranties provided to us; and
- potential misappropriation of our intellectual property.

These and other risks could impair our ability to fulfill orders, harm our sales and impact our reputation with customers. If our contract manufacturer is unable or unwilling to manufacture our products or components of our products, or if our contract manufacturer discontinues operations, we may be required to identify and qualify alternative manufacturers, which could cause us to be unable to meet our supply requirements to our customers and result in the breach of our customer agreements. The process of qualifying a new contract manufacturer and commencing volume production is expensive and time-consuming, and if we are required to change or qualify a new contract manufacturer, we would likely lose sales revenue and damage our existing customer relationships.

If we are unable to manage our anticipated growth effectively, our business could be harmed.

The rapid growth of our business has placed a significant strain on our managerial and operational resources and systems. To execute our anticipated growth successfully, we must continue to attract and retain capable personnel and manage and train them effectively, particularly related to sales representatives and supporting sales personnel. We must also upgrade our internal business processes and capabilities to create the scalability that a growing business demands.

We plan to continue the expansion of our facilities located in Richardson, Texas and Cleveland, Ohio. Domestic expansion, combined with our use of a contract manufacturer in Europe to produce a portion of our Inogen One G3 concentrators, is expected to be sufficient to meet our manufacturing needs. However, our anticipated growth will place additional strain on our supply chain and manufacturing facilities, resulting in an increased need for us to carefully monitor parts inventory, capable staffing and quality assurance. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

We may expand through acquisitions of, or investments in, other companies, each of which may divert our management's attention, result in additional dilution to our stockholders, increase expenses, disrupt our operations, and harm our results of operations.

Our business strategy may, from time to time, include acquiring or investing in complementary services, technologies or businesses, such as our acquisition of MedSupport Systems B.V. We cannot assure you that we will successfully identify suitable acquisition candidates, integrate or manage disparate technologies, lines of business, personnel and corporate cultures, realize our business strategy or the expected return on our investment, or manage a geographically dispersed company. Any such acquisition or investment could materially and adversely affect our results of operations. The acquisition and integration process is complex, expensive and time-consuming, and may cause an interruption of, or loss of momentum in, product development and sales activities and operations of both companies, and we may incur substantial cost and expense, as well as divert the attention of management. We may issue equity securities which could dilute current stockholders' ownership, incur debt, assume contingent or other liabilities and expend cash in acquisitions, which could negatively impact our financial position, stockholder equity, and stock price.

Acquisitions and other strategic investments involve significant risks and uncertainties, including:

- the potential failure to achieve the expected benefits of the combination or acquisition;
- unanticipated costs and liabilities;
- difficulties in integrating new products, businesses, operations, and technology infrastructure in an efficient and effective manner;
- difficulties in maintaining customer relations;
- the potential loss of key employees of the acquired businesses;
- the diversion of the attention of our senior management from the operation of our daily business;
- the potential adverse effect on our cash position to the extent that we use cash for the purchase price;
- the potential significant increase of our interest expense, leverage, and debt service requirements if we incur additional debt to pay for an acquisition;
- the potential issuance of securities that would dilute our stockholders' percentage ownership;
- the potential to incur large and immediate write-offs and restructuring and other related expenses; and
- the inability to maintain uniform standards, controls, policies, and procedures.

Any acquisition or investment could expose us to unknown liabilities. Moreover, we cannot assure you that we will realize the anticipated benefits of any acquisition or investment. In addition, our inability to successfully operate and integrate newly acquired businesses appropriately, effectively, and in a timely manner could impair our ability to take advantage of future growth opportunities and other advances in technology, as well as on our revenues, gross margins, and expenses.

We may experience manufacturing problems or delays that could limit our growth or adversely affect our operating results.

Our Inogen One systems and Inogen At Home systems are manufactured using complex processes, sophisticated equipment and strict adherence to specifications and quality standards. Any unforeseen manufacturing problems, such as contamination of our facility, equipment malfunction or miscalibration, supply chain shortages, regulatory findings, or failure to strictly follow procedures or meet specifications, could result in delays or shortfalls in production of our products. Identifying and resolving the cause of any such manufacturing issues could require substantial time and resources. If we are unable to keep up with demand for our products by successfully manufacturing and shipping our products in a timely and quality manner, our operating results could be impaired, market acceptance for our products could be adversely affected and our customers might instead purchase our competitors' products.

In addition, the introduction of new products may require the development of new manufacturing processes and procedures. While all of our products are assembled using essentially the same basic processes, significant changes in technology, programming, and other variations may be required to meet product specifications. Developing new processes can be very time consuming and affect quality, as such any unexpected difficulty in doing so could delay the introduction of a new product and our ability to produce sufficient quantities of existing products.

We are exposed to the credit and non-payment risk of our HME providers, distributors, private label partners and resellers, especially during times of economic uncertainty and tight credit markets, which could result in material losses.

We make sales to certain HME providers, distributors, private label partner and resellers on unsecured credit, with terms that vary depending upon the customer's credit history, solvency, cash flow, credit limits and sales history, as well as prevailing terms with similarly situated customers and whether sufficient credit insurance can be obtained. Challenging economic conditions may impair the ability of our customers to pay for products they have purchased, and as a result, our reserves for doubtful accounts and write-off of accounts receivable could increase and, even if increased, may turn out to be insufficient. Moreover, even in cases where we have insolvency risk insurance to protect against a customer's bankruptcy, insolvency or liquidation, this insurance typically contains a significant deductible and co-payment obligation and does not cover all instances of non-payment. Our exposure to credit risks of our business partners may increase if our business partners and their end customers are adversely affected by global or regional economic conditions. One or more of these business partners could delay payments or default on credit extended to them, either of which could adversely impact our business, financial condition, and operating results.

We generate a substantial portion of our revenue internationally and are subject to various risks relating to such international activities, which could adversely affect our operating results. In addition, any disruption or delay in the shipping of our products, whether domestically or internationally, may have an adverse effect on our financial condition and results of operations.

During the nine months ended September 30, 2018 and September 30, 2017, approximately 21.6% and 23.5%, respectively, of our total revenue was generated from customers located outside of the United States. We believe that a significant percentage of our future revenue will continue to come from international sources as we expand our international operations and develop opportunities in other countries. Engaging in international business inherently involves a number of difficulties and risks, including:

- required compliance with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act and U.K. Bribery Act, data privacy requirements, labor laws, and anti-competition regulations;
- export or import restrictions;
- obtaining and maintaining regulatory clearances, approvals and certifications;
- laws and business practices favoring local companies;
- difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- unstable economic, political, and regulatory conditions;
- supply chain complexities;
- fluctuations in currency exchange rates;
- potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements, and other trade barriers; and
- difficulties protecting or procuring intellectual property rights.

If one or more of these risks occurs, it could require us to dedicate significant resources to remedy, and if we are unsuccessful in finding a solution, our financial results will suffer.

In addition, on June 23, 2016, the United Kingdom (U.K.) held a referendum in which voters approved an exit from the European Union, commonly referred to as "Brexit." In February 2017, the British Parliament voted in favor of allowing the British government to begin the formal process of Brexit and discussions with the European Union began in March 2017. Adverse consequences concerning Brexit or the future of the European Union could include deterioration in global economic conditions, instability in global financial markets, political uncertainty, volatility in currency exchange rates or adverse changes in the cross-border agreements currently in place, any of which could have an adverse impact on our financial results in the future.

A majority of our product sales are currently denominated in U.S. dollars and fluctuations in the value of the U.S. dollar relative to foreign currencies could decrease demand for our products and adversely impact our financial performance. For example, if the value of the U.S. dollar increases relative to foreign currencies, our products could become more costly to the international consumer and therefore less competitive in international markets. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. The volatility of exchange rates depends on many factors that we cannot forecast with reliable accuracy. We have experienced and will continue to experience fluctuations in our net income or loss as a result of transaction gains or losses related to revaluing certain current asset and current liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. For example, for the nine months ended September 30, 2018, we experienced a net foreign currency loss of $0.6 million, and for the nine months ended September 30, 2017, we experienced a net foreign currency gain of $1.0 million. Fluctuations in currency exchange rates could have an adverse impact on our financial results in the future. While we have a hedging program for Euros that attempts to manage currency exchange rate risks to an acceptable level based on management's judgment of the appropriate trade-off between risk, opportunity, and cost, this hedging program does not completely eliminate the effects of currency exchange rate fluctuations. In addition, currency hedging may result in a reduction in revenue should the currency strengthen during the contract period. A discussion of the hedging program is contained in Item 7A, Quantitative and Qualitative Disclosures about Market Risk in our Annual Report on Form 10-K for the period ended December 31, 2017. Additional information on our hedging arrangements is also contained in Note 3 to the consolidated financial statements in this Quarterly Report on Form 10-Q.

We rely on shipping providers to deliver products to our customers globally. Labor, tariff, or World Trade Organization-related disputes, piracy, physical damage to shipping facilities or equipment caused by severe weather or terrorist incidents, congestion at shipping facilities, inadequate equipment to load, dock, and offload our products, energy-related tie-ups, or other factors could disrupt or delay shipping or off-loading of our products domestically and internationally. Such disruptions or delays may have an adverse effect on our financial condition and results of operations.

Failure to comply with anti-bribery, anti-corruption, and anti-money laundering laws, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, and similar laws associated with our activities outside of the United States could subject us to penalties and other adverse consequences.

We are subject to the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, the United Kingdom Bribery Act of 2010 and possibly other anti-corruption, anti-bribery and anti-money laundering laws in the more than forty countries around the world where we conduct activities and sell our products. We face significant risks and liability if we fail to comply with the FCPA and other anti-corruption and anti-bribery laws that prohibit companies and their employees and third-party business partners, such as distributors or resellers, from authorizing, offering or providing, directly or indirectly, improper payments or benefits to foreign government officials, political parties or candidates, employees of public international organizations including healthcare professionals, or private-sector recipients for the corrupt purpose of obtaining or retaining business, directing business to any person, or securing any advantage.

We leverage various third parties to sell our products and conduct our business abroad. We, our distributors and channel partners, and our other third-party intermediaries and manufacturer may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities (such as in the context of obtaining government approvals, registrations, or licenses) and may be held liable for the corrupt or other illegal activities of these third-party business partners and intermediaries, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize such activities. In many foreign countries, particularly in countries with developing economies, it may be a local custom that businesses engage in practices that are prohibited by the FCPA or other applicable laws and regulations. As such, we intend to continue to implement an FCPA/anti-corruption compliance program to ensure compliance with such laws but cannot assure you that all of our employees and agents, as well as those companies to which we outsource certain of our business operations, will not take actions in violation of our policies and applicable law, for which we have to defend ourselves and may be ultimately held responsible.

Any violation of the FCPA, other applicable anti-bribery, anti-corruption laws, and anti-money laundering laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions and, in the case of the FCPA, suspension or debarment from U.S. government contracts, which could have a material and adverse effect on our reputation, business, operating results and prospects. In addition, responding to any enforcement action or related investigation may result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees.

If we fail to comply with U.S. export control and economic sanctions or fail to expand and maintain an effective sales force or successfully develop our international distribution network, our business, financial condition and operating results may be adversely affected.

We currently derive the majority of our revenue from rentals or sales generated from our own direct sales force. Failure to maintain or expand our direct sales force could adversely impact our financial and operating performance. Additionally, we use international distributors to augment our sales efforts, certain of which are exclusive distributors in certain foreign countries. We cannot assure you that we will be able to successfully develop our relationships with third-party distributors internationally. In addition, we are subject to United States export control and economic sanctions laws relating to the sale of our products, the violation of which could result in substantial penalties being imposed against us. In particular, we have secured annual export licenses from the U.S. Treasury Department's Office of Foreign Assets Control to sell our products to a distributor and hospital and clinic end-users in Iran. The use of this license requires us to observe strict conditions with respect to products sold, end-user limitations and payment requirements. Although we believe we have maintained compliance with license requirements, there can be no assurance that the license will not be revoked, be renewed in the future or that we will remain in compliance. More broadly, if we fail to comply with export control laws or successfully develop our relationship with international distributors, our sales could fail to grow or could decline, and our ability to grow our business could be adversely affected. Distributors that are in the business of selling other medical products may not devote a sufficient level of resources and support required to generate awareness of our products and grow or maintain product sales. If our distributors are unwilling or unable to market and sell our products, or if they do not perform to our expectations, we could experience delayed or reduced market acceptance and sales of our products.

We may be subject to substantial warranty or product liability claims or other litigation in the ordinary course of business that may adversely affect our business, financial condition and operating results.

As manufacturers of medical devices, we may be subject to substantial warranty or product liability claims or other litigation in the ordinary course of business that may require us to make significant expenditures to defend these claims or pay damage awards. For example, our Inogen One systems contain lithium ion batteries, which, under certain circumstances, can be a fire hazard. We, as well as our key suppliers, maintain product liability insurance, but this insurance is limited in amount and subject to significant deductibles. There is no guarantee that insurance will be available or adequate to protect against all claims. Our insurance policies are subject to annual renewal and we may not be able to obtain liability or product insurance in the future on acceptable terms or at all. In addition, our insurance premiums could be subject to increases in the future, which may be material. If the coverage limits are inadequate to cover our liabilities or our insurance costs continue to increase as a result of warranty or product liability claims or other litigation, then our business, financial condition and operating results may be adversely affected.

We may also be subject to other types of claims arising from our normal business activities. These may include claims, suits, and proceedings involving labor and employment, wage and hour, commercial, alleged securities laws violations or other investor claims, patent defense and other matters. The outcome of any litigation, regardless of its merits, is inherently uncertain. Any claims and lawsuits, and the disposition of such claims and lawsuits, could be time-consuming and expensive to resolve, divert management attention and resources, and lead to attempts on the part of other parties to pursue similar claims. Any adverse determination related to litigation could require us to change our technology or our business practices, pay monetary damages or enter into royalty or licensing arrangements, which could adversely impact our business, financial condition, and operating results.

Increases in our operating costs could have a material adverse effect on our business, financial condition and operating results.

Reimbursement rates are established by fee schedules mandated by Medicare, private payors and Medicaid, and are likely to remain constant or decrease due, in part, to federal and state government budgetary constraints. As a result, with respect to Medicare and Medicaid related revenue, we are not able to offset the effects of general inflation on our operating costs through increases in prices for our products. In particular, labor and related costs account for a significant portion of our operating costs and we compete with other healthcare providers to attract and retain qualified or skilled personnel and with various industries for administrative and service employees. This competitive environment could result in increased labor costs. As such, we must control our operating costs, particularly labor and related costs and failing to do so could adversely affect our financial conditions and results of operations.

We depend on the services of our senior executives and other key technical personnel, the loss of whom could negatively affect our business.

Our success depends upon the skills, experience and efforts of our senior executives and other key technical personnel, including certain members of our engineering staff and our sales and marketing executives. Much of our corporate expertise is concentrated in relatively few employees, the loss of which for any reason could negatively affect our business. Competition for our highly skilled employees is intense and we cannot prevent the resignation of any employee. We do not maintain "key man" life insurance on any of our senior executives. None of our senior executive team is bound by written employment contracts to remain with us for a specified period. In addition, we have not entered into non-compete agreements with members of our executive management team. The loss of any member of our executive management team could harm our ability to implement our business strategy and respond to the market conditions in which we operate.

We and our vendors and service providers rely on information technology networks and systems, and if we are unable to protect against service interruptions, data corruption, cybersecurity risks, data security incidents and/or network security breaches, our operations could be disrupted and our business could be negatively affected.

We rely on information technology networks and systems to process, transmit and store electronic, customer, operational, compliance, and financial information; to coordinate our business; and to communicate within our company and with customers, suppliers, partners and other third-parties. These information technology networks and systems may be susceptible to damage, disruptions or shutdowns, hardware or software failures, power outages, computer viruses, cybersecurity risks, data security incidents, telecommunication failures, user errors or catastrophic events. Like other companies, we have experienced data security incidents before. For example, on April 13, 2018, we announced that messages within an employee email account were accessed by unknown persons outside of our company without authorization. Some of the messages and attached files in that email account contained personal information belonging to our rental customers. We immediately took steps to secure customer information and hired a leading forensics firm to investigate the incident and to bolster our security. The unauthorized access of the potentially impacted email account appears to have occurred between January 2, 2018 and March 14, 2018. We notified approximately 30,000 current and former rental customers of this incident as well as the applicable regulatory authorities. We also provided resources, including credit monitoring and an insurance reimbursement policy, to assist all potentially affected individuals. We will incur remedial, legal and other costs in connection with this incident. We have insurance coverage in place for certain potential liabilities and costs relating to the incident, but this insurance is limited in amount, subject to a deductible, and may not be adequate to protect against all costs arising from this incident.

If our information technology networks and systems suffer unauthorized access, severe damage, disruption or shutdown, and our business does not effectively identify or resolve the issues in a timely manner, our operations could be disrupted, we could be subject to regulatory and consumer lawsuits and our business could be negatively affected. In addition, cybersecurity risks and data security incidents could lead to potential unauthorized access to or acquisition of confidential information (including protected health information), and data loss and corruption. There is no assurance that we will not experience service interruptions, security breaches, cyber security risks and data security incidents, or other information technology failures in the future.

The methods used to obtain unauthorized access, disable or degrade service or sabotage systems are constantly evolving and may be difficult to anticipate or to detect for long periods of time. As a result of these types of risks and attacks, we have implemented and periodically review and update systems, processes, and procedures to protect against unauthorized access to or use of data and to prevent data loss. For example, we have recently increased the security of our systems by requiring all email users to change their passwords following our recent data security incident and sooner than they would have otherwise been required to. We also implemented multi-factor authentication for remote email access and have taken additional steps to further limit access to our systems. However, the ever-evolving threats mean we and our third-party service providers and vendors must continually evaluate and adapt our respective systems and processes and overall security environment. There is no guarantee that these measures will be adequate to safeguard against all data security breaches, system compromises or misuses of data.

The compromise of our technology systems resulting in the loss, disclosure, misappropriation of, or access to, customers', employees' or business partners' information or failure to comply with regulatory or contractual obligations with respect to such information could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, disruption to our operations and damage to our reputation, any or all of which could adversely affect our business. The costs to remediate breaches and similar system compromises that do occur could be material.

In addition, we must comply with increasingly complex and rigorous regulatory standards enacted to protect business and personal data in the U.S., Europe and elsewhere. For example, the European Union adopted the General Data Protection Regulation (the "GDPR"), which became effective on May 25, 2018. The GDPR imposes additional obligations on companies regarding the processing of personal data and provides certain individual privacy rights to natural persons whose data is stored. Compliance with existing, proposed and recently enacted laws (including implementation of the privacy and process enhancements called for under GDPR) and regulations can be costly and any failure to comply with these regulatory standards could subject us to legal and reputational risks. Misuse of or failure to secure or properly process personal information could also result in violation of data privacy laws and regulations, proceedings against the Company by governmental entities or others, damage to our reputation and credibility and could have a negative impact on revenues and profits. As the regulatory environment related to information security, data collection and use, and privacy becomes increasingly rigorous, with new and constantly changing requirements applicable to our business, compliance with those requirements could continue to result in significant costs.

Our financial results may vary significantly from quarter-to-quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and results of operations have varied in the past and may continue to vary significantly from quarter-to-quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including: fluctuations in consumer demand for our products; seasonal cycles in consumer spending; our ability to design, manufacture and deliver products to our consumers in a timely and cost-effective manner; quality control problems in our manufacturing operations; our ability to timely obtain adequate quantities of the components used in our products; new product introductions and enhancements by us and our competitors; unanticipated increases in costs or expenses; unanticipated regulatory reimbursement changes that could result in positive or negative impacts to our earnings; changes or updates to generally accepted accounting principles; and fluctuations in foreign currency exchange rates. As more HME providers adopt portable oxygen concentrators in their businesses, we expect that this could change our historical seasonality in the domestic business-to-business channel as well, which was previously influenced mainly by consumer buying patterns. The foregoing factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual results of operations. We have experienced significant revenue growth in the past, but we may not achieve similar growth rates, profit margins and/or net income in future periods. You should not rely on our operating results for any prior quarterly or annual period as an indication of our future operating performance. If we are unable to maintain adequate revenue growth and cost control, our operating results could suffer, and our stock price could decline. In addition, a significant amount of our operating expenses are relatively fixed due to our manufacturing, research and development and sales and general administrative efforts. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. Our results of operations may not meet the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly.

Given our levels of stock-based compensation, our tax rate may vary significantly depending on our stock price.

The tax effects of the accounting for share-based compensation may significantly impact our effective tax rate from period to period. In periods in which our stock price is higher than the grant price of the stock-based compensation vesting in that period, we will recognize excess tax benefits that will decrease our effective tax rate. For example, in the nine months ended September 30, 2018 excess tax benefits recognized from stock-based compensation decreased our provision for income taxes by $15.2 million and our effective tax rate by 44.0% as compared to the tax rate without such benefits. In future periods in which our stock price is lower than the grant price of the stock-based compensation vesting in that period, our effective tax rate may increase. The amount and value of stock-based compensation issued relative to our earnings in a particular period will also affect the magnitude of the impact of stock-based compensation on our effective tax rate. These tax effects are dependent on our stock price, which we do not control, and a decline in our stock price could significantly increase our effective tax rate and adversely affect our financial results.

If the market opportunities for our products are smaller than we believe they are, our revenues may be adversely affected and our business may suffer.

Our projections regarding (i) the size of the oxygen therapy market, both in the United States and internationally, (ii) the size and percentage of the oxygen therapy market that is subject to competitive bidding in the United States, (iii) the number of oxygen therapy patients, (iv) the number of patients requiring ambulatory and stationary oxygen, (v) the number of patients who rely on the delivery model, and (vi) the share of portable oxygen concentrators as a percentage of the total oxygen therapy spend are based on estimates that we believe are reliable. These estimates may prove to be incorrect, new data or studies may change the estimated incidence or prevalence of patients requiring oxygen therapy, or the type of oxygen therapy patients. The number of patients in the United States and internationally may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our products, or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business.

An adverse outcome of a sales and use tax audit could have a material adverse effect on our results of operations and financial condition.

The California State Board of Equalization conducted a sales and use tax audit of our operations in California in 2008. As a result of the audit, the California State Board of Equalization confirmed that our sales are not subject to California sales and use tax. We believe that our sales in four states may be subject to sales and use tax, but in other states they should be exempt from sales and use tax. There can be no assurance, however, that other states may agree with our position and we may be subject to an audit that may not be resolved in our favor. Such an audit could be expensive and time-consuming and result in substantial management distraction. If the matter were to be resolved in a manner adverse to us, it could have a material adverse effect on our results of operations and financial position.

Changes in accounting principles, or interpretations thereof, could have a significant impact on our financial position and results of operations.

We prepare our financial statements in accordance with accounting principles generally accepted in the United States of America, referred to as U.S. GAAP. These principles are subject to interpretation by the Securities and Exchange Commission (SEC) and various bodies formed to interpret and create appropriate accounting principles. A change in these principles can have a significant effect on our reported results and may even retroactively affect previously reported transactions. Additionally, the adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls.

For example, the U.S.-based Financial Accounting Standards Board, referred to as FASB, is currently working together with the International Accounting Standards Board, referred to as IASB, on several projects to further align accounting principles and facilitate more comparable financial reporting between companies who are required to follow U.S. GAAP under SEC regulations and those who are required to follow International Financial Reporting Standards outside of the United States. These efforts by the FASB and IASB may result in different accounting principles under U.S. GAAP that may result in materially different financial results for us in areas including, but not limited to, principles for recognizing revenue and lease accounting. Additionally, significant changes to U.S. GAAP resulting from the FASB's and IASB's efforts may require that we change how we process, analyze and report financial information and that we change financial reporting controls.

It is not clear if or when these potential changes in accounting principles may become effective, whether we have the proper systems and controls in place to accommodate such changes and the impact that any such changes may have on our financial position and results of operations.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

Our existing net operating losses (NOLs) are subject to limitations arising from ownership changes and are subject to the provisions of Section 382 of the Internal Revenue Code of 1986, as amended, and the State of California Revenue and Taxation Code. If we undergo one or more future ownership changes our ability to utilize NOLs could be further limited.

Uncertainties in the interpretation and application of the 2017 Tax Cuts and Jobs Act could materially affect our tax obligations and effective tax rate.

The 2017 Tax Cuts and Jobs Act (TCJA) was enacted on December 22, 2017, and significantly affected U.S. tax law by changing how the U.S. imposes income tax. The U.S. Department of Treasury has broad authority to issues regulations and interpretative guidance that may significantly impact how we will apply the law and impact our results of operations.

Changes in tax laws or tax rulings could materially affect our financial position, results of operations, and cash flows.

The income and non-income tax regimes we are subject to or operate under are unsettled and may be subject to significant change. Changes in tax law or tax rulings, or changes in interpretations of existing law, could materially affect our financial position, results of operations, and cash flows. For example, changes to the U.S. tax laws enacted in December 2017 had a significant impact on our deferred tax assets, income tax provision and effective tax rate for the three and twelve months ended December 31, 2017. In addition, many countries in Europe, as well as a number of other countries and organizations, have recently proposed or recommended changes to existing tax laws or have enacted new laws that could significantly increase our tax obligations in many countries where we do business or require us to change the manner in which we operate our business.

Risks related to the regulatory environment

We are subject to extensive federal and state regulation, and if we fail to comply with applicable regulations, we could suffer severe criminal or civil sanctions and be required to make significant changes to our operations that could adversely affect our business, financial condition and operating results.

The federal government and all states in which we currently operate regulate various aspects of our business. In particular, our operations are subject to state laws governing, among other things, distribution of medical equipment and certain types of home health activities, and we are required to obtain and maintain licenses in each state to act as a durable medical equipment supplier. Certain of our employees are subject to state laws and regulations governing the professional practices of respiratory therapy.

As a healthcare provider participating in governmental healthcare programs, we are subject to laws directed at preventing fraud and abuse, which subject our marketing, billing, documentation and other practices to strict government scrutiny. To ensure compliance with Medicare, Medicaid and other regulations, government agencies or their contractors often conduct routine audits and request customer records and other documents to support our claims submitted for payment of services rendered. Government agencies or their contractors also periodically open investigations and obtain information from healthcare providers. Violations of federal and state regulations can result in severe criminal, civil and administrative penalties and sanctions, including debarment, suspension or exclusion from Medicare, Medicaid and other government reimbursement programs, any of which would have a material adverse effect on our business.

Changes in healthcare laws and regulations and new interpretations of existing laws and regulations may affect permissible activities, the relative costs associated with doing business, and reimbursement amounts paid by federal, state and other third-party payors. There have been and will continue to be regulatory initiatives affecting our business and we cannot predict the extent to which future legislation and regulatory changes could have a material adverse effect on our business.

We are subject to burdensome and complex billing and record-keeping requirements in order to substantiate our claims for payment under federal, state and commercial healthcare reimbursement programs, and our failure to comply with existing requirements, or changes in those requirements or interpretations thereof, could adversely affect our business, financial condition and operating results.

We are subject to burdensome and complex billing and record-keeping requirements in order to substantiate our claims for payment under federal, state and commercial healthcare reimbursement programs. Our records also are subject to routine and other reviews by third-party payors, which can result in delays in payments or refunds of paid claims. We could experience a significant increase in pre-payment reviews of our claims by the Durable Medical Equipment Medicare Administrative Contractors, which could cause substantial delays in the collection of our Medicare accounts receivable as well as related amounts due under supplemental insurance plans.

Current law provides for a significant expansion of the government's auditing and oversight of suppliers who care for patients covered by various government healthcare programs. Examples of this expansion include audit programs being implemented by the Durable Medical Equipment Medicare Administrative Contractors, the Zone Program Integrity Contractors, the Recovery Audit Contractors, and the Comprehensive Error Rate Testing contractors, operating under the direction of CMS, and the various state Medicaid Fraud Control Units.

We have been informed by these auditors that healthcare providers and suppliers of certain durable medical equipment product categories are expected to experience further increased scrutiny from these audit programs. When a government auditor ascribes a high billing error rate to one or more of our locations, it generally results in protracted pre-payment claims review, payment delays, refunds and other payments to the government and/or our need to request more documentation from providers than has historically been required. It may also result in additional audit activity in other company locations in that state or Durable Medical Equipment Medicare Administrative Contractors jurisdiction. We cannot currently predict the adverse impact that these audits, methodologies and interpretations might have on our business, financial condition or operating results, but such impact could be material.

We are subject to significant regulation by numerous government agencies, including the U.S. Food and Drug Administration, or FDA. We cannot market or commercially distribute our products without obtaining and maintaining necessary regulatory clearances or approvals.

Our Inogen concentrators are medical devices subject to extensive regulation in the United States and in the foreign markets where we distribute our products. The FDA and other U.S. and foreign governmental agencies regulate, among other things, with respect to medical devices:

- design, development and manufacturing;
- testing, labeling, content and language of instructions for use and storage;
- clinical trials;
- product safety;
- marketing, sales and distribution;
- pre-market clearance and approval;
- record keeping;
- advertising and promotion;
- recalls and field safety corrective actions;

- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury;
- post-market approval studies; and
- product import and export.

Before we can market or sell a medical device in the United States, we must obtain either clearance from the FDA under Section 510(k) of the Federal Food, Drug, and Cosmetic Act, or the FDCA, or approval of a pre-market approval application from the FDA, unless an exemption applies. In the 510(k) clearance process, the FDA must determine that a proposed device is "substantially equivalent" to a device legally on the market, known as a "predicate" device, with respect to intended use, technology and safety and effectiveness, in order to clear the proposed device for marketing.

Our commercial products have received 510(k) clearance by the FDA. If the FDA requires us to go through a lengthier, more rigorous examination for future products or modifications to existing products than we had expected, our product introductions or modifications could be delayed or canceled, which could cause our sales to decline. In addition, the FDA may determine that future products will require the more costly, lengthy and uncertain pre-market approval process. Although we do not currently market any devices under a pre-market approval, the FDA may demand that we obtain a pre-market approval prior to marketing certain future products. In addition, if the FDA disagrees with our determination that a product we currently market is subject to an exemption from pre-market review, the FDA may require us to submit a 510(k) or pre-market approval application in order to continue marketing the product. Further, even with respect to those future products where a pre-market approval is not required, we cannot assure you that we will be able to obtain the 510(k) clearances with respect to those products or do so in a timely fashion.

The FDA can delay, limit or deny clearance or approval of a device for many reasons, including:

- we may not be able to demonstrate to the FDA's satisfaction that our products are safe and effective for their intended uses;
- the data from our pre-clinical studies and clinical trials may be insufficient to support clearance or approval, where required; and
- the manufacturing process or facilities we use may not meet applicable Quality System Regulations.

Medical devices may only be promoted and sold for the indications for which they are approved or cleared. In addition, even if the FDA has approved or cleared a product, it can take action affecting such product approvals or clearances if serious safety or other problems develop in the marketplace. Delays in obtaining clearances or approvals could adversely affect our ability to introduce new products or modifications to our existing products in a timely manner, which would delay or prevent commercial sales of our products. Additionally, the FDA and other regulatory authorities have broad enforcement powers. Regulatory enforcement or inquiries, or other increased scrutiny on us, could affect the perceived safety and performance of our products and dissuade our customers from using our products.

If we modify our FDA cleared devices, we may need to seek additional clearances or approvals, which, if not granted, would prevent us from selling our modified products.

Any modification we make to our Inogen One systems and Inogen At Home system that could significantly affect their safety or effectiveness, or would constitute a major change in intended use, manufacture, design, materials, labeling, or technology requires the submission and clearance of a new 510(k) pre-market notification or, possibly, pre-market approval. The FDA requires every manufacturer to make this determination in the first instance, but the FDA may review and disagree with any manufacturer's decision. The FDA may not agree with our decisions regarding whether new clearances or approvals are necessary. We have modified some of our 510(k) cleared products and have determined that in certain instances new 510(k) clearances or pre-market approval are not required. If the FDA disagrees with our determination and requires us to submit new 510(k) notifications or pre-market approval for modifications to our previously cleared products for which we have concluded that new clearances or approvals are unnecessary, we may be required to cease marketing or to recall the modified product until we obtain clearance or approval, and we may be subject to significant regulatory fines or penalties.

If we fail to comply with FDA or state regulatory requirements, we can be subject to enforcement action.

Even after we have obtained regulatory clearance or approval to market a product, we have ongoing responsibilities under FDA regulations. The FDA and state authorities have broad enforcement powers. Our failure to comply with applicable regulatory requirements could result in enforcement action by the FDA or state agencies, which may include any of the following sanctions:

- adverse publicity, warning letters, fines, injunctions, consent decrees and civil penalties;
- recalls, termination of distribution, or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- delays in the introduction of products into the market;
- refusal to grant our requests for future 510(k) clearances or approvals of new products, new intended uses, or modifications to exiting products;
- withdrawals or suspensions of current 510(k) clearances or approvals, resulting in prohibitions on sales of our products; and
- criminal prosecution.

Any of these sanctions could result in higher than anticipated costs or lower than anticipated sales and have a material adverse effect on our reputation, business, results of operations and financial condition.

A recall of our products, either voluntarily or at the direction of the FDA or another governmental authority, or the discovery of serious safety issues with our products that leads to corrective actions, could have a significant adverse impact on us.

The FDA and similar foreign governmental authorities have the authority to require the recall of commercialized products in the event of material deficiencies or defects in design, labeling or manufacture of a product or in the event that a product poses an unacceptable risk to health. Manufacturers may also, under their own initiative, recall a product if any material deficiency in a device is found or withdraw a product to improve device performance or for other reasons. A government-mandated or voluntary recall by us or one of our distributors could occur as a result of an unacceptable risk to health, component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. Similar regulatory agencies in other countries have similar authority to recall devices because of material deficiencies or defects in design or manufacture that could endanger health. Any recall would divert management attention and financial resources, could cause the price of our stock to decline and expose us to product liability or other claims and harm our reputation with customers. A recall involving our Inogen concentrators could be particularly harmful to our business, financial and operating results.

We are required to timely report to the FDA any incident in which our product may have caused or contributed to a death or serious injury or in which our product malfunctioned and, if the malfunction were to recur, would likely cause or contribute to death or serious injury. Repeated product malfunctions may result in a voluntary or involuntary product recall. Depending on the corrective action we take to redress a product's deficiencies or defects, the FDA may require, or we may decide, that we will need to obtain new approvals or clearances for the device before we may market or distribute the corrected device. Seeking such approvals or clearances may delay our ability to replace the recalled devices in a timely manner. Moreover, if we do not adequately address problems associated with our devices, we may face additional regulatory enforcement action, including adverse publicity, FDA warning letters, product seizure, injunctions, administrative penalties, or civil or criminal fines. We may also be required to bear other costs or take other actions that may have a negative impact on our sales as well as face significant adverse publicity or regulatory consequences, which could harm our business, including our ability to market our products in the future.

Any adverse event involving our products, whether in the United States or abroad, could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection, mandatory recall or other enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business and may harm our reputation and financial results.

If we, our contract manufacturer, or our component manufacturers fail to comply with the FDA's Quality System Regulation, our manufacturing operations could be interrupted, and our product sales and operating results could suffer.

We, our contract manufacturer, and our component manufacturers are required to comply with the FDA's Quality System Regulation, or QSR, which covers the procedures and documentation of the design, calibration, testing, production, control, quality assurance, labeling, packaging, storage and shipping of our devices. The FDA audits compliance with the QSR through periodic announced and unannounced inspections of manufacturing and other facilities. We and our component manufacturers have been, and anticipate in the future being, subject to such inspections. Although we believe our manufacturing facilities and those of our component manufacturers are in compliance with the QSR, we cannot provide assurance that any future inspection will not result in adverse findings. If we fail to implement timely and appropriate corrective actions that are acceptable to the FDA or if our other manufacturing facilities or those of any of our component manufacturers, contract manufacturers, or suppliers are found to be in violation of applicable laws and regulations, or we or our manufacturers or suppliers fail to take prompt and satisfactory corrective action in response to an adverse inspection, the FDA could take enforcement action, including any of the following sanctions:

- adverse publicity, untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- customer notifications or repair, replacement, refunds, recall, detention or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for 510(k) clearance or pre-market approval of new products or modified products;
- withdrawing 510(k) clearances or pre-market approvals that have already been granted;
- refusal to grant export approval for our products; or
- criminal prosecution.

Any of these sanctions could adversely affect our business, financial conditions and operating results.

Outside the United States, our products and operations are also often required to comply with standards set by industrial standards bodies, such as the International Organization for Standardization, or ISO. Foreign regulatory bodies may evaluate our products or the testing that our products undergo against these standards. The specific standards, types of evaluation and scope of review differ among foreign regulatory bodies. If we fail to adequately comply with any of these standards, a foreign regulatory body may take adverse actions similar to those within the power of the FDA. Any such action may harm our reputation and could have an adverse effect on our business, results of operations and financial condition.

The primary regulatory body in Europe is the European Commission, which includes most of the major countries in Europe. The European Commission has adopted numerous directives and standards regulating the design, manufacture, clinical trial, labeling and adverse event reporting for medical devices. Devices that comply with the requirements of a relevant directive will be entitled to bear the CE conformity marking, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be commercially distributed throughout Europe. The method of assessing conformity varies depending on the class of the product, but normally involves a combination of self-assessment by the manufacturer and a third-party assessment by a "Notified Body." An assessment by a Notified Body of one country within the European Union is required in order for a manufacturer to commercially distribute the product throughout the European Union.

If we fail to obtain and maintain regulatory approval in foreign jurisdictions, our market opportunities will be limited.

Approximately 22.2% and 24.9% of our revenue was from sales outside of the United States for the three months ended September 30, 2018 and September 30, 2017, respectively, and 21.6% and 23.5% for the nine months ended September 30, 2018 and September 30, 2017, respectively. As of September 30, 2018, we sold our products in 46 countries outside of the United States through our wholly owned subsidiary, distributors or directly to large "house" accounts. In order to market our products in the European Union or other foreign jurisdictions, we must obtain and maintain separate regulatory approvals and comply with numerous and varying regulatory requirements. The approval procedure varies from country to country and can involve additional product testing. The time required to obtain approval abroad may be longer than the time required to obtain FDA clearance. The foreign regulatory approval process includes many of the risks associated with obtaining FDA clearance and we may not obtain foreign regulatory approvals on a timely basis, if at all. FDA clearance does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries. However, the failure to obtain clearance or approval in one jurisdiction may have a negative impact on our ability to obtain clearance or approval elsewhere. If we do not obtain or maintain necessary approvals to commercialize our products in markets outside the United States, we may be required to discontinue sales in those countries which would negatively affect our overall market penetration, revenues, results of operation and financial condition.

We may be subject to fines, penalties or injunctions if we are determined to be promoting the use of our products for unapproved or "off-label" uses, resulting in damage to our reputation and business.

Our promotional materials and training methods must comply with the FDA and other applicable laws and regulations, including the prohibition of the promotion of a medical device for a use that has not been cleared or approved by the FDA. Physicians may use our products off-label, as the FDA does not restrict or regulate a physician's choice of treatment within the practice of medicine. If the FDA determines that our promotional materials or training constitutes promotion of an off-label use that is either false or misleading, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, which could have an adverse impact on our reputation and financial results.

Failure to comply with the Federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, the Health Information Technology for Economic and Clinical Health Act, or HITECH Act, and implementing regulations could result in significant penalties.

Numerous federal and state laws and regulations, including HIPAA and the HITECH Act, govern the collection, dissemination, security, use and confidentiality of patient-identifiable health information. HIPAA and the HITECH Act require us to comply with standards for the use and disclosure of protected health information within our company and with third parties. The Privacy Standards and Security Standards under HIPAA establish a set of basic national privacy and security standards for the protection of individually identifiable health information by health plans, healthcare clearinghouses and certain healthcare providers, referred to as covered entities, and the business associates with whom such covered entities contract for services. Notably, whereas HIPAA previously directly regulated only these covered entities, the HITECH Act, which was signed into law as part of the stimulus package in February 2009, makes certain of HIPAA's privacy and security standards also directly applicable to covered entities' business associates. As a result, both covered entities and business associates are now subject to significant civil and criminal penalties for failure to comply with Privacy Standards and Security Standards.

HIPAA requires healthcare providers like us to develop and maintain policies and procedures with respect to protected health information that is used or disclosed, including the adoption of administrative, physical and technical safeguards to protect such information. The HITECH Act expands the notification requirement for breaches of patient-identifiable health information, restricts certain disclosures and sales of patient-identifiable health information and provides a tiered system for civil monetary penalties for HIPAA violations. The HITECH Act also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney fees and costs associated with pursuing federal civil actions. Additionally, certain states have adopted comparable privacy and security laws and regulations, some of which may be more stringent than HIPAA.

If we are determined to be out of compliance with existing or new laws and regulations related to patient health information, we could be subject to criminal or civil sanctions. New health information standards, whether implemented pursuant to HIPAA, the HITECH Act, congressional action or otherwise, could have a significant effect on the manner in which we handle healthcare related data and communicate with payors, and the cost of complying with these standards could be significant.

The 2013 final HITECH omnibus rule modifies the breach reporting standard in a manner that will likely make more data security incidents qualify as reportable breaches. Any liability from a failure to comply with the requirements of HIPAA or the HITECH Act could adversely affect our operating results and financial condition. The costs of complying with privacy and security related legal and regulatory requirements are burdensome and could have a material adverse effect on our results of operations.

Regulations requiring the use of "standard transactions" for healthcare services issued under HIPAA may negatively impact our profitability and cash flows.

Pursuant to HIPAA, final regulations have been implemented to improve the efficiency and effectiveness of the healthcare system by facilitating the electronic exchange of information in certain financial and administrative transactions while protecting the privacy and security of the information exchanged.

The HIPAA transaction standards are complex, and subject to differences in interpretation by third-party payors. For instance, some third-party payors may interpret the standards to require us to provide certain types of information, including demographic information not usually provided to us by physicians. As a result of inconsistent application of transaction standards by third-party payors or our inability to obtain certain billing information not usually provided to us by physicians, we could face increased costs and complexity, a temporary disruption in accounts receivable and ongoing reductions in reimbursements and net revenue. In addition, requirements for additional standard transactions, such as claims attachments or use of a national provider identifier, could prove technically difficult, time-consuming or expensive to implement, all of which could harm our business.

If we fail to comply with state and federal fraud and abuse laws, including anti-kickback, Stark, false claims and anti-inducement laws, we could face substantial penalties and our business, operations, and financial condition could be adversely affected.

The federal anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering, or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid, or other federal healthcare programs. Although there are a number of statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution, the exceptions and safe harbors are drawn narrowly, and any remuneration to or from a prescriber or purchaser of healthcare products or services may be subject to scrutiny if it does not qualify for an exception or safe harbor. Our practices may not in all cases meet all of the criteria for safe harbor protection from anti-kickback liability. Failure to meet all requirements of a safe harbor is not determinative of a kickback issue but could subject the practice to increased scrutiny by the government.

The “Stark Law” prohibits a physician from referring Medicare or Medicaid patients to an entity providing “designated health services,” which includes durable medical equipment, if the physician or immediate family member of the physician, has an ownership or investment interest in or compensation arrangement with such entity that does not comply with the requirements of a Stark exception. Violation of the Stark Law could result in denial of payment, disgorgement of reimbursements received under a non-compliant arrangement, civil penalties, and exclusion from Medicare, Medicaid or other governmental programs. Although we believe that we have structured our provider arrangements to comply with current Stark Law requirements, these arrangements may not expressly meet the requirements for applicable exceptions from the law.

Federal false claims laws prohibit any person from knowingly presenting or causing to be presented a false claim for payment to the federal government, or knowingly making or causing to be made a false statement to get a false claim paid. The majority of states also have statutes or regulations similar to the federal anti-kickback and self-referral laws and false claims laws, which apply to items or services, reimbursed under Medicaid and other state programs, or, in several states, apply regardless of payor. These false claims statutes allow any person to bring suit in the name of the government alleging false and fraudulent claims presented to or paid by the government (or other violations of the statutes) and to share in any amounts paid by the entity to the government in fines or settlement. Such suits, known as *qui tam* actions, have increased significantly in the healthcare industry in recent years. Sanctions under these federal and state laws may include civil monetary penalties, exclusion of a manufacturer’s products from reimbursement under government programs, criminal fines and imprisonment. In addition, the recently enacted Patient Protection and Affordable Care Act, among other things, amends the intent requirement of the federal anti-kickback and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. In addition, the Patient Protection and Affordable Care Act provides that the government may assert that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the false claims statutes. Because of the breadth of these laws and the narrowness of the safe harbors and exceptions, it is possible that some of our business activities could be subject to challenge under one or more of such laws. Such a challenge, regardless of the outcome, could have a material adverse effect on our business, business relationships, reputation, financial condition and results of operations.

The Patient Protection and Affordable Care Act also imposes annual reporting and disclosure requirements on device and drug manufacturers for “transfers of value” made or distributed to licensed physicians and teaching hospitals. Device and drug manufacturers are also required to report and disclose annually any investment interests held by physicians and their immediate family members during the preceding calendar year. Failure to submit required information may result in civil monetary penalties of up to an aggregate of $0.15 million per year (and up to an aggregate of $1.0 million per year for “knowing failures”), for all payments, transfers of value or ownership or investment interests not reported in an annual submission.

In addition, there has been a recent trend of increased federal and state regulation of payments made to physicians. Certain states, mandate implementation of compliance programs and/or the tracking and reporting of gifts, compensation and other remuneration to physicians. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with different compliance and/or reporting requirements in multiple jurisdictions increase the possibility that a healthcare company many violate one or more of the requirements.

The Federal Civil Monetary Penalties Law prohibits the offering or giving of remuneration to a Medicare or Medicaid beneficiary that the person knows or should know is likely to influence the beneficiary’s selection of a particular supplier of items or services reimbursable by a Federal or state governmental healthcare program. We sometimes offer customers various discounts and other financial incentives in connection with the sales of our products. While it is our intent to comply with all applicable laws, the government may find that our marketing activities violate the Civil Monetary Penalties Law. If we are found to be in non-compliance, we could be subject to civil money penalties of up to $0.02 million for each wrongful act, assessment of three times the amount claimed for each item or service and exclusion from the federal or state healthcare programs.

On February 3, 2017, the Department of Justice (DOJ) published a final rule that applies an inflation adjustment to civil monetary penalty (CMP) amounts, as mandated by the Bipartisan Budget Act of 2015. The maximum CMP for False Claims Act violations is $0.02 million for civil penalties assessed after August 1, 2016 and whose violations occurred after November 2, 2015.

The Bipartisan Budget Act of 2018 increases the CMP and criminal fines and sentences for various fraud and abuse violations under the Medicare and Medicaid programs for violations committed after February 9, 2018. The new maximum CMP for a False Claims Act violation is $0.02 million.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. If our operations are found to be in violation of any of the laws described above or any other government regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restricting of our operations. Any penalties, damages, fines, curtailment or restructuring or our operations could harm our ability to operate our business and our financial results. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from operation of our business. Moreover, achieving and sustaining compliance with applicable federal and state fraud laws may prove costly.

Foreign governments tend to impose strict price controls, which may adversely affect our future profitability.

As of September 30, 2018, we sold our products in 46 countries outside the United States through our wholly owned subsidiary, distributors or directly to large "house" accounts. In some foreign countries, particularly in the European Union, the pricing of medical devices is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to supply data that compares the cost-effectiveness of our Inogen One and Inogen At Home systems to other available oxygen therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, it may not be profitable to sell our products in certain foreign countries, which would negatively affect the long-term growth of our business.

Our business activities involve the use of hazardous materials, which require compliance with environmental and occupational safety laws regulating the use of such materials. If we violate these laws, we could be subject to significant fines, liabilities or other adverse consequences.

Our research and development programs as well as our manufacturing operations involve the controlled use of hazardous materials. Accordingly, we are subject to international, federal, state and local laws governing the use, handling and disposal of these materials. Although we believe that our safety procedures for handling and disposing of these materials comply in all material respects with the standards prescribed by state and federal regulations of each country in which we conduct business, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In the event of an accident or failure to comply with environmental laws, we could be held liable for resulting damages, and any such liability could exceed our insurance coverage.

New regulatory requirements under Proposition 65 could adversely affect our business.

We are subject to California's Proposition 65, or Prop 65, which requires a specific warning on any product that contains a substance listed by the State of California as having been found to cause cancer or birth defects, unless the level of such substance in the product is below a safe harbor level. Prop 65 required that all businesses must be in compliance by August 30, 2018 with new regulations that require modifications to product warnings and for businesses to coordinate with upstream vendors or downstream customers for the 800+ regulated chemicals in consumer products and assess whether new occupational exposure warnings need to be posited in California facilities. We have taken steps to add warning labels to our products packaged in California and manufactured after August 30, 2018. Although we cannot predict the ultimate impact of these new requirements, they could reduce overall consumption of our products or leave consumers with the perception (whether or not valid) that our products do not meet their health and wellness needs, all of which could adversely impact our business, financial condition, and operating results.

Risks related to our intellectual property

If we are unable to secure and maintain patent or other intellectual property protection for the intellectual property used in our products, we will lose a significant competitive advantage, which may adversely affect our future profitability.

Our commercial success depends, in part, on obtaining, defending, and maintaining patent and other intellectual property protection for the technologies used in our products. The patent positions of medical device companies, including ours, can be highly uncertain and involve complex and evolving legal and factual questions. Furthermore, we might in the future opt to license intellectual property from other parties. If we, or the other parties from whom we would license intellectual property, fail to obtain, defend, and maintain adequate patent or other intellectual property protection for intellectual property used in our products, or if any protection is reduced or eliminated, others could use the intellectual property used in our products, resulting in harm to our competitive business position. In addition, patent and other intellectual property protection may not:

- prevent our competitors from duplicating our products;
- prevent our competitors from gaining access to our proprietary information and technology

- prevent our competitors or other parties from suing us for alleged infringement; or
- permit us to gain or maintain a competitive advantage.

Any of our patents may be challenged, invalidated, circumvented or rendered unenforceable. We cannot provide assurance that we will be successful should one or more of our patents be challenged for any reason. If our patent claims are rendered invalid or unenforceable, or narrowed in scope, the patent coverage afforded our products could be impaired, which could make our products less competitive.

As of September 30, 2018, we have seven pending patent applications and one pending international patent application, thirty-three issued patents relating to the design and construction of our oxygen concentrators and our intelligent delivery technology. We cannot specify which of these patents individually or as a group will permit us to gain or maintain a competitive advantage. Patents and patent applications may be subject to interference proceedings, and patents may be subject to reexamination, *inter partes* review, post-grant review, and derivation proceedings in the U.S. Patent and Trademark Office or comparable proceedings in other patent offices worldwide. Foreign patents may be subject to opposition or comparable proceedings in the corresponding foreign patent offices. Any of these proceedings could result in loss of the patent or denial of the patent application, or loss or reduction in the scope of one or more of the claims of the patent or patent application. Changes in either patent laws or in interpretations of patent laws may also diminish the value of our intellectual property or narrow the scope of our protection. Interference, reexamination, *inter partes* review, defense, and opposition proceedings may be costly and time consuming, and we, or the other parties from whom we might potentially license intellectual property, may be unsuccessful in defending against such proceedings. Thus, any patents that we own or might license may provide limited or no protection against competitors. In addition, our pending patent applications and those we may file in the future may have claims narrowed during prosecution or may not result in patents being issued. Even if any of our pending or future applications are issued, they may not provide us with any competitive advantage or adequate protection from allegations of infringement, whether valid or frivolous, which may result in the incurrence of material defense costs. Our patents and patent applications are directed to particular aspects of our products. Other parties may develop and obtain patent protection for more effective technologies, designs or methods for oxygen therapy. If these developments were to occur, it would likely have an adverse effect on our sales. Our ability to develop additional patentable technology is also uncertain.

Non-payment or delay in payment of patent fees or annuities, whether intentional or unintentional, may also result in the loss of patents or patent rights important to our business. Many countries, including certain countries in Europe, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to other parties. In addition, many countries limit the enforceability of patents against other parties, including government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of the patent. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as do the laws of the United States, particularly in the field of medical products and procedures.

Our products could infringe or appear to infringe the intellectual property rights of others, which may lead to patent and other intellectual property litigation that could itself be costly, could result in the payment of substantial damages or royalties, prevent us from using technology that is essential to our products, and/or force us to discontinue selling our products.

The medical device industry in general has been characterized by extensive litigation and administrative proceedings regarding patent infringement and intellectual property rights. Our competitors hold a significant number of patents relating to oxygen therapy devices and products. Third parties have in the past asserted and may in the future assert that we are employing their proprietary technology without authorization. For example, Separation Design Group IP Holdings, LLC (SDGIP) filed a lawsuit against us on October 23, 2015 in the United States District Court for the Central District of California. SDGIP alleged that we willfully infringed U.S. Patent Nos. 8,894,751 and 9,199,055, both of which are titled “Ultra Rapid Cycle Portable Oxygen Concentrator.” SDGIP also alleged misappropriation of trade secrets and breach of contract stemming from a meeting in September 2010. SDGIP sought to recover damages (including compensatory and treble damages), costs and expenses (including attorneys’ fees), pre-judgment and post-judgment interest, and other relief that the Court deem proper. SDGIP also sought a permanent injunction against us. Additionally, CAIRE, Inc. (CAIRE) filed a lawsuit in the United States District Court for the Northern District of Georgia against us on September 12, 2016. CAIRE alleged that we infringed U.S. Patent No. 6,949,133, entitled “Portable Oxygen Concentrator.” While we settled our lawsuit with SDGIP in October 2017 and with CAIRE in December 2017, if we fail in defending against similar lawsuits or claims brought against us in the future, we could be subject to substantial monetary damages and injunctive relief, and we cannot predict the outcome of any lawsuit. An adverse determination or protracted defense costs of pending lawsuits could have a material effect on our business and operating results.

From time to time, we have also commenced litigation to enforce our intellectual property rights. For example, we previously pursued litigation against Inova Labs, Inc. (a subsidiary of ResMed Corp.) for infringement of two of our patents seeking damages, injunctive relief, costs, and attorneys' fees. While we settled our lawsuit with Inova Labs in June 2016, an adverse decision in any other legal action could limit our ability to assert our intellectual property rights, limit the value of our technology or otherwise negatively impact our business, financial condition and results of operations.

Monitoring unauthorized use of our intellectual property is difficult and costly. Unauthorized use of our intellectual property may have occurred or may occur in the future. Although we have taken steps to minimize the risk of this occurring, any such failure to identify unauthorized use and otherwise adequately protect our intellectual property would adversely affect our business. Moreover, if we are required to commence litigation, whether as a plaintiff or defendant as has occurred with Inova Labs, SDGIP, and CAIRE, not only will this be time-consuming, but we will also be forced to incur significant costs and divert our attention and efforts of our employees, which could, in turn, result in lower revenue and higher expenses.

We cannot provide assurance that our products or methods do not infringe or appear to not infringe the patents or other intellectual property rights of third parties and if our business is successful, the possibility may increase that others will assert infringement claims against us whether valid or frivolous.

Determining whether a product infringes a patent involves complex legal and factual issues, defense costs and the outcome of a patent litigation action are often uncertain. We have not conducted an extensive search of patents issued or assigned to other parties, including our competitors, and no assurance can be given that patents containing claims covering or appearing to cover our products, parts of our products, technology or methods do not exist, have not been filed or could not be filed or issued. Because of the number of patents issued and patent applications filed in our technical areas, our competitors or other parties may assert that our products and the methods we employ in the use of our products are covered by U.S. or foreign patents held by them. In addition, because patent applications can take many years to issue and because publication schedules for pending applications may vary by jurisdiction and some companies opt not to publish their patent applications, there may be applications now pending of which we are unaware and which may result in issued patents that our current or future products infringe or appear to infringe. Also, because the claims of published patent applications can change between publication and patent grant, there may be published patent applications that may ultimately issue with claims that we infringe. There could also be existing patents that one or more of our products or parts may infringe and of which we are unaware. As the number of competitors in the market for oxygen products and the number of patents issued in this area grows, the possibility of patent infringement claims against us increases. In certain situations, we may determine that it is in our best interests to voluntarily challenge a party's patents in litigation or other proceedings, including patent reexaminations, or *inter partes* reviews. As a result, we may become involved in unwanted protracted litigation that could be costly, result in diversion of management's attention, require us to pay damages and/or licensing royalties and force us to discontinue selling our products.

Infringement and other intellectual property claims and proceedings brought against us, whether successful or not, could result in substantial costs and harm to our reputation. Such claims and proceedings can also distract and divert management and key personnel from other tasks important to the success of the business. We cannot be certain that we will successfully defend against allegations of infringement of patents or other intellectual property rights. In the event that we become subject to a patent infringement or other intellectual property related lawsuit and if the asserted patents or other intellectual property were upheld as valid and enforceable and we were found to infringe the asserted patents or other intellectual property, or violate the terms of a license to which we are a party, we could be required to do one or more of the following:

- cease selling or using any of our products that incorporate the asserted intellectual property, which would adversely affect our revenue;
- pay damages for past use of the asserted intellectual property, which may be substantial;
- obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable royalty terms, if at all, and which could reduce profitability; and
- redesign or rename, in the case of trademark claims, our products to avoid infringing the intellectual property rights of third parties, which may not be possible and could be costly and time-consuming if it is possible to do so.

If we are unable to prevent unauthorized use or disclosure of trade secrets, unpatented know-how and other proprietary information, our ability to compete will be harmed.

We rely on a combination of trade secrets, copyrights, trademarks, confidentiality agreements and other contractual provisions and technical security measures to protect certain aspects of our technology, especially where we do not believe that patent protection is appropriate or obtainable. We require our employees and consultants to execute confidentiality agreements in connection with their employment or consulting relationships with us. We also require our employees and consultants to disclose and assign to us all inventions conceived during the term of their employment or engagement while using our property or that relate to our business. We also require our corporate partners, outside scientific collaborators and sponsored researchers, advisors and others with access to our confidential information to sign confidentiality agreements. We also have taken precautions to initiate reasonable safeguards to protect our information technology systems. However, these measures may not be adequate to safeguard our proprietary intellectual property and conflicts may, nonetheless, arise regarding ownership of inventions. Such conflicts may lead to the loss or impairment of our intellectual property or to expensive litigation to defend our rights against competitors who may be better funded and have superior resources. Our employees, consultants, contractors, outside clinical collaborators and other advisors may unintentionally or willfully disclose our confidential information to competitors. In addition, confidentiality agreements may be unenforceable or may not provide an adequate remedy in the event of unauthorized disclosure. Enforcing a claim that a third-party illegally obtained and is using our trade secrets is expensive and time-consuming, and the outcome is unpredictable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our products that we consider proprietary, and in such cases we could not assert any trade secret rights against such party. As a result, other parties may be able to use our proprietary technology or information, and our ability to compete in the market would be harmed.

"Inogen," "Inogen One," "Inogen One G2," "Inogen One G3," "G4," "G5," "Oxygenation," "Live Life in Moments, not Minutes," "Never Run Out of Oxygen," "Oxygen Therapy on Your Terms," "Oxygen.Anytime.Anywhere," "Reclaim Your Independence," "Intelligent Delivery Technology," "Inogen At Home," and the Inogen design are registered and/or pending trademarks with the United States Patent and Trademark Office of Inogen, Inc. We own trademark registrations for the mark "Inogen" in Australia, Canada, South Korea, Mexico, Europe (European Union Registration), and Japan. We own a trademark registration for the mark "□□□□□" in Japan. We own a pending application for the mark "Inogen" in China and a pending International Registration for the mark "Inogen" designating Colombia, Europe (European Union Application), Iceland, India, Israel, New Zealand, Norway, Singapore, Switzerland and Turkey. We own trademark registrations for the mark "Inogen One" in Australia, Canada, China, South Korea, Mexico, and Europe (European Union Registration). We own a trademark registration for the mark "Satellite Conserver" in Canada. We own a trademark registration for the mark "Inogen At Home" in Europe (European Union Registration). We own trademark registrations for the mark "G4" in Europe (European Union Registration) and the United Kingdom. Other service marks, trademarks, and trade names referred to in this Quarterly Report on Form 10-Q are the property of their respective owners.

We may be subject to damages resulting from claims that our employees, agents or we have wrongfully used or disclosed alleged trade secrets of other companies.

Some of our employees and consultants were previously employed by or contracted with other medical device companies focused on the development of oxygen therapy products, including our competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or agents have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Even if we are successful in defending against these claims, litigation could result in substantial costs, damage to our reputation and be a distraction to management.

Risks related to being a public company

We will incur increased costs as a result of operating as a public company and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, especially now that we are no longer an "emerging growth company," we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules enforced by the Public Companies Oversight Board (PCAOB) subsequently implemented by the SEC and the NASDAQ Global Select Market impose numerous requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Also, the Securities Exchange Act of 1934, as amended, or the Exchange Act, requires, among other things, that we file annual, quarterly and current reports with respect to our business and operating results. Our management and other personnel will need to devote a substantial amount of time to compliance with these laws and regulations. These requirements have increased and will continue to increase our legal, accounting, external audit and financial compliance costs and have made and will continue to make some activities more time consuming and costly. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to incur substantial costs to maintain the same or similar coverage. These rules and regulations could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or our board committees or as executive officers.

Overall, we estimate that our incremental costs resulting from operating as a public company, including compliance with these rules and regulations, may be between $1.5 million and $3.0 million per year. However, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies and public accounting firms are subject to PCAOB compliance audits. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

The Sarbanes-Oxley Act requires, among other things, that we assess and document the effectiveness of our internal control over financial reporting annually and the effectiveness of our disclosure controls and procedures quarterly. In particular, Section 404(a) of the Sarbanes-Oxley Act, or Section 404(a), requires us to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting. Section 404(b) of Sarbanes-Oxley Act, or Section 404(b), also requires our independent registered public accounting firm to attest to the effectiveness of our internal control over financial reporting. Now that we are no longer an “emerging growth company,” our independent registered public accounting firm is required to undertake an assessment of our internal control over financial reporting, and the cost of our compliance with Section 404(b) is higher. Our compliance with applicable provisions of Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues as we implement additional corporate governance practices and comply with reporting requirements.

Furthermore, investor perceptions of our company may suffer if deficiencies are found, and this could cause a decline in the market price of our stock. Irrespective of compliance with Section 404, any failure of our internal control over financial reporting could have a material adverse effect on our stated operating results and harm our reputation. If we are unable to implement these requirements effectively or efficiently, it could harm our operations, financial reporting, or financial results and could result in an adverse opinion on our internal controls from our independent registered public accounting firm.

Failure to maintain effective internal controls could cause our investors to lose confidence in us and adversely affect the market price of our common stock. If our internal controls are not effective, we may not be able to accurately report our financial results or prevent fraud.

Section 404 of the Sarbanes-Oxley Act, or Section 404, requires that we maintain internal control over financial reporting that meets applicable standards. We may err in the design, operation or documentation of our controls, and all internal control systems, no matter how well designed and operated, can provide only reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, there can be no absolute assurance that all control issues have been or will be detected. If we are unable, or are perceived as unable, to produce reliable financial reports due to internal control deficiencies, investors could lose confidence in our reported financial information and operating results, which could result in a negative market reaction.

We are required to disclose significant changes made in our internal controls and procedures on a quarterly basis. Now that we are no longer an “emerging growth company,” our independent registered public accounting firm is also required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. Our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our controls are documented, designed or operating. Our remediation efforts may not enable us to avoid a material weakness in the future. Additionally, to comply with the requirements of being a public company, we may need to undertake various actions, such as implementing new internal controls and procedures and hiring accounting or internal audit staff, which may adversely affect our operating results and financial condition.

We have reported material weaknesses in our internal controls over financial reporting in the past. For example, as we disclosed in our Annual Report on Form 10-K for the period ended December 31, 2014, and our Quarterly Reports on Forms 10-Q for the periods ended March 31, 2015, June 30, 2015 and September 30, 2015, we identified a material weakness with respect to internal control over the review of sales order documentation supporting our direct-to-customer sales and rentals prior to revenue recognition. We commenced measures to remediate this material weakness during the first quarter of 2015, and remediation was completed as of December 31, 2015.

Although prior material weaknesses have been remediated, we cannot assure you that our internal controls will continue to operate properly or that our financial statements will be free from error. There may be undetected material weaknesses in our internal control over financial reporting, as a result of which we may not detect financial statement errors on a timely basis. Moreover, in the future we may implement new offerings and engage in business transactions, such as acquisitions, reorganizations or implementation of new information systems that could require us to develop and implement new controls and could negatively affect our internal control over financial reporting and result in material weaknesses.

If we identify new material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner, if we are unable to assert that our internal controls over financial reporting are effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting, we may be late with the filing of our periodic reports, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected. As a result of such failures, we could also become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, and become subject to litigation from investors and stockholders, which could harm our reputation, financial condition or divert financial and management resources from our core business.

Risks related to our common stock

We expect that our stock price will fluctuate significantly, you may have difficulty selling your shares, and you could lose all or part of your investment.

Our stock is currently traded on NASDAQ, but we can provide no assurance that we will be able to maintain an active trading market on NASDAQ or any other exchange in the future. If an active trading market does not develop, you may have difficulty selling any of our shares of common stock that you buy. In addition, the trading price of our common stock may be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include:

- actual or anticipated quarterly variation in our results of operations or the results of our competitors;
- announcements of secondary offerings;
- announcements by us or our competitors of new commercial products, significant contracts, commercial relationships or capital commitments;
- issuance of new or changed securities analysts' reports or recommendations for our stock;
- developments or disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;
- market conditions in the oxygen therapy market;
- reimbursement or legislative changes in the oxygen therapy market;
- failure to complete significant sales;
- manufacturing disruptions that could occur if we were unable to successfully expand our production in our current or an alternative facility;
- any future sales of our common stock or other securities;
- any major change to the composition of our board of directors or management;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- the other factors described in this "Risk Factors" section; and
- general economic conditions and slow or negative growth of our markets.

The stock market in general and market prices for the securities of technology-based companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. These broad market and industry fluctuations may adversely affect the market price of our common stock, regardless of our operating performance. In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and harm our operating results.

If securities or industry analysts do not publish research or publish unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will rely in part on the research and reports that equity research analysts publish about us and our business. We will not have any control of the analysts or the content and opinions included in their reports. The price of our stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline.

Future sales of shares could cause our stock price to decline.

Our stock price could decline as a result of sales of a large number of shares of our common stock or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

As of September 30, 2018, one holder of approximately 3.5 million shares, or approximately 16.5%, of our outstanding shares, has rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We have also registered the offer and sale of all shares of common stock that we may issue under our equity compensation plans.

In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, and employee arrangements or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

Our directors, executive officers and principal stockholders will continue to have substantial control over us and could limit your ability to influence the outcome of key transactions, including changes of control.

As of September 30, 2018, our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock and their respective affiliates beneficially owned or controlled approximately 53.6% of the outstanding shares of our common stock. Accordingly, these executive officers, directors and stockholders who owned more than 5% of our outstanding common stock and their respective affiliates, acting as a group, have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, up to 10,000,000 shares of undesignated preferred stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of the board of directors, or the Chief Executive Officer;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered three-year terms;
- provide that our directors may be removed only for cause;

- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- specify that no stockholder is permitted to cumulate votes at any election of directors; and
- require a super-majority of votes to amend certain of the above-mentioned provisions.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us.

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on any of our classes of capital stock to date and currently intend to retain our future earnings to fund the development and growth of our business. In addition, we may become subject to covenants under future debt arrangements that place restrictions on our ability to pay dividends. As a result, capital appreciation, if any, of our common stock is expected to be your sole source of gain for the foreseeable future.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

We did not repurchase any shares of our common stock during the three or nine months ended September 30, 2018 and September 30, 2017.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Number	Description	Incorporated by Reference From Form	Incorporated by Reference From Exhibit Number	Date Filed
10.1+	Transition Agreement and Release by and between the Registrant and Matthew Scribner, dated September 14, 2018	8-K/A	10.1	9/18/18
10.2+	Employment and Severance Agreement, dated August 17, 2018, between the Registrant and Bart Sanford	Filed herewith		
31.1	Certification Pursuant to Exchange Act Rules 13a - 14(a) and 15d - 14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of Chief Executive Officer	Filed herewith		
31.2	Certification Pursuant to Exchange Act Rules 13a - 14(a) and 15d - 14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of Chief Financial Officer	Filed herewith		
32.1(1)	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of Chief Executive Officer			
32.2(1)	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of Chief Financial Officer			
101.INS	XBRL Instance Document			
101.SCH	XBRL Taxonomy Extension Schema Document			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document			
101.DEF	XBRL Taxonomy Extension Definition Document			

+ Indicates a management contract or compensatory plan.

(1) The Certifications attached as Exhibits 32.1 and 32.2 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Inogen, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

INOGEN, INC.

Dated: November 6, 2018

By: /s/ Scott Wilkinson
Scott Wilkinson
Chief Executive Officer
President
Director
(Principal Executive Officer)

Dated: November 6, 2018

By: /s/ Alison Bauerlein
Alison Bauerlein
Chief Financial Officer
Executive Vice President, Finance
Secretary and Treasurer
(Principal Financial and Accounting Officer)

Exhibit 10.2

INOGEN, INC.

EMPLOYMENT AND SEVERANCE AGREEMENT

This EMPLOYMENT AND SEVERANCE AGREEMENT (this "Agreement"), is made and effective as of ___8/17/18___ (the "Effective Date"), by and between Inogen, Inc., a Delaware corporation (the "Company"), and Bart Sanford (the "Executive").

WITNESSETH:

WHEREAS, the Company desires to enter into this Agreement to set forth the terms of Executive's employment beginning on the date Executive commences employment with the Company (the "Start Date") and Executive desires to enter into this Agreement and commence employment with the Company, subject to the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the promises and mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are mutually acknowledged, the Company and Executive hereby agree as follows:

Section 1. **Definitions**.

(a) "Accrued Obligations" shall mean (i) all accrued but unpaid Base Salary through the date of termination of Executive's employment, (ii) any unpaid or unreimbursed expenses incurred in accordance with Section 7 below, (iii) any benefits provided under the Company's employee benefit plans, subject to the terms hereof, and (iv) any benefits under policies, if any, upon a termination of employment, in accordance with the terms contained therein, including, without limitation, rights with respect to accrued but unused vacation.

(b) "Annual Bonus" shall have the meaning set forth in Section 4(b) below.

(c) "Base Salary" shall mean the salary provided for in Section 4(a) below, subject to any modification by the Company, under Section 4(a).

(d) "Board" shall mean the Board of Directors of the Company.

(e) "Cause" shall mean (i) Executive's conviction of any crime (A) constituting a felony or (B) that has, or could reasonably be expected to result in, an adverse impact on the performance of Executive's duties to the Company, or otherwise has, or could reasonably be expected to result in, an adverse impact to the business or reputation of the Company; (ii) conduct of the Executive, in connection with his employment, that has, or could reasonably be expected to result in, material injury to the business or reputation of the Company, including, without limitation, act(s) of fraud, embezzlement, misappropriation and breach of fiduciary duty; (iii) any material violation of the operating and ethics policies of the Company, including, but not limited to those relating to sexual harassment and the disclosure or misuse of confidential information; (iv) willful neglect in the performance of Executive's duties or willful or repeated failure or refusal to perform such duties; or (v) Executive's breach of any material provision of this Agreement, including, without limitation, any provision of Section 9 or any breach of the Confidentiality Agreement (as defined below).

(f) "Change of Control" shall mean the occurrence of any of the following events

(i) A change in the ownership of the Company which occurs on the date that any one person, or more than one person acting as a group ("Person"), acquires ownership of the stock of the Company that, together with the stock held by such Person, constitutes more than fifty percent (50%) of the total voting power of the stock of the Company; provided, however, that for purposes of this subsection (i), the acquisition of additional stock by any one Person, who is considered to own more than fifty percent (50%) of the total voting power of the stock of the Company will not be considered a Change of Control; or

(ii) A change in the effective control of the Company which occurs on the date that a majority of members of the Board is replaced during any twelve (12) month period by members of our Board whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election. For purposes of this clause (ii), if any Person is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered a Change of Control; or

(iii) A change in the ownership of a substantial portion of the Company's assets which occurs on the date that any Person acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) assets from the Company that have a total gross fair market value equal to or more than 50% of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions; provided, however, that for purposes of this subsection (iii), the following will not constitute a change in the ownership of a substantial portion of the Company's assets: (A) a transfer to an entity that is controlled by the Company's stockholders immediately after the transfer, or (B) a transfer of assets by the Company to: (1) a stockholder of the Company (immediately before the asset transfer) in exchange for or with respect to the Company's stock, (2) an entity, 50% or more of the total value or voting power of which is owned, directly or indirectly, by the Company, (3) a Person, that owns, directly or indirectly, 50% or more of the total value or voting power of all the outstanding stock of the Company, or (4) an entity, at least 50% of the total value or voting power of which is owned, directly or indirectly, by a Person described in this subsection (iii)(B)(3). For purposes of this subsection (iii), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

For purposes of this definition, Persons will be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the Company.

Notwithstanding the foregoing, a transaction will not be deemed a Change of Control unless the transaction qualifies as a change in control event within the meaning of Code Section 409A, as it has been and may be amended from time to time, and any proposed or final Treasury Regulations and Internal Revenue Service guidance that has been promulgated or may be promulgated thereunder from time to time.

Further and for the avoidance of doubt, a transaction will not constitute a Change of Control if: (i) its sole purpose is to change the state of the Company's incorporation, or (ii) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction.

(g) "Change of Control Period" shall mean, the period beginning on the date three (3) months prior to, and ending on the date twelve (12) months following, a Change of Control.

(h) "Change of Control Severance Term" shall mean a 12-month period following Executive's termination by the Company without Cause (other than by reason of death or Disability) or by Executive for Good Reason, provided such termination occurred within the Change of Control Period.

(i) "Code" shall mean the Internal Revenue Code of 1986, as amended.

(j) "Company" shall have the meaning set forth in the preamble hereto.

(k) "Compensation Committee" shall mean the committee of the Board designated to make compensation decisions relating to senior executive officers of the Company.

(l) "Competitive Activities" shall mean any business activities in which the Company is engaged (or has committed plans to engage) during the Term of Employment.

(m) "Confidential Information" shall have the meaning set forth in the At-Will Employment, Confidential Information, Invention Assignment, and Arbitration Agreement between Executive and the Company (the " Confidentiality Agreement"), signed prior to or concurrently herewith.

(n) "Confidentiality Agreement" shall have the meaning set forth under subsection (l) above.

(o) "Disability" shall mean any physical or mental disability or infirmity that prevents the performance (with or without reasonable accommodation) of Executive's performance of the essential functions of Executive's duties for a period of (i) ninety (90) consecutive days or (ii) one hundred twenty (120) non-consecutive days during any twelve (12) month period. Any question as to the existence, extent or potentiality of Executive's Disability upon which Executive and the Company cannot agree shall be determined by a qualified, independent physician selected by the Company and approved by Executive (which approval shall not be unreasonably withheld).

(p) "Effective Date" shall have the meaning set forth in the preamble hereto.

(q) "Executive" shall have the meaning set forth in the preamble hereto.

(r) "Good Reason" shall mean, without Executive's consent, (i) a substantial and material diminution in Executive's duties or responsibilities (which shall exclude any diminution in connection with the change in Executive's position as contemplated in Section 3(a) hereof); (ii) a reduction in Base Salary or Annual Bonus opportunity of 10% or more; or (iii) the failure of the Company to pay any compensation when due.

(s) "MIP" shall have the meaning set forth in Section 4(b).

(t) "Person" shall mean any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust (charitable or non-charitable), unincorporated organization or other form of business entity.

(u) "Release Expiration Date" shall mean the date set forth under Section 8(h) of the Agreement.

(v) "Restricted Area" shall mean: (i) all counties in the State of Texas, (ii) all other states of the United States of America and (iii) all other countries of the world; provided that, with respect to clauses (ii) and (iii), the Company maintains non-trivial operations, facilities, or customers in such geographic area prior to the date of the termination of Executive's relationship with the Company.

(w) "Restricted Period" shall mean the period commencing the Effective Date and extending to the 12 (twelve) month anniversary of Executive's termination of employment for any reason.

(x) "Severance Term" shall mean a 12-month period following Executive's termination by the Company without Cause (other than by reason of death or Disability) or by Executive for Good Reason, assuming no such termination had occurred.

(y) "Term of Employment" shall mean the period specified in Section 2 below.

Section 2. **Term of Employment**.

The Company agrees to employ Executive and Executive agrees to serve the Company on the terms and conditions set forth herein. The term of the Executive's employment hereunder shall begin on the Start Date and continue until terminated as hereinafter specified in Section 8. The period of such employment under this Agreement is referred to herein as the "Term of Employment." Executive's Start Date is expected to be September 17, 2018.

Section 3. **Position, Duties and Responsibilities; Place of Performance**.

(a) During the Term of Employment, Executive shall serve as the Executive Vice President of Operations of the Company, together with such other position or positions consistent with Executive's title as the CEO or Board shall specify from time to time, and shall have such duties typically associated with such title.

(b) Executive shall devote his full business time, attention, skill and best efforts to the performance of his duties under this Agreement and shall not engage in any other business or occupation during the Term of Employment that (x) conflicts with the interests of the Company, (y) interferes with the proper and efficient performance of his duties for the Company, or (z) interferes with the exercise of his judgment in the Company's best interests.

Notwithstanding the foregoing, nothing herein shall preclude Executive from (i) serving, with the prior written consent of the CEO, as a member of the board of directors or advisory board (or their equivalents in the case of a non-corporate entity) of non-competing businesses and charitable organizations, (ii) engaging in charitable activities and community affairs, and (iii) managing his personal investments and affairs; *provided, however,* that the activities set out in clauses (i), (ii) and (iii) shall be limited by Executive so as not to materially interfere, individually or in the aggregate, with the performance of his duties and responsibilities hereunder.

(c) Executive's principal place of employment shall be in Richardson, Texas, although Executive understands and agrees that he may be required to travel from time to time for business reasons.

Section 4. **Compensation**. During the Term of Employment, Executive shall be entitled to the following compensation:

(a) Base Salary. Executive shall be paid an annualized Base Salary of $312,000 (the "Base Salary"), payable in accordance with the regular payroll practices of the Company. The Base Salary shall be subject to annual review, based on both Executive and Company performance.

(b) Annual Bonus. Executive is eligible for a discretionary annual performance bonus award (the "Annual Bonus"), determined pursuant to the Company's Management Incentive Plan (the "MIP"), as may be modified by the Company. Subject to the terms of this paragraph, Executive's current year target Annual Bonus is 40% of Executive's Base Salary (the " Bonus Target"). The Annual Bonus, or installments thereof, is payable to Executive based on achievements of all relevant targets and conditions following the annual audit for such fiscal year at such time as annual bonuses are paid to other senior executives of the Company, as discussed more fully in the MIP. The eligibility for and payment of any bonus under the MIP is subject to the terms and conditions of the MIP, which are at the discretion of the Company. Notwithstanding anything in this Section 4(b) to the contrary, with respect to 2018 Annual Bonus opportunity, Executive's Annual Bonus will be pro-rated based on the number of calendar days during 2018 in which Executive is employed with the Company; provided, however, that, (i) in no case, will Executive's 2018 Annual Bonus be less than $100,000 on a pre-tax basis and (ii) such payment will be made at the same time as the Company's other senior executives receive their 2018 annual bonus, subject to Executive's continued employment with the Company through such date.

(c) Company Equity Awards.

(i) On Executive's Start Date, Executive will be granted an award of Restricted Stock (the "RSA") with respect to shares of the Company's common stock having an approximate grant date value equal to $750,000. The number of shares of the Company's common stock subject to the RSA shall be calculated on the closing price per share as of Executive's Start Date. 50% of the RSA vests over four years based on satisfaction of time and service-based requirements as follows: 25% will vest on the first anniversary of December 1, 2018 and 1/16th of the RSUs will vest every three months thereafter on the same day of the month, subject to Executive continuing to be a service provider to the Company through each such date. The remaining 50% of the RSA vests over three years based on the satisfaction of time and service-based requirements and achievement of a company performance goal (operating income) on the same terms and conditions as applicable the performance-based equity grants made to the Company's senior executive officers in 2018. The RSA will be subject to the terms and conditions of the Company's 2014 Equity Incentive Plan and forms of RSA (collectively, the " Stock Agreements"), in each case, which will be made available to Executive following the date Executive's RSAs are granted.

(ii) Subject to the approval of the Compensation Committee, Executive also will also eligible for annual equity award in the first half of 2019 having an expected grant date value of between $400,000 and $500,000 with vesting based on the same terms and conditions as the annual equity awards made to the Company's senior executives.

(d) Relocation and Temporary Living Reimbursement. The Company will pay or otherwise reimburse Executive for: (i) reasonable moving expenses incurred by Executive and his immediate family for the packing, loading, insuring, and transferring household goods and furnishings during their relocation from Executive's primary residence in Belmont, California area to Dallas, Texas area, plus up to sixty days of storage for such items, (ii) reasonable costs for Executive to move himself, i.e., the cost of economy class airfare and shipping costs for one vehicle or mileage reimbursement and up to two nights of lodging and meal expenses, (iii) reasonable costs for flight, lodging and travel expenses for up to two house-hunting trip to the Dallas, Texas area (must be used before the Start Date), (iv) the closing costs on purchase of new personal home in the Dallas, Texas area (e.g., loan origination fees, inspections, but excluding points) during the Employment Term, and (v) reasonable temporary housing and living expenses for Executive and his immediate family in the Dallas, Texas area for up to 60 days, which must be incurred on or before 120 days following the Start Date. All reimbursement requests made pursuant to this section must be submitted within 60 days of the date they are incurred, and are subject to the Company's reimbursement policy, including appropriate substantiation for any such requests. In addition, within 30 days of the Start Date, the Company will pay Executive a lump sum payment of $5,000 for miscellaneous moving expenses. All payments and reimbursements will be grossed up for applicable taxes upon payment or reimbursement to Executive. If, prior to the one-year anniversary of the Start Date, Executive's employment is terminated by the Company for Cause or by Executive voluntarily without Good Reason, Executive agrees to refund the Company the gross amount of all payments or reimbursements made under this paragraph within 60 days of the termination date.

Section 5. **Executive Benefits**.

During the Term of Employment, Executive shall be entitled to participate in health, insurance, retirement and other benefits provided to other senior executives of the Company. Executive initially will be entitled to accrue paid time off (PTO) at a rate equal to 22 days per year to be taken in accordance with the Company's PTO policy, with the timing and duration of specific days off mutually and reasonably agreed to by the parties. After Executive's first full year of service, Executive's PTO accrual rate will increase at a rate equal to one additional day per year for each of the next five years of service up to a maximum accrual rate equal to 27 days of PTO per year.

Section 6. **Key-Man Insurance**.

At any time during the Term of Employment, the Company shall have the right to insure the life of Executive for the sole benefit of the Company, in such amounts, and with such terms, as it may determine. All premiums payable thereon shall be the obligation of the Company. Executive shall have no interest in any such policy, but agrees to cooperate with the Company in taking out such insurance by submitting to physical examinations, supplying all information required by the insurance company, and executing all necessary documents, provided that no financial obligation is imposed on Executive by any such documents.

Section 7. **Payment and Reimbursement of Business Expenses**.

Executive is authorized to incur reasonable business expenses in carrying out his duties and responsibilities under this Agreement and the Company shall pay, or if Executive shall have paid, shall promptly reimburse Executive for any and all such reasonable business expenses for business, entertainment, promotion, professional association dues and travel incurred by Executive in connection with carrying out the business of the Company, subject to documentation in accordance with the Company's policy, as in effect from time to time, and subject to the consent of the CEO.

Section 8. **Termination of Employment**.

(a) General. The Term of Employment shall terminate upon the earliest to occur of (i) Executive's death, (ii) a termination by reason of a Disability, (iii) a termination by the Company with or without Cause, or (iv) a termination by Executive with or without Good Reason. Upon any termination of Executive's employment for any reason, except as may otherwise be requested by the Company in writing and agreed upon in writing by Executive, Executive shall resign from any and all directorships, committee memberships or any other positions Executive holds with the Company or any of its subsidiaries (collectively, the "Resignation"). The payment hereunder of any deferred compensation (within the meaning of Section 409A of the Code) upon a termination of employment shall not be paid to Executive until such time as Executive has undergone a "separation from service" as defined in Treas. Reg. 1.409A-1(h) (the "Separation from Service").

(b) Termination due to Death or Disability. Executive's employment shall terminate automatically upon his death. The Company may terminate Executive's employment immediately upon the occurrence of a Disability, such termination to be effective upon Executive's receipt of written notice of such termination. In the event Executive's employment is terminated due to his death or Disability, Executive or his estate or his beneficiaries, as the case may be, shall be entitled to:

(i) The Accrued Obligations; and

(ii) Any unpaid Annual Bonus in respect to any completed fiscal year, which has ended prior to the date of such termination, which amount shall be paid at such time annual bonuses are paid to other senior executives of the Company.

Following such termination of Executive's employment by the reason of death or Disability, except as set forth in this Section 8(b), Executive shall have no further rights to any compensation or any other benefits under this Agreement or otherwise.

(c) Termination by the Company for Cause.

(i) The Company may terminate Executive's employment at any time for Cause, effective upon Executive's receipt of written notice of such termination; *provided, however,* that with respect to any termination for Cause which is described in clause (iv) of Section 1(e) or, to the extent capable of being cured (as determined by the Company in its discretion), clause (v) of Section 1(e) above, Executive shall be given not less than ten (10) days written notice by the CEO of the intention to terminate his employment for Cause, such notice to state in detail the particular act or acts or failure or failures to act that constitute the grounds on which the proposed termination for Cause is based, and such termination shall be effective at the expiration of such ten (10) day notice period unless Executive has fully cured such acts or failure or failures to act that give rise to Cause during such period to the satisfaction of the Company.

(ii) In the event the Company terminates Executive's employment for Cause, he shall be entitled only to the Accrued Obligations. Following such termination of Executive's employment for Cause, except as set forth in this Section 8(c)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement or otherwise.

(d) Termination by the Company without Cause Unrelated to a Change of Control. The Company may terminate Executive's employment at any time without Cause, effective upon Executive's receipt of written notice of such termination. In the event Executive's employment is terminated by the Company without Cause (other than due to death or Disability) outside of the Change of Control Period, subject to the conditions set forth under Sections 8(h) and Section 13 below, Executive shall be entitled to:

(i) The Accrued Obligations;

(ii) Any unpaid Annual Bonus in respect to any completed fiscal year which has ended prior to the date of such termination, which amount shall be paid at such time annual bonuses are paid to other senior executives of the Company;

(iii) Continuation of payment of Base Salary during the Severance Term, payable in accordance with the Company's regular payroll practices, it being agreed that each installment of Base Salary payable hereunder shall be deemed to be a separate payment for purposes of Section 409A of the Code; and

(iv) Continuation, during the period of time permitted under the Consolidated Omnibus Budget Reconciliation Act of 1986 (the "COBRA Period"), of the Company portion of the premiums for the health benefits provided to Executive and his covered dependents under the Company's health plans in effect as of the date of such termination, it being understood and agreed that Executive shall be required to pay that portion of the cost of such premiums for health benefits as Executive was required to pay (including through customary deductions from Executive's paycheck) as of the date of Executive's termination of employment with the Company. Notwithstanding the foregoing, the Company's obligation to provide the Company-portion of premiums for such continuation of benefits shall terminate prior to the expiration of the COBRA Period in the event that Executive becomes eligible to receive any such or similar benefits while employed by or providing service to, in any capacity, any other business or entity during the COBRA Period.

Notwithstanding anything in this Section 8(d)(iv) to the contrary, if the Company determines, in its sole discretion, that it cannot provide the foregoing benefit related to COBRA premiums without potentially violating, or being subject to an excise tax under, applicable law (including, without limitation, Section 2716 of the Public Health Service Act, the Patient Protection and Affordable Car e Act, and the Health Care and Education Reconciliation Act of 2010), the Company will in lieu thereof provide to Executive a taxable monthly payment, payable on the last day of a given month (except as provided by the following sentence), in an amount equal to the portion of the monthly COBRA premium that Executive would be required to pay to continue the group health coverage for Executive and his eligible dependents at coverage levels in effect immediately prior to Executive's termination (which amount will equal the excess of the full monthly COBRA premium cost Executive would be required to pay and the monthly medical premium costs that Executive was required to pay as of immediately prior to the date of Executive's termination of employment with the Company), which payments will be made regardless of whether Executive or his eligible dependents elect COBRA continuation coverage on the first payroll date following Executive's termination of employment (subject to any delay as may be required by Section 13 of this Agreement) and will end on the earlier of (x) the date upon which Executive obtains other employment or (y) the end of the COBRA Period. For the avoidance of doubt, the taxable payments in lieu of COBRA subsidies may be used for any purpose, including, but not limited to continuation coverage under COBRA, and will be subject to all applicable tax withholdings.

Notwithstanding the foregoing, the payments and benefits described in clauses (ii), (iii), and (iv) above shall immediately terminate, and the Company shall have no further obligations to Executive with respect thereto, in the event that Executive breaches any provision of Section 9 hereof or the terms of the Confidentiality Agreement. Following such termination of Executive's employment by the Company without Cause, except as set forth in this Section 8(d), Executive shall have no further rights to any compensation or any other benefits under this Agreement or otherwise.

(e) Termination by Executive with Good Reason Unrelated to a Change of Control. Executive may terminate his employment with Good Reason by providing the Company thirty (30) days' written notice setting forth in reasonable specificity the event that constitutes Good Reason, which written notice, to be effective, must be provided to the Company within thirty (30) days of the occurrence of such event. During such thirty (30) day notice period, the Company shall have a cure right (if curable), and if not cured within such period, Executive's termination will be effective upon the expiration of such cure period, and, if such termination occurs outside of the Change of Control Period, Executive shall be entitled to the same payments and benefits as provided in Section 8(d) above for a termination by the Company without Cause, subject to the same conditions on payment and benefits as described in Section 8(d) above. Following such termination of Executive's employment by Executive with Good Reason, except as set forth in this Section 8(e), Executive shall have no further rights to any compensation or any other benefits under this Agreement or otherwise.

(f) Termination by Company without Cause or by Executive with Good Reason in Connection with a Change of Control. In the event Executive's employment is terminated by the Company without Cause (other than due to death or Disability) or Executive terminates his employment with Good Reason (by providing thirty (30) days written notice to the Company and with such cure period as described in subsection 8(e), above) during the Change of Control Period, Executive shall be entitled to the same payments and benefits as described in Section 8(d) above, provided, however, that payment of Executive's Base Salary shall continue through the Change of Control Severance Term, rather than the Severance Term. Such continuing payments shall be payable in accordance with the Company's regular payroll practices, it being agreed that each installment of Base Salary payable hereunder shall be deemed to be a separate payment for purposes of Section 409A of the Code. Any such payments or benefits shall also be subject to the same conditions described in Section 8(d) above. Any payments or benefits previously made to Executive under Section 8(d) or 8(e) above shall offset the payments and benefits due to Executive under this Section 8(f), if any.

(g) Termination by Executive without Good Reason. Executive may terminate his employment without Good Reason by providing the Company thirty (30) days' written notice of such termination. In the event of a termination of employment by Executive under this Section 8(g), Executive shall be entitled only to the Accrued Obligations. In the event of termination of Executive's employment under this Section 8(g), the Company may, in its sole and absolute discretion, by written notice accelerate such date of termination and still have it treated as a termination without Good Reason. Following such termination of Executive's employment by Executive without Good Reason, except as set forth in this Section 8(g), Executive shall have no further rights to any compensation or any other benefits under this Agreement or otherwise.

(h) Conditions Precedent. Any severance payments and post-employment benefits (other than the Accrued Obligations), in each case, as applicable, contemplated by Sections 8(b), (d), (e), and (f) above are conditional on Executive: (i) continuing to comply with the terms of this Agreement and the Confidentiality Agreement (as defined above) and (ii) Executive executing and not revoking a Separation Agreement, including a general release of claims, in favor of the Company, substantially in the form attached as Exhibit A (which may be revised based on changes in the law and as determined by the Company), and such release becoming effective within 60 days following Executive's termination of employment (the "Release Expiration Date"). The severance benefits will be paid and/or provided in installments immediately beginning on the first payroll date following the date the Separation Agreement becomes effective and other conditions precedent have been met, and will continue to be paid thereafter, if applicable, based on the Company's regular payroll schedule.

Section 9. **Restrictive Covenants**. Executive acknowledges and agrees that (A) the agreements and covenants contained in this Section 9 are (i) reasonable and valid in geographical and temporal scope and in all other respects, and (ii) essential to protect the Confidential Information and to preserve the value and good will of the business and assets of the Company, and (B) by his employment with the Company, Executive will obtain knowledge, contacts, know-how, training, experience and other Confidential Information, and there is a substantial probability that such knowledge, know-how, contacts, training, experience and other Confidential Information could be used to the substantial advantage of a competitor of the Company and to the substantial detriment of the Company.

(a) Disclosure of Confidential Information. At any time during and after the end of the Term of Employment, without the prior written consent of the CEO, except to the extent required by an order of a court having jurisdiction or under subpoena from an appropriate government agency, in which event, Executive shall use his best efforts to consult with the CEO prior to responding to any such order or subpoena, and except as required in the performance of his duties hereunder, Executive shall not disclose to or use for his individual benefit or the benefit of any third party any Confidential Information, as further discussed under the Confidentiality Agreement.

(b) Non-Competition.

(i) Executive covenants and agrees that during the Restricted Period, Executive shall not, directly or indirectly, individually or jointly, (1) serve as an advisor, agent, consultant, director, employee, officer, partner, proprietor or otherwise of, (2) have any ownership interest in (except for passive ownership of one percent (1%) or less of any entity whose securities have been registered under the Securities Act of 1933, as amended, or Section 12 of the Securities Exchange Act of 1934, as amended) or (3) participate in the organization, financing, operation, management or control of, any business engaging in Competitive Activities. The foregoing covenant shall cover Executive's activities in every part of the Restricted Area (as defined under Section 1(u) above), to the extent permitted by applicable law.

(ii) Executive acknowledges and agrees that his fulfillment of the obligations contained in this Agreement, including, but not limited to, his obligation neither to use, except for the benefit of the Company, or to disclose the Company's Confidential Information and his obligation not to compete contained in subsection (b)(i) above is necessary to protect the Company's Confidential Information and to preserve the Company's value and goodwill. Executive further acknowledges the time, geographic and scope limitations of his obligations under subsection (b)(i) are reasonable, especially in light of the Company's desire to protect its Confidential Information, and that Executive will not be precluded from gainful employment if he is obligated not to compete with the Company during the Restricted Period and within the Restricted Area, as described above.

(iii) The covenants contained in subsection (b)(i) shall be construed as a series of separate covenants, one for each city, county and state of any geographic area in the Restricted Area. Except for geographic coverage, each such separate covenant shall be deemed identical in terms to the covenant contained in subsection (b)(i) above. If, in any judicial or arbitration proceeding, a court or arbitrator refuses to enforce any of such separate covenants (or any part thereof), then such unenforceable covenant (or such part) shall be eliminated from this Agreement to the extent necessary to permit the remaining separate covenants (or portions thereof) to be enforced.

(c) Non-Solicitation; Non-Interference. During the Restricted Period, Executive shall not, directly or indirectly, for his own account or for the account of any other Person:.

(i) solicit, induce, recruit or encourage any of the Company's employees to leave their employment, or hire or take away such employees, or attempt to solicit, induce, recruit, encourage, hire or take away employees of the Company, either for myself or for any other person or entity; or

(ii) otherwise interfere with the Company's service provider, customer, client, supplier, vendor, or other relationships.

(d) Return of Documents. In the event of the termination of Executive's employment for any reason, Executive shall deliver to the Company all of (i) the property of the Company, and (ii) the documents and data of any nature and in whatever medium of the Company, and he shall not take with his any such property, documents or data or any reproduction thereof, or any documents containing or pertaining to any Confidential Information, as set forth in more detail under Section 5 of the Confidentiality Agreement.

(f) Blue Pencil and Reformation. In the event the provisions of Section 9, including those in subsection 9(b)(1) above, are deemed to exceed the time, geographic or scope limitations permitted by applicable law, then such provisions shall be reformed by the court or arbitrator to cover the maximum time, geographic or scope limitations, as the case may be, then permitted by such law.

Section 10. **Injunctive Relief**.

Without limiting the remedies available to the Company, Executive acknowledges that a breach of any of the covenants contained in Section 9 hereof may result in material irreparable injury to the Company for which there is no adequate remedy at law, that it will not be possible to measure damages for such injuries precisely and that, in the event of such a breach or threat thereof, the Company shall be entitled to obtain a temporary restraining order and/or a preliminary or permanent injunction, without the necessity of proving irreparable harm or injury as a result of such breach or threatened breach of Section 9 hereof, restraining Executive from engaging in activities prohibited by Section 9 hereof or such other relief as may be required specifically to enforce any of the covenants in Section 9 hereof.

Section 11. **Taxes**.

The Company may withhold from any payments made under this Agreement all applicable taxes, including but not limited to income, employment and social insurance taxes, as shall be required by law. Executive acknowledges and represents that the Company has not provided any tax advice to his in connection with this Agreement and that he has been advised by the Company to seek tax advice from his own tax advisors regarding this Agreement and payments that may be made to his pursuant to this Agreement, including specifically, the application of the provisions of Section 409A of the Code to such payments.

Section 12. **Set Off; Mitigation**.

The Company's obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to set-off, counterclaim or recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment or otherwise and, except as provided in Section 8(d) hereof, the amount of any payment provided for pursuant to this Agreement shall not be reduced by any compensation earned as a result of Executive's other employment or otherwise.

Section 13. **Section 409A**.

(a) Notwithstanding anything to the contrary in this Agreement, no severance pay or benefits to be paid or provided to Executive, if any, pursuant to this Agreement that, when considered together with any other severance payments or separation benefits, are considered deferred compensation under Code (as defined below) Section 409A, and the final regulations and any guidance promulgated thereunder ("Section 409A") (together, the "Deferred Payments") will be paid or otherwise provided until Executive has a Separation from Service.

(b) Any severance payments or benefits under this Agreement that would be considered Deferred Payments will be paid on, or, in the case of installments, will not commence until, the sixtieth (60th) day following Executive's Separation from Service, or, if later, such time as required by Section 13(c). Except as required by Section 13(c), and as discussed under Section 8(h), any installment payments that would have been made to Executive during the sixty (60) day period immediately following Executive's Separation from Service but for the preceding sentence will be paid to Executive on the sixtieth (60th) day following Executive's Separation from Service and the remaining payments shall be made as provided in this Agreement.

(c) Notwithstanding anything to the contrary in this Agreement, if Executive is a "specified employee" within the meaning of Section 409A at the time of Executive's termination (other than due to death), then the Deferred Payments that are payable within the first six (6) months following Executive's Separation from Service, will become payable on the first payroll date that occurs on or after the date six (6) months and one (1) day following the date of Executive's Separation from Service. All subsequent Deferred Payments, if any, will be payable in accordance with the payment schedule applicable to each payment or benefit. Notwithstanding anything herein to the contrary, if Executive dies following Executive's Separation from Service, but prior to the six (6) month anniversary of the Separation from Service, then any payments delayed in accordance with this paragraph will be payable in a lump sum as soon as administratively practicable after the date of Executive's death and all other Deferred Payments will be payable in accordance with the payment schedule applicable to each payment or benefit. Each payment and benefit payable under this Agreement is intended to constitute a separate payment for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations.

(d) Any amount paid under this Agreement that satisfies the requirements of the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations will not constitute Deferred Payments for purposes of subsection (a) above.

(e) Any amount paid under this Agreement that qualifies as a payment made as a result of an involuntary Separation from Service pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations that does not exceed the Section 409A Limit (as defined below) will not constitute Deferred Payments for purposes of subsection (a) above.

(f) Any taxable reimbursement or in-kind benefits that are payable to Executive under this Agreement will be made in accordance with Section 409A, including, but not limited to the following: (i) the amount of any such expense reimbursement or in-kind benefit provided during a calendar year will not affect any expenses eligible for reimbursement or in-kind benefit to be provided in any other calendar year; (ii) subject to any shorter time periods otherwise provided in the Company's reimbursement policy, any reimbursement or in-kind benefit to be provided will be made no later than the end of the calendar year immediately following the calendar year in which the eligible expense was incurred; and (iii) any right to reimbursement or in-kind benefit to be provided will not be subject to liquidation or exchange for another benefit or payment.

(g) The foregoing provisions are intended to comply with the requirements of Section 409A so that none of the severance payments and benefits to be provided hereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities herein will be interpreted to so comply. The Company and Executive agree to work together in good faith to consider amendments to this Agreement and to take such reasonable actions which are necessary, appropriate or desirable to avoid imposition of any additional tax or income recognition prior to actual payment to Executive under Section 409A.

(h) For purposes of this Agreement, "Section 409A Limit" will mean two (2) times the lesser of: (i) Executive's annualized compensation based upon the annual rate of pay paid to Executive during the Executive's taxable year preceding the Executive's taxable year of his or his Separation from Service as determined under Treasury Regulation Section 1.409A-1(b)(9)(iii)(A)(1) and any Internal Revenue Service guidance issued with respect thereto; or (ii) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Code for the year in which Executive's Separation from Service occurred.

Section 14. **Successors and Assigns; No Third-Party Beneficiaries**.

(a) The Company. This Agreement shall inure to the benefit of the Company and its respective successors and assigns. Neither this Agreement nor any of the rights, obligations or interests arising hereunder may be assigned by the Company without Executive's prior written consent (which shall not be unreasonably withheld, delayed or conditioned), to a person or entity other than an affiliate or parent entity of the Company, or their respective successors or assigns; *provided, however,* that, in the event of the merger, consolidation, transfer or sale of all or substantially all of the assets of the Company with or to any other individual or entity, this Agreement shall, subject to the provisions hereof, be binding upon and inure to the benefit of such successor and such successor shall discharge and perform all the promises, covenants, duties and obligations of the Company hereunder, it being agreed that in such circumstances, the consent of Executive shall not be required in connection therewith.

(b) Executive. Executive's rights and obligations under this Agreement shall not be transferable by Executive by assignment or otherwise, without the prior written consent of the Company; *provided, however,* that if Executive shall die, all amounts then payable to Executive hereunder shall be paid in accordance with the terms of this Agreement to Executive's devisee, legatee or other designee or, if there be no such designee, to Executive's estate.

(c) No Third-Party Beneficiaries. Except as otherwise set forth in Section 8(b) or Section 14(b) hereof, nothing expressed or referred to in this Agreement will be construed to give any person or entity other than the Company and Executive any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement.

Section 15. **Waiver and Amendments**.

Any waiver, alteration, amendment or modification of any of the terms of this Agreement shall be valid only if made in writing and signed by each of the parties hereto; *provided, however,* that any such waiver, alteration, amendment or modification is consented to on the Company's behalf by the Board. No waiver by either of the parties hereto of their rights hereunder shall be deemed to constitute a waiver with respect to any subsequent occurrences or transactions hereunder unless such waiver specifically states that it is to be construed as a continuing waiver.

Section 16. **Severability**.

If any covenants or such other provisions of this Agreement are found to be invalid or unenforceable by a final determination of a court of competent jurisdiction or an arbitrator: (a) the remaining terms and provisions hereof shall be unimpaired, and (b) the invalid or unenforceable term or provision hereof shall be deemed replaced by a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision hereof.

Section 17. **Governing Law**.

This Agreement is governed by and is to be construed under the laws of the State of Texas, without regard to conflict of laws rules.

Section 18. **ARBITRATION**

THE PARTIES AGREE THAT ANY AND ALL DISPUTES ARISING OUT OF THE TERMS OF THIS AGREEMENT, THEIR INTERPRETATION, AND ANY OF THE MATTERS ADDRESSED HEREIN, SHALL BE SUBJECT TO THE ARBITRATION AND DISPUTE RESOLUTION PROCESS DETAILED IN THE CONFIDENTIALITY AGREEMENT. EMPLOYEE ACKNOWLEDGES AND AGREES THAT EMPLOYEE IS HEREBY WAIVING THE RIGHT TO JURY TRIAL.

Section 19. **Notices**.

(a) Every notice or other communication relating to this Agreement shall be in writing, and shall be mailed to or delivered to the party for whom it is intended at such address as may from time to time be designated by it in a notice mailed or delivered to the other party as herein provided; *provided* that, unless and until some other address be so designated, all notices or communications by Executive to the Company shall be mailed or delivered to the Company at its principal executive office, and all notices or communications by the Company to Executive may be given to Executive personally or may be mailed to Executive at Executive's last known address, as reflected in the Company's records.

(b) Any notice so addressed shall be deemed to be given: (i) if delivered by hand, on the date of such delivery; (ii) if mailed by courier or by overnight mail, on the first business day following the date of such mailing; and (iii) if mailed by registered or certified mail, on the third business day after the date of such mailing.

Section 20. **Section Headings**.

The headings of the sections and subsections of this Agreement are inserted for convenience only and shall not be deemed to constitute a part thereof, affect the meaning or interpretation of this Agreement or of any term or provision hereof.

Section 21. **Entire Agreement**.

This Agreement, the Stock Agreements, and the Confidentiality Agreement, together with any exhibits attached thereto, constitute the entire understanding and agreement of the parties hereto regarding the employment of Executive. This Agreement supersedes all prior negotiations, discussions, correspondence, communications, understandings and agreements between the parties relating to the subject matter of this Agreement.

Section 22. **Survival of Operative Sections**.

Upon any termination of Executive's employment, the provisions of Section 8 through Section 24 of this Agreement (together with any related definitions set forth in Section 1 hereof) shall survive to the extent necessary to give effect to the provisions thereof.

Section 23. **Limitation on Payments**.

In the event that the severance and other benefits provided for in this Agreement or otherwise payable to Executive (i) constitute "parachute payments" within the meaning of Section 280G of the Code and (ii) but for this Section 23, would be subject to the excise tax imposed by Section 4999 of the Code, then Executive's severance and other benefits will be either:

(a) delivered in full, or

(b) delivered as to such letter extent which would result in no portion of such severance and other benefits being subject to the excise tax under Section 4999 of the Code,

whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999, results in the receipt by Executive on an after-tax basis, of the greatest amount of severance and other benefits, notwithstanding that all or some portion of such severance and other benefits may be taxable under Section 4999 of the Code. If a reduction in the severance and other benefits constituting "parachute payments" is necessary so that no portion of such severance benefits is subject to the excise tax under Section 4999 of the Code, the reduction shall occur in the following order: (1) reduction of the cash severance payments; (2) cancellation of accelerated vesting of equity awards; and (3) reduction of continued employee benefits. In the event that acceleration of vesting of equity award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's equity awards.

Unless the Company and Executive otherwise agree in writing, any determination required under this Section 23 will be made in writing by an independent firm (the "Firm"), whose determination will be conclusive and binding upon Executive and the Company for all purposes. For purposes of making the calculations required by this Section 23, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and Executive will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination under this Section 23. The Company will bear all costs the Firm may reasonably incur in connection with any calculations contemplated by this Section 23.

Section 24. **Counterparts**.

This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The execution of this Agreement may be by actual or facsimile signature.

Section 25. **Protected Activity Not Prohibited**.

Executive understands that nothing in this Agreement shall in any way limit or prohibit him from engaging for a lawful purpose in any Protected Activity. For purposes of this Agreement, "Protected Activity" shall mean filing a charge or complaint, or otherwise communicating, cooperating, or participating with, any state, federal, or other governmental agency, including the Securities and Exchange Commission, the Equal Employment Opportunity Commission, and the National Labor Relations Board. Notwithstanding any restrictions set forth in this Agreement, Executive understands that he is not required to obtain authorization from the Company prior to disclosing information to, or communicating with such agencies, nor is he obligated to advise the Company as to any such disclosures or communications. Notwithstanding, in making any such disclosures or communications, Executive agrees to take all reasonable precautions to prevent any unauthorized use or disclosure of any information that may constitute the Company's Confidential Information to any parties other than the relevant government agencies. Executive further understands that "Protected Activity" does not include the disclosure of any Company attorney-client privileged communications, and that any such disclosure without the Company's written consent shall constitute a material breach of this Agreement.

Section 26. General: Executive's employment is made contingent upon a satisfactory background investigation, credit report and your ability to provide proof of identification and authorization to work in the United States, in accordance with the Immigration and Control Act of 1986. This offer expires at the close of business on Wednesday, August 23, 2018. To indicate Executive's acceptance, please sign and date in the space provided below.

* * *

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

COMPANY:

Inogen, Inc.

/s/ Alison Bauerlein

By: Alison Bauerlein
Title: CFO

EXECUTIVE:

/s/ Bart Sanford

BART SANFORD

EXHIBIT A

SEPARATION AGREEMENT AND RELEASE

This Separation Agreement and Release ("Agreement") is made by and between Bart Sanford ("Employee") and Inogen, Inc. (the "Company") (collectively referred to as the "Parties" or individually referred to as a "Party").

RECITALS

WHEREAS, Employee was employed by the Company;

WHEREAS, Employee signed an [Insert Name of Employment Agreement] with the Company on [Click And Type Date] (the "Employment Agreement");

WHEREAS, Employee signed an At-Will Employment, Confidential Information, Invention Assignment and Arbitration Agreement with the Company on [Click And Type Date] (the "Confidentiality Agreement");

WHEREAS, the Company terminated Employee's employment with the Company effective [Click And Type Date] (the "Termination Date"); and

[OR]

WHEREAS, Employee voluntarily resigned from employment with the Company effective [Click And Type Date] (the "Separation Date"); and

WHEREAS, the Parties wish to resolve any and all disputes, claims, complaints, grievances, charges, actions, petitions, and demands that the Employee may have against the Company and any of the Releasees as defined below, including, but not limited to, any and all claims arising out of or in any way related to Employee's employment with or separation from the Company;

NOW, THEREFORE, in consideration of the mutual promises made herein, the Company and Employee hereby agree as follows:

COVENANTS

1. Consideration. In consideration of Employee's execution of this Agreement and Employee's fulfillment of all of its terms and conditions, the Company agrees as follows:

a. [PER TERMS OF SECTION 8 OF EMPLOYMENT AGREEMENT]

b. General. Employee acknowledges that without this Agreement, he is otherwise not entitled to the consideration listed in this paragraph 1.

2. Payment of Salary and Receipt of All Benefits. Employee acknowledges and represents that, other than the consideration set forth in this Agreement, the Company has paid or provided all salary, wages, bonuses, accrued vacation/paid time off, premiums, leaves, housing allowances, relocation costs, interest, severance, outplacement costs, fees, reimbursable expenses, commissions, stock, stock options, vesting, and any and all other benefits and compensation due to Employee.

3. Benefits. [Except as otherwise provided herein,] Employee's participation in all benefits and incidents of employment, including, but not limited to, vesting in stock options, and the accrual of bonuses, vacation, and paid time off, ceased as of the [Termination Date/ Separation Date]

4. Release of Claims. Employee agrees that the foregoing consideration represents settlement in full of all outstanding obligations owed to Employee by the Company and its current and former officers, directors, employees, agents, investors, attorneys, shareholders, administrators, affiliates, benefit plans, plan administrators, insurers, trustees, divisions, and subsidiaries, and predecessor and successor corporations and assigns (collectively, the "Releasees"). Employee, on his own behalf and on behalf of his respective heirs, family members, executors, agents, and assigns, hereby and forever releases the Releasees from, and agrees not to sue concerning, or in any manner to institute, prosecute, or pursue, any claim, complaint, charge, duty, obligation, demand, or cause of action relating to any matters of any kind, whether presently known or unknown, suspected or unsuspected, that Employee may possess against any of the Releasees arising from any omissions, acts, facts, or damages that have occurred up until and including the Effective Date of this Agreement, including, without limitation:

a. any and all claims relating to or arising from Employee's employment relationship with the Company and the termination of that relationship;

b. any and all claims relating to, or arising from, Employee's right to purchase, or actual purchase of shares of stock of the Company, including, without limitation, any claims for fraud, misrepresentation, breach of fiduciary duty, breach of duty under applicable state corporate law, and securities fraud under any state or federal law;

c. any and all claims for wrongful discharge of employment; termination in violation of public policy; discrimination; harassment; retaliation; breach of contract, both express and implied; breach of covenant of good faith and fair dealing, both express and implied; promissory estoppel; negligent or intentional infliction of emotional distress; fraud; negligent or intentional misrepresentation; negligent or intentional interference with contract or prospective economic advantage; unfair business practices; defamation; libel; slander; negligence; personal injury; assault; battery; invasion of privacy; false imprisonment; conversion; and disability benefits;

d. any and all claims for violation of any federal, state, or municipal statute, including, but not limited to, Title VII of Civil Rights Act of 1964; the Civil Rights Act of 1991; the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; the Equal Pay Act; the Fair Labor Standards Act; the Fair Credit Reporting Act; the Age Discrimination in Employment Act of 1967; the Older Workers Benefit Protection Act; the Employee Retirement Income Security Act of 1974; the Worker Adjustment and Retraining Notification Act; the Family and Medical Leave Act; the Sarbanes-Oxley Act of 2002; the Immigration Control and Reform Act; the California Family Rights Act; the California Labor Code; the California Workers' Compensation Act; the California Fair Employment and Housing Act; the Texas Payday Act; Texas Workers' Compensation Act; and Chapter 21 of the Texas Labor Code (also known as the Texas Commission on Human Rights Act);

e. any and all claims for violation of the federal or any state constitution;

f. any and all claims arising out of any other laws and regulations relating to employment or employment discrimination;

g. any claim for any loss, cost, damage, or expense arising out of any dispute over the nonwithholding or other tax treatment of any of the proceeds received by Employee as a result of this Agreement; and

h. any and all claims for attorneys' fees and costs.

Employee agrees that the release set forth in this section shall be and remain in effect in all respects as a complete general release as to the matters released. This release does not extend to any obligations incurred under this Agreement. This release does not release claims that cannot be released as a matter of law, including, but not limited to, Employee's right to file a charge with or participate in a charge by the Equal Employment Opportunity Commission, or any other local, state, or federal administrative body or government agency that is authorized to enforce or administer laws related to employment, against the Company (with the understanding that any such filing or participation does not give Employee the right to recover any monetary damages against the Company; Employee's release of claims herein bars Employee from recovering such monetary relief from the Company). Notwithstanding the foregoing, Employee acknowledges that any and all disputed wage claims that are released herein shall be subject to binding arbitration as noted herein, except as required by applicable law. Employee represents that he has made no assignment or transfer of any right, claim, complaint, charge, duty, obligation, demand, cause of action, or other matter waived or released by this Section.

5. Acknowledgment of Waiver of Claims under ADEA. **(<<delete this entire paragraph if Employee is UNDER 40>>).** Employee acknowledges that he is waiving and releasing any rights he may have under the Age Discrimination in Employment Act of 1967 ("ADEA"), and that this waiver and release is knowing and voluntary. Employee agrees that this waiver and release does not apply to any rights or claims that may arise under the ADEA after the Effective Date of this Agreement. Employee acknowledges that the consideration given for this waiver and release is in addition to anything of value to which Employee was already entitled. Employee further acknowledges that he has been advised by this writing that: (a) he should consult with an attorney prior to executing this Agreement; (b) he has twenty-one (21) days within which to consider this Agreement; (c) he has seven (7) days following his execution of this Agreement to revoke this Agreement; (d) this Agreement shall not be effective until after the revocation period has expired; and (e) nothing in this Agreement prevents or precludes Employee from challenging or seeking a determination in good faith of the validity of this waiver under the ADEA, nor does it impose any condition precedent, penalties, or costs for doing so, unless specifically authorized by federal law. In the event Employee signs this Agreement and returns it to the Company in less than the 21-day period identified above, Employee hereby acknowledges that he has freely and voluntarily chosen to waive the time period allotted for considering this Agreement. Employee acknowledges and understands that revocation must be accomplished by a written notification to the person executing this Agreement on the Company's behalf that is received prior to the Effective Date. The parties agree that changes, whether material or immaterial, do not restart the running of the 21-day period. (<< **to be modified in accordance with the ADEA, the Older Workers' Benefit Protection Act, and other applicable law, as necessary and appropriate, including if the separation is part of a group separation requiring additional consideration periods and disclosures** >>)

6. Unknown Claims; California Civil Code Section 1542.

a. Unknown Claims. Employee acknowledges that he has been advised to consult with legal counsel and that he is familiar with the principle that a general release does not extend to claims that the releaser does not know or suspect to exist in his favor at the time of executing the release, which, if known by him, must have materially affected his settlement with the releasee. Employee, being aware of said principle, agrees to expressly waive any rights he may have to that effect, as well as under any other statute or common law principles of similar effect.

b. Section 1542. Employee further acknowledges that he has been advised to consult with legal counsel and is familiar with the provisions of California Civil Code Section 1542, a statute that otherwise prohibits the release of unknown claims, which provides:

> A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

Employee, being aware of said code section, agrees to expressly waive any rights he may have thereunder, as well as under any other statute or common law principles of similar effect.

7. No Pending or Future Lawsuits. Employee represents that he has no lawsuits, claims, or actions pending in his name, or on behalf of any other person or entity, against the Company or any of the other Releasees. Employee also represents that he does not intend to bring any claims on his own behalf or on behalf of any other person or entity against the Company or any of the other Releasees.

8. Application for Employment. Employee understands and agrees that, as a condition of this Agreement, Employee shall not be entitled to any employment with the Company, and Employee hereby waives any right, or alleged right, of employment or re-employment with the Company. Employee further agrees not to apply for employment with the Company and not otherwise pursue an independent contractor or vendor relationship with the Company.

9. Confidentiality. Employee agrees to maintain in complete confidence the existence of this Agreement, the contents and terms of this Agreement, and the consideration for this Agreement (hereinafter collectively referred to as "Separation Information"). Except as required by law, Employee may disclose Separation Information only to his immediate family members, the Court in any proceedings to enforce the terms of this

Agreement, Employee's attorney(s), and Employee's accountant and any professional tax advisor to the extent that they need to know the Separation Information in order to provide advice on tax treatment or to prepare tax returns, and must prevent disclosure of any Separation Information to all other third parties. Employee agrees that he will not publicize, directly or indirectly, any Separation Information.

10. Trade Secrets and Confidential Information/Company Property. Employee reaffirms and agrees to observe and abide by the terms of the Employment Agreement and the Confidentiality Agreement, specifically including the provisions therein regarding nondisclosure of the Company's trade secrets and confidential and proprietary information, and the restrictive covenants contained therein. Employee's signature below constitutes his certification under penalty of perjury that he has returned all documents and other items provided to Employee by the Company, developed or obtained by Employee in connection with his employment with the Company, or otherwise belonging to the Company.

11. No Cooperation. Employee agrees that he will not knowingly encourage, counsel, or assist any attorneys or their clients in the presentation or prosecution of any disputes, differences, grievances, claims, charges, or complaints by any third party against any of the Releasees, unless under a subpoena or other court order to do so [or as related directly to the ADEA waiver in this Agreement] **(<<delete this bracketed clause if Employee is UNDER 40>>)**. Employee agrees both to immediately notify the Company upon receipt of any such subpoena or court order, and to furnish, within three (3) business days of its receipt, a copy of such subpoena or other court order. If approached by anyone for counsel or assistance in the presentation or prosecution of any disputes, differences, grievances, claims, charges, or complaints against any of the Releasees, Employee shall state no more than that he cannot provide counsel or assistance.

12. Nondisparagement. Employee agrees to refrain from any disparagement, defamation, libel, or slander of any of the Releasees, and agrees to refrain from any tortious interference with the contracts and relationships of any of the Releasees. Employee shall direct any inquiries by potential future employers to the Company's human resources department.

13. Breach. In addition to the rights provided in the "Attorneys' Fees" section below, Employee acknowledges and agrees that any material breach of this Agreement, [unless such breach constitutes a legal action by Employee challenging or seeking a determination in good faith of the validity of the waiver herein under the ADEA,] **(<<delete this bracketed clause if Employee is UNDER 40>>)** or of any provision of the Confidentiality Agreement shall entitle the Company immediately to recover and/or cease providing the consideration provided to Employee under this Agreement and to obtain damages, [except as provided by law] **[<<delete this bracketed clause if Employee is UNDER 40>>]**.

14. No Admission of Liability. Employee understands and acknowledges that this Agreement constitutes a compromise and settlement of any and all actual or potential disputed claims by Employee. No action taken by the Company hereto, either previously or in connection with this Agreement, shall be deemed or construed to be (a) an admission of the truth or falsity of any actual or potential claims or (b) an acknowledgment or admission by the Company of any fault or liability whatsoever to Employee or to any third party.

15. Costs. The Parties shall each bear their own costs, attorneys' fees, and other fees incurred in connection with the preparation of this Agreement.

16. ARBITRATION. THE PARTIES AGREE THAT ANY AND ALL DISPUTES ARISING OUT OF THE TERMS OF THIS AGREEMENT, THEIR INTERPRETATION, AND ANY OF THE MATTERS HEREIN RELEASED, SHALL BE SUBJECT TO ARBITRATION IN [INSERT COUNTY] COUNTY, TEXAS BEFORE JUDICIAL ARBITRATION & MEDIATION SERVICES ("JAMS"), PURSUANT TO ITS EMPLOYMENT ARBITRATION RULES & PROCEDURES ("JAMS RULES"). THE ARBITRATOR MAY GRANT INJUNCTIONS AND OTHER RELIEF IN SUCH DISPUTES. THE ARBITRATOR SHALL ADMINISTER AND CONDUCT ANY ARBITRATION IN ACCORDANCE WITH TEXAS LAW, INCLUDING THE TEXAS RULES OF CIVIL PROCEDURE, AND THE ARBITRATOR SHALL APPLY SUBSTANTIVE AND PROCEDURAL TEXAS LAW TO ANY DISPUTE OR CLAIM, WITHOUT REFERENCE TO ANY CONFLICT-OF-LAW PROVISIONS OF ANY JURISDICTION. TO THE EXTENT THAT THE JAMS RULES CONFLICT WITH TEXAS LAW, TEXAS LAW SHALL TAKE PRECEDENCE. THE DECISION OF THE ARBITRATOR SHALL BE FINAL, CONCLUSIVE, AND BINDING ON THE PARTIES TO THE ARBITRATION. THE PARTIES AGREE THAT THE PREVAILING PARTY IN ANY ARBITRATION SHALL BE ENTITLED TO INJUNCTIVE

RELIEF IN ANY COURT OF COMPETENT JURISDICTION TO ENFORCE THE ARBITRATION AWARD. THE PARTIES TO THE ARBITRATION SHALL EACH PAY AN EQUAL SHARE OF THE COSTS AND EXPENSES OF SUCH ARBITRATION, AND EACH PARTY SHALL SEPARATELY PAY FOR ITS RESPECTIVE COUNSEL FEES AND EXPENSES; PROVIDED, HOWEVER, THAT THE ARBITRATOR SHALL AWARD ATTORNEYS' FEES AND COSTS TO THE PREVAILING PARTY, EXCEPT AS PROHIBITED BY LAW. THE PARTIES HEREBY AGREE TO WAIVE THEIR RIGHT TO HAVE ANY DISPUTE BETWEEN THEM RESOLVED IN A COURT OF LAW BY A JUDGE OR JURY. NOTWITHSTANDING THE FOREGOING, THIS SECTION WILL NOT PREVENT EITHER PARTY FROM SEEKING INJUNCTIVE RELIEF (OR ANY OTHER PROVISIONAL REMEDY) FROM ANY COURT HAVING JURISDICTION OVER THE PARTIES AND THE SUBJECT MATTER OF THEIR DISPUTE RELATING TO THIS AGREEMENT AND THE AGREEMENTS INCORPORATED HEREIN BY REFERENCE . SHOULD ANY PART OF THE ARBITRATION AGREEMENT CONTAINED IN THIS PARAGRAPH CONFLICT WITH ANY OTHER ARBITRATION AGREEMENT BETWEEN THE PARTIES, THE PARTIES AGREE THAT THIS ARBITRATION AGREEMENT SHALL GOVERN.

17. Tax Consequences. The Company makes no representations or warranties with respect to the tax consequences of the payments and any other consideration provided to Employee or made on his behalf under the terms of this Agreement. Employee agrees and understands that he is responsible for payment, if any, of local, state, and/or federal taxes on the payments and any other consideration provided hereunder by the Company and any penalties or assessments thereon. Employee further agrees to indemnify and hold the Company harmless from any claims, demands, deficiencies, penalties, interest, assessments, executions, judgments, or recoveries by any government agency against the Company for any amounts claimed due on account of (a) Employee's failure to pay or delayed payment of federal or state taxes, or (b) damages sustained by the Company by reason of any such claims, including attorneys' fees and costs.

18. Authority. The Company represents and warrants that the undersigned has the authority to act on behalf of the Company and to bind the Company and all who may claim through it to the terms and conditions of this Agreement. Employee represents and warrants that he has the capacity to act on his own behalf and on behalf of all who might claim through him to bind them to the terms and conditions of this Agreement. Each Party warrants and represents that there are no liens or claims of lien or assignments in law or equity or otherwise of or against any of the claims or causes of action released herein.

19. No Representations. Employee represents that he has had an opportunity to consult with an attorney, and has carefully read and understands the scope and effect of the provisions of this Agreement. Employee has not relied upon any representations or statements made by the Company that are not specifically set forth in this Agreement.

20. Severability. In the event that any provision or any portion of any provision hereof or any surviving agreement made a part hereof becomes or is declared by a court of competent jurisdiction or arbitrator to be illegal, unenforceable, or void, this Agreement shall continue in full force and effect without said provision or portion of provision.

21. Attorneys' Fees. [Except with regard to a legal action challenging or seeking a determination in good faith of the validity of the waiver herein under the ADEA] **(<<delete this bracketed clause if Employee is UNDER 40>>)**, in the event that either Party brings an action to enforce or effect its rights under this Agreement, the prevailing Party shall be entitled to recover its costs and expenses, including the costs of mediation, arbitration, litigation, court fees, and reasonable attorneys' fees incurred in connection with such an action.

22. Entire Agreement. This Agreement represents the entire agreement and understanding between the Company and Employee concerning the subject matter of this Agreement and Employee's employment with and separation from the Company and the events leading thereto and associated therewith, and supersedes and replaces any and all prior agreements and understandings concerning the subject matter of this Agreement and Employee's relationship with the Company, with the exception of the surviving portions of the Employment Agreement, except as modified herein, and the Confidentiality Agreement.

23. No Oral Modification. This Agreement may only be amended in a writing signed by Employee and the Company's Chief Executive Officer.

24. Governing Law. This Agreement shall be governed by the laws of the State of Texas, without regard for choice-of-law provisions. Employee consents to personal and exclusive jurisdiction and venue in the State of Texas.

25. Effective Date. Employee understands that this Agreement shall be null and void if not executed by him within twenty one (21) days. Each Party has seven (7) days after that Party signs this Agreement to revoke it. This Agreement will become effective on the eighth (8th) day after Employee signed this Agreement, so long as it has been signed by the Parties and has not been revoked by either Party before that date (the "Effective Date"). **Employee understands that this Agreement shall be null and void if not executed by Employee within the twenty-one (21) day period set forth under paragraph 5 above.**

(<<OR, if Employee is UNDER 40, use the bracketed language>>)

[**Employee understands that this Agreement shall be null and void if not executed by him within seven (7) days** . This Agreement will become effective on the date it has been signed by both Parties (the "Effective Date").]

26. Counterparts. This Agreement may be executed in counterparts and by facsimile, and each counterpart and facsimile shall have the same force and effect as an original and shall constitute an effective, binding agreement on the part of each of the undersigned.

27. Protected Activity Not Prohibited. Employee understands that nothing in this Agreement shall in any way limit or prohibit Employee from engaging for a lawful purpose in any Protected Activity. For purposes of this Agreement, "Protected Activity" shall mean filing a charge or complaint, or otherwise communicating, cooperating, or participating with, any state, federal, or other governmental agency, including the Securities and Exchange Commission, the Equal Employment Opportunity Commission, and the National Labor Relations Board. Notwithstanding any restrictions set forth in this Agreement, Employee understands that he is not required to obtain authorization from the Company prior to disclosing information to, or communicating with, such agencies, nor is Employee obligated to advise the Company as to any such disclosures or communications. Notwithstanding, in making any such disclosures or communications, Employee agrees to take all reasonable precautions to prevent any unauthorized use or disclosure of any information that may constitute Company confidential or proprietary information under the Confidentiality Agreement and/or Employment Agreement to any parties other than the relevant government agencies. Employee further understands that "Protected Activity" does not include his disclosure of any Company attorney-client privileged communications, and that any such disclosure without the Company's written consent shall constitute a material breach of this Agreement.

28. Voluntary Execution of Agreement . Employee understands and agrees that he executed this Agreement voluntarily, without any duress or undue influence on the part or behalf of the Company or any third party, with the full intent of releasing all of his claims against the Company and any of the other Releasees. Employee acknowledges that:

(a) he has read this Agreement;

(b) he has been represented in the preparation, negotiation, and execution of this Agreement by legal counsel of his own choice or has elected not to retain legal counsel;

(c) he understands the terms and consequences of this Agreement and of the releases it contains; and

(d) he is fully aware of the legal and binding effect of this Agreement.

[Remainder of Page Intentionally Blank; Signature Page Follows]

IN WITNESS WHEREOF, the Parties have executed this Agreement on the respective dates set forth below.

BART SANFORD, an individual

Dated:____________, 201___

____

Bart Sanford

INOGEN, INC.

Dated:____________, 201___

By ______________________________

[Officer Name]
[Officer Title]

Exhibit 31.1

Certification by the Chief Executive Officer Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Scott Wilkinson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Inogen, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 6, 2018

By: /s/ Scott Wilkinson
Scott Wilkinson
Chief Executive Officer, President and Director
(Principal Executive Officer)

Exhibit 31.2

Certification by the Chief Financial Officer Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Alison Bauerlein, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Inogen, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 6, 2018

By: /s/ Alison Bauerlein
Alison Bauerlein
Chief Financial Officer
Executive Vice President, Finance
Secretary and Treasurer
(Principal Financial Officer)

Exhibit 32.1

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. § 1350, AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

I, Scott Wilkinson, the chief executive officer of Inogen, Inc. (the "Company"), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the three months ended September 30, 2018 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 6, 2018

By: /s/ Scott Wilkinson
Scott Wilkinson
Chief Executive Officer, President and Director

Exhibit 32.2

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. § 1350, AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

I, Alison Bauerlein, the chief financial officer of Inogen, Inc. (the "Company"), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the three months ended September 30, 2018 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 6, 2018

By: /s/ Alison Bauerlein
Alison Bauerlein
Chief Financial Officer
Executive Vice President, Finance
Secretary and Treasurer