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 June 30, 2020

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: 001-37557

Penumbra, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**05-0605598**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

One Penumbra Place
Alameda, CA 94502
(Address of principal executive offices, including zip code)

(510) 748-3200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, Par value $0.001 per share	PEN	The New York Stock Exchange

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 a 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 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 July 20, 2020, the registrant had 36,107,440 shares of common stock, par value $0.001 per share, outstanding.

FORM 10-Q

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PART I - FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

Penumbra, Inc.
Condensed Consolidated Balance Sheets
(unaudited)
(in thousands)

	June 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 134,381	$ 72,779
Marketable investments	143,914	116,610
Accounts receivable, net of allowance for credit losses of $2,076 and net of doubtful accounts of $2,946 at June 30, 2020 and December 31, 2019, respectively	97,613	105,901
Inventories	183,442	152,992
Prepaid expenses and other current assets	16,545	14,852
Total current assets	575,895	463,134
Property and equipment, net	62,188	51,812
Operating lease right-of-use assets	42,669	43,717
Finance lease right-of-use assets	37,927	39,924
Intangible assets, net	10,645	25,407
Goodwill	7,665	7,656
Deferred taxes	36,474	31,305
Other non-current assets	6,737	2,946
Total assets	$ 780,200	$ 665,901
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 14,432	$ 15,111
Accrued liabilities	57,718	67,630
Current operating lease liabilities	4,446	4,142
Current finance lease liabilities	1,016	4,165
Total current liabilities	77,612	91,048
Non-current operating lease liabilities	45,925	47,242
Non-current finance lease liabilities	26,202	26,748
Other non-current liabilities	7,300	15,250
Total liabilities	157,039	180,288
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock	36	35
Additional paid-in capital	581,066	430,659
Accumulated other comprehensive loss	(2,097)	(2,324)
Retained earnings	45,789	57,522
Total Penumbra, Inc. stockholders' equity	624,794	485,892
Non-controlling interest	(1,633)	(279)
Total stockholders' equity	623,161	485,613
Total liabilities and stockholders' equity	$ 780,200	$ 665,901

See accompanying notes to the unaudited condensed consolidated financial statements

Penumbra, Inc.

Condensed Consolidated Statements of Operations

(unaudited)

(in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenue	$ 105,109	$ 134,201	$ 242,438	$ 262,640
Cost of revenue	40,179	40,273	89,499	84,802
Gross profit	64,930	93,928	152,939	177,838
Operating expenses:				
Research and development	22,725	13,462	35,671	25,129
Sales, general and administrative	59,854	67,665	134,307	128,756
Total operating expenses	82,579	81,127	169,978	153,885
(Loss) income from operations	(17,649)	12,801	(17,039)	23,953
Interest income, net	108	784	407	1,517
Other income (expense), net	511	(71)	(1,144)	(47)
(Loss) income before income taxes	(17,030)	13,514	(17,776)	25,423
Benefit from income taxes	(4,129)	(2,735)	(5,763)	(1,280)
Consolidated net (loss) income	$ (12,901)	$ 16,249	$ (12,013)	$ 26,703
Net loss attributable to non-controlling interest	(941)	(339)	(1,478)	(583)
Net (loss) income attributable to Penumbra, Inc.	$ (11,960)	$ 16,588	$ (10,535)	$ 27,286
Net (loss) income attributable to Penumbra, Inc. per share:				
Basic	$ (0.34)	$ 0.48	$ (0.30)	$ 0.79
Diluted	$ (0.34)	$ 0.46	$ (0.30)	$ 0.75
Weighted average shares outstanding:				
Basic	35,400,542	34,694,228	35,221,727	34,601,270
Diluted	35,400,542	36,214,321	35,221,727	36,214,362

See accompanying notes to the unaudited condensed consolidated financial statements

Penumbra, Inc.

Condensed Consolidated Statements of Comprehensive (Loss) Income

(unaudited)

(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Consolidated net (loss) income	$ (12,901)	$ 16,249	$ (12,013)	$ 26,703
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments, net of tax	1,347	850	(287)	(248)
Net change in unrealized gains on available-for-sale securities, net of tax	1,131	214	514	676
Total other comprehensive income, net of tax	2,478	1,064	227	428
Consolidated comprehensive (loss) income	(10,423)	17,313	$ (11,786)	$ 27,131
Net loss attributable to non-controlling interest	(941)	(339)	(1,478)	(583)
Comprehensive (loss) income attributable to Penumbra, Inc.	$ (9,482)	$ 17,652	$ (10,308)	$ 27,714

See accompanying notes to the unaudited condensed consolidated financial statements

Penumbra, Inc.

Condensed Consolidated Statements of Stockholders' Equity

(unaudited)

(in thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Penumbra, Inc. Stockholders' Equity	Non-Controlling Interest	Total Stockholders' Equity
	Shares	Amount						
Balance at December 31, 2019	35,001,581	$ 35	$ 430,659	$ (2,324)	$ 57,522	$ 485,892	$ (279)	$ 485,613
Issuance of common stock	81,485	—	396	—	—	396	—	396
Shares held for tax withholdings	(12,058)	—	(2,105)	—	—	(2,105)	—	(2,105)
Stock-based compensation	—	—	6,774	—	—	6,774	—	6,774
Cumulative effect adjustment[1]	—	—	—	—	(1,198)	(1,198)	—	(1,198)
Other comprehensive loss	—	—	—	(2,251)	—	(2,251)	—	(2,251)
Net income (loss)	—	—	—	—	1,425	1,425	(537)	888
Balance at March 31, 2020	35,071,008	$ 35	$ 435,724	$ (4,575)	$ 57,749	$ 488,933	$ (816)	$ 488,117
Issuance of common stock	68,153	—	667	—	—	667	124	791
Issuance of common stock under employee stock purchase plan	41,590	—	5,945	—	—	5,945	—	5,945
Issuance of common stock upon underwritten public offering, net of issuance cost	865,963	1	134,758	—	—	134,759	—	134,759
Shares held for tax withholdings	(10,304)	—	(1,768)	—	—	(1,768)	—	(1,768)
Stock-based compensation	—	—	5,740	—	—	5,740	—	5,740
Other comprehensive income	—	—	—	2,478	—	2,478	—	2,478
Net loss	—	—	—	—	(11,960)	(11,960)	(941)	(12,901)
Balance at June 30, 2020	36,036,410	$ 36	$ 581,066	$ (2,097)	$ 45,789	$ 624,794	$ (1,633)	$ 623,161

[1] Cumulative effect adjustments relate to the adoption of Accounting Standard Update ("ASU") No. 2016-13 Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. Refer to Note "2. Summary of Significant Accounting Policies" for more information.

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Penumbra, Inc. Stockholders' Equity	Non-Controlling Interest	Total Stockholders' Equity
	Shares	Amount						
Balance at December 31, 2018	34,437,339	$ 34	$ 415,084	$ (1,942)	$ 9,064	$ 422,240	$ 175	$ 422,415
Issuance of common stock	140,598	—	1,071	—	—	1,071	—	1,071
Shares held for tax withholdings	(14,284)	—	(2,098)	—	—	(2,098)	—	(2,098)
Stock-based compensation	—	—	5,457	—	—	5,457	—	5,457
Other comprehensive loss	—	—	—	(636)	—	(636)	—	(636)
Net income (loss)	—	—	—	—	10,698	10,698	(244)	10,454
Balance at March 31, 2019	34,563,653	$ 34	$ 419,514	$ (2,578)	$ 19,762	$ 436,732	$ (69)	$ 436,663
Issuance of common stock	259,080	1	1,194	—	—	1,195	—	1,195
Issuance of common stock under employee stock purchase plan	46,065	—	4,779	—	—	4,779	—	4,779
Shares held for tax withholdings	(82,295)	—	(11,281)	—	—	(11,281)	—	(11,281)
Stock-based compensation	—	—	5,014	—	—	5,014	—	5,014
Capital contribution from non-controlling interest	—	—	—	—	—	—	500	500
Other comprehensive income	—	—	—	1,064	—	1,064	—	1,064
Net Income (loss)	—	—	—	—	16,588	16,588	(339)	16,249
Balance at June 30, 2019	34,786,503	$ 35	$ 419,220	$ (1,514)	$ 36,350	$ 454,091	$ 92	$ 454,183

See accompanying notes to the unaudited condensed consolidated financial statements

Penumbra, Inc.

Condensed Consolidated Statements of Cash Flows

(unaudited)

(in thousands)

	Six Months Ended June 30,	
	2020	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Consolidated net (loss) income	$ (12,013)	$ 26,703
Adjustments to reconcile consolidated net (loss) income to net cash used in operating activities:		
Depreciation and amortization	6,090	3,737
Stock-based compensation	11,248	10,230
Inventory write-downs	1,716	1,668
Deferred taxes	(5,240)	(1,721)
Impairment of intangible asset	2,500	—
Other	2,629	603
Changes in operating assets and liabilities:		
Accounts receivable	6,757	(17,552)
Inventories	(31,935)	(18,521)
Prepaid expenses and other current and non-current assets	(4,255)	(3,812)
Accounts payable	(6)	415
Accrued expenses and other non-current liabilities	(5,100)	(1,915)
Net cash used in operating activities	(27,609)	(165)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of marketable investments	(60,320)	(29,550)
Proceeds from sales of marketable investments	7,188	2,700
Proceeds from maturities of marketable investments	27,535	50,800
Purchases of property and equipment	(16,850)	(6,208)
Other	(2,060)	(1,000)
Net cash (used in) provided by investing activities	(44,507)	16,742
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of common stock upon underwritten public offering, net of issuance cost	134,759	—
Proceeds from exercises of stock options	1,187	2,265
Proceeds from issuance of stock under employee stock purchase plan	5,945	4,779
Payment of employee taxes related to vested stock	(3,873)	(13,379)
Payments of finance lease obligations	(2,976)	—
Payment of acquisition-related obligations	(683)	(1,183)
Proceeds from capital contribution from non-controlling interest	—	500
Other	(248)	—
Net cash provided by (used in) financing activities	134,111	(7,018)
Effect of foreign exchange rate changes on cash and cash equivalents	(393)	(148)
NET INCREASE IN CASH AND CASH EQUIVALENTS	61,602	9,411
CASH AND CASH EQUIVALENTS—Beginning of period	72,779	67,850
CASH AND CASH EQUIVALENTS—End of period	$ 134,381	$ 77,261
NONCASH INVESTING AND FINANCING ACTIVITIES:		
Purchase of property and equipment funded through accounts payable and accrued liabilities	$ 666	$ 1,290

See accompanying notes to the unaudited condensed consolidated financial statements

Penumbra, Inc.

Notes to Condensed Consolidated Financial Statements

(unaudited)

1. Organization and Description of Business

Penumbra, Inc. (the "Company") is a global healthcare company focused on innovative therapies. The Company designs, develops, manufactures and markets novel products and has a broad portfolio that addresses challenging medical conditions in markets with significant unmet need.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The accompanying condensed consolidated balance sheet as of June 30, 2020, the condensed consolidated statements of operations, the condensed consolidated statements of comprehensive (loss) income, and the condensed consolidated statements of stockholders' equity for the three and six months ended June 30, 2020 and 2019, and the condensed consolidated statements of cash flows for the six months ended June 30, 2020 and 2019 are unaudited. The unaudited condensed consolidated financial statements included herein have been prepared by the Company in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and the applicable rules and regulations of the U.S. Securities and Exchange Commission (the "SEC") for interim financial information. Accordingly, they do not include all of the information and notes required by U.S. GAAP for complete financial statements. The condensed consolidated balance sheet data as of December 31, 2019 was derived from the audited financial statements as of that date.

The unaudited condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments of a normal recurring nature considered necessary to state fairly the Company's financial position as of June 30, 2020, the results of its operations for the three and six months ended June 30, 2020 and 2019, the changes in comprehensive (loss) income and stockholders' equity for the three and six months ended June 30, 2020 and 2019, and the cash flows for the six months ended June 30, 2020 and 2019. The results for the three and six months ended June 30, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020 or for any other future annual or interim period.

The information included in this Quarterly Report on Form 10-Q should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended December 31, 2019, included in the Company's Annual Report on Form 10-K. There have been no changes to the Company's significant accounting policies during the six months ended June 30, 2020, as compared to the significant accounting policies described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, other than the changes described below in connection with the adoption of the guidance under Accounting Standard Update ("ASU") No. 2016-13.

The condensed consolidated financial statements include the accounts of the Company, its wholly-owned subsidiaries and its majority-owned subsidiary. The portion of equity and consolidated net income not attributable to the Company is considered non-controlling interest and is classified separately in the condensed consolidated financial statements. Any subsequent changes in the Company's ownership interest while the Company retains its controlling interest in its majority-owned subsidiary will be accounted for as equity transactions. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and equity accounts; disclosure of contingent assets and liabilities at the date of the financial statements; and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, the Company evaluates its estimates, including those related to marketable investments, allowances for credit losses, the amount of variable consideration included in the transaction price, warranty reserve, valuation of inventories, useful lives of property and equipment, operating and financing lease right-of-use ("ROU") assets and liabilities, income taxes, contingent consideration and other contingencies, among others. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other data. Actual results could differ from those estimates.

Segments

The Company determined its operating segment on the same basis that it uses to evaluate its performance internally. The Company has one business activity: the design, development, manufacturing and marketing of innovative devices, and operates

as one operating segment. The Company's chief operating decision-maker, its Chief Executive Officer, reviews its consolidated operating results for the purpose of allocating resources and evaluating financial performance.

Recently Adopted Accounting Standards

On January 1, 2020, the Company adopted ASU No. 2016-13, Financial Instruments—Credit Losses ("ASU 2016-13") using the modified retrospective transition approach, with the impact upon adoption reflected in opening retained earnings. The comparative prior year information has not been adjusted and continues to be reported under legacy GAAP. The standard significantly changed the impairment model for most financial assets and certain other instruments, including accounts receivable and available-for-sale securities.

For financial assets measured at amortized cost, including our accounts receivable, the standard requires an entity to (1) estimate its lifetime expected credit losses upon recognition of the financial assets and establish an allowance to present the net amount expected to be collected, (2) recognize this allowance and changes in the allowance during subsequent periods through net income and (3) consider relevant information about past events, current conditions and reasonable and supportable forecasts in assessing the lifetime expected credit losses.

For available-for-sale debt securities, this standard made several targeted amendments to the existing other-than-temporary impairment model, including (1) requiring disclosure of the allowance for credit losses, (2) allowing reversals of the previously recognized credit losses until the entity has the intent to sell, is more-likely-than-not required to sell the securities or the maturity of the securities, (3) limiting impairment to the difference between the amortized cost basis and fair value and (4) not allowing entities to consider the length of time that fair value has been less than amortized cost as a factor in evaluating whether a credit loss exists.

As a result of adoption, the cumulative impact related to accounts receivable expected credit losses to our opening retained earnings at January 1, 2020 was $1.2 million. As of the adoption date, the difference between the amortized cost basis and fair value of the Company's impaired available-for-sale securities held was not material. Accordingly, upon adoption there was no impact to our opening retained earnings for credit losses related to available-for-sale securities. For additional information on the impact of the adoption and disclosures required by ASU 2016-13, refer to the updates to significant accounting policies section below, Note "3. Investments and Fair Value of Financial Instruments" and Note "4. Balance Sheet Components."

On January 1, 2020, the Company adopted ASU 2018-13, Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement. The primary focus of the standard is to improve the effectiveness of the disclosure requirements for fair value measurements. The Company had no significant changes to the fair value measurement related disclosures due to the adoption of the standard.

Updates to Significant Accounting Policies

As a result of the adoption of the ASU 2016-13, the Company has made the following updates to its significant accounting policies described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

Significant Accounting Policies Update - Credit Losses

The Company is exposed to credit losses primarily through our accounts receivable from sales of products on credit terms of one year or less. The Company performs ongoing credit evaluations of its customers, does not require collateral, and maintains allowances for potential credit losses on customer accounts. The Company monitors its ongoing credit exposure and concentration through active review of customers balances against contract terms, due dates, geographic related risks and current economic conditions impacting our customers. Our activities include timely account reconciliation, dispute resolution and payment confirmation. Refer to "Significant Accounting Policies - Accounts Receivable" for more information on the allowance for credit losses on the Company's accounts receivables.

The Company is also exposed to credit losses through its investments in available-for-sale securities. An investment is impaired if the fair value of the investment is less than its amortized cost basis. The Company reviews each impaired available-for-sale security held in its portfolio to determine whether the decline in fair value below its amortized cost basis is the result of credit losses or other factors. An allowance for credit losses is to be recorded as a charge to net income in an amount equal to the difference between the impaired security's amortized cost basis and the amount expected to be collected over the lifetime of security, limited by the amount that the fair value is less than its amortized cost basis. Any remaining difference between its amortized cost basis and fair value is deemed not to be due to expected credit losses and is recorded as a component of accumulated other comprehensive loss.

The Company's impairment review considers several factors to determine if an expected credit loss is present including the discounted present value of expected cash flows of the security, the capacity to hold a security or sell a security before recovery of the decline in amortized cost, the credit rating of the security and forecasted and historical factors that affect the value of the security.

See Note "3. Investments and Fair Value of Financial Instruments" for more information.

Significant Accounting Policies Update - Accounts Receivable

Accounts receivable are measured at amortized cost less the allowances for credit losses. In accordance with ASU 2016-13, as of January 1, 2020, the Company measures expected credit losses for its accounts receivables utilizing a loss-rate approach. The allowance for expected credit losses assessment requires a degree of estimation and judgement. The expected loss-rate is calculated by utilizing historical credit losses incurred as percentage of the Company's historical accounts receivable balances, pooled by customers with similar geographic credit risk characteristics. The loss-rate is adjusted for management's expectations regarding current conditions and forecasts about future conditions which impact expected credit losses. The Company considers factors such as customers credit risk, geographic related risks and economic conditions that may affect a customer's credit quality classification. Prior to the adoption of ASU 2016-13, the Company recognized losses when a loss was incurred or deemed probable.

At June 30, 2020, the Company reported $97.6 million of accounts receivable, net of credit losses of $2.1 million. See Note "4. Balance Sheet Components" for more information.

Recently Issued Accounting Standards

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes— Simplifying the Accounting for Income Taxes. The standard intends to simplify and reduce the cost of accounting for income taxes. The new guidance removes certain exceptions for recognizing deferred taxes for foreign investments, the incremental approach to performing intraperiod allocation, and calculating income taxes in interim periods for year to date losses that exceed anticipated full year losses. The standard also adds guidance to reduce complexity in certain areas, including accounting for franchise taxes that are partially based on income, transactions with a government that result with a step up in the tax basis of goodwill, enacted changes in tax law during interim periods, and allocating taxes to members of a consolidated group which are not subject to tax. For public business entities, the amendments in ASU 2019-12 are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Early adoption is permitted for all periods in which financial statements have not yet been issued, including interim periods. The Company is currently evaluating the impact of adopting the new guidance.

In January 2020, the FASB issued ASU 2020-01, Investments - Equity Securities (Topic 321), Investments-Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815). The amendments clarify that an entity should consider observable transactions that require it to either apply or discontinue the equity method of accounting for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. The amendments in this standard are effective for the Company for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Early adoption is permitted, including early adoption in an interim period. The amendments in this standard should be applied prospectively. Under a prospective transition, the Company would apply the amendments at the beginning of the interim period that includes the adoption date. The Company is currently evaluating the impact of adopting the new standard.

Penumbra, Inc.

Notes to Condensed Consolidated Financial Statements

(unaudited)

3. Investments and Fair Value of Financial Instruments

Marketable Investments

The Company's marketable investments have been classified and accounted for as available-for-sale. The following table presents the Company's marketable investments as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Loss	Fair Value
Commercial paper	$ 13,231	$ —	$ (2)	$ —	$ 13,229
U.S. agency and government sponsored securities	8,845	15	—	—	8,860
U.S. states and municipalities	7,265	58	—	—	7,323
Corporate bonds	113,592	927	(17)	—	114,502
Total	$ 142,933	$ 1,000	$ (19)	$ —	$ 143,914

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial paper	$ 7,456	$ 1	$ —	$ 7,457
U.S. treasury	4,972	7	—	4,979
U.S. agency and government sponsored securities	2,499	19	—	2,518
U.S. states and municipalities	4,889	4	—	4,893
Corporate bonds	96,484	282	(3)	96,763
Total	$ 116,300	$ 313	$ (3)	$ 116,610

As of June 30, 2020, the total amortized cost basis of the Company's impaired available-for-sale securities exceeded its fair value by a nominal amount. The Company reviewed its impaired available-for-sale securities and concluded that the decline in fair value was not related to credit losses and is recoverable. Accordingly, during the three and six months ended June 30, 2020 no allowance for credit losses was recorded and instead the unrealized losses are reported as a component of accumulated other comprehensive loss. Prior to the adoption of ASU 2016-13, the Company recognized losses, if any, in consolidated net income when the security was sold.

The following tables present the gross unrealized losses and the fair value for those marketable investments that were in an unrealized loss position for less than twelve months or for twelve months or more as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020					
	Less than 12 months		12 months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Commercial paper	$ 8,233	$ (2)	$ —	$ —	$ 8,233	$ (2)
Corporate bonds	27,861	(17)	—	—	27,861	(17)
Total	$ 36,094	$ (19)	$ —	$ —	$ 36,094	$ (19)

Penumbra, Inc.

Notes to Condensed Consolidated Financial Statements

(unaudited)

	December 31, 2019					
	Less than 12 months		12 months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Corporate bonds	$ 7,875	$ (3)	$ —	$ —	$ 7,875	$ (3)
Total	$ 7,875	$ (3)	$ —	$ —	$ 7,875	$ (3)

The following table presents the contractual maturities of the Company's marketable investments as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
	Fair Value	Fair Value
Due in less than one year	$ 40,375	$ 51,990
Due in one to five years	103,539	64,620
Total	$ 143,914	$ 116,610

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date. The accounting guidance establishes a three-tiered hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value:

Level 1 - Quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The categorization of a financial instrument within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

The Company classifies its cash equivalents and marketable investments within Level 1 and Level 2, as it uses quoted market prices or alternative pricing sources and models utilizing market observable inputs.

The Company determined the fair value of its Level 1 financial instruments, which are traded in active markets, using quoted market prices for identical instruments.

Financial instruments classified within Level 2 of the fair value hierarchy are valued based on other observable inputs, including broker or dealer quotations or alternative pricing sources. When quoted prices in active markets for identical assets or liabilities are not available, the Company relies on non-binding quotes from its investment managers, which are based on proprietary valuation models of independent pricing services. These models generally use inputs such as observable market data, quoted market prices for similar instruments, or historical pricing trends of a security relative to its peers. To validate the fair value determination provided by its investment managers, the Company reviews the pricing movement in the context of overall market trends and trading information from its investment managers. In addition, the Company assesses the inputs and methods used in determining the fair value in order to determine the classification of securities in the fair value hierarchy.

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The following tables set forth the Company's financial assets measured at fair value by level within the fair value hierarchy as of June 30, 2020 and December 31, 2019 (in thousands):

	As of June 30, 2020			
	Level 1	Level 2	Level 3	Fair Value
Financial Assets				
Cash equivalents:				
Money market funds	$ 102,750	$ —	$ —	$ 102,750
U.S. states and municipalities	—	4,023	—	4,023
Marketable investments:				
Commercial paper	—	13,229	—	13,229
U.S. treasury	—	—	—	—
U.S. agency and government sponsored securities	—	8,860	—	8,860
U.S. states and municipalities	—	7,323	—	7,323
Corporate bonds	—	114,502	—	114,502
Total	—	143,914	—	143,914
Total	$ 102,750	$ 147,937	$ —	$ 250,687

	As of December 31, 2019			
	Level 1	Level 2	Level 3	Fair Value
Financial Assets				
Cash equivalents:				
Commercial paper	$ —	$ 9,474	$ —	$ 9,474
Money market funds	24,054	—	—	24,054
Marketable investments:				
Commercial paper	—	7,457	—	7,457
U.S. treasury	4,979	—	—	4,979
U.S. agency and government sponsored securities	—	2,518	—	2,518
U.S. states and municipalities	—	4,893	—	4,893
Corporate bonds	—	96,763	—	96,763
Total	4,979	111,631	—	116,610
Total	$ 29,033	$ 121,105	$ —	$ 150,138

Contingent Consideration Obligations

As of June 30, 2020 and December 31, 2019, there were no contingent consideration liabilities classified as Level 3. As of December 31, 2019, the Company's contingent consideration liability balance of $1.2 million relates to milestone payments due in connection with the 2017 acquisition of Crossmed S.p.a. ("Crossmed") and was based on actual revenue performance for the year ended December 31, 2019 and not based on unobservable inputs. The Company made this payment during the six months ended June 30, 2020. For more information related to the payment of the contingent consideration liabilities refer to Note "5. Business Combinations."

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The following tables summarize the changes in fair value of the contingent consideration obligation for the six months ended June 30, 2020 and June 30, 2019 (in thousands):

	Fair Value of Contingent Consideration
Balance at December 31, 2019	$ 1,206
Payments of contingent consideration liabilities	(1,186)
Changes in fair value	—
Foreign currency remeasurement	(20)
Balance at June 30, 2020	$ —

	Fair Value of Contingent Consideration
Balance at December 31, 2018	$ 2,571
Payments of contingent consideration liabilities	(1,296)
Changes in fair value	—
Foreign currency remeasurement	(19)
Balance at June 30, 2019	$ 1,256

The Company did not hold any Level 3 marketable investments as of June 30, 2020 or December 31, 2019. During the six months ended June 30, 2020 and 2019, the Company did not have any transfers between Level 1, Level 2 or Level 3 of the fair value hierarchy. Additionally, the Company did not have any financial assets and liabilities measured at fair value on a non-recurring basis as of June 30, 2020 or December 31, 2019.

4. Balance Sheet Components

Allowance for Credit Losses - Accounts Receivable

The Company's allowance for credit losses related to accounts receivable balances was comprised of the following (in thousands):

	Balance At Beginning Of Period	Write-offs	Provision for credit loss	Balance At End Of Period
January 1, 2020 [1]	$ 2,946	$ (2,361)	$ 1,307	$ 1,892
January 1, 2020 - March 31, 2020 [2]	$ 1,892	$ —	$ 163	$ 2,055
April 1, 2020 - June 30, 2020 [2]	$ 2,055	$ —	$ 21	$ 2,076

[1] On January 1, 2020, the Company recorded a $1.3 million adjustment to opening retained earnings upon the adoption of ASU 2016-13.
[2] The Company recorded a $0.2 million allowance for credit losses during the six months ended June 30, 2020. The allowance for credit losses recorded during the three months ended June 30, 2020 was not material.

Inventories

The following table shows the components of inventories as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Raw materials	$ 27,823	$ 21,646
Work in process	16,010	21,651
Finished goods	139,609	109,695
Inventories	$ 183,442	$ 152,992

Accrued Liabilities

The following table shows the components of accrued liabilities as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Payroll and employee-related cost	$ 32,035	$ 37,727
Accrued expenses	9,081	7,811
Sales return provision	1,821	1,821
Product warranty	2,416	2,318
Other acquisition-related costs[1]	3,000	4,291
Other accrued liabilities	9,365	13,662
Total accrued liabilities	$ 57,718	$ 67,630

[1] Amount consists of a contingent liability related to an anti-dilution provision from the asset acquisition of MVI Health Inc. ("MVI") in 2018.

The following table shows the changes in the Company's estimated product warranty accrual, included in accrued liabilities, as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Balance at the beginning of the period	$ 2,318	$ 1,875
Accruals of warranties issued	485	1,065
Settlements of warranty claims	(387)	(622)
Balance at the end of the period	$ 2,416	$ 2,318

Other Non-Current Liabilities

The following table shows the components of other non-current liabilities as of June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020	December 31, 2019
Deferred tax liabilities	$ 4,033	$ 4,005
Licensing-related cost[1]	—	10,878
Other non-current liabilities	3,267	367
Total other non-current liabilities	$ 7,300	$ 15,250

[1] Amount relates to the non-current liability recorded for probable future milestone payments associated with the indefinite-lived intangible assets related to licensed technology described in Note "6. Intangible Assets." Refer therein for more information.

5. Business Combinations

Payments Related to 2017 Crossmed Acquisition

On July 3, 2017, the Company completed its acquisition of Crossmed, a joint stock company organized under the laws of Italy. The purchase price measurement period was closed as of June 30, 2018.

The Company was obligated to pay additional consideration to the sellers of Crossmed (the "Sellers") in the form of milestone payments based on Crossmed's net revenue and may be required to pay additional consideration based on incremental net revenue for each of the periods ended. There is no limit on the milestone payments that can be paid out. As of December 31, 2019, the Company's condensed consolidated balance sheet included $1.2 million, in current liabilities primarily related to the final milestone payment due which was paid during the first quarter of 2020.

During the six months ended June 30, 2020, the Company made $1.2 million in milestone payments of which $0.5 million is presented in operating activities and $0.7 million is presented in financing activities in the condensed consolidated statement of cash flows.

During the six months ended June 30, 2019, the Company made $1.3 million in milestone payments of which $0.6 million is presented in operating activities and $0.7 million is presented in financing activities in the condensed consolidated statement of cash flows.

6. Intangible Assets

Acquired Intangible Assets

The following tables present details of the Company's acquired finite-lived and indefinite-lived intangible assets, as of June 30, 2020 and December 31, 2019 (in thousands, except weighted-average amortization period):

As of June 30, 2020	Weighted-Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Net
Customer relationships	15.0 years	$ 6,694	$ (1,339)	$ 5,355
Trade secrets and processes	20.0 years	5,256	(657)	4,599
Other	5.0 years	1,726	(1,035)	691
Total intangible assets	16.5 years	$ 13,676	$ (3,031)	$ 10,645

As of December 31, 2019	Weighted-Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Net
Customer relationships	15.0 years	$ 6,686	$ (1,114)	$ 5,572
Trade secrets and processes	20.0 years	5,256	(526)	4,730
Other	5.0 years	1,724	(862)	862
Total intangible assets subject to amortization	16.4 years	$ 13,666	$ (2,502)	$ 11,164
Intangible assets related to licensed technology		14,243	—	14,243
Total intangible assets		$ 27,909	$ (2,502)	$ 25,407

The customer relationships and other intangible assets subject to amortization relate to the acquisition of Crossmed during the third quarter of 2017. The gross carrying amount and accumulated amortization of these intangible assets are subject to foreign currency translation effects. Refer to Note "5. Business Combinations" for more information. The Company's $5.3 million trade secrets and processes intangible asset was recognized in connection with a royalty buyout agreement during the first quarter of 2018, which is discussed further in Note "10. Commitments and Contingencies".

The following table presents the amortization expense recorded related to the Company's finite-lived intangible assets for the three and six months ended June 30, 2020 and June 30, 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Cost of revenue	$ 66	$ 66	$ 131	$ 131
Sales, general and administrative	194	198	388	399
Total	$ 260	$ 264	$ 519	$ 530

Licensed technology

During the third quarter of 2017, the Company entered into an exclusive technology license agreement (the "License Agreement") that required the Company to pay an upfront payment to the licensor of $2.5 million and future revenue milestone-based payments on sales of products covered by the licensed intellectual property. The Company accounted for the transaction as an asset acquisition and recorded an indefinite-lived intangible asset as it was determined to have alternative future use. The Company recorded an indefinite-lived intangible asset equal to the total payments made and expected to be made under the

License Agreement and a corresponding contingent liability for the probable future milestone payments not yet paid. Upon the commercialization of the underlying product utilizing the licensed technology, the capitalized amount will be amortized over its estimated useful life.

At the end of each reporting period the Company adjusts the contingent liabilities to reflect the amount of future milestone payments that are probable to be paid. Prior to the commercialization of products utilizing the underlying technology, any changes in the contingent liability are recorded as an adjustment between the liability balances and the gross carrying amount of the indefinite-lived intangible asset. As of June 30, 2020, there was no contingent liability balance related to probable future milestone payments under the License Agreement. As of December 31, 2019, the balance of the contingent liability related to probable future milestone payments under the License Agreement was $11.7 million, of which $0.8 million and $10.9 million were included in accrued liabilities and other non-current liabilities on the condensed consolidated balance sheet, respectively.

Indefinite-lived intangible assets are tested for impairment annually during the fourth quarter or more frequently if events or changes in circumstances between annual tests indicate that it is more likely than not that the asset is impaired. As a result of a triggering event in July that provided additional information about a condition that existed on the balance sheet date, the Company determined that an impairment existed as of June 30, 2020. As a result, the Company wrote-off the full carrying value of the indefinite-lived intangible asset and its related contingent liabilities, and recognized an impairment loss of $2.5 million in research and development expense in the consolidated statement of operations.

7. Goodwill

The following table presents the changes in goodwill during the six months ended June 30, 2020 (in thousands):

	Total Company
Balance as of December 31, 2019	$ 7,656
Foreign currency translation	9
Balance as of June 30, 2020	$ 7,665

Goodwill Impairment Review

The Company reviews goodwill for impairment annually during the fourth quarter or more frequently if events or circumstances indicate that an impairment loss may have occurred. The Company determined that there was no impairment of goodwill as of June 30, 2020.

8. Indebtedness

Credit Agreement

On April 24, 2020, the Company entered into a Credit Agreement (the “Credit Agreement”) with JPMorgan Chase Bank, N.A., as administrative agent and lender, and Bank of America, N.A. and Citibank, N.A. as lenders. The Credit Agreement is secured and provides for up to $100 million in available revolving borrowing capacity with an option, subject to certain conditions, for the Company to increase the aggregate borrowing capacity to up to $150 million, and matures on April 23, 2021.

The revolving loans under the Credit Agreement will be available for general corporate purposes, including working capital and capital expenditures. In addition to allowing borrowings in US dollars, the Credit Agreement provides for borrowings in euros, Pounds Sterling and any other currency that is subsequently approved by JPMorgan and each lender. The initial commitment of the lenders under the Credit Agreement is $100 million. Subject to customary conditions and the approval of any lender whose commitment would be increased, the Company has the option to increase the maximum principal amount available under the Credit Agreement by up to an additional $50 million, resulting in a maximum available principal amount under the Credit Agreement of $150 million. The Credit Agreement provides a sublimit of up to $10 million for letters of credit, a sublimit of up to $10 million for swing-line loans, and a sublimit of up to $15 million for borrowings in available foreign currencies.

The Credit Agreement requires the Company to maintain a minimum fixed charge coverage ratio and to not exceed a maximum leverage ratio. As of June 30, 2020, the Company was in compliance with these covenants.

As of June 30, 2020, there were no borrowings outstanding under the Credit Agreement.

9. Leases

Lease Overview

As of December 31, 2019 and June 30, 2020, the Company's contracts that contained a lease consisted of real estate, equipment and vehicle leases.

The Company leases real estate for office and warehouse space primarily under noncancelable operating leases that expire at various dates through 2035, subject to the Company's option to renew certain leases for an additional five to 15 years. The Company also leases other equipment and vehicles primarily under noncancelable operating leases that expire at various dates through 2024.

The following table presents the components of the Company's lease cost, lease term and discount rate during the three and six months ended June 30, 2020 (in thousands, except years and percentages):

	Three Months Ended		Six Months Ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Lease Cost				
Operating lease cost	$ 1,905	$ 1,686	$ 3,792	$ 3,453
Finance lease cost:				
Amortization of right-of-use assets	645	—	1,316	—
Interest on lease liabilities	360	—	755	—
Variable lease cost[1]	1,439	846	2,892	1,604
Total lease costs	$ 4,349	$ 2,532	$ 8,755	$ 5,057
Weighted Average Remaining Lease Term				
Operating leases			9.5 years	10.3 years
Finance leases			14.5 years	—
Weighted Average Discount Rate				
Operating leases			6.19 %	6.20 %
Finance leases			5.42 %	— %

[1] Variable lease costs represent payments that are dependent on usage, a rate or index. Variable lease cost primarily relates to common area maintenance charges for its real estate leases as the Company elected not to separate non-lease components from lease components upon adoption of ASC 842.

During the third quarter of 2019, the Company signed a 15 year lease for additional space at the Company's headquarters located at 1310 Harbor Bay Business Park, Alameda, California (the "1310 Harbor Bay Lease") which has not yet commenced as of June 30, 2020. The 1310 Harbor Bay Lease is expected to commence upon substantial completion of lessor owned improvements in connection with the development of the building which the Company anticipates will occur in the next two years.

In the fourth quarter of 2019, the 15 year term Roseville lease commenced once the building was made ready and available for its intended use. The Company determined that the Roseville lease is a non-cancelable finance lease which will expire in 2035.

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The following table is a schedule, by years, of maturities of the Company's operating and finance lease liabilities as of June 30, 2020 (in thousands):

	Operating Lease Payments	Finance Lease Payments
Remainder of 2020	$ 7,398	$ 2,433
2021	7,050	2,465
2022	6,713	2,514
2023	6,578	2,563
2024	6,250	2,614
Thereafter	33,424	27,292
Total undiscounted lease payments[1]	67,413	39,881
Less imputed interest	(17,042)	(12,663)
Present value of lease liabilities	$ 50,371	$ 27,218

[1] The table above excludes the estimated future minimum lease payment for the 1310 Harbor Bay Lease due to uncertainty around the timing of when the 1310 Harbor Bay Lease will commence and payments will be due. The total estimated lease payments over the 15 year lease term will be calculated based on the total development costs incurred in connection with the development of the building which will be determined upon substantial completion of the building.

Supplemental cash flow information related to leases during the six months ended June 30, 2020 and June 30, 2019 are as follows (in thousands):

	Six Months Ended	
	June 30, 2020	June 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 3,740	$ 3,354
Financing cash flows from finance leases	$ 2,976	$ —
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 830	$ 1,111
Finance leases	$ —	$ —

10. Commitments and Contingencies

Royalty Obligations

In March 2005, the Company entered into a license agreement that requires the Company to make minimum royalty payments to the licensor on a quarterly basis. As of June 30, 2019, the license agreement required minimum royalty payments of $0.1 million quarterly. On each January 1, the quarterly calendar year minimum royalty shall be adjusted to equal the prior year's minimum royalty adjusted by a percentage equal to the percentage change in the "consumer price index for all urban consumers" for the prior calendar year as reported by the U.S. Department of Labor. Unless terminated earlier, the term of the license agreement shall continue until the expiration of the last to expire patent that covers that licensed product or for the period of fifteen years following the first commercial sale of such licensed product, whichever is longer. The first commercial sale of covered products occurred in June 2007. In July 2019, the Company amended the license agreement to extend the term for an additional ten years. As of June 30, 2020, the amended license agreement required minimum royalty payments of $0.3 million quarterly through 2027.

In April 2012, the Company entered into an agreement that requires the Company to pay, on a quarterly basis, a 5% royalty on sales of products covered under applicable patents. The first commercial sale of covered products occurred in April 2014. Unless terminated earlier, the royalty term for each applicable product shall continue for fifteen years following the first

commercial sale of such patented product, or when the applicable patent covering such product has expired, whichever is sooner.

Royalty expense included in cost of revenue for the three months ended June 30, 2020 and 2019, was $0.4 million and $1.1 million, respectively, and for the six months ended June 30, 2020 and 2019, was $1.1 million and $2.2 million respectively.

Contingencies

From time to time, the Company may have certain contingent liabilities that arise in the ordinary course of business. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. Refer to Note “3. Investments and Fair Value of Financial Instruments,” Note “5. Business Combinations,” Note “6. Intangible Assets” and Note “8. Indebtedness” for more information on contingent liabilities recorded on the condensed consolidated balance sheet.

Indemnification

The Company enters into standard indemnification arrangements in the ordinary course of business. In many such arrangements, the Company agrees to indemnify, hold harmless, and reimburse the indemnified parties for losses suffered or incurred by the indemnified parties in connection with any trade secret, copyright, patent or other intellectual property infringement claim by any third-party with respect to the Company’s technology. The Company also agrees to indemnify many indemnified parties for product defect and similar claims. The term of these indemnification agreements is generally perpetual. The maximum potential amount of future payments the Company could be required to make under these agreements is not determinable because it involves claims that may be made against the Company in the future, but have not yet been made.

The Company has entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct of the individual.

The Company has not incurred costs to defend lawsuits or settle claims related to these indemnification agreements. No liability associated with any of these indemnification requirements has been recorded to date.

Litigation

From time to time, the Company is subject to other claims and assessments in the ordinary course of business. The Company is not currently a party to any such litigation matter that, individually or in the aggregate, is expected to have a material adverse effect on the Company’s business, financial condition, results of operations or cash flows.

11. Stockholders’ Equity

Common Stock

In June 2020, the Company issued and sold an aggregate of 865,963 shares of common stock at a public offering price of $166.00 per share, less the underwriters’ discounts and commissions, pursuant to an underwritten public offering. The Company received approximately $134.8 million in net cash proceeds after deducting underwriting discounts and commissions of $8.6 million and other offering expenses of $0.4 million.

Equity Incentive Plans

Stock Options

Activity of stock options under the 2005 Plan, 2011 Plan and 2014 Plan (collectively, the "Plans") is set forth below:

	Number of Shares	Weighted-Average Exercise Price
Balance at December 31, 2019	1,379,075	$ 21.02
Exercised	(80,982)	13.12
Canceled/Forfeited	—	—
Balance at June 30, 2020	1,298,093	21.51

Restricted Stock and Restricted Stock Units

Activity of unvested restricted stock awards and restricted stock units under the Plans during the six months ended June 30, 2020 is set forth below:

	Number of Shares	Weighted -Average Grant Date Fair Value
Unvested at December 31, 2019	371,206	$ 130.47
Granted	92,936	164.28
Released/Vested - Restricted Stock/RSUs	(68,656)	108.51
Canceled/Forfeited	(5,293)	143.17
Unvested at June 30, 2020	390,193	142.21

As of June 30, 2020, 367,178 restricted stock awards and restricted stock units are expected to vest.

Stock-based Compensation

The following table sets forth the stock-based compensation expense included in the Company's condensed consolidated statements of operations for the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Cost of revenue	$ 407	$ 329	$ 1,055	$ 620
Research and development	891	677	1,765	1,201
Sales, general and administrative	4,261	4,129	8,428	8,409
Total	$ 5,559	$ 5,135	$ 11,248	$ 10,230

As of June 30, 2020, total unrecognized compensation cost was $46.1 million related to unvested share-based compensation arrangements which is expected to be recognized over a weighted average period of 2.9 years.

The total stock-based compensation cost capitalized in inventory was $1.0 million and $0.8 million as of June 30, 2020 and December 31, 2019, respectively.

12. Accumulated Other Comprehensive Loss

Other comprehensive loss consists of two components: unrealized gains or losses on the Company's available-for-sale marketable investments and gains or losses from foreign currency translation adjustments. Until realized and reported as a component of consolidated net (loss) income, these comprehensive income (loss) items accumulate and are included within accumulated other comprehensive loss. Unrealized gains and losses on the Company's marketable investments are reclassified from accumulated other comprehensive loss into earnings when realized upon sale, and are determined based on specific identification of securities sold. Gains and losses from the translation of assets and liabilities denominated in non-U.S. dollar functional currencies are included in accumulated other comprehensive loss.

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The following table summarizes the changes in the accumulated balances during the period and includes information regarding the manner in which the reclassifications out of accumulated other comprehensive loss into earnings affect the Company's condensed consolidated statements of operations and consolidated statements of comprehensive (loss) income (in thousands):

	Three Months Ended June 30, 2020			Three Months Ended June 30, 2019		
	Marketable Investments	Currency Translation Adjustments	Total	Marketable Investments	Currency Translation Adjustments	Total
Balance, beginning of the period	$ (379)	$ (4,196)	$ (4,575)	$ (38)	$ (2,540)	$ (2,578)
Other comprehensive income (loss) before reclassifications:						
Unrealized gain — marketable investments	1,360	—	1,360	214	—	214
Foreign currency translation gains	—	1,347	1,347	—	850	850
Income tax effect — expense (benefit)	(229)	—	(229)	—	—	—
Net of tax	1,131	1,347	2,478	214	850	1,064
Amounts reclassified from accumulated other comprehensive income (loss) to consolidated net income:						
Realized gain (loss) — marketable investments	—	—	—	—	—	—
Income tax effect — expense (benefit)	—	—	—	—	—	—
Net of tax	—	—	—	—	—	—
Net current-year other comprehensive income (loss)	1,131	1,347	2,478	214	850	1,064
Balance, end of the period	$ 752	$ (2,849)	$ (2,097)	$ 176	$ (1,690)	$ (1,514)

	Six Months Ended June 30, 2020			Six Months Ended June 30, 2019		
	Marketable Investments	Currency Translation Adjustments	Total	Marketable Investments	Currency Translation Adjustments	Total
Balance at beginning of the period	$ 238	$ (2,562)	$ (2,324)	$ (500)	$ (1,442)	$ (1,942)
Other comprehensive income (loss) before reclassifications:						
Unrealized gain — marketable investments	671	—	671	676	—	676
Foreign currency translation losses	—	(287)	(287)	—	(248)	(248)
Income tax effect — benefit (expense)	(157)	—	(157)	—	—	—
Net of tax	514	(287)	227	676	(248)	428
Amounts reclassified from accumulated other comprehensive income to earnings:						
Realized gain (loss)— marketable investments	—	—	—	—	—	—
Income tax effect — expense	—	—	—	—	—	—
Net of tax	—	—	—	—	—	—
Net current-year other comprehensive income (loss)	514	(287)	227	676	(248)	428
Balance at end of the period	$ 752	$ (2,849)	$ (2,097)	$ 176	$ (1,690)	$ (1,514)

13. Income Taxes

The Company's income tax expense, deferred tax assets and liabilities, and reserves for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. The Company is subject to income taxes in both the United States and foreign jurisdictions. Significant judgment and estimates are required in determining the consolidated income tax expense.

During interim periods, the Company generally utilizes the estimated annual effective tax rate ("AETR") method which involves the use of forecasted information. Under the AETR method, the provision is calculated by applying the estimated AETR for the full fiscal year to "ordinary" income or loss (pretax income or loss excluding unusual or infrequently occurring

discrete items) for the reporting period. Jurisdictions with tax assets for which the Company believes a tax benefit cannot be realized are excluded from the computation of its AETR. However, for the three and six months ended June 30, 2020, the estimated AETR method yielded unconventional results and would not provide a reliable estimate of income taxes. Therefore, the Company determined that using the discrete effective tax rate method, which involves the use of year-to-date information, would provide a more reliable estimate of income taxes for the current period.

The Company's benefit from income taxes for the three months ended June 30, 2020 was $4.1 million, compared to $2.7 million of tax benefit for the three months ended June 30, 2019. The Company's effective tax rate changed to 24.2% for the three months ended June 30, 2020, compared to (20.2)% for the three months ended June 30, 2019. The Company's benefit from income taxes for the six months ended June 30, 2020 was $5.8 million, compared to $1.3 million of tax benefit for the six months ended June 30, 2019. The Company's effective tax rate changed to 32.4% for the six months ended June 30, 2020, compared to (5.0)% for the six months ended June 30, 2019. The Company's benefit from income taxes for the three and six months ended June 30, 2020 was primarily due to tax benefits attributable to its worldwide losses as a result of the COVID-19 pandemic impact and excess tax benefits from stock-based compensation attributable to its U.S. jurisdiction. The Company's benefit from income taxes for the three and six months ended June 30, 2019 was primarily due to excess tax benefits from stock-based compensation attributable to its U.S. jurisdiction, offset by income taxes attributable to its worldwide profits. Using the discrete method instead of the AETR method to compute income taxes for the three and six months ended June 30, 2020 achieved a more reasonable comparison of the effective tax rates when compared to the three and six months ended June 30, 2019. The Company's change in effective tax rate was primarily attributable to larger tax benefits over worldwide losses for the three and six months ended June 30, 2020, when compared to smaller tax benefits over worldwide profits for the three and six months ended June 30, 2019.

On March 27, 2020, the President signed into law the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"), which provides certain tax relief. The CARES Act did not have a material impact to the income tax provision of the Company for the three and six months ended June 30, 2020.

Significant domestic deferred tax assets ("DTAs") were generated in recent years, primarily due to excess tax benefits from stock option exercises and vesting of restricted stock. The Company evaluates all available positive and negative evidence, objective and subjective in nature, in each reporting period to determine if sufficient taxable income will be generated to realize the benefits of its DTAs and, if not, a valuation allowance to reduce the DTAs is recorded. As of June 30, 2020 and 2019, the Company maintains a valuation allowance against its Federal Research and Development Tax Credit and California DTAs as the Company could not conclude at the required more-likely-than-not level of certainty, that the benefit of these tax attributes would be realized prior to expiration. As of June 30, 2020 and 2019, the Company also maintains a valuation allowance against DTAs acquired from MVI which are subject to Separate Return Limitation Year ("SRLY") rules that limit the utilization of the pre-acquisition tax attributes to offset future taxable income solely generated by MVI.

The Company maintains that all foreign earnings, with the exception of a portion of the earnings of its German subsidiary, are permanently reinvested outside the United States and therefore deferred taxes attributable to such are not provided for in the Company's condensed consolidated financial statements as of June 30, 2020. In the three months ended June 30, 2020, the Company repatriated $6.6 million from its Germany subsidiary, which did not result in any material U.S. and foreign tax consequences.

14. Net (Loss) Income Attributable to Penumbra, Inc. Per Share

The Company computed basic net (loss) income attributable to Penumbra, Inc. per share based on the weighted average number of shares of common stock outstanding during the period. The Company computed diluted net (loss) income attributable to Penumbra, Inc. per share based on the weighted average number of shares of common stock outstanding plus potentially dilutive common stock equivalents outstanding during the period using the treasury stock method. For the purposes of this calculation, stock options, restricted stock, restricted stock units and stock sold through the Company's employee stock purchase plan are considered common stock equivalents.

Penumbra, Inc.

Notes to Condensed Consolidated Financial Statements

(unaudited)

A reconciliation of the numerator and denominator used in the calculation of the basic and diluted net (loss) income attributable to Penumbra, Inc. is as follows (in thousands, except share and per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net (loss) income attributable to Penumbra, Inc.	$ (11,960)	$ 16,588	$ (10,535)	$ 27,286
Denominator:				
Weighted average shares used to compute net income attributable to common stockholders:				
Basic	35,400,542	34,694,228	35,221,727	34,601,270
Potential dilutive stock-based options and awards	—	1,520,093	—	1,613,092
Diluted	35,400,542	36,214,321	35,221,727	36,214,362
Net (loss) income attributable to Penumbra, Inc. per share:				
Basic	$ (0.34)	$ 0.48	$ (0.30)	$ 0.79
Diluted	$ (0.34)	$ 0.46	$ (0.30)	$ 0.75

For the three months ended June 30, 2020 and 2019 outstanding stock-based awards of 1.8 million and 45 thousand shares respectively, and for the six months ended June 30, 2020 and 2019 outstanding stock-based awards of 1.8 million and 48 thousand shares respectively, were excluded from the computation of diluted net (loss) income attributable to Penumbra, Inc. per share because their effect would have been anti-dilutive.

15. Revenues

Revenue Recognition

Revenue is recognized in an amount that reflects the consideration the Company expects to be entitled to in exchange for goods or services. All revenue recognized in the condensed consolidated statements of operations is considered to be revenue from contracts with customers.

The following table presents the Company's revenues disaggregated by geography, based on the destination to which the Company ships its products, for the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
United States	$ 78,043	$ 86,374	$ 173,817	$ 168,885
Other International	27,066	47,827	68,621	93,755
Total	$ 105,109	$ 134,201	$ 242,438	$ 262,640

The following table presents the Company's revenues disaggregated by product category, for the three and six months ended June 30, 2020 and 2019 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Neuro	$ 58,837	$ 81,547	$ 136,913	$ 163,018
Vascular	46,272	52,654	105,525	99,622
Total	$ 105,109	$ 134,201	$ 242,438	$ 262,640

Performance Obligations

Delivery of products - The Company's contracts with customers typically contain a single performance obligation, delivery of Penumbra products. Satisfaction of that performance obligation occurs when control of the promised goods transfers to the

customer, which is generally upon shipment for non-consignment sale agreements and upon utilization for consignment sale agreements.

Payment terms - The Company's payment terms vary by the type and location of our customer. The timing between fulfillment of performance obligations and when payment is due is not significant and does not give rise to financing transactions. The Company did not have any contracts with significant financing components as of June 30, 2020.

Product returns - The Company may allow customers to return products purchased at the Company's discretion. The Company estimates the amount of its product sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company currently estimates product return liabilities using its own historic sales information, trends, industry data, and other relevant data points.

Warranties - The Company offers its standard warranty to all customers and it is not available for sale on a standalone basis. The Company's standard warranty represents its guarantee that its products function as intended, are free from defects, and comply with agreed-upon specifications and quality standards. This assurance does not constitute a service and is not a separate performance obligation.

Transaction Price

Revenue is recorded at the net sales price, which includes estimates of variable consideration such as product returns utilizing historical return rates, rebates, discounts, and other adjustments to net revenue. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price. When determining if variable consideration should be constrained, management considers whether there are factors that could result in a significant reversal of revenue and the likelihood of a potential reversal. Variable consideration is included in revenue only to the extent that it is probable that a significant reversal of the revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. These estimates are reassessed each reporting period as required. During the three and six months ended June 30, 2020, the Company made no material changes in estimates for variable consideration. When the Company performs shipping and handling activities after control of goods is transferred to the customer, they are considered as fulfillment activities, and costs are accrued for when the related revenue is recognized. Taxes collected from customers relating to product sales and remitted to governmental authorities are excluded from revenues.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the unaudited condensed consolidated financial statements and the related notes thereto included elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto and management's discussion and analysis of financial condition and results of operations for the year ended December 31, 2019, included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on February 26, 2020.

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). In some cases, you can identify these statements by forward-looking words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results and timing expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2019. The forward-looking statements in this Quarterly Report on Form 10-Q represent our views as of the date of this Quarterly Report on Form 10-Q. Except as may be required by law, we assume no obligation to update these forward-looking statements or the reasons that results could differ from these forward-looking statements. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Quarterly Report on Form 10-Q.

Overview

Penumbra is a global healthcare company focused on innovative therapies. We design, develop, manufacture and market novel products and have a broad portfolio that addresses challenging medical conditions in markets with significant unmet need. Our team focuses on developing, manufacturing and marketing novel products for use by specialist physicians and healthcare providers to drive improved clinical outcomes. We believe that the cost-effectiveness of our products is attractive to our customers.

Since our founding in 2004, we have invested heavily in our product development capabilities in our major markets: neuro and vascular. We have successfully developed, obtained regulatory clearance or approval for, and introduced products into the neurovascular market since 2007, vascular market since 2013 and neurosurgical market since 2014, respectively. We continue to expand our portfolio of product offerings, while developing and iterating on our currently available products.

We expect to continue to develop and build our portfolio of products, including our thrombectomy, embolization and access technologies. Generally, when we introduce a next generation product or a new product designed to replace a current product, sales of the earlier generation product or the product replaced decline. Our research and development activities are centered around the development of new products and clinical activities designed to support our regulatory submissions and demonstrate the effectiveness of our products.

To address the challenging and significant clinical needs of our two key markets, we developed products that fall into the following broad product offering families:

Our neuro products fall into five broad product families:

- Neuro thrombectomy - Penumbra System, including Penumbra JET, ACE and the 3D Revascularization Device, Penumbra ENGINE and other components and accessories
- Neuro embolization - Penumbra SMART COIL, Penumbra Coil 400, POD400 and PAC400
- Neuro access - delivery catheters, consisting of Neuron, Neuron MAX, Select, BENCHMARK, DDC and PX SLIM
- Neurosurgical - Artemis Neuro Evacuation Device
- Rehabilitation Tools - REAL Immersive System

Our vascular products fall into two broad product families:

- Vascular thrombectomy - Indigo System designed for mechanical thrombectomy, including aspiration catheters, separators, aspiration pump and accessories
- Vascular embolization - Ruby Coil System, LANTERN Delivery Microcatheter and the POD System (POD and POD Packing Coil)

We sell our products to hospitals primarily through our direct sales organization in the United States, most of Europe, Canada and Australia, as well as through distributors in select international markets. In the six months ended June 30, 2020 and 2019, 28.3% and 35.7% of our revenue, respectively, was generated from customers located outside of the United States. Our sales outside of the United States are denominated principally in the euro and Japanese yen, with some sales being denominated in other currencies. As a result, we have foreign exchange exposure but do not currently engage in hedging.

We generated revenue of $242.4 million and $262.6 million for the six months ended June 30, 2020 and 2019, respectively, a decrease of $20.2 million. We generated an operating loss of $17.0 million and operating income of $24.0 million for the six months ended June 30, 2020 and 2019, respectively.

COVID-19 Pandemic

In March 2020, the World Health Organization declared the outbreak of COVID-19 as a pandemic, which continues to spread throughout the U.S. and the world. In response, governments have issued orders restricting certain activities, and while our business falls within the category of healthcare operations, which are essential businesses that need to continue during the COVID-19 outbreak, we have experienced, and expect to continue to experience, disruptions to our operations as a result of the pandemic. For example, hospital resources have been diverted to fight the pandemic, and many government agencies in conjunction with healthcare systems have recommended the deferral of elective and semi-elective medical procedures during the outbreak. Some of Penumbra's medical devices are used in certain procedures that the United States Centers for Medicare & Medicaid Services ("CMS") has indicated are "high-acuity" procedures that should not be postponed during the outbreak in its March 18, 2020 recommendations, while other Penumbra devices are used in elective procedures that physicians may consider postponing. Many of the procedures in which our vascular products are used are elective in nature, whereas procedures in which our neuro products are used, such as stroke, tend to be more emergent in nature.

The impact of COVID-19 on our business remains fluid, and we continue to actively monitor the dynamic situation. We are undertaking the following specific actions and strategic priorities to navigate the pandemic:

- We have made changes to how we manufacture, inspect and ship our products to prioritize the health and safety of our employees and to operate under the protocols mandated by our local and state governments. While we are committed to continue meeting demand for our essential devices, we have implemented social distancing and other measures to protect the health and safety of our employees, which have reduced, and may continue to reduce, our manufacturing capacity.

- In order to strengthen our liquidity position, we issued and sold an aggregate of 865,963 shares of our common stock at a public offering price of $166.00 per share, less the underwriters' discounts and commissions, pursuant to an underwritten public offering in June 2020. We received approximately $134.8 million in net cash proceeds from the offering after deducting underwriting discounts and commissions of $8.6 million and other offering expenses of $0.4 million.

- We further strengthened our liquidity position by entering into a Credit Agreement (the "Credit Agreement") on April 24, 2020, with JPMorgan Chase Bank, N.A., as administrative agent and lender, and Bank of America, N.A. and Citibank, N.A. as lenders. The Credit Agreement is secured and provides for up to $100 million in available revolving borrowing capacity with an option, subject to certain conditions, for us to increase the aggregate borrowing capacity to up to $150 million, and matures on April 23, 2021. This revolving line of credit provides access to capital beyond the $278.3 million in cash, cash equivalents and marketable investments on our balance sheet as of June 30, 2020, and we believe this will allow us to both navigate the current environment and emerge in a strong position after the pandemic. As of June 30, 2020, there were no borrowings outstanding under the Credit Agreement.

- We will continue to prioritize investments in our production capacity and flexibility, commercial channels, preparation for new product launches, and new product developments to help patients.

While we saw recent positive trends in our business beginning in May and continuing through June 2020, after experiencing negative impacts on business trends in April due to the COVID-19 outbreak, the general impact of COVID-19 on our business has been negative and we are unable to reliably predict the full impact that COVID-19 will have on our business due to numerous uncertainties, including the severity and duration of the outbreak, additional actions that may be taken by governmental authorities in response to the outbreak, the impact of the outbreak on the business of our customers, distributors and suppliers, other businesses and worldwide economies in general, our ability to have access to our customers to provide training and case support, and other factors identified in Part II, Item 1A "Risk Factors" in this Quarterly Report on Form 10-Q. We will continue to evaluate the nature and extent of the impact of COVID-19 on our business, consolidated results of operations, and financial condition.

Factors Affecting Our Performance

There are a number of factors that have impacted, and we believe will continue to impact, our results of operations and growth. These factors include:

- The COVID-19 outbreak and measures taken in response thereto, which have negatively affected, and we expect will continue to negatively affect, our revenues and results of operations. Due to these impacts and measures, we may experience significant and unpredictable fluctuations in demand for certain of our products as hospital customers re-prioritize the treatment of patients and distributors adjust their operations to support the current demand level.
- The rate at which we grow our salesforce and the speed at which newly hired salespeople become fully effective can impact our revenue growth or our costs incurred in anticipation of such growth.
- Our industry is intensely competitive and, in particular, we compete with a number of large, well-capitalized companies. We must continue to successfully compete in light of our competitors' existing and future products and their resources to successfully market to the specialist physicians who use our products.
- We must continue to successfully introduce new products that gain acceptance with specialist physicians and successfully transition from existing products to new products, ensuring adequate supply. In addition, as we introduce new products and expand our production capacity, we anticipate additional personnel will be hired and trained to build our inventory of components and finished goods in advance of sales, which may cause quarterly fluctuations in our operating results and financial condition.
- Publications of clinical results by us, our competitors and other third parties can have a significant influence on whether, and the degree to which, our products are used by specialist physicians and the procedures and treatments those physicians choose to administer for a given condition.
- The specialist physicians who use our products may not perform procedures during certain times of the year, such as those periods when they are at major medical conferences or are away from their practices for other reasons, the timing of which occurs irregularly during the year and from year to year.
- Most of our sales outside of the United States are denominated in the local currency of the country in which we sell our products. As a result, our revenue from international sales can be significantly impacted by fluctuations in foreign currency exchange rates.
- The availability and levels of reimbursement within the relevant healthcare payment system for healthcare providers for procedures in which our products are used.

In addition, we have experienced and expect to continue to experience meaningful variability in our quarterly revenue, gross profit and gross margin percentage as a result of a number of factors, including, but not limited to: the impact of COVID-19, the number of available selling days, which can be impacted by holidays; the mix of products sold; the geographic mix of where products are sold; the demand for our products and the products of our competitors; the timing of or failure to obtain regulatory approvals or clearances for products; increased competition; the timing of customer orders; inventory write-offs due to obsolescence; costs, benefits and timing of new product introductions; costs, benefits and timing of the acquisition and integration of businesses and product lines we may acquire; the availability and cost of components and raw materials; and fluctuations in foreign currency exchange rates. We may experience quarters in which we have significant revenue growth sequentially followed by quarters of moderate or no revenue growth. Additionally, we may experience quarters in which operating expenses, in particular research and development expenses, fluctuate depending on the stage and timing of product development.

Components of Results of Operations

Revenue. We sell our products directly to hospitals and other healthcare providers and through distributors for use in procedures performed by specialist physicians to treat patients in two key markets: neuro and vascular disease. We sell our products through purchase orders, and we do not have long term purchase commitments from our customers. Revenue from product sales is recognized either on the date of shipment or the date of receipt by the customer, but is deferred for certain transactions when control has not yet transferred. With respect to products that we consign to hospitals, which primarily consist of coils, we recognize revenue at the time hospitals utilize products in a procedure. Revenue also includes shipping and handling costs that we charge to customers.

Cost of Revenue. Cost of revenue consists primarily of the cost of raw materials and components, personnel costs, including stock-based compensation, inbound freight charges, receiving costs, inspection and testing costs, warehousing costs, royalty expense, shipping and handling costs, and other labor and overhead costs incurred in the manufacturing of products. In addition, we record write-downs or write-offs of inventory in the event that a portion of our inventory becomes excess or obsolete.

We manufacture substantially all of our products in our manufacturing facilities in Alameda and Roseville, California.

Operating Expenses

Research and Development ("R&D"). R&D expenses primarily consist of product development, clinical and regulatory expenses, materials, depreciation and other costs associated with the development of our products. R&D expenses also include salaries, benefits and other related costs, including stock-based compensation, for personnel and consultants. We generally expense R&D costs as they are incurred, with the exception of certain costs incurred for the development of computer software for internal use related to our REAL Immersive System offerings. We capitalize certain costs when it is determined that it is probable that the project will be completed and the software will be used to perform the function intended, and the preliminary project stage is completed. Capitalized internal use software development costs are included in property and equipment, net within the condensed consolidated balance sheets.

Sales, General and Administrative ("SG&A"). SG&A expenses primarily consist of salaries, benefits and other related costs, including stock-based compensation, for personnel and consultants engaged in sales, marketing, finance, legal, compliance, administrative, facilities and information technology and human resource activities. Our SG&A expenses also include marketing trials, medical education, training, commissions, generally based on sales, to direct sales representatives, amortization of acquired intangible assets and acquisition-related costs.

(Benefit from) Provision For Income Taxes

We are taxed at the rates applicable within each jurisdiction in which we operate. The composite income tax rate, tax provisions, deferred tax assets ("DTAs") and deferred tax liabilities will vary according to the jurisdiction in which profits arise. Tax laws are complex and subject to different interpretations by management and the respective governmental taxing authorities, and require us to exercise judgment in determining our income tax provision, our deferred tax assets and deferred tax liabilities and the potential valuation allowance recorded against our net DTAs. Deferred tax assets and liabilities are determined using the enacted tax rates in effect for the years in which those tax assets are expected to be realized. A valuation allowance is established when it is more likely than not that the future realization of all or some of the DTAs will not be achieved.

Results of Operations

The following table sets forth the components of our condensed consolidated statements of operations in dollars and as a percentage of revenue for the periods presented:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
	(in thousands, except for percentages)				(in thousands, except for percentages)			
Revenue	$ 105,109	100.0 %	$ 134,201	100.0 %	$ 242,438	100.0 %	$ 262,640	100.0 %
Cost of revenue	40,179	38.2	40,273	30.0	89,499	36.9	84,802	32.3
Gross profit	64,930	61.8	93,928	70.0	152,939	63.1	177,838	67.7
Operating expenses:								
Research and development	22,725	21.6	13,462	10.0	35,671	14.7	25,129	9.6
Sales, general and administrative	59,854	56.9	67,665	50.4	134,307	55.4	128,756	49.0
Total operating expenses	82,579	78.6	81,127	60.5	169,978	70.1	153,885	58.6
(Loss) income from operations	(17,649)	(16.8)	12,801	9.5	(17,039)	(7.0)	23,953	9.1
Interest income, net	108	0.1	784	0.6	407	0.2	1,517	0.6
Other income (expense), net	511	0.5	(71)	(0.1)	(1,144)	(0.5)	(47)	—
(Loss) income before income taxes	(17,030)	(16.2)	13,514	10.1	(17,776)	(7.3)	25,423	9.7
Benefit from income taxes	(4,129)	(3.9)	(2,735)	(2.0)	(5,763)	(2.4)	(1,280)	(0.5)
Consolidated net (loss) income	$ (12,901)	(12.3)%	$ 16,249	12.1 %	$ (12,013)	(5.0)%	$ 26,703	10.2 %
Net loss attributable to non-controlling interest	(941)	(0.9)	(339)	(0.3)	(1,478)	(0.6)	(583)	(0.2)
Net (loss) income attributable to Penumbra, Inc.	$ (11,960)	(11.4)%	$ 16,588	12.4 %	$ (10,535)	(4.3)%	$ 27,286	10.4 %

Three Months Ended June 30, 2020 Compared to the Three Months Ended June 30, 2019

Revenue

	Three Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Neuro	$ 58,837	$ 81,547	$ (22,710)	(27.8)%
Vascular	46,272	52,654	(6,382)	(12.1)%
Total	$ 105,109	$ 134,201	$ (29,092)	(21.7)%

Revenue decreased $29.1 million, or 21.7%, to $105.1 million in the three months ended June 30, 2020, from $134.2 million in the three months ended June 30, 2019. The overall decrease in our revenue is primarily due to a decline in our products sales within our neuro and vascular business as a result of the negative impact of the COVID-19 pandemic.

Revenue from our neuro products decreased $22.7 million, or 27.8%, to $58.8 million in the three months ended June 30, 2020, from $81.5 million in the three months ended June 30, 2019. This was primarily attributable to decreased sales of our neuro thrombectomy products and neuro embolization products, which globally declined by 32.7% and 21.3% in the three months ended June 30, 2020, respectively. These decreases were primarily due to lower sales volume as a result of hospitals performing fewer procedures as well as a decline in international distribution sales, both primarily resulting from the response to the COVID-19 pandemic. Prices for our neuro products remained substantially unchanged during the period.

Revenue from our vascular products decreased $6.4 million, or 12.1%, to $46.3 million in the three months ended June 30, 2020, from $52.7 million in the three months ended June 30, 2019. This decrease was driven by a decline in sales of our vascular embolization products and vascular thrombectomy products, which globally declined by 18.9% and 5.0% in the three months ended June 30, 2020, respectively. Similar to our neuro business, these decreases were primarily due to lower sales volume as a result of hospitals performing fewer procedures as well as a decline in international distribution sales, both

primarily resulting from the response to the COVID-19 pandemic. Prices for our vascular products remained substantially unchanged during the period.

Although we saw recent positive trends in our business in the US and other parts of the world beginning in May and continuing through June 2020 after experiencing negative impacts on business trends in April due to the COVID-19 outbreak, the general impact of COVID-19 on our business has been negative and we may continue to observe a negative impact on revenue in the third quarter due to COVID-19, particularly for our international sales, as our distributors try to navigate the pandemic and its impact on their own businesses. As a consequence, we cannot reliably estimate the extent to which the COVID-19 pandemic may negatively impact our revenue in the third quarter and beyond.

Revenue by Geographic Area

The following table presents revenue by geographic area, based on our customers' shipping destinations, for the three months ended June 30, 2020 and 2019:

	Three Months Ended June 30,				Change	
	2020		2019		$	%
	(in thousands, except for percentages)					
United States	$ 78,043	74.2 %	$ 86,374	64.4 %	$ (8,331)	(9.6)%
International	27,066	25.8 %	47,827	35.6 %	(20,761)	(43.4)%
Total	$ 105,109	100.0 %	$ 134,201	100.0 %	$ (29,092)	(21.7)%

Revenue from product sales in international markets decreased $20.8 million, or 43.4%, to $27.1 million in the three months ended June 30, 2020, from $47.8 million in the three months ended June 30, 2019. Revenue from international sales represented 25.8% and 35.6% of our total revenue for the three months ended June 30, 2020 and 2019, respectively.

Gross Margin

	Three Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Cost of revenue	$ 40,179	$ 40,273	$ (94)	(0.2)%
Gross profit	$ 64,930	$ 93,928	$ (28,998)	(30.9)%
Gross margin %	61.8 %	70.0 %		

Gross margin decreased 8.2 percentage points to 61.8% in the three months ended June 30, 2020, from 70.0% in the three months ended June 30, 2019. The decrease in gross margin was primarily driven by a decline in revenue in the second quarter of 2020, primarily due to the impacts of COVID-19 discussed above, and by additional period expense incurred as we made the decision to continue to pay all of our direct manufacturing workforce full-time wages while reducing the labor capacity per shift to implement social distancing and other protective measures for the health and safety of our employees. Accordingly, certain labor costs were expensed as incurred in the three months ended June 30, 2020.

We may observe a decrease in overall demand for our products in the third quarter of 2020 due to the impact of the COVID-19 pandemic. As a result, our gross margin will be lower as a function of volume absorption and continued investments in ramping up our infrastructure. However, we cannot reliably estimate the extent to which the COVID-19 pandemic will impact our gross margin in the third quarter and beyond due to numerous uncertainties with respect to the COVID-19 pandemic and response thereto.

Research and Development ("R&D")

	Three Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
R&D	$ 22,725	$ 13,462	$ 9,263	68.8 %
R&D as a percentage of revenue	*21.6 %*	*10.0 %*		

R&D expenses increased by $9.3 million, or 68.8%, to $22.7 million in the three months ended June 30, 2020, from $13.5 million in the three months ended June 30, 2019. The increase was primarily due to a $5.6 million increase in product development and testing costs.

We have made investments, and plan to continue to make investments, in the development of our products, which may include hiring additional research and development employees. In addition, we have experienced in the past, and may continue to experience in the future, variability in expenses incurred due to the timing and costs of clinical trials and product development.

Sales, General and Administrative ("SG&A")

	Three Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
SG&A	$ 59,854	$ 67,665	$ (7,811)	(11.5)%
SG&A as a percentage of revenue	*56.9 %*	*50.4 %*		

SG&A expenses decreased by $7.8 million, or 11.5%, to $59.9 million in the three months ended June 30, 2020, from $67.7 million in the three months ended June 30, 2019. The decrease was primarily due to a $5.1 million decrease in cost related to marketing events, a $4.6 million decrease in travel-related expenses, partially offset by a $1.1 million increase in infrastructure cost, and a $0.9 million increase in personnel-related expense.

Our operating expenses in the second quarter of 2020 reflected reductions in expenditures from activities restricted by COVID-19, such as travel and entertainment expenses. We expect additional reductions in expenses related to the current environment and we have implemented other cost control measures. While certain spending may continue to decrease in the third quarter of 2020 as a result of the pandemic and such measures, we expect an increase in sales-related activities and we will continue to prioritize our investments in production capacity and flexibility, commercial channels, and preparation for new product launches to support our customers.

Benefit from Income Taxes

	Three Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Benefit from income taxes	$ (4,129)	$ (2,735)	$ (1,394)	51.0 %
Effective tax rate	*24.2 %*	*(20.2)%*		

During interim periods, we generally utilize the estimated annual effective tax rate ("AETR") method which involves the use of forecasted information. However, for the three months ended June 30, 2020, the estimated AETR method yielded unconventional results and would not provide a reliable estimate of income taxes. Therefore, we determined that using the discrete effective tax rate method, which involves the use of year-to-date information, would provide a more reliable estimate of income taxes for the current period.

Our benefit from income taxes was $4.1 million for the three months ended June 30, 2020, which was primarily due to tax benefits attributable to our worldwide losses as a result of the COVID-19 pandemic impact and excess tax benefits from stock-based compensation attributable to our U.S. jurisdiction. The effective tax rate was 24.2% for the three months ended June 30, 2020. Our benefit from income taxes was $2.7 million for the three months ended June 30, 2019, which was primarily due to excess tax benefits from stock-based compensation attributable to our U.S. jurisdiction, offset by income taxes attributable to our worldwide profits. The effective tax rate was (20.2)% for the three months ended June 30, 2019. Using the discrete method instead of the AETR method to compute income taxes for the three months ended June 30, 2020 achieved a more reasonable comparison of the effective tax rates when compared to the three months ended June 30, 2019. Our change in effective tax rate was primarily attributable to larger tax benefits over worldwide losses for the three months ended June 30, 2020, when compared to smaller tax benefits over worldwide profits for the three months ended June 30, 2019.

Six Months Ended June 30, 2020 Compared to the Six Months Ended June 30, 2019

Revenue

	Six Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Neuro	$ 136,913	$ 163,018	$ (26,105)	(16.0)%
Vascular	105,525	99,622	5,903	5.9 %
Total	$ 242,438	$ 262,640	$ (20,202)	(7.7)%

Revenue decreased $20.2 million, or 7.7%, to $242.4 million in the six months ended June 30, 2020, from $262.6 million in the six months ended June 30, 2019. The decline in sales of products within our neuro business drove the overall change in revenue, which was partially offset by sales of new and existing products within our vascular business.

Revenue from our neuro products decreased $26.1 million, or 16.0%, to $136.9 million in the six months ended June 30, 2020, from $163.0 million in the six months ended June 30, 2019. This was primarily attributable to decreased sales of our neuro thrombectomy products and neuro embolization products, which globally declined by 20.7% and 13.2% in the six months ended June 30, 2020, respectively. This decrease was primarily attributable to decreased sales in Japan as a result of reimbursement changes and on-going discussions with our distributor partner, as well as to lower sales volume as a result of hospitals performing fewer procedures as well as a decline in international distribution sales, both primarily as well as a decline in international distribution sales, both primarily resulting from the response to the COVID-19 pandemic. Prices for our neuro products remained substantially unchanged during the period.

Revenue from our vascular products increased $5.9 million, or 5.9%, to $105.5 million in the six months ended June 30, 2020, from $99.6 million in the six months ended June 30, 2019. This increase was driven by sales of our vascular thrombectomy products, which globally increased by 11.4% in the six months ended June 30, 2020. This increase was primarily due to higher sales volume as a result of hospitals performing more procedures using our products prior to the COVID-19 pandemic, partially offset by hospitals performing fewer procedures as well as a decline in international distribution sales, both primarily resulting from the response to the COVID-19 pandemic. Prices for our vascular products remained substantially unchanged during the period.

Revenue by Geographic Area

The following table presents revenue by geographic area, based on our customer's shipping destination, for the six months ended June 30, 2020 and 2019:

	Six Months Ended June 30,				Change	
	2020		2019		$	%
	(in thousands, except for percentages)					
United States	$ 173,817	71.7 %	$ 168,885	64.3 %	$ 4,932	2.9 %
Other International	68,621	28.3 %	93,755	35.7 %	(25,134)	(26.8)%
Total	$ 242,438	100.0 %	$ 262,640	100.0 %	$ (20,202)	(7.7)%

Revenue from sales in international markets decreased $25.1 million, or 26.8%, to $68.6 million in the six months ended June 30, 2020, from $93.8 million in the six months ended June 30, 2019. Revenue from international sales represented 28.3% and 35.7% of our total revenue for the six months ended June 30, 2020 and 2019, respectively.

Gross Margin

	Six Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Cost of revenue	$ 89,499	$ 84,802	$ 4,697	5.5 %
Gross profit	$ 152,939	$ 177,838	$ (24,899)	(14.0)%
Gross margin %	63.1 %	67.7 %		

Gross margin decreased 4.6 percentage points to 63.1% in the six months ended June 30, 2020, from 67.7% in the six months ended June 30, 2019. The decrease in gross margin was primarily driven by a decline in revenue in the six months ended June 30, 2020, primarily due to the impacts of COVID-19 discussed above, and by additional period expense incurred as

we made the decision to continue to pay all of our direct manufacturing workforce full-time wages while reducing the labor capacity per shift to implement social distancing and other protective measures for the health and safety of our employees. Accordingly, certain labor costs were expensed as incurred in the six months ended June 30, 2020.

We may observe a decrease in overall demand for our products in the third quarter of 2020 due to the impact of the COVID-19 pandemic. As a result, our gross margin will be lower as a function of volume absorption and continued investments in ramping up our infrastructure. However, we cannot reliably estimate the extent to which the COVID-19 pandemic will impact our gross margin in the third quarter and beyond due to numerous uncertainties with respect to the COVID-19 pandemic and response thereto.

Research and Development ("R&D")

	Six Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
R&D	$ 35,671	$ 25,129	$ 10,542	42.0 %
R&D as a percentage of revenue	*14.7 %*	*9.6 %*		

R&D expenses increased by $10.5 million, or 42.0%, to $35.7 million in the six months ended June 30, 2020, from $25.1 million in the six months ended June 30, 2019. The increase was primarily due to a $4.9 million increase in product development and testing costs, and a $2.7 million increase in personnel-related expenses primarily due to an increase in headcount to support our growth.

We have made investments, and plan to continue to make investments, in the development of our products, which may include hiring additional research and development employees. In addition, we have experienced in the past, and may continue to experience in the future, variability in expenses incurred due to the timing and costs of clinical trials and product development.

Sales, General and Administrative (SG&A)

	Six Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
SG&A	$ 134,307	$ 128,756	$ 5,551	4.3 %
SG&A *as a percentage of revenue*	*55.4 %*	*49.0 %*		

SG&A expenses increased by $5.6 million, or 4.3%, to $134.3 million in the six months ended June 30, 2020, from $128.8 million in the six months ended June 30, 2019. The increase was primarily due to a $9.3 million increase in personnel-related expense, a $2.9 million increase in infrastructure costs, partially offset by a $4.4 million decrease in cost related to marketing events, and a $4.4 million decrease in travel-related expenses.

Our operating expenses in the six months ended June 30, 2020 reflected reductions in expenditures from activities restricted by COVID-19, such as travel and entertainment expenses. We expect additional reductions in expenses related to the current environment and we have implemented other cost control measures. While certain spending may continue to decrease in the third quarter of 2020 as a result of the pandemic and such measures, we expect an increase in sales-related activities and we will continue to prioritize our investments in production capacity and flexibility, commercial channels, and preparation for new product launches to support our customers.

Benefit from Income Taxes

	Six Months Ended June 30,		Change	
	2020	2019	$	%
	(in thousands, except for percentages)			
Benefit from income taxes	$ (5,763)	$ (1,280)	$ (4,483)	350.2 %
Effective tax rate	*32.4 %*	*(5.0)%*		

During interim periods, we generally utilize the estimated annual effective tax rate ("AETR") method which involves the use of forecasted information. However, for the six months ended June 30, 2020, the estimated AETR method yielded unconventional results and would not provide a reliable estimate of income taxes. Therefore, we determined that using the discrete effective tax rate method, which involves the use of year-to-date information, would provide a more reliable estimate of income taxes for the current period.

Our benefit from income taxes was $5.8 million for the six months ended June 30, 2020, which was primarily due to tax benefits attributable to our worldwide losses as a result of the COVID-19 pandemic impact and excess tax benefits from stock-based compensation attributable to our U.S. jurisdiction. The effective tax rate was 32.4% for the six months ended June 30, 2020. Our benefit from income taxes was $1.3 million for the six months ended June 30, 2019, which was primarily due to excess tax benefits from stock-based compensation attributable to our U.S. jurisdiction, offset by income taxes attributable to our worldwide profits. The effective tax rate was (5.0)% for the six months ended June 30, 2019. Using the discrete method instead of the AETR method to compute income taxes for the six months ended June 30, 2020 achieved a more reasonable comparison of the effective tax rates when compared to the six months ended June 30, 2019. Our change in effective tax rate was primarily attributable to larger tax benefits over worldwide losses for the six months ended June 30, 2020, when compared to smaller tax benefits over worldwide profits for the six months ended June 30, 2019.

Prospectively, our effective tax rate will likely be driven by (1) permanent differences in taxable income for tax and financial reporting purposes, (2) tax expense attributable to our worldwide profits, and (3) discrete tax adjustments such as excess tax benefits related to stock-based compensation. Our income tax provision is subject to volatility as the amount of excess tax benefits can fluctuate from period to period based on the price of our stock, the volume of share-based grants settled or vested, and the fair value assigned to equity awards under U.S. GAAP. In addition, changes in tax law or our interpretation thereof, and changes to our valuation allowance could result with fluctuations in our effective tax rate.

Liquidity and Capital Resources

As of June 30, 2020, we had $498.3 million in working capital, which included $134.4 million in cash and cash equivalents and $143.9 million in marketable investments. As of June 30, 2020, we held approximately 11.0% of our cash and cash equivalents in foreign entities.

In June 2020, we issued and sold an aggregate of 865,963 shares of our common stock at a public offering price of $166.00 per share, less the underwriters' discounts and commissions, pursuant to an underwritten public offering. We received approximately $134.8 million in net cash proceeds from the offering after deducting underwriting discounts and commissions of $8.6 million and other offering expenses of $0.4 million. We intend to use the net proceeds from the offering for general corporate purposes, including working capital, continued development of our products, including research and development and clinical trials, potential acquisitions and other business opportunities. Pending the use of the net proceeds from the offering, we are investing the net proceeds in investment grade, interest bearing securities.

In addition to our existing cash and cash equivalents and marketable investment balances, our principal source of liquidity is our accounts receivable. In order to further strengthen our liquidity position and financial flexibility during the COVID-19 pandemic, on April 24, 2020 we entered into a Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A., as administrative agent and lender, and Bank of America, N.A. and Citibank, N.A. as lenders. The Credit Agreement is secured and provides for up to $100 million in available revolving borrowing capacity with an option, subject to certain conditions, for the Company to increase the aggregate borrowing capacity to up to $150 million, and matures on April 23, 2021. See Note "8. Indebtedness" to our condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information.

We believe our sources of liquidity will be sufficient to meet our liquidity requirements for at least the next 12 months. Our principal liquidity requirements are to fund our operations, expand manufacturing operations which includes, but is not limited to, maintaining sufficient levels of inventory to meet the anticipated demand of our customers, fund research and development activities and fund our capital expenditures. We may also lease or purchase additional facilities to facilitate our growth. We expect to continue to make investments as we launch new products, expand our manufacturing operations and IT infrastructures and further expand into international markets. We may, however, require or elect to secure additional financing as we continue to execute our business strategy. If we require or elect to raise additional funds, we may do so through equity or debt financing, which may not be available on favorable terms, could result in dilution to our stockholders, could result in changes to our capital structure, and could require us to agree to covenants that limit our operating flexibility.

As a result of the COVID-19 pandemic, we may experience reduced cash flow from operations in the third quarter of 2020 as a result of decreased revenues and potentially slower accounts receivable collections. Moreover, we are focused on ensuring that we have adequate supplies on hand given the potential disruption of the COVID-19 pandemic to our suppliers and their supply chain and, accordingly, we expect to continue to increase inventory during the third quarter of 2020 and beyond. However, we cannot reliably estimate the extent to which the COVID-19 pandemic will impact our cash flow from operations in the third quarter and beyond.

The following table summarizes our cash and cash equivalents, marketable investments and selected working capital data as of June 30, 2020 and December 31, 2019:

	June 30, 2020	December 31, 2019
	(in thousands)	
Cash and cash equivalents	$ 134,381	$ 72,779
Marketable investments	143,914	116,610
Accounts receivable, net	97,613	105,901
Accounts payable	14,432	15,111
Accrued liabilities	57,718	67,630
Working capital[1]	498,283	372,086

(1) Working capital consists of total current assets less total current liabilities.

The following table sets forth, for the periods indicated, our beginning balance of cash and cash equivalents, net cash flows provided by (used in) operating, investing and financing activities and our ending balance of cash and cash equivalents:

	Six Months Ended June 30,	
	2020	2019
	(in thousands)	
Cash and cash equivalents and restricted cash at beginning of period	$ 72,779	$ 67,850
Net cash used in operating activities	(27,609)	(165)
Net cash (used in) provided by investing activities	(44,507)	16,742
Net cash provided by (used in) financing activities	134,111	(7,018)
Cash and cash equivalents and restricted cash at end of period	134,381	77,261

Net Cash Used In Operating Activities

Net cash used in operating activities consists primarily of consolidated net income adjusted for certain non-cash items (including depreciation and amortization, stock-based compensation expense, inventory write-downs, and changes in deferred tax balances), and the effect of changes in working capital and other activities.

Net cash used in operating activities was $27.6 million during the six months ended June 30, 2020 and consisted of consolidated net loss of $12.0 million and net changes in operating assets and liabilities of $34.5 million, offset by non-cash items of $18.9 million. The change in operating assets and liabilities includes an increase in inventories of $31.9 million, and an increase in prepaid expenses and other current and non-current assets of $4.3 million. This was partially offset by an decrease in accounts receivable of $6.8 million and other non-current liabilities of $5.1 million.

Net cash used in operating activities was $0.2 million during the six months ended June 30, 2019 and consisted of a consolidated net income of $26.7 million and non-cash items of $14.5 million, offset by net changes in operating assets and liabilities of $41.4 million. The change in operating assets and liabilities includes an increase in inventories of $18.5 million to support our revenue growth, an increase in accounts receivable of $17.6 million, an increase in prepaid expenses and other current and non-current assets of $3.8 million and a decrease in accrued expenses and other non-current liabilities of $1.9 million, partially offset by an increase in accounts payable of $0.4 million as a result of growth in our business activities.

Net Cash (Used In) Provided By Investing Activities

Net cash (used in) provided by investing activities relates primarily to purchases of marketable investments, net of proceeds from maturities and sales and by capital expenditures.

Net cash used in investing activities was $44.5 million during the six months ended June 30, 2020 and consisted of purchases of marketable investments, net of proceeds from maturities and sales, of $25.6 million, and capital expenditures of $16.9 million.

Net cash provided by investing activities was $16.7 million during the six months ended June 30, 2019 and consisted of proceeds from maturities and sales of marketable investments, net of purchases, of $24.0 million, partially offset by capital expenditures of $6.2 million.

Net Cash Provided By (Used In) Financing Activities

Net cash provided by (used in) financing activities primarily relates to payments of employee taxes related to vested restricted stock units, payments towards the reduction of our finance lease obligations and certain acquisition-related payments, and proceeds from exercises of stock options and issuance of common stock.

Net cash provided by financing activities was $134.1 million during the six months ended June 30, 2020 and primarily consisted of proceeds from the issuance of common stock net of issuance cost of $134.8 million, proceeds from the issuance of common stock under our employee stock purchase plan of $5.9 million, and proceeds from exercises of stock options of $1.2 million. This was partially offset by $3.9 million of payments of employee taxes related to vested restricted stock and restricted stock units, $3.0 million in payments towards finance leases, and $0.7 million related to contingent consideration payments made in the first quarter of 2020 in connection with our acquisition of Crossmed S.p.a. in 2017.

Net cash used in financing activities was $7.0 million during the six months ended June 30, 2019 and primarily consisted of $13.4 million of payments of employee taxes related to vested restricted stock and restricted stock units and $1.2 million primarily related to contingent consideration payments made in the first quarter of 2019 in connection with our acquisition of Crossmed S.p.a. in 2017. This was partially offset by proceeds from the issuance of common stock under our employee stock purchase plan of $4.8 million and proceeds from stock option exercises of $2.3 million.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments as of June 30, 2020 from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2019.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements or holdings in variable interest entities.

Critical Accounting Policies and Estimates

We have prepared our financial statements in accordance with U.S. GAAP. Our preparation of these financial statements requires us to make estimates, assumptions, and judgments that affect the reported amounts of assets, liabilities, expenses, and related disclosures at the date of the financial statements, as well as revenue and expenses recorded during the reporting periods. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could therefore differ materially from these estimates under different assumptions or conditions.

There have been no material changes to our critical accounting policies from those described in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our Annual Report on Form 10-K for the year ended December 31, 2019.

Recently Issued Accounting Standards

For information with respect to recently issued accounting standards and the impact of these standards on our condensed consolidated financial statements, see Note “2. Summary of Significant Accounting Policies” to our condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are exposed to various market risks, which may result in potential losses arising from adverse changes in market rates, such as interest rates and foreign exchange rates. We do not enter into derivatives or other financial instruments for trading or speculative purposes and do not believe we are exposed to material market risk with respect to our cash and cash equivalents and/or our marketable investments.

Interest Rate Risk. We had cash and cash equivalents of $134.4 million as of June 30, 2020, which consisted of funds held in general checking and savings accounts. In addition, we had marketable investments of $143.9 million, which consisted primarily of commercial paper, corporate bonds, non-U.S. government debt securities, U.S. agency and government sponsored securities, U.S. states and municipalities and U.S. Treasury. Our investment policy is focused on the preservation of capital and supporting our liquidity needs. Under the policy, we invest in highly rated securities, while limiting the amount of credit exposure to any one issuer other than the U.S. government. We do not invest in financial instruments for trading or speculative purposes, nor do we use leveraged financial instruments. We utilize external investment managers who adhere to the guidelines of our investment policy. The revolving loans under our Credit Agreement bear interest at: 1) the adjusted LIBO rate or adjusted EURIBO rate, as applicable, plus an applicable rate, for euro currency revolving borrowing; or 2) an alternate base rate plus an applicable rate, for revolving borrowing in U.S. Dollars. As of June 30, 2020, there were no borrowings outstanding under the Credit Agreement. A hypothetical 100 basis point change in interest rates would not have a material impact on the value of our cash and cash equivalents or marketable investments.

Foreign Exchange Risk Management. We operate in countries other than the United States, and, therefore, we are exposed to foreign currency risks. We bill most sales outside of the United States in local currencies, primarily euro and Japanese yen, with some sales being denominated in other currencies. We expect that the percentage of our sales denominated in foreign currencies may increase in the foreseeable future as we continue to expand into international markets. When sales or expenses are not denominated in U.S. dollars, a fluctuation in exchange rates could affect our net income. We do not believe our net income attributable to Penumbra, Inc. would be materially impacted by an immediate 10% adverse change in foreign exchange rates. We do not currently hedge our exposure to foreign currency exchange rate fluctuations; however, we may choose to hedge our exposure in the future.

We do not believe that inflation and changes in prices had a significant impact on our results of operations as of and for the period ended June 30, 2020.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

An evaluation as of June 30, 2020 was carried out under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, of the effectiveness of our "disclosure controls and procedures," which are defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended ("the Exchange Act"), as controls and other procedures of a company that are designed to ensure that the information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to the company's management, including its principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. Based upon that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective at June 30, 2020.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarterly period ended June 30, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within a company have been detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the objectives of our disclosure control system are met and, as set forth above, our principal executive officer and principal financial officer have concluded, based on their evaluation as of the end of the period covered by this report, that our disclosure controls and procedures were effective to provide reasonable assurance that the objectives of our disclosure control system were met.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

None.

ITEM 1A. RISK FACTORS.

There have been no material changes to our risk factors reported or new factors identified since the filing of our Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the SEC on February 26, 2020, except as set forth below.

The ongoing effects of the COVID-19 pandemic could adversely affect our business, financial condition, results of operations, or cash flows.

In December 2019, a strain of coronavirus, known as COVID-19, surfaced in Wuhan, China and resulted in an outbreak throughout the world. On March 11, 2020, the World Health Organization declared COVID-19 a pandemic. Governments, public institutions, and other organizations in countries and localities throughout the world have taken and are continuing to take certain emergency measures to combat the spread of COVID-19, including implementation of restrictions on travel and orders that restrict the operations of institutions such as schools and businesses. While the full impact of the COVID-19 outbreak and government response is not yet known, we have experienced initial impacts of this pandemic and it could materially harm our business, results of operations and financial condition in the future.

For example, on March 18, 2020, the United States Centers for Medicare & Medicaid Services released guidance for U.S. healthcare providers recommending the delay of elective surgeries and non-essential medical, surgical, and dental procedures in order to preserve personal protective equipment, beds, and ventilators for use in combating COVID-19. This guidance and similar guidance from other public health authorities resulted in the deferral of procedures in which our products are used, which thereby reduced demand for our products. Any similar guidance in the future could also reduce demand for our products. Furthermore, once the COVID-19 pandemic subsides there may be constraints in the capacities and financial resources of hospitals and other healthcare providers to perform procedures that had been deferred due to COVID-19, which could have an adverse effect on demand for our products following the end of the pandemic. Many hospitals have also implemented restrictions on vendor access, potentially limiting our ability to provide product and case support.

In addition, due to domestic and international governmental orders restricting certain activities in response to COVID-19, including in Alameda, California, where our corporate headquarters and many of our operations, including our principal manufacturing facility, are located, we have experienced, and may in the future experience, certain disruptions in our business, including changes to our on-site operations to reduce manufacturing capacity and implement social distancing, reductions in our suppliers' ability to source, maintain inventory and ship raw materials in alignment with our demands, work stoppages, slowdowns and delays, including having most of our employees working outside of our offices, travel restrictions, reduced access to our customers for product training and case support, and cancellation of events, delays in product development efforts and related clinical trials and regulatory clearances and approvals, and other negative impacts on our capacity to manufacture, our suppliers' capacity to source and ship raw materials and our distributors' ability to sell and support the use of our products.

The COVID-19 pandemic has also caused significant uncertainty and volatility in global financial markets and the trading prices for the common stock of medical device companies, including Penumbra. Due to such volatility, we may not be able to raise additional capital, if needed, on favorable terms, or at all. Further adverse economic events resulting from the COVID-19 pandemic, including a prolonged recession, depression or other sustained economic downturn, could materially and adversely affect our business, access to capital markets and the value of our common stock.

The ultimate impact of the COVID-19 pandemic is highly uncertain and subject to change. We do not yet know the full extent of potential impacts on our business, healthcare systems, the medical device industry or the global economy as a whole. However, these effects could adversely impact our business, financial condition, results of operations, or cash flows.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None.

ITEM 4. MINE SAFETY DISCLOSURE.

None.

ITEM 5. OTHER INFORMATION.

None.

ITEM 6. EXHIBITS.

Exhibit Number	Description	Form	File No.	Exhibit(s)	Filing Date
10.1*	Credit Agreement, dated as of April 24, 2020, by and among Penumbra, Inc. and JPMorgan Chase Bank, N.A., as Administrative Agent and Lender, Citibank, N.A., as Lender, and Bank of America, N.A., as Lender	8-K	001-37557	10.1	April 24, 2020
31.1*	Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.				
31.2*	Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.				
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.				
101*	The following materials from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 formatted in Inline Extensible Business Reporting Language (iXBRL) includes: (i) Condensed Consolidated Balance Sheets as of June 30, 2020 and December 31, 2019, (ii) Condensed Consolidated Statements of Operations for the three and six months ended June 30, 2020 and 2019, (ii) Condensed Consolidated Statements of Comprehensive (Loss) Income for the three and six months ended June 30, 2020 and 2019, (iii) Condensed Consolidated Statements of Stockholders' Equity for the three and six months ended June 30, 2020 and 2019, (iv) Consolidated Statements of Cash Flows for the six months ended June 30, 2020 and 2019, and (v) Notes to Consolidated Financial Statements.				
104*	Cover Page Interactive Data File (formatted as iXBRL with applicable taxonomy extension information contained in Exhibit 101).				

* Filed herewith.

** Furnished herewith.

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 hereunto duly authorized.

PENUMBRA, INC.

Date: August 3, 2020

By: /s/ Maggie Yuen

Maggie Yuen
Chief Financial Officer
(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a) OF THE SECURITIES EXCHANGE ACT, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Adam Elsesser, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Penumbra, 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.

Date: August 3, 2020

/s/ Adam Elsesser

Adam Elsesser
Chairman, Chief Executive Officer and President

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a) OF THE SECURITIES EXCHANGE ACT, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Maggie Yuen, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Penumbra, 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.

Date: August 3, 2020

/s/ Maggie Yuen
Maggie Yuen
Chief Financial Officer

Exhibit 32.1

PENUMBRA, INC.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Penumbra, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended June 30, 2020, as filed with the Securities and Exchange Commission (the "Report"), Adam Elsesser, Chairman, Chief Executive Officer and President of the Company, and Maggie Yuen, Chief Financial Officer of the Company, respectively, do each hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods presented.

Date: August 3, 2020

/s/ Adam Elsesser

Adam Elsesser
Chairman, Chief Executive Officer and President

/s/ Maggie Yuen

Maggie Yuen
Chief Financial Officer