UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date Earliest Event reported): May 21, 2020

PPD, Inc.
(Exact name of registrant as specified in its charter)

Delaware	001-39212	45-3806427
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

929 North Front Street
Wilmington, North Carolina 28401
(910) 251-0081
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e- 4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**PPD**	**The NASDAQ Stock Market LLC (Nasdaq Global Select Market)**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

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

Item 8.01. Other Events

PPD, Inc. (the “Company” or “we” or “our”) is filing this Current Report on Form 8-K to recast certain previously reported amounts to conform with the segment reporting changes made during the first quarter of 2020 based on how the Company's Chief Operating Decision Maker (“CODM”) reviews performance and allocates resources, with respect to the financial information contained in our Annual Report on Form 10-K for the year ended December 31, 2019 (the “2019 Form 10-K”).

The Company's CODM assesses segment performance and makes resource allocation decisions based on segment revenues and segment operating income. During the first quarter of 2020, the CODM began assessing segment performance and making resource allocation decisions based on total segment revenue, including direct, third-party pass-through and out-of-pocket revenue and segment operating income, including reimbursed costs. Previously, certain revenue amounts and reimbursed costs were not allocated to segments, whereas following the change, all revenue and reimbursed costs are allocated to the respective segment.

As a result, the Company has updated its segment presentation for the years ended December 31, 2019 and 2018, which have been recast to reflect the change in the measurement of segment performance measures. No changes have been made to the segment presentation for the year ended December 31, 2017, as prior to the adoption of Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers*, on January 1, 2018, third-party pass-through and out-of-pocket revenue, as well as reimbursed costs, were not allocated to the Company’s segments.

The Company is filing this Form 8-K voluntarily to recast its consolidated financial statements for each of the years ended December 31, 2019 and 2018, to reflect the changes in segment presentation as described above in order to be consistent with the segment presentation in its Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020. The updates do not represent a restatement of previously issued financial statements. The recast information of Items contained in the 2019 Form 10-K is presented in Exhibits 99.1, 99.2 and 99.3 to this Form 8-K.

The information included in this Form 8-K is presented for informational purposes only in connection with the reporting changes described above and does not amend or restate other information within our audited consolidated financial statements, which were included in the 2019 Form 10-K. This Form 8-K does not reflect events occurring after we filed our 2019 Form 10-K and does not in any way modify or update the disclosures therein, other than to illustrate the changes made based on how the CODM assesses segment performance and makes resource allocation decisions as described above. For developments subsequent to the filing of the 2019 Form 10-K, refer to our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020.

Item 9.01 Financial Statements and Exhibits.

(d) *Exhibits.* The following exhibits are filed within this document

Exhibit No.	Description
23.1*	Consent of Independent Registered Public Accounting Firm
99.1*	Updates, where applicable, to Part I, Item 1. Business, from PPD’s Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on March 5, 2020
99.2*	Updates, where applicable, to Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, from PPD’s Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on March 5, 2020
99.3*	Updated Part II, Item 8. Financial Statements and Supplementary Data, from PPD’s Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on March 5, 2020
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase

* Furnished herewith**.**

Signature

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

PPD, Inc.

By:	/s/ B. Judd Hartman
Name:	B. Judd Hartman
Title:	Executive Vice President, General Counsel and Secretary

Date: May 21, 2020

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-235860 on Form S-8 of our report dated March 5, 2020 (May 21, 2020 as to Note 19), relating to the financial statements of PPD, Inc. appearing in this Current Report on Form 8-K dated May 21, 2020.

/s/ Deloitte & Touche LLP

Raleigh, North Carolina
May 21, 2020

Part I

Item 1. Business

Note: The information contained in this Item has been updated for the changes made to our segment performance measures during the first quarter of 2020 as discussed in the recasted audited consolidated financial statements and notes thereto in Exhibit 99.3 included elsewhere in this Form 8-K which updates our Annual Report on Form 10-K for the year ended December 31, 2019 (the "2019 Form 10-K"). This Item has not been updated for any other changes since the filing of the 2019 Form 10-K. For developments subsequent to the filing of the 2019 Form 10-K, refer to our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020.

Capitalize on our Growing Laboratory Segment

Our laboratory services offering is focused on the high-growth, innovative segment of laboratory services through its diverse range of high-value, advanced testing services. As an example, we have developed a significant and growing number of assays to address the testing needs of gene therapy. Our Laboratory Services segment represents approximately 16.8% of our 2019 total segment revenue and increased approximately 19.6% for the year ended December 31, 2019 as compared to the same period in 2018. It also affords us significant operating leverage and diversification, and provides higher backlog visibility and related conversion rates. Our Laboratory Services segment allows us to provide integrated offerings to customers that need both clinical development and laboratory services.

Part II

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Note: The information contained in this Item has been updated for the changes made to our segment performance measures during the first quarter of 2020 as discussed in the recasted audited consolidated financial statements and notes thereto in Exhibit 99.3 included elsewhere in this Form 8-K which updates our Annual Report on Form 10-K for the year ended December 31, 2019 (the "2019 Form 10-K"). This Item has not been updated for any other changes since the filing of the 2019 Form 10-K. For developments subsequent to the filing of the 2019 Form 10-K, refer to our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020.

Company Overview

We are a leading provider of drug development services to the biopharmaceutical industry, focused on helping our customers bring their new medicines to patients around the world. We have been in the drug development services business for more than 30 years, providing a comprehensive suite of clinical development and laboratory services to pharmaceutical, biotechnology, medical device and government organizations, as well as other industry participants. Over that time, we have developed a track record of consistent quality, delivery and continuous innovation that has enabled us to grow faster than our underlying market over the past five years and deliver strong financial results. In 2019, we served all of the top 50 biopharmaceutical companies in the world, as ranked by 2018 R&D spending, and, in 2018, were involved in 66 drug approvals. We also participated in the development of all of 2018's top ten selling drugs, as ranked by 2018 revenue. Since 2014, we have also worked with over 300 companies in the growing biotechnology sector through our PPD Biotech model, which was built specifically to serve the unique needs of this customer segment.

Our purpose and mission are to improve health by helping our customers deliver life-changing therapies to patients. We pursue our purpose and mission through our clinical development and laboratory services and our strategy to bend the cost and time curve of drug development and optimize value for our customers. Our customers benefit from accelerated time to market because it results in lengthened periods of market exclusivity, and our real-world evidence solutions support the superior efficacy and value of their novel therapies. We believe our medical, scientific and drug development expertise, along with our innovative technologies and knowledge of global regulatory requirements, help our customers accelerate the development of safe and effective therapeutics and maximize returns on their R&D investments. We have two reportable segments, Clinical Development Services and Laboratory Services. For a description of our service offerings within our segments, see Part I, Item 1, "Business" of this Annual Report on Form 10-K.

Effective January 1, 2018, we adopted Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers (*"ASC 606"), using the modified retrospective method for all contracts not completed as of the date of adoption. The audited consolidated financial statements as of and for the years ended December 31, 2019 and 2018 included elsewhere in this Annual Report on Form 10-K, reflect the application of the accounting guidance of ASC 606, while the consolidated financial statements and other financial information (as applicable) for the period commencing prior to January 1, 2018, reflect previous accounting guidance from the application of ASC Topic 605, *Revenue Recognition* ("ASC 605").

Industry Outlook

For information about the industry outlook and markets that we operate in, refer to "Our Markets" within Part I, Item I of this Annual Report on Form 10-K.

Sources of Revenue

Under ASC 606, revenue is comprised of direct, third-party pass-through and out-of-pocket revenue from providing services to our customers. Direct revenue represents revenue associated with the direct services provided under our contracts. Third-party pass-through and out-of-pocket revenue represents the reimbursement by customers of third-party pass-through and out-of-pocket costs incurred by us under our contracts. Revenue typically fluctuates and may fluctuate significantly period to period based on the timing and types of services performed, staff utilization and hours worked, actual and estimated third-party pass-through and out-of-pocket costs and the volume of our net authorizations driving growth in backlog, among other factors.

With the adoption of ASC 606, we record the reimbursement of third-party pass-through and out-of-pocket revenue and the related costs incurred as revenue and reimbursed costs on the consolidated statements of operations. We record these reimbursed costs as revenue when we are the principal in the relationship, are primarily responsible for the services provided by third parties and significantly integrate the services of the third parties with our own services in delivering a combined output to the customer.

Previously under ASC 605, revenue only included direct revenue from providing services to our customers. Third-party pass-through revenue and costs were presented on a net basis and out-of-pocket revenue and costs were presented on a gross basis as reimbursed revenue and reimbursed costs on the consolidated statements of operations. Additionally, third-party pass-through and out-of-pocket costs were excluded from the costs used in the measure of progress for full-service clinical trial management contracts that utilized the proportional performance method to recognize revenue, and the related revenue was recognized for these reimbursed costs when the costs were incurred. Third-party pass-through and out-of-pocket revenue and costs did not have a significant impact on our financial performance, because they were ancillary to the clinical development and laboratory services provided by us, generally provided by us without profit or mark-up and variable from period to period without being important to our underlying business performance. Therefore, prior to January 1, 2018, we did not analyze third-party pass-through and out-of-pocket revenue and related costs from period to period.

Our Clinical Development Services segment represented 83.2%, 84.9% and 83.8% of total segment revenue for the years ended December 31, 2019, 2018 and 2017, respectively, with the remainder generated from Laboratory Services.

We have a diverse customer mix, with no one customer accounting for more than 10% of our revenue for the years ended December 31, 2019, 2018 and 2017. Our top 10 customers accounted for approximately 47.9%, 47.5% and 50.5% of our revenue for the years ended December 31, 2019, 2018 and 2017, respectively. Based on the diversity of our customer base, we do not believe we have significant customer concentration risk. We do not have any significant product revenues.

Operating Costs and Expenses

Our operating costs and expenses primarily consist of direct costs, reimbursed costs, selling, general and administrative ("SG&A") expenses and depreciation and amortization.

Direct Costs

Direct costs represent costs for providing services to customers. Direct costs primarily include labor-related costs, such as compensation and benefits for employees providing services, an allocation of facility and information technology costs, supply costs, costs for certain media-related services for patient recruitment, other overhead costs and offsetting R&D incentive credits. Direct costs typically increase or decrease with changes in revenue and may fluctuate significantly from period to period as a percentage of revenue due to staff labor utilization, project labor mix, the type of services, changes to the timing of work performed and project inefficiencies, among other factors.

Reimbursed Costs

Reimbursed costs include third-party pass-through and out-of-pocket costs which are generally reimbursable by our customers at cost. Third-party pass-through and out-of-pocket costs include, but are not limited to, payments to investigators, payments for the use of third-party technology, shipping costs and travel costs related to the performance of services, among others. Third-party pass-through and out-of-pocket costs are incurred across both of our reportable segments.

Because services associated with reimbursed costs are generally provided by us without profit or mark-up and fluctuate from period to period without being important to our underlying performance over the full term of a contract, these costs do not have a significant impact on our income from operations. While fluctuations from period to period are not meaningful over the full term of a contract, actual and estimated reimbursed costs can impact revenue recognized and income from operations throughout the duration of a contract.

Selling, General and Administrative Expenses

SG&A expenses represent costs of business development, administrative and support functions. SG&A expenses primarily include compensation and benefits for employees, costs related to employees performing administrative tasks, stock-based compensation expense, sales, marketing and promotional expenses, employee recruiting and relocation expenses, employee training costs, travel costs, an allocation of facility and information technology costs and other overhead costs.

Depreciation and Amortization

Depreciation and amortization represents the costs charged for our property and equipment and intangible assets. We record depreciation and amortization using the straight-line method, based on the estimated useful lives of the respective assets. We depreciate leasehold improvements over the shorter of the lease term or the estimated useful lives of the improvements. We amortize software developed or obtained for internal use, including software licenses obtained through a cloud computing arrangement, over the estimated useful life of the software or term of the licensing or service agreement. Amortization expense primarily comes from acquired definite-lived intangible assets. We amortize definite-lived intangible assets using either the straight-line method or sum-of-the-years digits method over the estimated useful lives of the assets.

How We Assess the Performance of Our Business

We manage and assess our business based on segment performance and allocate resources utilizing segment revenues and segment operating income. We also assess the performance of our consolidated business using a number of metrics including backlog and net authorizations. Our financial information for all periods presented below for backlog and net authorizations exclude the impact of net authorizations from anticipated third-party pass-through and out-of-pocket revenue.

Our backlog represents anticipated direct revenue for work not yet completed or performed (i) under signed contracts, letters of intent and, in some cases, awards that are supported by other forms of written communication and (ii) where there is sufficient or reasonable certainty about the customer’s ability and intent to fund and commence the services within six months.

Backlog and backlog conversion to direct revenue (defined as the quarterly average of direct revenue, which excludes the impact of third-party pass-through and out-of-pocket revenue and, for 2019 and 2018, the impact of ASC 606 on direct revenue, for the period divided by opening backlog for that period) vary from period to period depending upon new authorizations, contract modifications, cancellations and the amount of direct revenue recognized under existing contracts. We adjust backlog for foreign currency fluctuations and exclude direct revenue that has been recognized as revenue in our consolidated statements of operations.

Although an increase in backlog will generally result in an increase in future direct revenue to be recognized over time (depending on future contract modifications, contract cancellations and other adjustments), an increase in backlog at a particular point in time does not necessarily correspond to an increase in direct revenue during a particular period. The timing and extent to which backlog will result in direct revenue depends on many factors, including the timing of commencement of work, the rate at which we perform services, scope changes, cancellations, delays, receipt of regulatory approvals and the nature, duration, size, complexity and phase of the studies. Our contracts generally have terms ranging from several months to several years. In addition, delayed projects remain in backlog until they are canceled. As a result of these factors, our backlog might not be a reliable indicator of future direct revenue and we might not realize all or any part of the direct revenue from the authorizations in backlog as of any point in time.

We add new authorizations to backlog based on the aforementioned criteria for backlog. Net authorizations represent new business awards, net of award or contract modifications, contract cancellations, foreign currency fluctuations and other adjustments. New authorizations vary from period to period depending on numerous factors, including customer authorization volume, sales performance and overall health of the biopharmaceutical industry, among others. New authorizations have varied and will continue to vary significantly from quarter to quarter and from year to year. In addition to net authorizations, we also assess net book-to-bill which represents the amount of net authorizations for the period divided by the direct revenue (calculated consistent with backlog conversion to direct revenue above) recognized in that period.

Backlog and Net Authorizations

(dollars in millions)	2019	2018	2017	Change 2019 vs. 2018 $	Change 2019 vs. 2018 %	Change 2018 vs. 2017 $	Change 2018 vs. 2017 %
Net authorizations (for the years ended December 31)	$ 3,827.3	$ 3,421.0	$ 2,485.4	$ 406.3	11.9%	$ 935.6	37.6%
Backlog (as of December 31)	7,066.3	6,313.7	5,730.6	752.6	11.9	583.1	10.2
Backlog conversion (quarterly average for the years ended December 31)	11.9%	11.9%	11.7%		—		0.2
Net book-to-bill	1.2x	1.2x	0.9x				

Our net authorizations for the years ended December 31, 2019, 2018 and 2017 were $3,827.3 million, $3,421.0 million and $2,485.4 million, respectively. Our backlog as of December 31, 2019, 2018 and 2017 was $7,066.3 million, $6,313.7 million and $5,730.6 million, respectively. The increase in net authorizations and backlog in 2019 as compared to the same period in the prior year was primarily due to a higher win rate on competitive decisions (which represents the total dollar amount of new business on which we bid) and favorable net foreign currency fluctuations, partially offset by cancellations. The increase in net authorizations and backlog in 2018 as compared to the same period in the prior year was primarily due to a higher number of competitive decisions and lower cancellations, partially offset by unfavorable foreign currency fluctuations.

Acquisitions

September 2019 Acquisition

On September 3, 2019, we acquired 100% of the issued and outstanding equity of Synarc, Inc. ("Synarc"), the global site network of Bioclinica, Inc., expanding its global footprint into China and Latin America and expanding its central nervous system offering in the United States. As of December 31, 2019, the preliminary purchase price was $45.2 million. The initial accounting for the acquisition is not yet complete. See Note 6, "Business Combinations," of our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

July 2019 Acquisition

On July 1, 2019, we acquired 100% of the issued and outstanding equity of Medimix International ("Medimix"), a global technology company that provides real-world evidence insights and information to the pharmaceutical, diagnostic and medical device industries. As of December 31, 2019, the preliminary purchase price was $36.8 million, including $5.0 million of common stock of the Company. The initial accounting for the acquisition is not yet complete. See Note 6, "Business Combinations," of our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

September 2017 Acquisition

On September 1, 2017, we acquired 100% of Optimal Research, LLC ("Optimal Research"), a dedicated clinical research site network with enhanced oncology enrollment capabilities. The purchase price was $24.0 million. See Note 6, "Business Combinations," of our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

Incremental Public Company Expenses

As a new public company, we will incur additional expenses on an ongoing basis that we did not incur as a private company. Those costs include additional director and officer liability insurance expenses, as well as third-party and internal resources related to accounting, auditing, Sarbanes-Oxley Act compliance, legal, investor and public relations expenses and additional stock-based compensation expense as we align our long-term incentive plan with other public company plans. These costs will generally be SG&A expenses.

We also expect to replace our existing cash-based long-term incentive plan with annual equity awards in 2020. We recorded compensation expense of $14.1 million, $12.0 million and $11.1 million for each of the years ended December 31, 2019, 2018 and 2017, respectively, in connection with awards issued under our cash-based long-term incentive plan.

Results of Operations

We have included the results of operations of acquired companies in our consolidated results of operations from the date of their respective acquisitions, which impacts the comparability of our results of operations when comparing results for the year ended December 31, 2019 to the year ended December 31, 2018 and the year ended December 31, 2018 to the year ended December 31, 2017. We have noted in the discussion below, to the extent meaningful and quantifiable, the impact on the comparability of our consolidated results of operations to prior year results due to the inclusion of acquired companies as well as the impact of ASC 606 when comparing the year ended December 31, 2018 to the year ended December 31, 2017.

Year Ended December 31, 2019 versus Year Ended December 31, 2018 and Year Ended December 31, 2018 versus Year Ended December 31, 2017

Consolidated Results of Operations

Revenue

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	2019	2018	2017	$	%	$	%
Revenue	$ 4,031,017	$ 3,748,971	$ 2,767,476	$ 282,046	7.5%	$ 981,495	35.5%
Reimbursed revenue	—	—	233,574	—	n.m.	(233,574)	n.m.
Total revenue	$ 4,031,017	$ 3,748,971	$ 3,001,050	$ 282,046	7.5	$ 747,921	24.9

Revenue increased $282.0 million, or 7.5%, to $4,031.0 million for the year ended December 31, 2019 as compared to the same period in 2018. Revenue increased 7.6% from organic volume growth due to increased net authorizations and backlog growth in 2019 and 2018 and 0.7% from inorganic growth primarily due to our current year acquisitions of Synarc and Medimix (the “2019 Acquisitions”). The increase in revenue was partially offset by a 0.8% decrease from the unfavorable impact from foreign currency exchange rates.

Total revenue increased $747.9 million, or 24.9%, to $3,749.0 million for the year ended December 31, 2018 as compared to the same period in 2017. Total revenue increased primarily due to the adoption of ASC 606, which requires third-party pass-through revenue and out-of-pocket reimbursed revenue to be reported on a gross presentation basis as part of revenue. Previously, under ASC 605, third-party pass-through revenue was presented net of third-party pass-through costs in our consolidated statements of operations. Excluding the impact of the adoption of ASC 606, revenue increased $70.3 million, or 2.5%. Total revenue increased 1.5% primarily due to organic volume growth and higher backlog conversion, 0.7% due to the effect of favorable foreign currency exchange rates, and 0.3% due to inorganic growth from the 2017 acquisition of Optimal Research (the “2017 Acquisition”).

Direct Costs

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	2019	2018	2017	$	%	$	%
Direct costs	$ 1,484,258	$ 1,333,812	$ 1,302,983	$ 150,446	11.3%	$ 30,829	2.4%
% of total revenue	36.8%	35.6%	43.4%				

Direct costs increased $150.4 million to $1,484.3 million for the year ended December 31, 2019 as compared to the same period in 2018. The increase in direct costs was due to (i) a $97.9 million increase from growth in employee headcount and contract labor to support current and anticipated growth in future revenue as well as compensation increases, (ii) a $16.5 million increase from the impact of the 2019 Acquisitions and (iii) an increase in project delivery costs, including media-related costs for patient recruitment services and laboratory supply costs. The increase in direct costs was partially offset by a 1.6% decrease from the favorable impact from foreign currency exchange rates. As a percentage of revenue, direct costs increased to 36.8% for the year ended December 31, 2019 as compared to 35.6% in the same period in 2018 primarily due to the factors identified above.

Direct costs increased $30.8 million to $1,333.8 million for the year ended December 31, 2018 as compared to the same period in 2017. The increase in direct costs was primarily due to (i) a $30.9 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases, (ii) an increase in project delivery costs, including media-related costs for patient recruitment services and (iii) an inorganic increase of $5.2 million for the 2017 Acquisition, partially offset by increased R&D incentive credits. The increase in direct costs included a 0.8% increase from the unfavorable impact from foreign currency exchange rates. As a percentage of revenue, direct costs decreased to 35.6% for the year ended December 31, 2018 as compared to 43.4% in the same period in 2017. Excluding the impact from the adoption of ASC 606, direct costs were 43.4%, as a percentage of revenue, for the year ended December 31, 2018.

Reimbursed Costs

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	**2019**	**2018**	**2017**	**$**	**%**	**$**	**%**
Reimbursed costs	$ 924,634	$ 940,913	$ 233,574	$ (16,279)	(1.7)%	$ 707,339	302.8%
% of total revenue	22.9%	25.1%	7.8%				

Reimbursed costs decreased $16.3 million to $924.6 million for the year ended December 31, 2019 as compared to the same period in 2018. Reimbursed costs decreased due to lower pass-through costs for certain larger clinical trials within our Clinical Development Services segment as a result of fluctuations in enrollment and patient activity, as well as the general timing of costs incurred across the remainder of the portfolio, which will vary over the course of clinical trials due to the timing of the work performed, scope changes and the complexity and phase of the study, among other factors.

Reimbursed costs increased $707.3 million to $940.9 million for the year ended December 31, 2018 as compared to the same period in 2017. Reimbursed costs increased primarily due to the adoption of ASC 606, which requires third-party pass-through costs to be recorded on a gross presentation basis instead of being presented net of pass-through revenue. Previously, under ASC 605, third-party pass-through costs were presented net of third-party pass-through revenue in our consolidated statements of operations for periods that commenced prior to January 1, 2018. Excluding the impact from the adoption of ASC 606, reimbursed costs would have been $222.2 million for the year ended December 31, 2018. See discussion above on the impact from the adoption of ASC 606 on our revenues.

Selling, General and Administrative Expenses

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	**2019**	**2018**	**2017**	**$**	**%**	**$**	**%**
Selling, general and administrative expenses	$ 938,806	$ 813,035	$ 809,333	$ 125,771	15.5%	$ 3,702	0.5%
% of total revenue	23.3%	21.7%	27.0%				

SG&A expenses increased $125.8 million to $938.8 million for the year ended December 31, 2019 as compared to the same period in 2018. The increase in SG&A expenses was primarily due to (i) a $43.7 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases, (ii) $18.4 million in compensation costs related to a stock option modification and special cash bonus to option holders, (iii) an increase in professional fees, including acquisition and IPO transaction costs of $15.3 million and (iv) a $12.2 million increase in technology costs related to both licensing and cloud services and the implementation of a new enterprise resource planning system. The increase in SG&A expenses was partially offset by a 1.4% decrease from the favorable impact from foreign currency exchange rates. As a percentage of revenue, SG&A expenses increased to 23.3% for the year ended December 31, 2019 as compared to 21.7% in the same period in 2018 primarily due to the factors identified above.

SG&A expenses increased $3.7 million to $813.0 million for the year ended December 31, 2018 as compared to the same period in 2017. The increase in SG&A expenses was primarily due to (i) a $9.5 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases and (ii) an inorganic increase of $3.3 million from the 2017 Acquisition, partially offset by $10.4 million of lower stock-based compensation, severance and other related costs. The increase in SG&A expenses included a 0.4% increase from the unfavorable impact from foreign currency exchange rates. As a percentage of revenue, SG&A expenses decreased to 21.7% for the year ended December 31, 2018 as compared to 27.0% in the same period in 2017. Excluding the impact from the adoption of ASC 606, as a percentage of revenue, SG&A expenses decreased to 26.7% for the year ended December 31, 2018.

Recapitalization Costs

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
Recapitalization costs	$ —	$ —	$ 114,766

Recapitalization costs associated with the recapitalization of the Company were $114.8 million for the year ended December 31, 2017 and consisted of (i) $51.2 million of transaction costs, (ii) $52.2 million of stock-based compensation expense for the vesting and cash settlement of stock options, (iii) $4.3 million of accelerated other compensation expense for special cash bonuses to option holders and (iv) $7.1 million of other compensation expense for payroll taxes related to the cash and share settlement of stock options and special cash bonuses to option holders. There were no recapitalization costs for the years ended December 31, 2019 or 2018.

Depreciation and Amortization

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
Depreciation and amortization	$ 264,830	$ 258,974	$ 279,066

Depreciation and amortization was $264.8 million for the year ended December 31, 2019 as compared to $259.0 million in the same period in 2018. The increase in depreciation and amortization expense primarily relates to the impact from (i) our laboratory facilities expansion, (ii) new purchased and internally developed software and (iii) the definite-lived intangibles amortization impact from the 2019 Acquisitions, partially offset by a decrease due to the timing of amortization of certain definite-lived intangible assets and a favorable impact from foreign currency exchange rates.

Depreciation and amortization was $259.0 million for the year ended December 31, 2018 as compared to $279.1 million in the same period in 2017. Depreciation and amortization expense decreased primarily due to certain definite-lived intangible assets and internally developed software becoming fully amortized in 2017, partially offset by an unfavorable impact from foreign currency exchange rates.

Goodwill and Long-Lived Asset Impairments

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
Goodwill and long-lived asset impairments	$ 1,284	$ 29,626	$ 43,459

Goodwill impairment was $29.6 million for the year ended December 31, 2018 as compared to $38.4 million in the same period in 2017. Our 2018 and 2017 annual goodwill impairment tests each indicated that one reporting unit in our Clinical Development Services segment had an estimated fair value below carrying value as a result of decreases in future cash flows. The goodwill impairments in 2018 and 2017 were recorded on different reporting units. There was no goodwill impairment in 2019.

In 2018, the expected future cash flows of the reporting unit decreased due to lower forecasted long-term revenue growth and higher forecasted operating expenses, resulting in reduced margins. In 2017, the expected future cash flows of the reporting unit decreased due to lower forecasted long-term revenue growth and reduced margins, primarily as a result of the loss of certain key customers.

Interest Expense, Net

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
Interest expense, net	$ 311,744	$ 263,618	$ 253,891

Interest expense, net, was $311.7 million for the year ended December 31, 2019 as compared to $263.6 million in the same period in 2018. The increase in interest expense is due to $49.1 million of interest expense related to the issuance of the Additional HoldCo Notes and an increase in the interest rate on our term loan under our senior secured credit facilities for a portion of the year, partially offset by favorable amortization from our terminated interest rate swaps.

Interest expense, net, was $263.6 million for the year ended December 31, 2018 as compared to $253.9 million in the same period in 2017. The overall increase in interest expense is due to $16.0 million of interest expense from the issuance of the Initial HoldCo Notes in connection with the May 2017 recapitalization of the Company and an increase in the interest rate on our term loan under our senior secured credit facilities from 4.38% to 5.02%. These increases were partially offset by favorable interest rate swaps and the impact of a repricing of our term loan in March 2018 resulting in a lower margin on our term loan.

(Loss) Gain on Investments

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
(Loss) gain on investments	$ (19,043)	$ 15,936	$ 92,750

Loss on investments was $19.0 million for the year ended December 31, 2019 as compared to a gain of $15.9 million in the same period in 2018. The loss for 2019 and gain for 2018, respectively, was primarily a result of changes in the fair values of the net asset values of our investments, partially offset by changes to the discounts on certain investments.

Gain on investments was $15.9 million for the year ended December 31, 2018 as compared to a gain of $92.8 million in the same period in 2017. The gain in 2018 and 2017 was primarily a result of increases in the fair value of the net asset values of our investments, partially offset by changes to the discount on certain investments.

The gains or losses from our investments will likely continue to fluctuate from period to period primarily based on the changes in fair value of the underlying holdings of the limited partnerships and changes in the discounts applied to such investments for our lack of control and lack of marketability, where applicable.

Other (Expense) Income, Net

	Years Ended December 31,		
(in thousands)	**2019**	**2018**	**2017**
Other (expense) income, net	$ (27,143)	$ 21,701	$ (40,259)

Other expense, net, was $27.1 million for the year ended December 31, 2019 as compared to other income, net of $21.7 million in the same period in 2018. Foreign exchange rate movement resulted in transaction and re-measurement losses of $24.7 million for the year ended December 31, 2019 and transaction and re-measurement gains of $16.7 million in the same period in 2018.

Other income, net, was $21.7 million for the year ended December 31, 2018 as compared to other expense, net, of $40.3 million in the same period in 2017. The change in other income (expense), net, was primarily due to foreign exchange rate movement that resulted in transaction and re-measurement gains of $16.7 million for the year ended December 31, 2018 as compared to transaction and re-measurement losses of $40.1 million in the same period in 2017.

Provision for (Benefit from) Income Taxes

	Years Ended December 31,		
(dollars in thousands)	**2019**	**2018**	**2017**
Provision for (benefit from) income taxes	$ 2,957	$ 39,579	$ (284,360)
Effective income tax rate	5.0%	27.0%	(1,726.6)%

Our provision for income taxes was $3.0 million, resulting in an effective income tax rate of 5.0%, for the year ended December 31, 2019 as compared to $39.6 million, or an effective income tax rate of 27.0%, in the same period in 2018. Our provision for income taxes for the year ended December 31, 2019 was primarily due to the estimated tax effect on our income before provision for income taxes offset by the impact from the benefit related to state taxes, net of federal benefit, related to the Tax Act, as well as the realization of carryforward foreign tax attributes and an increase in foreign R&D credits. Our provision for income taxes for the year ended December 31, 2018 was primarily due to the estimated tax effect on our income before provision for income taxes, which included a decrease in the corporate statutory tax rate and other tax impacts as a result of the Tax Act.

Our provision for income taxes was $39.6 million, resulting in an effective income tax rate of 27.0%, for the year ended December 31, 2018, as compared to a benefit from income taxes of $284.4 million, or an effective income tax rate of (1,726.6)%, in the same period in 2017. Our provision for income taxes for the year ended December 31, 2018 was primarily due to the estimated tax effect on our income before provision for income taxes, which included a decrease in the corporate statutory tax rate and other tax impacts as a result of the Tax Act. Our benefit from income taxes for the year ended December 31, 2017 was primarily due to (i) the net impacts of the Tax Act, including the benefit on our deferred tax liabilities from the decrease in the corporate statutory tax rate, the generation of foreign tax credits and the release of a deferred tax liability for accumulated unremitted foreign earnings, offset by the inclusion of the one-time mandatory transition tax and (ii) the estimated tax effect of certain stock-based and other compensation costs, offset by certain non-deductible transaction costs, all related to the recapitalization of the Company in May 2017.

Segment Results of Operations

During the first quarter of 2020, our Chief Operating Decision Maker began assessing performance and making resource allocation decisions based on total segment revenue, including direct and third-party pass-through and out-of-pocket revenue, and segment operating income, including reimbursed costs. Previously, certain revenue amounts and reimbursed costs were not allocated to segments, whereas following the change, all revenue and reimbursed costs are allocated to the respective segment. As a result, we have updated our segment presentation for the years ended December 31, 2019 and 2018 which has been recast to reflect the change in the measurement of segment performance measures. No changes have been made to the segment presentation for the year ended December 31, 2017, as prior to the adoption of ASC 606 on January 1, 2018, third-party pass-through and out-of-pocket revenue, as well as reimbursed costs, were not allocated to our segments. Clinical Development Services and Laboratory Services segment results for the years ended December 31, 2019, 2018 and 2017 are detailed below.

Clinical Development Services

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	**2019**	**2018**	**2017**	**$**	**%**	**$**	**%**
Segment revenue	$ 3,354,163	$ 3,182,870	$ 2,319,103	$ 171,293	5.4 %	$ 863,767	37.2 %
Segment direct costs	1,162,678	1,064,557	1,053,557	98,121	9.2	11,000	1.0
Segment reimbursed costs	845,580	876,617	—	(31,037)	(3.5)	876,617	—
Segment SG&A expenses	529,425	475,242	464,794	54,183	11.4	10,448	2.2
Segment operating income	816,480	766,454	800,752	50,026	6.5	(34,298)	(4.3)

Segment Revenue

Clinical Development Services' segment revenue was $3,354.2 million for the year ended December 31, 2019, an increase of $171.3 million as compared to the same period in 2018. Segment revenue increased (i) 5.5% from organic volume growth in our Phase II-IV clinical trial management services, site and patient access services and medical communications services, as well as higher opening backlog at the beginning of the year and (ii) 0.8% from inorganic growth due to the 2019 Acquisitions. The increase in segment revenue was partially offset by a 0.9% decrease from the unfavorable impact from foreign currency exchange rates. The higher opening backlog was primarily due to increased net authorizations for our Phase II-IV clinical trial management services in 2018.

Clinical Development Services' segment revenue was $3,182.9 million in 2018, an increase of $863.8 million as compared to the same period in 2017. Segment revenue increased due to the change in segment revenue presentation discussed above which resulted in a change in presentation for the year ended December 31, 2018, but not did impact segment presentation for the year ended December 31, 2017. Excluding the impact of the change in segment presentation, Clinical Development Services' segment revenue increased $16.9 million, or 0.7%. This increase was due to a 0.4% increase in inorganic growth from the 2017 Acquisition and 0.7% due to favorable foreign currency exchange rates, partially offset by a 0.4% decrease in organic volume. The decrease in organic growth was primarily the result of a lower opening backlog and a decrease in net authorizations in 2017 in our Phase II-IV clinical trial management services.

Segment Direct Costs

Clinical Development Services' segment direct costs were $1,162.7 million for the year ended December 31, 2019, an increase of $98.1 million as compared to the same period in 2018. The increase in segment direct costs was primarily due to (i) a $66.9 million increase from growth in employee headcount and contract labor to support current and anticipated growth in future revenue as well as compensation increases, (ii) a $16.5 million increase from the impact of the 2019 Acquisitions and (iii) an increase in project delivery costs including media-related costs for patient recruitment services. The increase in segment direct costs was partially offset by a 1.8% decrease from the favorable impact from foreign currency exchange rates.

Clinical Development Services' segment direct costs were $1,064.6 million in 2018, an increase of $11.0 million as compared to the same period in 2017. The increase in segment direct costs was primarily due to (i) a $20.2 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases, (ii) an increase in media-related costs for patient recruitment services and (iii) an inorganic increase of $5.2 million for the 2017 Acquisition, partially offset by increased R&D incentive credits and a $23.1 million decrease in temporary labor and certain other project delivery costs. The increase in segment direct costs included a 0.9% increase from the unfavorable impact from foreign currency exchange rates.

Segment Reimbursed Costs

Clinical Development Services' segment reimbursed costs were $845.6 million for the year ended December 31, 2019, a decrease of $31.0 million as compared to the same period in 2018. The decrease in segment reimbursed costs was primarily due to lower pass-through costs for certain larger clinical trials as a result of fluctuations in enrollment and patient activity, as well as the general timing of costs incurred across the remainder of the portfolio, which will vary over the course of clinical trials due to the timing of the work performed, scope changes and the complexity and phase of the study, among other factors.

Clinical Development Services' segment reimbursed costs were $876.6 million for the year ended December 31, 2018. The increase in segment reimbursed costs was due to the change in segment reimbursed cost presentation discussed above which resulted in a change in presentation for the year ended December 31, 2018, but not did impact segment presentation for the year ended December 31, 2017.

Segment SG&A Expenses

Clinical Development Services' segment SG&A expenses were $529.4 million for the year ended December 31, 2019, an increase of $54.2 million as compared to the same period in 2018. The increase in segment SG&A expenses was primarily due to (i) a $32.2 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases and (ii) a $7.1 million increase from the impact of the 2019 Acquisitions. The increase in segment SG&A expenses was partially offset by a 1.7% decrease from the favorable impact from foreign currency exchange rates.

Clinical Development Services' segment SG&A expenses were $475.2 million in 2018, an increase of $10.4 million as compared to the same period in 2017. The increase in segment SG&A expenses was primarily due to (i) a $13.4 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases and (ii) an increase of $3.3 million from the impact of the 2017 Acquisition, partially offset by a decrease in bad debt expense. The increase in segment SG&A expenses included a 0.7% increase from the unfavorable impact from foreign currency exchange rates.

Laboratory Services

				Change			
	Years Ended December 31,			2019 vs. 2018		2018 vs. 2017	
(dollars in thousands)	**2019**	**2018**	**2017**	**$**	**%**	**$**	**%**
Segment revenue	$ 676,854	$ 566,101	$ 448,373	$ 110,753	19.6%	$ 117,728	26.3%
Segment direct costs	307,346	258,472	235,137	48,874	18.9	23,335	9.9
Segment reimbursed costs	79,054	64,296	—	14,758	23.0	64,296	—
Segment SG&A expenses	81,373	68,305	60,097	13,068	19.1	8,208	13.7
Segment operating income	209,081	175,028	153,139	34,053	19.5	21,889	14.3

Segment Revenue

Laboratory Services' segment revenue was $676.9 million for the year ended December 31, 2019, an increase of $110.8 million as compared to the same period in 2018. Segment revenue increased from organic volume growth across all our laboratory services, including increased net authorizations in 2019, as well as higher opening backlog at the beginning of the year. The higher opening backlog was primarily due to increased net authorizations in 2018.

Laboratory Services' segment revenue was $566.1 million in 2018, an increase of $117.7 million as compared to the same period in 2017. Segment revenue increased primarily due to the change in segment revenue presentation discussed above which resulted in a change in presentation for the year ended December 31, 2018, but not did impact segment presentation for the year ended December 31, 2017. Excluding the impact of the change in segment presentation, Laboratory Services' segment revenue increased $53.4 million, or 11.9%. This increase was primarily as result of organic volume growth from our bioanalytical and GMP laboratory services as well as higher opening backlog at the beginning of the year. The higher opening backlog was primarily due to increased net authorizations in 2017.

Segment Direct Costs

Laboratory Services' segment direct costs were $307.3 million for the year ended December 31, 2019, an increase of $48.9 million as compared to the same period in 2018. The increase in segment direct costs was primarily due to (i) a $27.9 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases and (ii) an increase in laboratory supply costs associated with the growth in revenue.

Laboratory Services' segment direct costs were $258.5 million in 2018, an increase of $23.3 million as compared to the same period in 2017. The increase in segment direct costs was primarily due to (i) a $19.1 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases and (ii) an increase in laboratory supplies costs associated with the growth in revenue.

Segment Reimbursed Costs

Laboratory Services' segment reimbursed costs were $79.1 million for the year ended December 31, 2019, an increase of $14.8 million as compared to the same period in 2018. The increase in segment reimbursed costs was primarily due to an increase in segment revenue and overall growth, as well as the general timing of costs incurred across our portfolio of work.

Laboratory Services' segment reimbursed costs were $64.3 million for the year ended December 31, 2018. The increase in segment reimbursed costs was due to the change in segment reimbursed cost presentation discussed above which resulted in a change in presentation for the year ended December 31, 2018, but not did impact segment presentation for the year ended December 31, 2017.

Segment SG&A Expenses

Laboratory Services’ segment SG&A expenses were $81.4 million for the year ended December 31, 2019, an increase of $13.1 million as compared to the same period in 2018. The increase in segment SG&A expenses was primarily due to a $9.1 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases.

Laboratory Services’ segment SG&A expenses were $68.3 million in 2018, an increase of $8.2 million as compared to the same period in 2017. The increase in segment SG&A expenses was primarily due to an $8.3 million increase from growth in employee headcount to support current and anticipated growth in future revenue as well as compensation increases.

Part II

Item 8. Financial Statements and Supplementary Data

Note: The information contained in this Item includes changes related to our segment performance measures based on changes made during the first quarter of 2020 in how the Chief Operating Decision Maker began assessing performance and making resource allocation decisions. These changes are discussed further in Note 19, "Segments." This Item has not been updated for any other changes since the filing of the 2019 Annual Report on Form 10-K (the "2019 Form 10-K"). For developments subsequent to the filing of the 2019 Form 10-K, refer to our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of PPD, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of PPD, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, stockholders' deficit and redeemable noncontrolling interest, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and Schedule I (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for leases in 2019 due to the adoption of Accounting Standards Codification Topic 842, *Leases*, and changed its method of accounting for revenue in 2018 due to the adoption of Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers*.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Raleigh, North Carolina
March 5, 2020 (May 21, 2020, as to Note 19)

We have served as the Company's auditor since 2002.

PPD, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share data)

	Years Ended December 31,		
	2019	**2018**	**2017**
Revenue:			
Revenue	$ 4,031,017	$ 3,748,971	$ 2,767,476
Reimbursed revenue	—	—	233,574
Total revenue	4,031,017	3,748,971	3,001,050
Operating costs and expenses:			
Direct costs, exclusive of depreciation and amortization	1,484,258	1,333,812	1,302,983
Reimbursed costs	924,634	940,913	233,574
Selling, general and administrative expenses	938,806	813,035	809,333
Recapitalization costs	—	—	114,766
Depreciation and amortization	264,830	258,974	279,066
Goodwill and long-lived asset impairments	1,284	29,626	43,459
Total operating costs and expenses	3,613,812	3,376,360	2,783,181
Income from operations	417,205	372,611	217,869
Interest expense, net of interest income of $5,233, $5,454 and $3,553 in 2019, 2018 and 2017, respectively	(311,744)	(263,618)	(253,891)
(Loss) gain on investments	(19,043)	15,936	92,750
Other (expense) income, net	(27,143)	21,701	(40,259)
Income before provision for (benefit from) income taxes	59,275	146,630	16,469
Provision for (benefit from) income taxes	2,957	39,579	(284,360)
Income before equity in losses of unconsolidated affiliates	56,318	107,051	300,829
Equity in losses of unconsolidated affiliates, net of income taxes	(3,563)	(186)	—
Net income	52,755	106,865	300,829
Net income attributable to noncontrolling interest	(4,934)	(2,679)	(4,802)
Net income attributable to PPD, Inc.	47,821	104,186	296,027
Recapitalization investment portfolio consideration	6,846	(7,849)	(97,136)
Net income attributable to common stockholders of PPD, Inc.	$ 54,667	$ 96,337	$ 198,891
Earnings per share attributable to common stockholders of PPD, Inc.:			
Basic	$ 0.20	$ 0.34	$ 0.68
Diluted	$ 0.19	$ 0.34	$ 0.68
Weighted-average common shares outstanding:			
Basic	279,285	279,238	291,027
Diluted	280,693	279,317	293,826

The accompanying notes are an integral part of these consolidated financial statements.

PPD, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)

	Years Ended December 31,		
	2019	**2018**	**2017**
Net income	$ 52,755	$ 106,865	$ 300,829
Other comprehensive income (loss):			
Foreign currency translation adjustments, net of income taxes of $0, $0 and $16,825 in 2019, 2018 and 2017, respectively	24,824	(91,177)	143,158
Defined benefit pension plan adjustments, net of income taxes of ($259), $339 and $1,382 in 2019, 2018 and 2017, respectively	(1,314)	1,504	10,923
Derivative instruments adjustments, net of income taxes of ($2,804), $2,183 and $4,785 in 2019, 2018 and 2017, respectively	(9,523)	11,159	9,219
Other comprehensive income (loss)	13,987	(78,514)	163,300
Comprehensive income	66,742	28,351	464,129
Comprehensive income attributable to noncontrolling interest	(5,144)	(3,159)	(5,315)
Comprehensive income attributable to PPD, Inc.	61,598	25,192	458,814
Recapitalization investment portfolio consideration	6,846	(7,849)	(97,136)
Comprehensive income attributable to common stockholders of PPD, Inc.	$ 68,444	$ 17,343	$ 361,678

The accompanying notes are an integral part of these consolidated financial statements.

PPD, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except par value)

Assets

	December 31,	
	2019	2018
Current assets:		
Cash and cash equivalents	$ 345,187	553,066
Accounts receivable and unbilled services, net	1,326,614	1,260,724
Income taxes receivable	27,437	16,065
Prepaid expenses and other current assets	119,776	102,274
Total current assets	1,819,014	1,932,129
Property and equipment, net	458,845	399,103
Investments in unconsolidated affiliates	34,028	8,756
Investments	250,348	265,715
Goodwill	1,764,104	1,723,378
Intangible assets, net	892,091	1,028,973
Other assets	156,220	131,307
Operating lease right-of-use assets	181,596	—
Total assets	$ 5,556,246	$ 5,489,361
Liabilities, Redeemable Noncontrolling Interest and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 130,060	$ 89,010
Accrued expenses:		
Payables to investigators	322,231	355,144
Accrued employee compensation	263,834	240,679
Accrued interest	44,527	35,681
Other accrued expenses	138,632	108,335
Income taxes payable	15,161	8,953
Unearned revenue	1,110,872	921,964
Current portion of operating lease liabilities	45,962	—
Current portion of long-term debt and finance lease obligations	35,794	34,907
Total current liabilities	2,107,073	1,794,673
Accrued income taxes	38,465	26,597
Deferred tax liabilities	92,225	165,114
Recapitalization investment portfolio liability	191,678	198,524
Long-term operating lease liabilities, less current portion	153,766	—
Long-term debt and finance lease obligations, less current portion	5,608,134	4,760,777
Other liabilities	33,017	41,205
Total liabilities	8,224,358	6,986,890
Commitments and contingencies (Note 1)		
Redeemable noncontrolling interest	30,036	24,892
Stockholders' deficit:		
Common stock $0.01 par value, 2,080,000 shares authorized; 280,127 shares issued and 279,426 shares outstanding as of December 31, 2019 and 2,080,000 shares authorized; 279,545 shares issued and 279,030 shares outstanding as of December 31, 2018	2,801	2,795
Treasury stock, at cost, 701 and 515 shares, respectively, at December 31, 2019 and December 31, 2018	(12,707)	(8,933)
Additional paid-in-capital	1,983	41,685
Accumulated deficit	(2,391,321)	(1,245,077)
Accumulated other comprehensive loss	(298,904)	(312,891)
Total stockholders' deficit	(2,698,148)	(1,522,421)
Total liabilities, redeemable noncontrolling interest and stockholders' deficit	$ 5,556,246	$ 5,489,361

The accompanying notes are an integral part of these consolidated financial statements.

PPD, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT AND REDEEMABLE NONCONTROLLING INTEREST

(in thousands)

		PPD, Inc. Stockholders' Deficit							
		Common Stock			Treasury Stock				
	Redeemable Noncontrolling Interest	Shares	Amount	Paid-in-Capital	Shares	Amount	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
Balance, December 31, 2016	$ 19,330	313,411	$ 3,134	$ 4,209	1,068	$ (9,790)	$ (397,677)	$ (564,117)	$ (964,241)
Net income	4,802	—	—	—	—	—	—	296,027	296,027
Other comprehensive income	513	—	—	—	—	—	163,300	—	163,300
Vesting of restricted stock	—	19	—	—	—	—	—	—	—
Issuance of common stock for stock option exercises	—	272	3	1,122	—	—	—	—	1,125
Repurchases of common stock	—	—	—	—	201	(1,808)	—	—	(1,808)
Stock-based compensation expense	—	—	—	74,299	—	—	—	—	74,299
Recapitalization cancellation of treasury stock	—	(1,268)	(12)	5	(1,269)	11,598	—	(11,591)	—
Recapitalization share issuances	—	184,080	1,841	769,098	—	—	—	1,999,062	2,770,001
Recapitalization share redemptions	—	(219,958)	(2,200)	(778,100)	—	—	—	(2,529,576)	(3,309,876)
Recapitalization cash option settlement	—	—	—	(52,207)	—	—	—	(142,299)	(194,506)
Recapitalization share option settlement	—	2,391	23	(10)	—	—	—	(13)	—
Recapitalization investment portfolio consideration	—	—	—	—	—	—	—	(217,170)	(217,170)
Recapitalization tax benefit consideration	—	—	—	—	—	—	—	(105,159)	(105,159)
Recapitalization transaction costs	—	—	—	—	—	—	—	(7,279)	(7,279)
Employee stock purchases	—	496	5	7,462	—	—	—	—	7,467
Purchase of noncontrolling interest	(2,912)	—	—	(3,888)	—	—	—	—	(3,888)
Other	—	—	—	28	—	—	—	—	28
Balance, December 31, 2017	21,733	279,443	2,794	22,018	—	—	(234,377)	(1,282,115)	(1,491,680)
Impact from adoption of ASC 606, net of tax	—	—	—	—	—	—	—	(55,467)	(55,467)
Balance, January 1, 2018	21,733	279,443	2,794	22,018	—	—	(234,377)	(1,337,582)	(1,547,147)
Net income	2,679	—	—	—	—	—	—	104,186	104,186
Other comprehensive income (loss)	480	—	—	—	—	—	(78,514)	—	(78,514)
Vesting of restricted stock	—	9	—	—	—	—	—	—	—
Issuance of common stock for stock option exercises	—	61	1	922	—	—	—	—	923
Repurchases of common stock	—	—	—	—	515	(8,933)	—	—	(8,933)
Stock-based compensation expense	—	—	—	18,265	—	—	—	—	18,265
Recapitalization investment portfolio consideration	—	—	—	—	—	—	—	(7,849)	(7,849)
Recapitalization tax benefit consideration	—	—	—	—	—	—	—	(3,161)	(3,161)
Employee stock purchases	—	32	—	480	—	—	—	—	480
Other	—	—	—	—	—	—	—	(671)	(671)
Balance, December 31, 2018	24,892	279,545	2,795	41,685	515	(8,933)	(312,891)	(1,245,077)	(1,522,421)
Net income	4,934	—	—	—	—	—	—	47,821	47,821
Other comprehensive income	210	—	—	—	—	—	13,987	—	13,987
Vesting of restricted stock	—	13	—	—	—	—	—	—	—
Issuance of common stock for stock option exercises	—	301	3	4,521	—	—	—	—	4,524
Issuance of common stock for acquisition	—	268	3	4,998	—	—	—	—	5,001
Repurchases of common stock	—	—	—	—	186	(3,774)	—	—	(3,774)
Stock-based compensation expense	—	—	—	15,632	—	—	—	—	15,632
Modification of stock option awards to cash and liability awards	—	—	—	(19,669)	—	—	—	—	(19,669)
Return of capital and special dividend to stockholders	—	—	—	(45,184)	—	—	—	(1,200,816)	(1,246,000)
Recapitalization investment portfolio consideration	—	—	—	—	—	—	—	6,846	6,846
Other	—	—	—	—	—	—	—	(95)	(95)
Balance, December 31, 2019	$ 30,036	280,127	$ 2,801	$ 1,983	701	$(12,707)	$ (298,904)	$ (2,391,321)	$ (2,698,148)

The accompanying notes are an integral part of these consolidated financial statements.

PPD, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	$ 52,755	$ 106,865	$ 300,829
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	264,830	258,974	279,066
Goodwill and long-lived asset impairments	1,284	29,626	43,459
Stock-based compensation expense	15,632	18,265	74,299
Non-cash operating lease expense	40,633	—	—
Amortization of debt issuance and modification costs and debt discount	17,768	10,082	9,001
Amortization of accumulated other comprehensive income on terminated interest rate swaps	(9,523)	(5,269)	—
Loss (gain) on investments	19,043	(15,936)	(92,750)
Benefit from deferred income taxes	(84,795)	(26,062)	(317,385)
Amortization of costs to obtain a contract	11,432	8,693	—
Other	12,929	(11,691)	2,834
Change in operating assets and liabilities, net of effect of businesses acquired or sold:			
Accounts receivable and unbilled services, net	(28,075)	(144,822)	(12,300)
Prepaid expenses and other current assets	(11,465)	18,510	36,787
Other assets	(31,288)	(26,819)	(37,118)
Income taxes, net	7,712	606	(10,278)
Accounts payable, accrued expenses and other liabilities	26,283	(4,443)	102,974
Operating lease liabilities	(39,065)	—	—
Unearned revenue	166,856	206,827	(20,339)
Net cash provided by operating activities	432,946	423,406	359,079
Cash flows from investing activities:			
Purchases of property and equipment	(125,928)	(116,145)	(105,135)
Acquisitions of businesses, net of cash and cash equivalents acquired	(74,187)	224	(24,219)
Capital contributions paid for investments	(4,069)	(1,546)	(1,844)
Distributions received from investments	452	27,778	36,397
Investments in unconsolidated affiliates	(30,000)	(9,000)	—
Proceeds from sale of business	—	8,000	—
Other	504	164	2,058
Net cash used in investing activities	(233,228)	(90,525)	(92,743)
Cash flows from financing activities:			
Purchase of treasury stock	(4,012)	(8,630)	(1,808)
Proceeds from exercise of stock options	4,524	923	1,125
Proceeds from issuance of HoldCo notes	891,000	—	550,000
Payments on long-term debt and finance leases	(37,409)	(35,387)	(35,012)
Purchase of noncontrolling interest	—	—	(7,080)
Payment of debt issuance and debt modification costs	(30,142)	—	(11,939)
Proceeds from recapitalization share issuance	—	—	2,770,001
Payout for recapitalization share redemptions	—	—	(3,309,876)
Recapitalization cash option settlement	—	—	(194,506)
Recapitalization transaction costs	—	—	(7,279)
Recapitalization tax benefit distribution	—	(108,320)	—
Recapitalization investment portfolio distribution	—	(16,008)	(10,486)
Proceeds from employee stock purchases	—	480	7,467
Return of capital and special dividend to stockholders	(1,246,000)	—	—
Net cash used in financing activities	(422,039)	(166,942)	(249,393)
Effect of exchange rate changes on cash and cash equivalents	14,442	(31,833)	40,276
Net (decrease) increase in cash and cash equivalents	(207,879)	134,106	57,219
Cash and cash equivalents, beginning of the period	553,066	418,960	361,741
Cash and cash equivalents, end of the period	$ 345,187	$ 553,066	$ 418,960

The accompanying notes are an integral part of these consolidated financial statements.

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

Description of Business

PPD, Inc. (together with its subsidiaries "PPD" or the "Company") is a holding company incorporated in Delaware. References to the "Company" throughout these consolidated financial statements refer to PPD, Inc. and its consolidated subsidiaries. The Company is a leading provider of drug development services to the biopharmaceutical industry, focused on helping the Company's customers bring their new medicines to patients around the world. The Company has been in the drug development services business for more than 30 years, providing a comprehensive suite of clinical development and laboratory services to pharmaceutical, biotechnology, medical device, government organizations and other industry participants. The Company has deep experience across a broad range of rapidly growing areas of drug development and engages with customers through a variety of commercial models, including both full-service and functional service partnerships and other offerings tailored to address the specific needs of the Company's customers. The Company has two reportable segments, Clinical Development Services ("Clinical Development Services") and Laboratory Services ("Laboratory Services").

Basis of Presentation

On May 11, 2017, pursuant to an Agreement and Plan of Merger (the "Merger Agreement") dated as of April 26, 2017, by and among PPD, Eagle Holding Company II, LLC ("Eagle II"), Eagle Reorganization Merger Sub, Inc. ("Merger Sub"), Eagle Buyer, Inc. ("Buyer") and Jaguar Holding Company I ("Jaguar I"), Merger Sub merged with and into Jaguar I with Jaguar I as the surviving corporation (the "Reorganization Merger"). As a result of the Reorganization Merger, Jaguar I became a direct, wholly-owned subsidiary of Eagle II, itself a direct wholly-owned subsidiary of PPD, and Jaguar I and Jaguar Holding Company II ("Jaguar II") both became indirect, wholly-owned subsidiaries of PPD. Subsequent to the Reorganization Merger, Jaguar I was converted from a Delaware corporation into a Delaware limited liability company (the "Conversion") and Buyer merged with and into PPD, with PPD as the surviving corporation (the "Recapitalization Merger"). A series of transactions associated with the Reorganization Merger and Recapitalization Merger took place to effect a recapitalization of Jaguar I (the Reorganization Merger and the Recapitalization Merger, collectively, the "Recapitalization"). PPD, Eagle II, Merger Sub and Buyer were incorporated or formed by affiliates of The Carlyle Group, Inc. ("Carlyle") and affiliates of Hellman & Friedman LLC ("H&F") (Carlyle and H&F, collectively, the "Majority Sponsors") to effect the Recapitalization. Jaguar I and Jaguar II were incorporated or formed by affiliates of the Majority Sponsors to effect the acquisition of Pharmaceutical Product Development, Inc. on December 5, 2011. Subsequent to the acquisition on December 5, 2011, Pharmaceutical Product Development, Inc. was reorganized into a Delaware limited liability company and changed its name to Pharmaceutical Product Development, LLC ("PPD LLC").

Prior to the Recapitalization, Jaguar I was majority owned and jointly controlled by affiliates of the Majority Sponsors. Subsequent to the Recapitalization, PPD, and indirectly, Jaguar I, continue to be majority owned and jointly controlled by affiliates of the Majority Sponsors, both having invested from new investment funds into PPD. Additionally, two investors, an affiliate of the Abu Dhabi Investment Authority ("ADIA") and an affiliate of GIC Private Limited ("GIC"), one of Singapore's sovereign wealth funds, both obtained direct minority ownership interests in PPD (H&F, Carlyle, ADIA and GIC, collectively, the "Sponsors"). See Note 2, "Recapitalization Transaction," for additional information on the Recapitalization.

The Recapitalization was treated as a recapitalization for accounting purposes with the basis of the assets and liabilities of Jaguar I remaining unchanged. Prior to the Recapitalization, PPD had no assets, liabilities or operating results and it was incorporated on April 13, 2017, for the sole purpose of effectuating the Recapitalization. The Recapitalization resulted in PPD being the continuing reporting entity for Jaguar I with no changes in the underlying business or operations of the Company. Therefore, the historical information and financial results reported in the consolidated financial statements represent the historical information and financial results for Jaguar I and its subsidiaries prior to the Recapitalization. No changes have been made to the Jaguar I historical information and financial results. When references are made in the consolidated financial statements to prior financial statements of the Company for periods prior to the Recapitalization, such financial statements referenced represent the historical consolidated financial statements of Jaguar I.

On January 15, 2020, the Company filed its amended and restated certificate of incorporation, which, among other things, effected a 1.8-for-1 stock split of its common stock and increased the authorized number of shares of its common stock to 2.08 billion. All references to share and per share amounts in the Company's consolidated financial statements have been retrospectively revised to reflect the stock split and increase in authorized shares. See Note 22, "Subsequent Events," for additional information.

Initial Public Offering

On February 6, 2020, the Company's common stock began trading on The Nasdaq Global Select Market ("Nasdaq") under the symbol "PPD." On February 10, 2020, the Company completed its initial public offering ("IPO") of its common stock at a price to the public of $27.00 per share. The Company issued and sold 69.0 million shares of common stock in the IPO including 9.0 million common shares issued pursuant to the full exercise of the underwriters option to purchase additional shares. The IPO raised proceeds to the Company of approximately $1,765.7 million, after deducting underwriting discounts and other offering expenses. See Note 22, "Subsequent Events," for additional information.

Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts and operations of the Company. All intercompany balances and transactions have been eliminated in consolidation. Amounts pertaining to the redeemable noncontrolling ownership interest held by a third party in the operating results and financial position of the Company's indirect majority-owned subsidiary are included as a noncontrolling interest.

Use of Estimates

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). 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 and liabilities and 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. The Company monitors estimates and assumptions on a continuous basis and updates these estimates and assumptions as facts and circumstances change and new information is obtained. Actual results could differ from those estimates and assumptions.

Revenue Recognition

Revenue recognition under ASC 606

In May 2014, the Financial Accounting Standards Board (the "FASB") issued, as amended, Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). The new guidance outlined a single comprehensive model for entities to use in accounting for revenue from contracts with customers. The Company adopted ASC 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. The consolidated financial statements as of and for the years ended December 31, 2019 and 2018 reflect the application of ASC 606, while the consolidated financial statements for the year ended December 31, 2017 reflect accounting guidance from the application of ASC Topic 605, *Revenue Recognition* ("ASC 605").

The Company enters into contracts with customers to provide services in which contract consideration is generally based on fixed-fee or variable pricing arrangements. The Company recognizes revenue arising from contracts with customers in an amount that reflects the consideration that the Company expects to receive in exchange for the services it provides. The Company determines its revenue recognition through the following five steps: (i) identification of the contract with a customer, (ii) identification of the performance obligations in the contract, (iii) determination of the transaction price, (iv) allocation of the transaction price to the performance obligations in the contract and (v) recognition of revenue when, or as, the Company satisfies its performance obligations in the contract. The Company's contracts are service contracts that generally have a duration of a few months to several years with revenue being recognized primarily over time as services are provided to the customer in satisfaction of its performance obligations.

The majority of the Company's contracts can be terminated by the customer either immediately or after a specified notice period. Upon early termination, the contracts generally require the customer to pay the Company for: (i) consideration earned through the termination date, which is consistent with the level of cost and effort expended through the termination date, (ii) consideration for services to complete the work still required to be performed and reimbursement for other related expenses, as applicable, (iii) reimbursement for certain non-cancelable expenditures and (iv) in certain cases, payment to cover a portion of the total consideration under the contract or a termination penalty.

Changes to the scope of the Company's services are common, especially under long-term contracts, and a change in the scope of services generally results in a change in the transaction price. Changes in scope are reflected through contract modifications which are assessed on a contract-by-contract basis to determine if they should be accounted for as a new contract or part of the original contract. Generally, contract modifications are accounted for as part of the existing contract as the services to be provided for the modification are not distinct from the existing services provided under the contract. When contract modifications are accounted for as part of the existing contract, the effect of the contract modification on the transaction price and measure of progress under the contract is recognized as a cumulative adjustment to revenue as of the date of the modification.

In many cases, the Company's contracts include variable consideration that is contingent upon the occurrence of future events, such as volume rebates, performance incentives and performance penalties or other variable consideration such as third-party pass-through and out-of-pocket costs incurred, which may impact the transaction price. Variable consideration is estimated using the expected value or the most likely amount of consideration and is included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The estimation of variable consideration is based on the Company's expected performance under the contract and where applicable, available historical, current and forecasted information to support such estimate. Actual results could differ significantly from estimates.

The Company incurs third-party pass-through and out-of-pocket costs in the performance of services under its contracts which are reimbursed by the customer. Third-party pass-through and out-of-pocket costs include, but are not limited to, payments to investigators, payments for the use of third-party technology, shipping costs and travel costs related to the performance of services, among others. The Company records third-party pass-through and out-of-pocket costs as revenue and the related costs incurred as reimbursed costs on the consolidated statements of operations. These reimbursed costs are included as revenue as the Company is the principal in the relationship, is primarily responsible for the services provided by third parties and significantly integrates the services of third parties with its own services in delivering a combined output to the customer. The Company excludes from revenue amounts collected and paid to governmental authorities, such as value-added taxes, that are associated with revenue transactions. All of the Company's revenue is from contracts with customers. See Note 3, "Revenue," for additional information.

Revenue recognition under ASC 605

Prior to the adoption of ASC 606 on January 1, 2018, the Company recognized revenue for services when all of the following criteria had been satisfied: (i) persuasive evidence of an arrangement existed, (ii) services had been rendered, (iii) the price to the customer was fixed or determinable and (iv) collectability was reasonably assured. The Company entered into contracts with customers to provide services in which contract consideration was generally based on fixed-fee or variable pricing arrangements and contracts generally had a duration of a few months to several years. The Company's contracts generally included multiple service deliverables including trial feasibility, investigator recruitment, clinical trial monitoring, project management, database management and biostatistical services and laboratory testing, among others. If each service deliverable within the contract had standalone value to the customer, each was treated as a separate unit of accounting. If each service deliverable did not have standalone value to the customer, the service deliverables were combined into a single unit of accounting.

For those contracts with multiple units of accounting, the Company allocated contract consideration based on the relative selling price of the separately identified units of accounting. The relative selling price method required a hierarchy of evidence to be followed when determining the best evidence of the selling price of a deliverable. The best evidence of selling price for a unit of accounting was vendor-specific objective evidence (“VSOE”), or the price charged when a deliverable was sold separately on a standalone basis. When VSOE was not available, relevant third-party evidence (“TPE”) of selling price was used, such as prices competitors charge for interchangeable services to similar customers. When neither VSOE nor TPE of selling price existed, the Company used its best estimate of selling price (“BESP”) considering all relevant information that was available without undue cost or effort. Generally, the Company was not able to establish VSOE or TPE of selling price for its service deliverables due to its service deliverables with multiple units of accounting being highly customized, the variability in prices charged to customers and the lack of available competitor information. Therefore, the Company generally allocated consideration at the inception of the contract using BESP. BESP was generally established based on market factors and conditions and Company specific factors such as profit objectives, internal cost structure, market share and position and geographic region, among other factors.

The majority of the Company’s clinical development services contracts are fixed-fee, fee-for-service or time and materials contracts for clinical trial related services that represent a single unit of accounting. The Company primarily used the proportional performance method to recognize revenue for delivery of services for such contracts. Because of the service nature of the Company’s contracts, the Company believed that direct costs incurred reflected the hours incurred with hours representing the output of contracts. Thus, to measure performance under the proportional performance method, the Company compared direct costs incurred through a specified date to estimated total direct costs to complete the contract. Direct costs consisted primarily of the amount of direct labor and certain overhead costs for the delivery of services. The Company reviewed and revised the estimated total direct costs throughout the life of the contract, and recorded adjustments to revenue resulting from such revisions in the period in which the change in estimate was determined. This methodology was consistent with the manner in which the customer received the benefit of the work performed and was consistent with the Company’s contract termination provisions.

The majority of the Company’s laboratory services contracts are fixed-fee, fee-for-service or time and materials contracts that generally include multiple units of accounting. For those contracts with multiple service deliverables, the Company followed the relative selling price method to allocate contract consideration and recognized revenue as services were delivered once all other revenue recognition criteria were met.

The Company also incurred third-party pass-through and out-of-pocket costs which were generally reimbursable by its customers at cost. Prior to the adoption of ASC 606, third-party pass-through revenue and costs were presented on a net basis and out-of-pocket revenues and cost were presented on a gross basis as reimbursed revenue and reimbursed cost on the consolidated statements of operations. Additionally, third-party pass-through and out-of-pocket costs were excluded from the costs used in the measure of progress for contracts utilizing the proportional performance method to recognize revenue and revenue related to these reimbursed costs was recognized when the cost was incurred. The Company excluded from revenue amounts collected and paid to governmental authorities, such as value-added taxes, that were associated with revenue transactions.

Operating Costs and Expenses

Direct costs represent costs for providing services to customers. Direct costs primarily include labor-related costs, such as compensation and benefits for employees providing services, an allocation of facility and information technology costs, supply costs, cost for certain media-related services, other related overhead costs and offsetting research and development incentive credits.

Reimbursed costs include third-party pass-through and out-of-pocket costs which are generally reimbursable by the Company’s customers at cost. Third-party pass-through and out-of-pocket costs include, but are not limited to, payments to investigators, payments for the use of third-party technology, shipping costs and travel costs related to the performance of services, among others. Third-party pass-through and out-of-pocket costs are incurred across both reportable segments.

Selling, general and administrative (“SG&A”) expenses represent costs of business development, administrative and support functions. SG&A expenses primarily include compensation and benefits for employees, costs related to employees performing administrative tasks, stock-based compensation expense, sales, marketing and promotional expenses, recruiting and relocation expenses, training costs, travel costs, an allocation of facility and information technology costs and other related overhead costs.

Leases

In February 2016, the FASB issued an accounting standards update, as amended, on leases, ASC Topic 842, *Leases* (“ASC 842”). The new guidance requires recognition of, at the lease commencement date, a liability for future lease payments and a corresponding right-of-use (“ROU”) asset on the balance sheet representing the lessee’s right to use the underlying asset for the lease term. The Company adopted ASC 842 on January 1, 2019 using the modified retrospective method for all operating leases and capital leases under ASC Topic 840, *Leases* (“ASC 840”). As a result of the adoption of ASC 842, all operating leases with an initial term of greater than one year are recorded on the consolidated balance sheets as a lease liability and a corresponding ROU asset. The Company elected certain practical expedients which allows the Company not to reassess: (i) whether any expired or existing contracts contain a lease, (ii) the lease classification for any expired or existing leases and (iii) whether any previously capitalized initial direct costs would qualify for capitalization. The Company also made an accounting policy election to not recognize lease liabilities and associated ROU assets for all existing short-term leases at the time of adoption.

The adoption of ASC 842 resulted in the initial recognition of lease liabilities of $196.3 million and ROU assets of $179.7 million related to operating leases. The operating lease liabilities included $39.7 million of current lease liabilities and $156.6 million in long-term lease liabilities. Previously, under ASC 840, the Company had deferred rent, prepaid rent and unearned lease incentives, net totaling $16.6 million, that were reclassified to ROU assets at the time of adoption. There were no changes to the assets and liabilities of finance leases as a result of the adoption of ASC 842, previously referred to as capital leases under ASC 840. See Note 11, “Leases” for the Company’s lease accounting policies under ASC 842. The consolidated financial statements as of, and for the year ended December 31, 2019, reflect the application of ASC 842, while the consolidated financial statements for the prior periods reflect previous accounting guidance from the application of ASC 840.

Stock-Based Compensation

The Company measures stock-based compensation cost at the grant date, based on the fair value of the award, and recognizes it as expense (net of actual forfeitures as they occur) over the recipient’s requisite service period considering performance features, if any, that may impact vesting of such award. The Company estimates the fair value of each stock option award on the grant date using the Black-Scholes option-pricing model. The model requires the use of subjective and objective assumptions, including the fair value of the Company’s common stock on the date of grant, expected term of the award, expected stock price volatility, expected dividends and risk-free interest rate. The Company recognizes all excess tax benefits or tax deficiencies associated with stock-based awards discretely in its provision for (benefit from) income taxes. See Note 4, “Stock-based Compensation,” for additional information.

Other (Expense) Income, Net

The components of other (expense) income, net, were as follows:

	Years Ended December 31,		
	2019	**2018**	**2017**
Other (expense) income, net:			
Foreign currency (losses) gains, net	$ (24,659)	$ 16,682	$ (40,132)
Other income	3,778	8,728	706
Other expense	(6,262)	(3,709)	(833)
Total other (expense) income, net	$ (27,143)	$ 21,701	$ (40,259)

Cash and Cash Equivalents

Cash and cash equivalents consist of unrestricted cash accounts that are not subject to withdrawal restrictions or penalties and all highly liquid investments that have a maturity of three months or less at the date of purchase.

Supplemental cash flow information consisted of the following:

	2019	2018	2017
Cash paid for interest (for the years ended December 31)	$ 300,528	$ 262,921	$ 238,826
Cash paid for income taxes, net (for the years ended December 31)	72,510	64,714	43,438
Purchases of property and equipment in current liabilities (as of December 31)	29,924	17,461	22,725

Accounts Receivable, Unbilled Services and Unearned Revenue

In the normal course of business, the Company generally establishes prerequisites for billings based on contractual provisions, including payment schedules, the completion of milestones or the submission of appropriate billing detail based on the performance of services during a specified period. Payment for the Company's services may or may not coincide with the recognition of revenue. The Company's intent with its invoicing and payment terms is not to provide financing to the customer or receive financing from the customer. Payment terms with customers are short-term, as payment for services is typically due less than one year from the date of billing.

Accounts receivable represents amounts for which invoices have been provided to customers pursuant to contractual terms. Unbilled services represent revenue earned and recognized for services performed to date for which amounts have not yet been billed to the customer pursuant to contractual terms. Contract assets represent unbilled services where the Company's right to bill includes something other than the passage of time, such as the satisfaction of milestones related to a performance obligation for services. Contract assets are recorded as part of accounts receivable and unbilled services, net, on the consolidated balance sheets.

The Company records unearned revenue, also referred to as contract liabilities, for amounts collected from or billed to customers in excess of revenue recognized. The Company reduces unearned revenue and recognizes revenue as the related performance obligations for services are performed. Unearned revenue and contract assets are recorded net on a contract-by-contract basis at the end of each reporting period.

Allowance for Doubtful Accounts

The Company's allowance for doubtful accounts is based on a variety of factors including an assessment of risk, historical experience, length of time the accounts receivable are past due and specific customer collection information. The Company performs periodic credit evaluations of customers' financial condition and continually monitors collections and payments from its customers. The Company writes off uncollectible invoices when appropriate collection efforts have been exhausted. The allowance for doubtful accounts is included in accounts receivable and unbilled services, net on the consolidated balance sheets.

Property and Equipment

The Company records property and equipment at cost less accumulated depreciation and amortization. The Company records depreciation and amortization using the straight-line method, based on the following estimated useful lives:

Buildings	20-40 years
Furniture and equipment	4-18 years
Computer equipment and software	1-5 years

The Company depreciates leasehold improvements over the shorter of the remaining lease term or the estimated useful lives of the improvements. The Company capitalizes internal use software development costs incurred during the application development stage, while it expenses all other preliminary stage and post implementation-operation stage costs, including planning, training and maintenance costs as incurred. The Company amortizes software developed or obtained for internal use, including software licenses obtained through a cloud computing arrangement, over the estimated useful life of the software or the term of the licensing or service agreement.

The Company reviews property and equipment for impairment when events and circumstances indicate that the carrying amount of property and equipment might not be recoverable. This evaluation involves various analyses, including undiscounted cash flow projections. In the event undiscounted cash flow projections or other analysis indicate that the carrying amount of property and equipment is not recoverable, the Company records an impairment reducing the carrying value of the property or equipment to its estimated fair value. The Company estimates fair value based on generally accepted valuation techniques, including income and market approaches. These approaches may include a discounted cash flow income model, use of market information of fair value, such as recent sales or market comparables, and other generally accepted approaches. The Company depreciates or amortizes the revised fair value of the property and equipment over the remaining estimated useful life. The valuation of long-lived assets at estimated fair value, when required, is performed using Level 2 or Level 3 fair value inputs.

Goodwill

Goodwill is allocated to each identified reporting unit, which is defined as an operating segment or one level below the operating segment (referred to as a component of the entity). The Company assigns to goodwill the excess of the fair value of consideration conveyed for a business acquired over the fair value of identifiable net assets acquired. The Company reviews goodwill for impairment annually during the fourth quarter, and more frequently if impairment indicators arise. Impairment indicators include events or changes in circumstances that would more likely than not reduce the fair value of a reporting unit with assigned goodwill below its carrying amount. The Company monitors events and changes in circumstances on a continuous basis between annual impairment testing dates to determine if any events or changes in circumstances indicate potential impairment.

The Company performs a qualitative assessment to determine whether it is more likely than not that the estimated fair value of a reporting unit is greater than its carrying value. The qualitative analysis includes an assessment of macroeconomic conditions, industry and market specific considerations, internal cost factors, financial performance, fair value history and other Company specific events. If the qualitative analysis indicates that it is more likely than not that the estimated fair value is less than the carrying value for the reporting unit, the Company performs a quantitative analysis of the reporting unit. If based on the qualitative analysis it is more likely than not that the reporting unit’s estimated fair value exceeds its carrying value, no further analysis is required.

When the Company performs a quantitative analysis, the Company estimates the fair value of each reporting unit using generally accepted valuation techniques, which include a weighted combination of income and market approaches. The income approach incorporates a discounted cash flow model in which the estimated future cash flows of the reporting unit are discounted using an appropriately risk-adjusted weighted-average cost of capital. The forecasts used in the discounted cash flow model for each reporting unit are based in part on strategic plans and represent the Company’s estimates based on current and forecasted business and market conditions. The market approach considers the Company’s results of operations and information about the Company’s publicly traded competitors, such as earnings multiples, making adjustments to the selected competitors based on size, strengths and weaknesses, as well as publicly announced acquisition transactions. The determination of fair value for each reporting unit requires significant judgments and estimates and actual results could be materially different than those judgments and estimates resulting in goodwill impairment. If the reporting unit’s carrying value exceeds the estimated fair value, a goodwill impairment loss must be recognized in an amount equal to that excess for that reporting unit, not to exceed the total goodwill amount for that reporting unit. If based on the quantitative analysis the reporting unit’s estimated fair value exceeds its carrying value, no goodwill impairment is recorded. The valuation of goodwill at estimated fair value, when required, is performed using Level 2 or Level 3 fair value inputs.

During the year ended December 31, 2018, the Company recognized goodwill impairment for one reporting unit in its Clinical Development Services segment. During the year ended December 31, 2017, the Company recognized goodwill impairment for a different reporting unit in its Clinical Development Services segment. See Note 9, “Goodwill and Intangible Assets, Net,” for additional information on the goodwill impairments.

Intangible Assets

Definite-lived intangible assets consist of trade names, investigator/payer network, technology/intellectual property, know-how/processes, backlog and customer relationships. The Company amortizes customer relationships using either a sum-of-the-years' digits method or straight-line method over their estimated useful lives. The Company amortizes all of its other definite-lived intangible assets using the straight-line method over their estimated useful lives. The methods used reflect the expected pattern of benefit over the expected useful lives of each type of intangible asset. As of December 31, 2019, the weighted-average remaining amortization period was 12 years for all intangible assets. The estimated useful lives are as follows:

Trade names	10-23 years
Investigator/payer network	5-10 years
Technology/intellectual property	2-8 years
Know-how/processes	7-10 years
Backlog	1-6 years
Customer relationships	13-23 years

The Company reviews definite-lived intangible assets for impairment when circumstances indicate that the carrying amount of assets might not be recoverable. This evaluation involves various analyses, including undiscounted cash flow projections. In the event undiscounted cash flow projections or other analyses indicate that the carrying amount of the intangible asset is not recoverable, the Company records an intangible asset impairment reducing the carrying value of the intangible asset to its estimated fair value. The Company estimates fair value based on generally accepted valuation techniques, including cost and income approaches. These approaches may include a discounted cash flow model and other generally accepted approaches. The new fair value of the intangible asset is amortized over the remaining estimated useful life. The valuation of intangible assets at estimated fair value, when required, is performed using Level 2 or Level 3 fair value inputs. The Company does not have any indefinite-lived intangible assets other than goodwill.

Investments

Equity Method

The Company has investments in unconsolidated affiliates that are accounted for under the equity method of accounting and are classified as investments in unconsolidated affiliates on the consolidated balance sheets as the Company exercises significant influence. The Company records its pro rata share of the earnings of its investments in equity in losses of unconsolidated affiliates, net of taxes on the consolidated statements of operations.

The Company periodically reviews its equity method investment for declines in value that may be other than temporary. If an impairment indicator suggests that the estimated fair value of the investment may be less than the carrying value of the investment, the Company performs an analysis to estimate the fair value for the equity method investment, as well as assessing if the decline in the fair value estimate is other than a temporary decline. The Company estimates fair value based on generally accepted valuation techniques, including income and market approaches. The approaches may include a discounted cash flow model, use of market information such as information on the Company's publicly traded competitors and other generally accepted approaches. Because of the inherent uncertainty of valuations, estimated valuations may differ significantly from the values that would have been used had a ready market for the securities existed, and the differences could be material. The valuation of the equity method investment at estimated fair value, when required, is performed using Level 2 or Level 3 fair value inputs. See Note 7, "Investments," for additional information on the Company's investments recognized under the equity method.

Other Investments

The Company's other investments primarily consist of equity method investments in limited partnerships measured at fair value utilizing the fair value option, but for which fair values are not readily determinable. The Company records changes in the fair value of the investments in limited partnerships, representing realized and unrealized gains or losses, as a component of (loss) gain on investments on the statements of operations. The nature of the underlying investments in these funds is such that distributions are received through the liquidation of the underlying assets of the fund. Distributions reduce the fair value of the investment and are considered a return of investment. The Company does not receive significant amounts of interest or dividends from these investments. The estimate of fair value involves an evaluation of the investment and its underlying assets, including the market for the investment, available information on historical and projected financial performance, the potential sale or initial public offering of the underlying assets, the stage of development of the underlying assets, recent private transactions, control over the investment partnership and the lack of marketability of the investments, as well as the Company's expected holding period, among other considerations. See Note 7, "Investments" and Note 15, "Fair Value Measurements," for additional information on the Company's investments accounted for under the fair value option.

Pension Plan

The Company has a frozen defined benefit pension plan (the "Pension Plan") that provides retirement benefits to certain qualifying current and former U.K. employees. The determination of the benefit obligation and expense is based on actuarial models. In order to measure the benefit cost and obligation using these models, critical assumptions are made with regard to the discount rate, expected return on plan assets and the assumed rate of compensation increases. The Company reviews these critical assumptions at least annually. Other assumptions involve demographic factors such as retirement and mortality rates. The Company reviews these assumptions periodically and updates them when its experience deems it appropriate to do so.

The discount rate represents the interest rate the Company would pay to purchase high quality investments to provide sufficient cash to settle its current projected benefit obligation. The discount rate is determined using a yield curve based on an index of GBP denominated AA corporate bonds in the U.K. for the appropriate maturity of the cash flow being discounted. The Company estimates interest cost components of net periodic benefit cost (credit) for the Company's Pension Plan by utilizing a full yield curve approach in the estimation of these components by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to each of the underlying projected cash flows based on time until payment. The expected long-term rate of return on assets assumption is based on expectations for future yields on investments. The long-term rate of return is developed by considering expected returns on U.K. government bonds, expected dividend yield and growth and the Pension Plan's asset allocation.

The Company utilizes a corridor approach to amortizing unrecognized gains and losses on the Pension Plan. Amortization occurs when the accumulated unrecognized net gain or loss balance exceeds 10% of the larger of the beginning balances of the projected benefit obligation or the market-related value of the plan assets. The excess unrecognized gain or loss balance is then amortized using the average remaining working lives of the employees participating in the Pension Plan.

Debt Issuance and Modification Costs

Debt issuance costs and certain debt modification costs associated with the Company's long-term debt arrangements are deferred and presented as a direct deduction from long-term debt and finance lease obligations on the consolidated balance sheets. Deferred debt issuance costs associated with the Company's revolving credit facility are capitalized and presented as an other asset on the consolidated balance sheets. All deferred debt issuance and modification costs are amortized over the term of the related debt or agreement using the effective interest method.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements. Under this method, the Company determines deferred tax assets and liabilities based on the differences between amounts recorded in the consolidated financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company records deferred tax assets to the extent it believes these assets will more likely than not be realized. All available positive and negative evidence is reviewed in making a determination. The evidence includes future reversals of existing deferred tax liabilities, historical and projected future taxable income and tax planning strategies. The realization of the deferred income tax assets ultimately depends on the existence of sufficient taxable income in either the carryback or carryforward periods under tax law. If future events differ from the Company's current forecasts, a valuation allowance may need to be established or released. The Company records deferred taxes as long-term assets or liabilities on the consolidated balance sheets.

The Company assesses its income tax positions and records tax benefits based upon management's evaluation of the facts, circumstances and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, the Company records the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit is recognized in the consolidated financial statements. The Company classifies liabilities for unrecognized tax benefits as accrued income taxes on the consolidated balance sheets unless the uncertainty is expected to be resolved within one year. The Company's policy for recording interest and penalties associated with unrecognized tax benefits is to record them as a component of provision for (benefit from) income taxes. See Note 12, "Income Taxes," for additional information.

Commitments and Contingencies

The Company records and discloses a liability for pending and threatened litigation matters when an adverse outcome is probable and the amount of the potential liability is reasonably estimable. The Company reviews claims and legal proceedings on a continuous basis and records or adjusts liabilities recorded for such matters based on updated facts and circumstances including settlements or offers to settle, judicial rulings, advice of counsel or other pertinent matters. Legal costs associated with contingencies are charged to expense as incurred.

The Company is involved in a variety of pending and threatened legal and tax proceedings, claims and litigation that arise from time to time in the ordinary course of business. These actions may be threatened or commenced by various parties, including customers, current or former employees, vendors, government agencies or others. Based on the latest information available, the Company does not expect any pending or threatened legal or tax proceeding, claim or litigation, either individually or in the aggregate, will have a material adverse effect on the business, financial position, results of operations and/or cash flows of the Company.

Derivative Instruments and Hedging Activities

The Company may use derivatives to manage its exposure to foreign currency and interest rate risk. When the Company uses derivatives, the Company records the fair value of derivative instruments on the consolidated balance sheet as either an asset or liability. Changes in a derivative's fair value are recorded each period in income from operations or other comprehensive income or loss ("OCI" or "OCL"), depending on the type of hedge transaction, whether the derivative is designated and whether the derivative is effective as a hedged transaction. Changes in the fair value of derivative instruments recorded to OCI or OCL are reclassified to income from operations in the period affected by the underlying hedged item. Any portion of the fair value of a derivative instrument determined to be ineffective is recognized in current earnings.

Concentration of Credit Risk

Financial instruments that subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable and unbilled services, net. Based on the nature of the financial instruments and/or historical realization of these financial instruments as well as the financial institutions holding the deposits, the Company believes it bears minimal credit risk.

Foreign Currency

The Company translates assets and liabilities of foreign operations, where the functional currency is the local currency, into U.S. dollars at the rate of exchange at each reporting date and stockholders' equity accounts at historical exchange rates. The Company translates income and expenses at the exchange rate on the date in which the transaction occurs or at the average exchange rate prevailing during the month in which a transaction occurs. Gains or losses from translating foreign currency amounts are recorded in OCI or OCL. As a result of foreign operations, the Company is exposed to foreign currency exchange risk due to the timing between the initiation of a transaction and the ultimate settlement of the transaction. Therefore, the Company incurs foreign currency transaction and re-measurement gains or losses. The Company includes foreign currency transaction and re-measurement gains and losses in other (expense) income, net on the consolidated statements of operations.

Business Combinations

The Company accounts for business combinations using the acquisition method of accounting, where the identifiable assets acquired, the liabilities assumed and any noncontrolling interest in the acquired entity are measured at their fair values and recognized on the date of acquisition. Initial estimates of fair value may be recorded as provisional, with measurement period adjustments to fair value recorded in subsequent periods. The measurement period is defined as the time period in which all information has been obtained to determine the fair value of the identifiable assets acquired, liabilities assumed and any noncontrolling interests. However, the measurement period is to not exceed one year from the date of acquisition. All adjustments made to provisional amounts are recognized in the period in which the adjustments are determined and disclosures are made when such adjustments are significant. Goodwill is the excess of the fair value of the consideration conveyed in the acquisition over the fair value of the identifiable net assets acquired. The fair values assigned to identifiable assets acquired, liabilities assumed and noncontrolling interests are based on management's estimates and assumptions, as well as other information compiled by management, including available historical information, using generally accepted valuation techniques. Significant judgment may be required to determine these fair values. Actual results could materially differ from the estimates and assumptions used in the determination of fair value, which could result in an impairment of the intangible assets or goodwill, or require acceleration of amortization expense of definite-lived intangible assets.

The Company records assets and liabilities representing working capital at their historical costs, which approximate fair value given the short-term nature of the assets and liabilities. The Company may use the market, income or cost approaches to value significant property and equipment acquired. The Company generally uses the income approach method to estimate the fair value of definite-lived intangible assets consisting of customer relationships, backlog, and trade names. The Company generally uses the cost approach method to estimate the fair value of investigator/payer network, certain technology/intellectual property and know-how/processes. Significant estimates and assumptions in the estimates of fair value reflect the consideration of other marketplace participants, and include the amount and timing of future cash flows (including expected growth rates and profitability), economic barriers to entry, the brand's relative market position, estimated royalty rates, estimated costs to replicate, opportunity costs and the discount rate applied to future cash flows. The valuation of property and equipment and definite-lived intangible assets at fair value is primarily performed using Level 2 or Level 3 fair value inputs.

Fair Value

The Company records certain assets and liabilities at fair value on a recurring and nonrecurring basis. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability, or the exit price, in an orderly transaction between market participants at the measurement date. U.S. GAAP establishes a fair value hierarchy that gives highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities and the lowest level to unobservable inputs. The inputs used to measure fair value are classified into the following fair value hierarchy:

- Level 1 - Quoted prices (unadjusted) for identical assets or liabilities in active markets that the Company can access at the measurement date.
- Level 2 - Observable inputs other than quoted prices in Level 1, including (i) quoted prices for similar assets and liabilities in active markets, (ii) quoted prices for identical or similar assets or liabilities in markets that are not active and (iii) observable inputs for the assets or liabilities other than quoted market prices.
- Level 3 - Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. This includes assets and liabilities determined using pricing models, discounted cash flow methodologies or similar techniques reflecting the Company's own assumptions.

The fair value measurement of a financial instrument and its classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement in its entirety. In certain cases, the inputs used to measure fair value fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the level in the fair value hierarchy within which the fair value measurement in its entirety falls is based on the lowest level input that is significant to the fair value measurement in its entirety. The Company reports transfers between valuation levels at their fair value as of the beginning of the month in which such changes in the fair value inputs occur.

Earnings per Share

The calculation of earnings per share ("EPS") is based on the Company's net income that is attributable to its common stockholders divided by the weighted-average number of common shares or common share equivalents outstanding during the applicable period. The Company's net income that is attributable to common stockholders will generally not be the same as the Company's consolidated net income due to the effects of redeemable noncontrolling interests recognized and deemed dividends related to recapitalization contingent consideration. See Note 5, "Stockholders' Deficit and Redeemable Noncontrolling Interest" and Note 2, "Recapitalization Transaction," for additional information.

The dilutive effect of common share equivalents is excluded from basic EPS and is included in the calculation of diluted EPS. Restricted stock and stock options granted by the Company are treated as potential common shares outstanding in computing diluted EPS. Diluted shares outstanding are calculated based on the average share price for each fiscal period using the treasury stock method.

Under the treasury stock method, the amount the employee must pay for exercising stock options and the amount of compensation cost for future service that the Company has not yet recognized are assumed to be used to repurchase shares. The Company does not include potentially dilutive shares in the calculation of diluted weighted-average number of common shares outstanding in cases where the inclusion of such additional shares would be anti-dilutive. See Note 18, "Earnings Per Share," for additional information on the Company's calculation of basic and diluted EPS.

Reportable Segments

The Company has two reportable segments, Clinical Development Services and Laboratory Services. The Clinical Development Services segment provides a wide range of services to its customers including early development/Phase I, patient recruitment and enrollment, investigator site management, Phase II-IV clinical trial management, medical communications and various peri- and post-approval services. The Laboratory Services segment provides comprehensive services to its customers including bioanalytical, vaccine sciences, good manufacturing practices ("GMP"), central lab and biomarker testing. Both segments provide services to pharmaceutical, biotechnology, medical device, government organizations and other industry participants. During the fourth quarter of 2019, the chief operating decision maker (the "CODM") updated the manner in which financial information is reviewed for purposes of assessing performance and making operating decisions for the Company's reportable segments. See Note 19, "Segments," for additional information on this change and the Company's identified reportable segments.

Recently Issued Accounting Standard

In August 2018, the FASB issued an accounting standards update to address a customer's accounting for implementation costs incurred in a cloud computing arrangement that is a service contract. This new guidance was issued to align the accounting for costs incurred to implement a cloud computing arrangement that is a service contract with the guidance on capitalizing costs associated with developing or obtaining internal-use software. Upon the adoption of this standard, implementation costs incurred in a cloud computing arrangement that is a service contract will be capitalized and presented in the financial statements similar to prepaid expenses related to service contracts. Additionally, expenses associated with capitalized implementation costs will be recorded in the same financial statement line item as the fees associated with the hosting element of a cloud computing arrangement. The accounting standards update became effective for the Company for quarterly and annual reporting on January 1, 2020. Entities have the option of using either the retrospective or prospective method to adopt the standard and the Company expects to elect the prospective method. The Company is in the process of evaluating the impact of this new accounting guidance on its consolidated financial statements and plans to finalize this evaluation for quarterly reporting as of March 31, 2020.

2. Recapitalization Transaction

Overview

On May 11, 2017, the Majority Sponsors completed the Recapitalization. The Recapitalization was funded through (i) cash equity contributions (and deferred equity contributions) from investment funds affiliated with the Sponsors, (ii) equity contributions of PPD common stock from affiliates of one of the Sponsors and from certain members of management, (iii) the issuance of new long-term debt and (iv) cash on hand from the Company, as well as the assumption of the Company's existing long-term debt.

In summary, the following transactions associated with the Reorganization Merger and Recapitalization Merger were effectuated to complete the Recapitalization:

At the effective time of the Reorganization Merger:

- each issued and outstanding share of Jaguar I common stock was automatically canceled and converted into one share of initial PPD common stock;
- shares of Jaguar I common stock held in treasury were canceled and retired for no cash or other consideration; and
- PPD assumed the Jaguar I 2011 Equity Incentive Plan (the "Jaguar I Plan") and each outstanding option to purchase Jaguar I common stock (a "Jaguar I Option") was converted into an equivalent option to purchase the same number of shares of initial PPD common stock (a "PPD Option"), including the same terms, conditions and vesting requirements in place prior to the Reorganization Merger.

Immediately prior to the Recapitalization Merger:

- the Conversion occurred;
- Buyer was funded with cash equity contributions totaling $770.2 million from investment funds affiliated with the Sponsors in exchange for the issuance of 51.1 million shares; and
- a rollover of initial PPD common stock by one of the Sponsor affiliates and certain members of management occurred (collectively, the "Rollover Sellers") for a total of $1.4 billion, whereby the Rollover Sellers contributed 92.5 million shares of initial PPD common stock (the "Rollover Shares") in exchange for the same number of shares of Buyer common stock, plus the right to receive additional consideration as described below.

At the effective time of the Recapitalization Merger:

- 87.1 million shares of initial PPD common stock (including PPD restricted stock) issued and outstanding were canceled and converted into and became the right to receive from Buyer, without interest, $1.3 billion in cash consideration plus additional consideration as described below;
- shares common stock of Buyer were converted into shares of PPD common stock, respectively;
- outstanding initial PPD Options, whether or not vested or exercisable, became fully vested and were canceled and converted into the right to receive (i) the excess of the per share consideration over the applicable exercise price multiplied by the number of shares issuable upon exercise (the "PPD Option Consideration"), (ii) unpaid special cash bonuses (previously awarded, unvested and unpaid) with respect to such Jaguar I Options ("Special Cash Bonuses") and (iii) additional consideration as described below. Certain members of management who held initial PPD Options received a portion of their PPD Option Consideration in the form of 2.4 million shares of PPD common stock. Refer below for more information on PPD Option Consideration and Special Cash Bonuses;
- 132.8 million shares of initial PPD common stock issued and outstanding were cancelled and converted into $2.0 billion of cash consideration payable to certain affiliates of the Majority Sponsors which was deferred (the "Deferred Recapitalization Payment") until September 29, 2017 (the "Deferred Payment Date"). Refer below for more information on the Deferred Recapitalization Payment; and

- the owners of initial PPD common stock after the Reorganization Merger and prior to the Recapitalization Merger (including the Rollover Sellers) and holders of initial PPD Options (collectively, the "Pre-Closing Holders") each became entitled to receive additional consideration ("Additional Recapitalization Consideration") related to certain tax benefits anticipated to be received by PPD as a result of the Recapitalization (as specified in the Merger Agreement) and a portion of future cash distributions, if any, to be received by the Company from its investments held at the time of the Recapitalization (the "Investment Portfolio"). Refer below for more information on the Additional Recapitalization Consideration.

In addition:

- Eagle II issued $550.0 million of senior unsecured notes, the proceeds of which were used to pay, in part, the cash consideration for the Recapitalization, the PPD Option Consideration and fees and expenses related to the Recapitalization. See Note 10, "Long-term Debt and Finance Lease Obligations" for additional information on the senior unsecured notes; and
- the Company incurred $70.4 million of fees and expenses ("Transaction Costs") related to the Recapitalization.

PPD Option Consideration and Special Cash Bonuses

The Company paid $194.5 million of PPD Option Consideration for the cash settlement of initial PPD Options, all formerly Jaguar I Options. The change in expected vesting resulted in a modification of certain initial PPD Options prior to the cash settlement and therefore resulted in incremental stock-based compensation being incurred. For the year ended December 31, 2017, the Company recognized $52.2 million of stock-based compensation expense for the vesting and cash settlement of initial PPD Options. Stock-based compensation expense recognized for initial PPD Options included $12.5 million for the remaining unrecognized stock-based compensation expense for the vesting of all initial PPD Options that were considered probable of vesting and $39.7 million of incremental stock-based compensation expense for liquidity event-based and certain performance-based initial PPD Options, each of which had its expected vesting changed from improbable to probable. Other previously vested initial PPD Options, comprised of time-based and certain performance-based options, were treated as a cash settlement of initial PPD Options because the PPD Option Consideration paid was equal to the fair value of such options. The cash settlement of initial PPD Options resulted in a $142.3 million direct increase to the Company's accumulated deficit. The Company also paid $28.1 million for the cash settlement of the Special Cash Bonuses. For the year ended December 31, 2017, the Company recognized $6.7 million of compensation expense for the Special Cash Bonuses.

The stock-based compensation expense and Special Cash Bonuses expense were recorded as a component of recapitalization costs on the consolidated statements of operations. Prior to the Recapitalization, the Company recognized $2.1 million and $2.5 million of stock-based compensation expense and compensation expense, respectively, in 2017 for the former Jaguar I Options and the Special Cash Bonuses and had not recognized any compensation expense for liquidity event-based options because a liquidity event, as defined in the Jaguar I Plan, had not occurred. Additionally, the Company recognized $7.1 million of compensation cost for payroll taxes related to the cash and share settlement of all initial PPD Options and the Special Cash Bonuses, which was also included as a component of recapitalization costs on the consolidated statements of operations.

There were no stock-based awards granted under the Jaguar I Plan during 2017 and the Jaguar I Plan had 25.0 million stock options outstanding prior to the transactions described above. As a result of the Recapitalization, all outstanding awards were vested and settled (as indicated above) and the Jaguar I Plan was terminated and replaced by the Eagle Holding Company I 2017 Equity Incentive Plan (the "Eagle I Plan"). For additional information on the Eagle I Plan see Note 4, "Stock-based Compensation."

Deferred Recapitalization Payment

PPD recognized a $2.0 billion current liability on May 11, 2017, for the Deferred Recapitalization Payment. On the Deferred Payment Date, PPD extinguished the mandatorily redeemable liability with the $2.0 billion cash equity contribution received from affiliates of Carlyle and affiliates of H&F in exchange for the issuance of 132.8 million shares of PPD voting common stock. The Deferred Recapitalization Payment and the cash equity contribution on the Deferred Payment Date were recorded to the Company's accumulated deficit in accordance with the accounting guidance for recapitalizations. The shares associated with the Deferred Recapitalization Payment were treated as outstanding shares for purposes of determining basic and diluted EPS during 2017. See Note 18, "Earnings Per Share," for additional information.

Recapitalization Tax Benefit Liability

Pursuant to the terms and conditions of the Merger Agreement, the Pre-Closing Holders were entitled to receive Additional Recapitalization Consideration to the extent certain tax benefits were deemed realized by PPD by way of a reduction in cash income taxes payable or receipt of a cash tax refund based on certain anticipated tax attributes related to the Recapitalization. These transaction tax benefits represent contractually negotiated consideration as part of the Merger Agreement (the “Recapitalization Tax Benefit Liability”).

During the year ended December 31, 2018, in connection with the filing of the Company’s 2017 U.S. Corporate Income Tax Return, the Company finalized the amount of the Recapitalization Tax Benefit Liability and distributed $108.3 million from the Company’s cash and cash equivalents on hand and no liability remained as of December 31, 2018.

Recapitalization Investment Portfolio Liability

Pursuant to the terms and conditions of the Merger Agreement, the Pre-Closing Holders are also entitled to receive Additional Recapitalization Consideration based on future payments, if any, received by the Company in respect of the Investment Portfolio. The Additional Recapitalization Consideration represents the right to receive future payments from the Company determined by reference to the cash proceeds received by the Company from the Investment Portfolio, net of taxes and other expenses of the Company deemed attributable to the Investment Portfolio and capital contributions made by the Company in respect of the Investment Portfolio after the Recapitalization (the “Recapitalization Investment Portfolio Liability”). The Recapitalization Investment Portfolio Liability represents an obligation that is estimated and probable to become distributable by transferring assets (i.e., cash) to the Pre-Closing Holders. The Company recorded the Recapitalization Investment Portfolio Liability as a long-term liability. If and when the Company is obligated to make a distribution to the Pre-Closing Holders, a portion of the liability will be reclassified to a current liability. Payments in respect of the Recapitalization Investment Portfolio Liability may be deferred if such payments would violate any covenant under the Company’s debt facilities or limit the ability of the Company to pay interest in cash under such debt facilities.

As of December 31, 2019 and 2018, PPD had $191.7 million and $198.5 million, respectively, recognized for the Recapitalization Investment Portfolio Liability on the consolidated balance sheets. The initial recognition of the Recapitalization Investment Portfolio Liability of $120.0 million recognized on May 11, 2017, resulted in an increase to the Company’s accumulated deficit in accordance with the accounting guidance for contingent consideration for an equity transaction. Changes in the Recapitalization Investment Portfolio Liability (based on changes in the fair value of the investments underlying the Investment Portfolio, net of taxes and other expenses as required by the Merger Agreement) are recognized as an increase or decrease to the liability with a corresponding increase or decrease in the Company’s accumulated deficit, as well as a deemed dividend on the Company’s statements of operations.

During the year ended December 31, 2018 and 2017, the Company paid $16.0 million and $10.5 million, respectively, in distributions related to the Recapitalization Investment Portfolio Liability. No distributions were made in respect of the Recapitalization Investment Portfolio Liability during 2019. Any payments made to the Pre-Closing Holders in respect of the Recapitalization Investment Portfolio Liability reduce such liability. The initial Recapitalization Investment Portfolio Liability and subsequent changes to such liability from changes in the Investment Portfolio were recorded as a non-cash financing activity. See Note 7, “Investments,” for additional information on the Company’s Investment Portfolio.

Recapitalization Transaction Costs

During the year ended December 31, 2017, the Company recognized $51.2 million of Transaction Costs related to the Recapitalization, consisting primarily of deal-related fees such as advisory and other professional fees incurred by and for the benefit of the Company. These Transaction Costs were recorded as a component of recapitalization costs on the consolidated statements of operations. Additionally, the Company recognized $7.3 million of Transaction Costs, consisting primarily of professional fees, as a direct increase to the Company’s accumulated deficit because the costs were paid by the Company for the benefit of and on behalf of affiliates of the Sponsors. Finally, the Company capitalized $11.9 million of debt issuance costs for the issuance of $550.0 million of new senior notes. See Note 10, “Long-term Debt and Finance Lease Obligations,” for additional information on the debt issuance costs.

3. Revenue

Clinical Development Services

The Company’s Clinical Development Services segment provides a wide range of clinical development services to its customers including early development/Phase I, patient recruitment and enrollment, investigator site management, Phase II-IV clinical trial management, medical communications and various peri- and post-approval services. Clinical Development Service contracts are generally fixed-fee, fee-for-service or time and materials contracts and include full-service partnerships, functional service partnerships and other custom-built offerings and tailored services.

The Company’s full-service clinical trial management contracts include multiple promised services such as trial feasibility, investigator recruitment, clinical trial monitoring, project management, database management and biostatistical services, among others. The Company’s full-service clinical trial management services constitute a single performance obligation, which is the delivery of clinical trial data and related reports, as the Company provides a significant service of integrating all promises in the contract and the promises are highly interdependent and interrelated with one another. The Company uses a cost-to-cost input method to recognize revenue for the satisfaction of the performance obligation for full-service contracts. Actual total costs incurred, which is inclusive of direct, third-party pass-through and out-of-pocket costs, is compared to the estimated total costs to satisfy the performance obligation under the contract. This ratio is then multiplied by the estimated total contract consideration to calculate and recognize revenue. This methodology is consistent with the manner in which the customer receives the benefit of the work performed over time as services are rendered and is generally consistent with the Company’s contract termination provisions. Direct costs consist primarily of the amount of direct labor and certain overhead for the delivery of services. The inclusion of actual incurred and estimated total third-party pass-through and out-of-pocket costs in the measure of progress may create a timing difference between the amount of revenue recognized and the actual third-party pass-through and out-of-pocket costs incurred.

The Company reviews and revises estimated total costs to satisfy the performance obligation throughout the life of the contract, with adjustments to revenue resulting from such revisions being recorded in the period in which the change in estimate is determined. Estimated total costs are determined as part of the customer proposal and negotiation process, based on the scope of work, the complexity of the clinical trial services, the geographic locations involved, industry information and historical experience, among other factors. Monthly, accumulated actual total costs on each project are compared to the current estimated total costs to complete the performance obligation under the contract. This process includes, among other things:

- a comparison of actual total costs incurred in the current month to the budgeted total costs for the month;
- detailed input from project teams relating to the status of the project, including the rate of enrollment, the ability to complete individual tasks in the time allotted, the anticipated total units to be achieved, an assessment of expected third-party pass-through and out-of-pocket costs and potential changes to the project scope;
- a comparison of third-party pass-through and out-of-pocket costs to direct costs and direct units to be achieved;
- a comparison of the fees invoiced and collected to revenue recognized;
- a review of experience on projects recently completed or currently running; and
- a review of specific customer and industry changes.

As a result, the Company might determine that previous estimates of total costs need to be revised based upon the new information and such changes in estimates may have a material impact on revenue recognized. In addition, a change in the scope of work generally results in the negotiation of a contract modification to increase or decrease the estimated total contract consideration along with an associated increase or decrease in the estimated total costs to complete.

The Company recognizes revenue for other clinical development services using a variety of input and output methods depending on the type of contract and/or the performance obligations in the contract. Methods utilized primarily include cost-to-cost, units delivered, such as patients recruited or tasks performed, and hours expended. The methods used align with the satisfaction of the performance obligations and benefits received by the customer over time, as the customer would not need to have the services re-performed if the remaining unfulfilled performance obligations were transferred to another party. When contracts for other clinical development services contain multiple performance obligations, the transaction price is allocated to each performance obligation based on a directly observable relative standalone selling price. When not directly observable, the Company utilizes an expected cost plus a margin in order to estimate standalone selling price.

Laboratory Services

The Company’s Laboratory Services segment provides comprehensive laboratory services to its customers including bioanalytical, vaccine sciences, GMP, central lab and biomarker testing. Laboratory Services contracts are generally fixed-fee, fee-for-service or time and materials contracts.

The Company’s laboratory services contracts include multiple service promises such as research and development, sample testing, sample management, certain clinical trial management services and providing full-time equivalent resources, among others. The Company’s laboratory services contracts generally contain multiple performance obligations based on the types of services provided as the Company does not provide a significant integration service, nor are the services highly interrelated or interdependent. The Company uses a variety of output methods to recognize revenue depending on the type of contract and the performance obligations in the contract. Methods primarily utilized to recognize revenue include units delivered, milestones achieved and full-time equivalent resources provided. The methods used align with the satisfaction of the performance obligations and benefits received by the customer over time, as the customer would not need to have the services re-performed if the remaining unfulfilled performance obligations were transferred to another party. When contracts for other laboratory services contain multiple performance obligations, the transaction price is allocated to each performance obligation on a directly observable relative standalone selling price. When not directly observable, the Company utilizes an expected cost plus a margin approach to estimate standalone selling price.

Performance Obligations

Revenue recognized for the years ended December 31, 2019 and 2018 from performance obligations partially satisfied in prior periods was $131.4 million and $145.7 million, respectively. These cumulative catch-up adjustments primarily related to (1) contract modifications executed in the current period, which resulted in changes to the transaction price, (2) changes in transaction price related to variable consideration and (3) changes in estimates such as estimated total costs.

As of December 31, 2019, the aggregate amounts of transaction price allocated to unsatisfied performance obligations with an original contract term of greater than one year was $6.9 billion. The Company expects to recognize 35% to 41% of the transaction price allocated to unsatisfied performance obligations over the next 12 months as services are rendered, with the remainder recognized thereafter during the remaining contract term. The Company does not include the value of the transaction price allocated to unsatisfied performance obligations for contracts that have an original contract term of less than one year or for contracts which are determined to be short-term based on certain termination for convenience provisions.

Accounts Receivable and Unbilled Services, net and Unearned Revenue

The Company’s accounts receivable and unbilled services, net, consisted of the following amounts on the dates set forth below:

	December 31,	
	2019	**2018**
Accounts receivable	$ 726,111	$ 700,280
Unbilled services	609,674	565,473
Total accounts receivable and unbilled services	1,335,785	1,265,753
Allowance for doubtful accounts	(9,171)	(5,029)
Total accounts receivable and unbilled services, net	$ 1,326,614	$ 1,260,724

The Company’s unearned revenue consisted of the following amounts on the dates set forth below:

	December 31,	
	2019	**2018**
Unearned revenue	$ 1,110,872	$ 921,964

As of December 31, 2019 and 2018, contract assets of $178.8 million and $172.4 million, respectively, were included in unbilled services. The changes in the Company's contract assets and unearned revenue resulted from the timing difference between the Company's satisfaction of performance obligations under its contracts, achievement of billing milestones and customer payments. Additionally, during the years ended December 31, 2019 and 2018, the Company recognized revenue of $705.3 million and $513.6 million, respectively, from the balance of unearned revenue outstanding as of January 1, 2019 and January 1, 2018. Impairments of accounts receivable, unbilled services and contract assets were insignificant during the years ended December 31, 2019 and 2018.

Allowance for Doubtful Accounts

The Company's changes in the allowance for doubtful accounts consisted of the following amounts on the dates set forth below:

	Years Ended December 31,		
	2019	2018	2017
Balance at the beginning of the period	$ (5,029)	$ (4,904)	$ (3,105)
Current year provision	(4,243)	(618)	(3,466)
Write-offs	101	493	1,667
Balance at the end of the period	$ (9,171)	$ (5,029)	$ (4,904)

Customer Concentration

Concentrations of credit risk with respect to accounts receivable and unbilled services, net, are limited due to the Company's large number of customers. At December 31, 2019, two customers each accounted for approximately 11% of accounts receivable and unbilled services, net. At December 31, 2018, no customer accounted for greater than 10% of accounts receivable and unbilled services, net. Additionally, no one customer accounted for greater than 10% of revenue for the years ended December 31, 2019, 2018 or 2017.

Contract Costs

The Company often incurs direct and incremental contract costs to obtain a contract with a customer. Contract costs include certain bonuses, commissions and related fringe benefits paid to employees directly related to sales of services that result in a contract. The Company capitalizes the costs to obtain a contract when the expected period of benefit from the contract is greater than one year, and when capitalized, the costs are amortized on a straight-line basis over the expected period of benefit, which is generally the contract term. The Company expenses contract costs as incurred for contracts that have a contract term or estimated service period of one year or less. Capitalized contract costs are included as a component of other assets on the consolidated balance sheets and amortization of capitalized contract costs are included as a component of SG&A expenses on the consolidated statements of operations. No significant capitalized contract cost impairment was recognized during the years ended December 31, 2019 or 2018.

Capitalized contract costs and the related amortization for the period below were as follows:

	December 31,	
	2019	2018
Capitalized costs to obtain a contract, net	$ 25,766	$ 23,062

	Years Ended December 31,	
	2019	2018
Amortization of costs to obtain a contract	$ 11,432	$ 8,693

4. Stock-based Compensation

Stock Options and Restricted Stock Awards

Overview

In May 2017, the Company adopted the Eagle I Plan in conjunction with the Recapitalization. Under the Eagle I Plan, the Company can issue stock options, restricted stock and other stock-based awards to employees, directors and consultants of the Company. The Company reserved 23.5 million shares of PPD common stock for issuance of stock-based awards under the Eagle I Plan, which may be voting or non-voting common stock. The Eagle I Plan is administered by the board of directors of the Company or any committee or committees thereof to which the board of directors delegates authority (the "Administrator"). The Eagle I Plan provides that the Administrator has the authority to determine who receives awards, to grant awards and to set all terms and conditions of awards, including vesting, exercise and forfeiture provisions. Awards forfeited or expired remain available for future issuance under the Eagle I Plan. As of December 31, 2019, there were 3.2 million shares of PPD common stock available for issuance under the Eagle I Plan. With the completion of the Company's IPO, no additional awards will be granted under the Eagle I Plan.

Stock options granted under the Eagle I Plan may not have a term that exceeds ten years from the date of grant. The exercise price of stock options issued under the Eagle I Plan may not be less than the fair market value of PPD's common stock on the date of grant. For stock options that have time-based vesting, the fair value of such options is expensed on a straight-line basis over the requisite service period, which is equal to the vesting period. For stock options that also have performance-based vesting, the performance options are eligible to vest at a rate of up to 20% per year (a "Tranche") subject to the actual or expected achievement of performance targets for such years. The Company recognizes stock-based compensation expense for the performance stock options on a straight-line basis over the period from the grant date through the end of the respective Tranche year, treating all Tranches as if they are each separate awards. Additionally, the performance stock options have a catch-up provision, which allows options that did not meet the performance targets in a prior year to vest in a subsequent year. The expense related to this catch-up is recorded in the period the catch-up occurs.

The Company determines stock-based compensation expense for restricted stock awards based on the fair value of the restricted stock on the grant date, and recognizes expense on a straight-line basis over the requisite service period, which is equal to the vesting period. The Company also has liquidity/realization event-based stock options, but has not recognized any stock-based compensation expense for such options because a liquidity/realization event, as defined in the Eagle I Plan, had not occurred as of December 31, 2019.

For the years ended December 31, 2019, 2018 and 2017, stock-based compensation under the Eagle I Plan totaled $15.6 million, $18.3 million and $20.0 million, respectively, which the Company has recorded primarily within SG&A expenses on the consolidated statements of operations based on the services provided by the recipients of such stock-based compensation. In 2017, $46.5 million of tax benefit from the cash settlement of the initial PPD Options was recorded in the Company's benefit from income taxes. See Note 12, "Income Taxes," for additional information.

Stock Options

Prior to the Company's IPO, when stock options were granted, the Company obtained a valuation of PPD's common stock from an independent third-party valuation firm to assist the Company's board of directors in determining the fair value of stock options granted, unless more authoritative evidence of fair value existed. For all valuations performed, the Company used a weighted combination of income and market approaches. The income approach incorporated the use of a discounted cash flow model in which the estimated future cash flows of the Company were discounted using a risk-adjusted weighted-average cost of capital. The forecasts used in the discounted cash flow model for the Company were based in part on strategic plans and represented estimates based on current and forecasted business and market conditions. The market approaches considered the Company's results of operations and information about the Company's publicly traded competitors, such as earnings multiples, making adjustments to the selected competitors based on size, strengths and weaknesses, as well as competitors' publicly announced acquisition transactions. The fair value of PPD's common stock was discounted based on its lack of marketability in order to determine the fair value of the stock options on the grant date.

The following table indicates the weighted-average assumptions used in estimating the fair value of stock options granted under the Eagle I Plan as follows:

	Years Ended December 31,		
	2019	2018	2017
Expected term (years)	6.5	6.5	6.5
Risk-free interest rate (%)	2.3	2.6	2.1
Expected volatility (%)	26.4	25.0	26.0
Expected dividend (%)	—	—	—

The expected term of the stock options represents the average period the stock options are expected to remain outstanding. As the Company does not have sufficient historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior, the expected term of options granted is derived from the average midpoint between the weighted-average vesting and the contractual term, also known as the simplified method.

The risk-free interest rate was the rate at the date of grant for a zero-coupon U.S. Treasury bond with a term that approximated the expected term of the stock option. Expected volatility was based on the historical volatility of the Company's peer group. The Company does not have a history of paying regular dividends, exclusive of the special cash dividends paid to stockholders that were accounted for as a return of capital. The Company does not expect to pay regular cash dividends for the foreseeable future.

A summary of 2019 stock option activity under the Eagle I Plan is presented below.

	Stock Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life	Aggregate Intrinsic Value as of December 31, 2019
Outstanding at January 1, 2019	19,630	$ 15.28	8.6 years	
Granted	2,367	19.62		
Exercised	(301)	15.06		
Forfeited	(1,108)	15.00		
Expired	(285)	15.23		
Outstanding at December 31, 2019	20,303	$ 14.10	7.8 years	$ 154,203
Exercisable at December 31, 2019	7,162	$ 14.31	7.6 years	$ 52,944
Vested or expected to vest at December 31, 2019	17,753	$ 14.57	7.9 years	$ 126,662

The following table summarizes information about outstanding stock options under the Eagle I Plan as of December 31, 2019:

		Stock Options Outstanding			Stock Options Exercisable	
	Exercise Price	Number Outstanding at December 31, 2019	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable at December 31, 2019	Weighted-Average Exercise Price
Time-based	$ 14.35 - $ 21.70	8,870	7.9 years	$ 15.89	2,725	$ 15.18
Performance-based	9.89 - 21.70	9,048	7.9 years	13.20	4,437	13.77
Liquidity/realization event-based	10.59 - 21.70	2,385	7.6 years	10.88	—	—

All stock options granted during the year ended December 31, 2019 were granted with an exercise price equal to or above the estimated fair value of PPD's common stock on the grant date. The weighted-average grant date fair value per stock option for stock options granted during the years ended December 31, 2019 and 2018 was $5.46 and $4.69, respectively. The aggregate fair value of stock options granted during the years ended December 31, 2019 and 2018 was $12.9 million and $16.6 million, respectively. The total intrinsic value of options exercised in 2019 and 2018 was approximately $1.4 million and $0.2 million, respectively. As of December 31, 2019, the total unrecognized stock-based compensation cost related to unvested stock options was $35.8 million and was expected to be recognized over a weighted-average period of 2.8 years. The total grant date fair value of stock options vested under the Eagle I Plan during the year ended December 31, 2019 was $16.0 million.

Restricted Stock

The Company has awarded PPD restricted stock under the Eagle I Plan to non-employee independent directors of the Company. The restricted stock vests over a two-year period, with 12.5% of the award vesting on the last day of each calendar quarter following the date of grant. The aggregate fair value of restricted stock granted during the years ended December 31, 2019 and 2018 was $0.2 million. As of December 31, 2019, the total unrecognized compensation cost related to unvested restricted stock was $0.2 million and was expected to be recognized over a weighted-average period of 1.1 years.

A summary of 2019 restricted stock activity under the Eagle I Plan is presented below.

	Restricted Stock	Weighted-Average Grant Date Fair Value
Unvested at January 1, 2019	11	$ 15.39
Granted	12	18.66
Vested	(14)	16.48
Unvested at December 31, 2019	9	$ 18.05

Special Cash Bonuses and Option Modifications

In May 2019, in connection with the declaration and payment of a special cash dividend to the Company's stockholders, the board of directors approved and committed the Company to pay a special cash bonus of $43.7 million to its option holders with respect to vested and unvested time-based and vested performance-based options, each as of May 2019. The special cash bonus is payable in three separate installments. The first installment of $14.6 million was paid in May 2019 and the next two installments are due in September 2020 and September 2021, subject to the optionee's continued employment as of the payment date. The special cash bonus was considered a modification to the vested and unvested time-based options and vested performance-based options.

In November 2019, in connection with the declaration and payment of a special cash dividend to the Company's stockholders, the board of directors approved and committed the Company to pay a special cash bonus of $6.5 million to its option holders with respect to vested and unvested time-based options and vested performance-based options as of November 2019. The cash bonus was paid in December 2019. The special cash bonus was considered a modification to the vested and unvested time-based options and vested performance-based options.

As a result of the May 2019 and November 2019 modifications and special cash bonuses, the Company recorded compensation expense, inclusive of incremental stock-based compensation expense, of $20.6 million during the year ended December 31, 2019. The compensation expense related to the modifications and special cash bonuses were primarily recorded as a component of SG&A expenses on the consolidated statements of operations. Additionally, the modifications resulted in a reclassification of $14.7 million from additional paid-in-capital due to the initial cash settlement and liability for the May 2019 special cash bonus and a reclassification of $5.0 million from additional paid-in capital due to the cash settlement for the November 2019 special cash bonus. Also, as a result of the May 2019 and November 2019 special cash dividends, the exercise price of unvested performance-based options was reduced by the dividend amounts of $3.89 and $0.57 per share, respectively. These adjustments were determined by the board of directors to be equitable and necessary to prevent the dilution or enlargement of benefits under the Eagle I Plan. The fair value adjustments for unvested performance-based options were equal to the amounts of the special cash dividends and therefore were not accounted for as modifications. See Note 5, "Stockholders' Deficit and Redeemable Noncontrolling Interest," for additional information.

5. Stockholders' Deficit and Redeemable Noncontrolling Interest

Shares

The following is a summary of the Company's authorized, issued and outstanding shares for the periods set forth below:

	December 31, 2019	December 31, 2018
Shares authorized	2,080,000	2,080,000
Shares issued	280,127	279,545
Shares outstanding:		
Voting	276,052	276,052
Non-voting	3,374	2,978
Total shares outstanding	279,426	279,030

Voting, Dividend, and Liquidation Rights of Common Stock

Each share of voting stock is entitled to one vote on all matters to be voted on by the stockholders of the Company holding voting stock, including the election of directors. Each share of non-voting stock is not entitled to a vote. The holders of voting and non-voting stock are entitled to dividends on a pro rata basis at such time and in such amounts, if and when declared by the Company's board of directors. The holders of voting and non-voting stock are entitled to participate on a pro rata basis in all distributions that may be legally made to the Company's stockholders in connection with a voluntary or involuntary liquidation, dissolution or winding up of the Company. With the completion of the Company's IPO, all non-voting shares of common stock were converted to voting shares of common stock. See Note 22, "Subsequent Events" for additional information.

2019 Special Cash Dividends

In May 2019 and November 2019, the Company declared, and subsequently paid, special cash dividends to its stockholders of $1,086.0 million, or $3.89 per share and $160.0 million, or $0.57 per share, respectively. The May 2019 special cash dividend was funded with the issuance of long-term debt and cash on hand, and the November 2019 special cash dividend was funded with cash on hand. The special cash dividends were considered a return of capital to the Company's stockholders. See Note 10, "Long-term Debt and Finance Lease Obligations," for additional information on the issuance of long-term debt.

Redeemable Noncontrolling Interest

The Company owns 60% of its consolidated subsidiary PPD-SNBL K.K. ("PPD-SNBL"). The 40% ownership interest held by Shin Nippon Biomedical Laboratories Ltd. ("SNBL") is classified as a redeemable noncontrolling interest on the consolidated balance sheets due to certain put options under which SNBL may require the Company to purchase SNBL's remaining ownership interest at fair value upon the occurrence of certain events described in the PPD-SNBL shareholders agreement. As of December 31, 2019 and 2018, no such events had occurred. See Note 17, "Related Party Transactions," for additional information.

6. Business Combinations

The Company accounted for its business combinations below under the acquisition method of accounting and measured at fair value the identifiable assets acquired and liabilities assumed at the date of acquisition. For each business combination, the Company recorded assets and liabilities representing working capital at their historical costs, which approximate fair value given the short-term nature of the assets and liabilities. The methods used to estimate the fair value of definite-lived intangible assets are consistent with those described in Note 1, "Basis of Presentation and Summary of Significant Accounting Policies."

Acquisition of Synarc

On September 3, 2019, the Company acquired 100% of the issued and outstanding equity of Synarc, Inc. (“Synarc”), the global site network business of Bioclinica, Inc., expanding its global footprint into China and Latin America and expanding its central nervous system offering in the United States. The preliminary purchase price was $45.2 million, which includes an adjustment to estimated net working capital acquired at the time of acquisition of $5.2 million recorded in the fourth quarter of 2019, and was paid with cash. The purchase price is subject to further post-closing adjustments for cash, debt and net working capital recorded at the time of the acquisition.

The initial accounting is not complete and amounts recorded as part of the acquisition are provisional, pending finalization of the valuation of certain assets. The preliminary goodwill recognized of $1.1 million was primarily the result of anticipated growth through the development of new customers, additional services to existing customers and the assembled workforce. The goodwill was assigned to a reporting unit within the Company’s Clinical Development Services segment. The Company is not able to deduct goodwill for U.S. income tax purposes.

The Company acquired the following provisional definite-lived intangible assets during 2019 with the acquisition of Synarc:

	Acquired Intangible Assets	Weighted-Average Amortization Period (in years)
Customer relationships	$ 2,000	15
Know-how/processes	1,800	8
Investigator network	1,900	8
Trade names	1,400	10
Total	$ 7,100	10

The following table summarizes the provisional consideration and the fair values of identifiable assets acquired and liabilities assumed at the acquisition date:

Purchase price	$ 45,187
Identifiable assets acquired:	
Cash and cash equivalents	$ 6,003
Accounts receivable and unbilled services, net	23,143
Prepaid expenses and other current assets	3,817
Property and equipment	19,273
Intangible assets	7,100
Other assets	5,403
Operating lease right-of-use assets	1,609
Total identifiable assets acquired	66,348
Liabilities assumed:	
Accounts payable	(5,565)
Other accrued expenses	(4,026)
Unearned revenue	(7,210)
Long-term debt and finance lease obligations	(38)
Deferred tax liabilities	(3,447)
Other liabilities	(331)
Operating lease liabilities	(1,609)
Total liabilities assumed	(22,226)
Separately identifiable net assets acquired	44,122
Goodwill	1,065
Total net assets	$ 45,187

Acquisition of Medimix

On July 1, 2019, the Company acquired 100% of the issued and outstanding equity of Medimix International ("Medimix"), a global technology company providing real-world evidence insights and information to the pharmaceutical, diagnostic and medical device industries. The acquisition is expected to enhance the Company's ability to leverage data to provide real-world evidence and insights for customers. The preliminary purchase price was $36.8 million, which consisted of $27.5 million of cash, $5.0 million of common stock of the Company and $4.3 million of estimated contingent consideration. The purchase price is subject to post-closing adjustments for cash, debt and net working capital recorded at the time of the acquisition. There have been no material purchase price adjustments made subsequent to the initial recognition of assets and liabilities acquired.

Based on the provisional fair values of identifiable assets acquired and liabilities assumed at the acquisition date, the consideration paid was allocated as follows: (i) $13.5 million to definite-lived intangible assets, (ii) $20.5 million to goodwill and (iii) $2.8 million to other net assets primarily related to net working capital.

In connection with the acquisition of Medimix, contingent consideration in the form of a potential earn-out payment of up to $10.8 million is to be paid if Medimix achieves certain performance measures within the specified measurement period. As of December 31, 2019, the Company recorded an estimated earn-out liability of $9.5 million to be paid based on Medimix meeting certain performance targets through 2019. The change in the estimated earn-out liability for contingent consideration was recorded in SG&A expenses on the consolidated statements of operations, and the estimated liability is included in other accrued expenses on the consolidated balance sheets.

The initial accounting is not complete and amounts recorded as part of the acquisition are provisional, pending finalization of the valuation of certain assets and liabilities. The goodwill recognized was primarily the result of anticipated growth through the development of new customers, additional services to existing customers and the assembled workforce. The goodwill was assigned to a reporting unit within the Company's Clinical Development Services segment. The majority of goodwill is tax deductible for U.S. income tax purposes.

The Company acquired the following provisional definite-lived intangible assets during 2019 with the acquisition of Medimix:

	Acquired Intangible Assets	Weighted-Average Amortization Period (in years)
Customer relationships	$ 7,500	13
Trade names	900	10
Technology/intellectual property	5,100	8
Total	$ 13,500	11

Acquisition of Optimal Research

On September 1, 2017, the Company acquired 100% of the issued and outstanding membership interests of Optimal Research, LLC ("Optimal Research"), a dedicated research site network with enhanced oncology enrollment capabilities. The purchase price was $24.0 million and was funded with cash on hand. Based on the fair values of identifiable assets acquired and liabilities assumed at the acquisition date, the consideration paid of $24.0 million was allocated as follows: (i) $9.8 million to goodwill, (ii) $12.0 million to definite-lived intangible assets and (iii) $2.2 million to other net assets primarily related to net working capital. The goodwill recognized was primarily the result of anticipated growth through the development of new customers, additional services to existing customers, synergies through shared operations and the assembled workforce. The goodwill was assigned to a reporting unit within the Company's Clinical Development Services segment. The goodwill is tax deductible of U.S. income tax purposes.

The Company acquired the following definite-lived intangible assets during 2017 with the acquisition of Optimal Research:

	Acquired Intangible Assets	Weighted-Average Amortization Period (in years)
Customer relationships	$ 5,300	15
Backlog	120	2
Investigator network	1,800	8
Know-how/processes	4,800	10
Total	$ 12,020	12

Results from Acquisitions

The Company had the following results from its acquisitions for the periods subsequent to closing:

Business Combination	Time Period	Net Revenue	Net (Loss) Income
Synarc	September 3, 2019 to December 31, 2019	$ 17,170	Insignificant
Medimix	July 1, 2019 to December 31, 2019	5,996	Insignificant
Optimal	September 1, 2017 to December 31, 2017	3,339	Insignificant

Acquisition Costs

Acquisition costs are expensed as incurred and for the years ended December 31, 2019, 2018 and 2017, acquisition costs were $7.9 million, $0.8 million and $8.5 million, respectively, and are included on the consolidated statements of operations as a component of SG&A expenses.

7. Investments

Equity Method Investments

The Company's investments in unconsolidated affiliates consisted of the following amounts on the dates set forth below:

	December 31,	
	2019	2018
Medable, Inc.	$ 15,684	$ 8,756
Science 37, Inc.	18,344	—
Total	$ 34,028	$ 8,756

In 2018, the Company made an investment of $9.0 million in Medable, Inc. ("Medable"). Medable is a technology company that provides a platform to support data-driven and digitally enabled clinical trials. In 2019, the Company made an additional investment of $10.0 million. As of December 31, 2019, the Company had a 28.5% ownership interest in Medable. The Company accounts for its investment as an equity method investment as it is able to exercise significant influence. Additionally, the Company and Medable are parties to certain collaborative arrangements under which the parties may collaborate on various drug development technology or services.

In 2019, the Company made an investment of $20.0 million in Science 37, Inc. ("Science 37"), a clinical trial company whose virtual trial model focuses on improving patient access and enrollment and accelerating clinical development. As of December 31, 2019, the Company had a 17.1% ownership interest in Science 37. The Company accounts for its investment as an equity method investment as it is able to exercise significant influence.

Other Investments

The Company's other investments consisted of the following amounts on the dates set forth below:

	December 31,	
	2019	2018
Auven Therapeutics Holdings, L.P.	$ 228,959	$ 241,305
venBio Global Strategic Fund, L.P.	14,108	12,690
Venture capital funds and investment partnerships	5,386	2,129
Other investments	1,895	9,591
Total	$ 250,348	$ 265,715

The Company is a limited partner in Auven Therapeutics Holdings, L.P. ("Auven"), an investment partnership organized for the purpose of identifying, acquiring and investing in a diversified portfolio of novel therapeutic product candidates. As of December 31, 2019, the Company owned 32.7% of the outstanding partnership interests of Auven and had no remaining capital commitments. Additionally, the Company is a limited partner in venBio Global Strategic Fund, L.P. ("venBio"), an investment partnership which invests in early stage life science companies. As of December 31, 2019, the Company owned 22.3% of venBio and had a remaining capital commitment of $1.7 million, which it expects to fund over the next year. The Company's investments in Auven and venBio are recorded at fair value utilizing the fair value option. As part of the Recapitalization, the Pre-closing Holders are entitled to receive Additional Recapitalization Consideration. The Additional Recapitalization Consideration represents the right to receive future payments from the Company determined by reference to the cash proceeds received by the Company from the Investment Portfolio, net of taxes and other expenses of the Company deemed attributable to the Investment Portfolio. The cash proceeds received by the Company could include distributions received from, or the disposal of, the investments included in the Investment Portfolio. Auven and venBio also comprise the majority of the Company's Investment Portfolio from the Recapitalization. See Note 2, "Recapitalization Transaction" for additional information on the Investment Portfolio.

The Company's investments in Auven and venBio each represent a variable interest entity that could expose the Company to losses. The amount of losses the Company could be exposed to from either investment is limited to its capital amount invested and any appreciation from the initial amount invested. The general partners in both investments have all decision-making authority relating to investment, financial and operating decisions, and the Company is not able to remove either general partner. As such, the Company is deemed to lack the control of Auven and venBio required for consolidation.

In 2018, the Company became a limited partner in Abingworth Bioventures VII LLP ("Abingworth VII"). Abingworth VII is an investment partnership dedicated to making investments in the life sciences and healthcare sectors. As of December 31, 2019, the Company owned 3.2% of Abingworth VII and had a remaining capital commitment of $5.7 million, which will be funded as capital calls are received over the next four years.

The Company also holds an equity investment in a publicly traded late-stage clinical biopharmaceutical company focused on the development and commercialization of human therapeutics. In 2018, the investment became listed and traded on an active market with quoted prices.

See Note 15, "Fair Value Measurements," for additional information on the investment activity for the years ended December 31, 2019 and 2018.

The summarized financial information presented below reflects the aggregated financial information of Auven and venBio as of and for periods ended December 31 of each year. The net investment (loss) income information presented below reflects the net realized and unrealized gains (losses), net of expenses and investment income, related to each investment. Auven and venBio have unclassified balance sheets. Therefore, the asset and liability information presented below are not split between current and non-current.

	December 31,		
	2019	2018	2017
Net investment (loss) income (for the years ended December 31)	$ (280,962)	$ (140,943)	$ 598,285
Total assets (as of December 31)	1,396,040	1,645,063	2,005,154
Total liabilities (as of December 31)	30,812	2,105	126,407

8. Property and Equipment, Net

Property and equipment, net consisted of the following amounts on the dates set forth below:

	December 31,	
	2019	2018
Land	$ 6,795	$ 6,809
Buildings and leasehold improvements	384,975	345,262
Furniture and equipment	264,233	245,522
Computer equipment and software	311,381	307,126
Construction-in-progress, including information technology systems under development	76,972	39,110
Total property and equipment	1,044,356	943,829
Less: accumulated depreciation and amortization	(585,511)	(544,726)
Property and equipment, net	$ 458,845	$ 399,103

Depreciation and amortization expense for property and equipment for the years ended December 31, 2019, 2018 and 2017 was $102.9 million, $90.4 million and $95.7 million, respectively.

For the years ended December 31, 2019 and 2017, the Company reduced the book value of information technology systems under development by recording impairments of $1.3 million and $4.7 million, respectively, as a result of projects no longer probable of being developed, abandoned or delayed indefinitely. The Company recorded the impairments as a component of goodwill and long-lived asset impairments on the consolidated statements of operations. The Company did not record any impairments of property and equipment in 2018. See Note 1, “Basis of Presentation and Summary of Significant Accounting Policies,” for additional information on the fair value methodology used for nonrecurring fair value measurements.

9. Goodwill and Intangible Assets, Net

Goodwill

The changes in the carrying amount of goodwill by segment consisted of the following on the dates set forth below:

	Total	Clinical Development Services	Laboratory Services
Balance at December 31, 2017:			
Goodwill	$ 1,887,805	$ 1,661,191	$ 226,614
Accumulated impairment losses	(97,085)	(69,806)	(27,279)
Goodwill, net	1,790,720	1,591,385	199,335
2018 Activity:			
Translation adjustments	(38,707)	(38,707)	—
Goodwill impairment	(29,626)	(29,626)	—
Measurement period adjustments for prior acquisition	991	991	—
Balance at December 31, 2018:			
Goodwill	1,850,089	1,623,475	226,614
Accumulated impairment losses	(126,711)	(99,432)	(27,279)
Goodwill, net	1,723,378	1,524,043	199,335
2019 Activity:			
Translation adjustments	12,814	12,814	—
Goodwill recorded from current year acquisitions	27,912	27,912	—
Balance at December 31, 2019:			
Goodwill	1,890,815	1,664,201	226,614
Accumulated impairment losses	(126,711)	(99,432)	(27,279)
Goodwill, net	$ 1,764,104	$ 1,564,769	$ 199,335

The Company recognized goodwill impairment of $29.6 million and $38.4 million for the years ended December 31, 2018 and 2017, respectively, on the consolidated statements of operations. In 2018, a reporting unit's expected future cash flows decreased due to lower forecasted long-term revenue growth and higher forecasted operating expenses, resulting in reduced margins. In 2017, a different reporting unit's expected future cash flows decreased due to lower forecasted long-term revenue growth and reduced margins, primarily as a result of the loss of certain key customers. The reporting units impaired are included as part of the Company's Clinical Development Services segment. The Company did not recognize any goodwill impairment for the year ended December 31, 2019.

Intangible Assets, Net

The Company's definite-lived intangible assets were composed of the following on the dates set forth below:

	December 31,					
	2019			2018		
	Carrying Amount	Accumulated Amortization	Net	Carrying Amount	Accumulated Amortization	Net
Customer relationships	$ 884,788	$ (415,427)	$ 469,361	$ 870,648	$ (356,099)	$ 514,549
Trade names	372,210	(139,141)	233,069	368,189	(121,614)	246,575
Backlog	177,599	(175,571)	2,028	176,610	(172,884)	3,726
Investigator/payer network	236,082	(185,478)	50,604	233,356	(161,219)	72,137
Technology/intellectual property	8,600	(3,319)	5,281	3,500	(2,700)	800
Know-how/processes	586,971	(455,223)	131,748	582,011	(391,593)	190,418
Favorable leases	—	—	—	1,700	(932)	768
Total	$ 2,266,250	$ (1,374,159)	$ 892,091	$ 2,236,014	$ (1,207,041)	$ 1,028,973

Amortization expense was $161.9 million, $168.6 million and $183.4 million for the years ended December 31, 2019, 2018 and 2017, respectively. Translation adjustments of approximately $5.2 million and $20.0 million were recorded during the years ended December 31, 2019 and 2018, respectively, resulting in an increase and decrease to the carrying amount of the Company's definite-lived intangible assets, respectively. The Company does not have any indefinite-lived intangible assets other than goodwill.

During 2017, the Company accelerated the useful life of the trade name of one reporting unit with a net carrying amount of $8.2 million prior to acceleration, resulting in accelerated amortization expense of $8.2 million for the year ended December 31, 2017. The Company ceased use of the trade name and fully amortized this asset as of December 31, 2017. The Company did not accelerate the useful life of any intangible assets during the years ended December 31, 2019 or 2018.

As of December 31, 2019, estimated amortization expense for definite-lived intangible assets for each of the next five years and thereafter was as follows:

Year	Amortization Expense
2020	$ 157,935
2021	145,842
2022	74,678
2023	67,652
2024	61,390
Thereafter	384,594
Total future amortization expense	$ 892,091

10. Long-term Debt and Finance Lease Obligations

Long-term debt and finance lease obligations consisted of the following as set forth on the dates below:

	Maturity Date	Effective Rate	Stated Rate	December 31, 2019	December 31, 2018
Term Loan	August 2022	4.51%	4.30%	$ 3,096,429	$ 3,128,852
OpCo Notes	August 2023	6.61%	6.38%	1,125,000	1,125,000
Initial HoldCo Notes	May 2022	8.92%	7.63%	550,000	550,000
Additional HoldCo Notes	May 2022	8.90%	7.75%	900,000	—
Other debt	April 2025	1.13%	1.13%	5,707	8,950
Finance lease obligations	Various	Various	Various	28,726	23,815
				5,705,862	4,836,617
Unamortized debt discount				(13,956)	(9,008)
Unamortized debt issuance costs				(47,978)	(31,925)
Current portion of long-term debt and finance lease obligations				(35,794)	(34,907)
Long-term debt and finance lease obligations, less current portion				$ 5,608,134	$ 4,760,777

Credit Agreement and Amendments

On August 18, 2015, Jaguar II and PPD LLC (the "Borrowers") entered into a credit agreement (the "Credit Agreement"), as amended, consisting of a $2.575 billion senior secured term loan (the "Term Loan") issued at 99.5% of face value, or a discount of 0.5%, and a $300.0 million senior secured revolving credit facility (the "Revolving Credit Facility"). The Term Loan matures on August 18, 2022 and the Revolving Credit Facility matures on May 15, 2022. Debt issuance costs of $16.3 million, consisting primarily of arrangement fees and professional fees, were capitalized in connection with the Term Loan. Additionally, deferred debt issuance costs of $2.7 million were capitalized in connection with the Revolving Credit Facility, consisting primarily of arrangement fees and discount.

In May and November of 2016, the Company amended its Credit Agreement to borrow an additional $200.0 million issued at 99.0% of face value, or a discount of 1.0% and $460.0 million issued at 99.75% of face value, or a discount of 0.25%, respectively, on the Term Loan. The incremental Term Loan borrowings had the same terms, including in respect of interest rate and maturity with the Company's existing Term Loan. Additionally, in May of 2017 and March of 2018, the Company amended the Credit Agreement for a reduction of 50 basis points and 25 basis points, respectively, in the margin under the Term Loan. Further, in April 2019, the Company amended to its Credit Agreement to extend the maturity date of the Revolving Credit Facility from August 18, 2020 to May 15, 2022. There were no other significant changes to the terms and conditions of the Credit Agreement, Term Loan or the Revolving Credit Facility as a result of each amendment. Each of the amendments were treated as a modification for accounting purposes.

Borrowings under the Term Loan bear interest at a variable rate, at the Company's option, of either (i) a Eurocurrency rate based on the London Inter-bank Offered Rate ("LIBOR") for a specific interest period plus an applicable margin, subject to a Eurocurrency rate floor of 1.00%, or (ii) an alternate base rate plus an applicable margin, subject to a base rate floor of 2.00%. The margins for the Term Loan are fixed at 2.50% per annum for Eurocurrency rate loans and 1.50% per annum for base rate loans. As of December 31, 2019, the interest rate on the Term Loan was based on the Eurocurrency loan rate. Additionally, the Term Loan amortizes in equal quarterly installments in an amount equal to 1.0% per annum of the original principal amount thereof, with the balance due at maturity. The Company may voluntarily prepay loans or reduce commitments under the Credit Agreement, in whole or in part, subject to minimum amounts, with prior notice but without premium or penalty.

The Borrowers must prepay the Term Loan with the net cash proceeds of asset sales, the incurrence or issuance of indebtedness (other than indebtedness permitted to be incurred under the Credit Agreement unless specifically incurred to refinance a portion of the credit agreement) and 75% of excess cash flow commencing with the year ended December 31, 2019 (subject to reductions to 50%, 25% or 0%), as defined in the Credit Agreement, and in each case, subject to reinvestment rights and other exceptions. As of December 31, 2019, no prepayment amounts were required under the Credit Agreement. Any repayments for future years are determinable annually only after the fiscal years have concluded.

The Borrowers' obligations under the Credit Agreement are guaranteed by Jaguar I and each of the Company's current and future direct and indirect subsidiaries other than (i) foreign subsidiaries, (ii) unrestricted subsidiaries, (iii) non-wholly-owned subsidiaries and (iv) certain holding companies of foreign subsidiaries, and are secured by a first lien on substantially all of their assets, including the capital stock of subsidiaries (subject to certain exceptions).

As of December 31, 2019, the Company is obligated to pay the following fees under the Revolving Credit Facility: (i) an unused line fee of 0.375% per annum of the unused amount of the Revolving Credit Facility, (ii) a letter of credit participation fee of 3.25% per annum on the aggregate stated maximum amount of each letter of credit available to be drawn, (iii) a fronting fee of 0.125% per annum to the issuing bank on the maximum daily amount of each letter of credit available to be drawn and (iv) other customary fees and expenses of the letter of credit issuers.

Borrowings under the Revolving Credit Facility bear interest at a variable rate, at the Company's option, of either (i) a Eurocurrency rate based on LIBOR for a specific interest period plus an applicable margin, subject to a Eurocurrency rate floor of 1.00%, or (ii) an alternate base rate plus an applicable margin, subject to a base rate floor of 2.00%. The margins for the Revolving Credit Facility are fixed at 3.25% per annum for Eurocurrency rate loans and 2.25% per annum for base rate loans, and each are subject to a further reduction to 3.00% per annum for Eurocurrency rate loans and 2.00% per annum for base rate loans if the Borrower's first lien net leverage ratio is less than 3.50:1.00.

From time to time, the Company is required to have letters of credit issued on its behalf to provide credit support for guarantees, contractual commitments and insurance policies. As of December 31, 2019 and 2018, the Company had letters of credit outstanding with an aggregate value of $1.6 million, which reduced available borrowings under the Revolving Credit Facility by such amount. The Company did not have any borrowings outstanding under the Revolving Credit Facility as of December 31, 2019 and 2018, or at any time during 2019 or 2018. As of December 31, 2019 and 2018, the maturity date, interest rate, committed credit and available credit under the Revolving Credit Facility were as follows:

	Maturity Date	Interest Rate	Committed Credit	Available Credit December 31, 2019	Available Credit December 31, 2018
Revolving Credit Facility	May 15, 2022	LIBOR + 3.25%	$ 300,000	$ 298,370	$ 298,370

OpCo Notes

On August 18, 2015, Jaguar II and PPD LLC issued in a private placement $1.125 billion of senior unsecured notes at par bearing interest at 6.375% per annum (the "OpCo Notes"). The OpCo Notes mature on August 1, 2023 and interest is payable semi-annually on February 1 and August 1 of each year. The OpCo Notes do not have registration rights. Debt issuance costs of $16.5 million, consisting primarily of underwriters fees and professional fees, were capitalized in connection with the OpCo Notes.

Jaguar II and PPD LLC can redeem the OpCo Notes, at their option, in whole at any time or in part from time to time, upon notice, at the following redemption prices (expressed as a percentage of principal amount), plus accrued and unpaid interest and additional interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the 12-month period commencing on August 1 of the years set forth below:

Period	Redemption Price
2019	103.188%
2020	101.594%
2021 and thereafter	100.000%

Additionally, upon the occurrence of specific change of control events, Jaguar II and PPD LLC are required to offer to repurchase all of the OpCo Notes then outstanding at 101% of their principal amount, plus accrued and unpaid interest. To date, no OpCo Notes have been redeemed.

The OpCo Notes are jointly and severally, irrevocably, fully and unconditionally guaranteed by Wildcat Acquisition Holdings (UK) Limited, Jaguar (Barbados) Finance SRL and each of Jaguar II's restricted subsidiaries. The OpCo Notes are uncollateralized and rank senior in right of payment to existing and future indebtedness that is expressly subordinated to the OpCo Notes, and are effectively junior to the borrowings under the Credit Agreement.

Initial and Additional HoldCo Notes

In connection with the Recapitalization, on May 11, 2017, Eagle II issued in a private placement $550.0 million aggregate principal amount of unsecured 7.625%/8.375% Senior PIK Toggle Notes (the "Initial HoldCo Notes") at par. The Initial HoldCo Notes were set to mature on May 15, 2022 and interest was payable semi-annually on May 15 and November 15 of each year. Debt issuance costs of $11.9 million, consisting primarily of underwriters' fees and professional fees, were capitalized in connection with the HoldCo Notes. In May 2019, the Company amended the Initial HoldCo Notes indenture to permit Eagle II to make special dividends and distributions to its stockholders. This transaction was treated as a debt modification for accounting purposes. Debt modification costs of $11.0 million for consent fees were capitalized in connection with this modification.

On May 14, 2019, Eagle II issued in a private placement $900.0 million of aggregate principal amount of unsecured 7.75%/8.50% Senior PIK Toggle Notes (the "Additional HoldCo Notes") at 99% of face value, or a discount of 1.0% (the "Offering"). The Additional HoldCo Notes were set to mature on May 15, 2022 and interest was payable semi-annually on May 15 and November 15 of each year. The Company used the net proceeds from the Offering, together with cash on hand, to pay its stockholders a special cash dividend of $1,086.0 million, as well as pay for fees and expenses associated with the Offering. Debt issuance costs of $18.2 million, consisting primarily of underwriters' and professional fees, were capitalized in connection with the Offering.

On February 18, 2020, the Company redeemed the Initial and Additional HoldCo Notes (collectively, the "HoldCo Notes") at a redemption price of 101% of the aggregate principal amount with the proceeds received from the Company's IPO of its common stock. See Note 22, "Subsequent Events," for additional information.

Debt Covenants and Default Provisions

The Company's long-term debt arrangements contain various customary affirmative and negative covenants, including, but not limited to, restrictions on the Company and its restricted subsidiaries' ability to merge and consolidate with other companies; incur additional or guarantee indebtedness; grant or incur liens or security interests on assets; make acquisitions, loans, advances or investments; pay dividends or make other distributions in respect of, or repurchase or redeem capital stock; prepay, redeem or repurchase certain subordinated debt; consolidated, merge, sell or otherwise transfer all or substantially all assets; enter into certain transactions with affiliates; enter into agreements which would restrict certain subsidiaries' abilities to pay dividends; and amend organizational documents or change the Company's line of business or fiscal year. Substantially all of the Company's net assets are restricted. The Company was in compliance with all covenants for all long-term debt arrangements as of December 31, 2019.

In addition, the Credit Agreement subjects the Borrowers to a maximum permitted total net leverage ratio on a quarterly basis, calculated with respect to Consolidated EBITDA (as defined in the Credit Agreement), where the Borrowers have outstanding letters of credit obligations and loans under the Revolving Credit Facility (excluding $25 million of non-cash collateralized letters of credit) exceeding 30% of the total revolving facility commitments. As of December 31, 2019, the Borrowers were not subject to this total net leverage ratio test.

The Credit Agreement provides that upon the occurrence of certain events of default, the Borrowers' obligations thereunder may be accelerated and the lending commitments terminated. Such events of default include payment defaults to the lenders, material inaccuracies of representations and warranties, covenant defaults, defaults on other material indebtedness, voluntary and involuntary bankruptcy proceedings, material monetary judgments, material ERISA/pension plan events and other customary events of default. Additionally, a change of control (as defined in the Credit Agreement) constitutes an event of default that permits the lenders to accelerate the maturity of borrowings under the Credit Agreement and terminate their commitments to lend. No such events had occurred as of December 31, 2019.

The indenture for the OpCo Notes (and previously outstanding HoldCo Notes indenture) also provides that upon the occurrence of certain events of default, the obligations thereunder may be accelerated. Such events of default include payment defaults, covenant defaults, bankruptcy and other customary events of default. Under the indenture governing the OpCo Notes a default in the payment of any other indebtedness exceeding $75.0 million or an acceleration of any such indebtedness constitutes an event of default under the indenture. No such events had occurred as of December 31, 2019.

Other Debt

The Company has a related party loan denominated in Japanese Yen classified as long-term debt and finance leases on the consolidated balance sheets. The loan matures on April 1, 2025 and interest is payable quarterly at a rate of 1% above the Tokyo Inter-bank Offered Rate. The loan can be prepaid by the Company at any time without penalty. See Note 17, "Related Party Transactions," for additional information.

Scheduled Maturities of Long-term Debt and Finance Lease Obligations

As of December 31, 2019, the scheduled maturities of long-term debt and settlement of finance lease obligations for each of the next five years and thereafter were as follows:

Year	Amount
2020	$ 35,794
2021	36,014
2022	4,485,451
2023	1,128,587
2024	3,477
Thereafter	16,539
Total	$ 5,705,862

11. Leases

The Company's operating and finance leases are primarily related to office, laboratory and other real estate facilities used in the delivery of clinical development services and laboratory services. Lease terms are determined at the commencement of the lease. The Company's lease term may include options to extend the lease, when it is reasonably certain that the Company will exercise that option. As of December 31, 2019, the Company's leases have remaining lease terms of less than one year to 17 years. At the inception of a contract, the Company determines whether the arrangement is or contains a lease in accordance with ASC 842. The requirements under ASC 842 include evaluating whether the contract includes an identifiable asset, the lessee has the right to obtain substantially all of the economic benefits from the use of the identified asset and the lessee has the right to direct the use of the identified asset.

Upon commencement of a lease, the Company recognizes a lease liability and a corresponding ROU asset. The lease liability is measured based upon the present value of future lease payments over the term of the lease using the appropriate discount rate at the date of lease commencement. The ROU asset is calculated as the lease liability plus any initial direct costs incurred and lease payments made at or before the commencement date of the lease, reduced by lease incentives, when applicable. Given that the rate implicit in a lease is not readily determinable, the Company generally uses its incremental borrowing rate as the discount rate. The incremental borrowing rate is the rate of interest that the Company would have to pay to borrow on a collateralized basis over a similar term for an amount equal to the lease payments in a similar economic environment. The Company determines its incremental borrowing rate by developing a baseline unsecured rate curve based upon its credit quality, among other factors, and separately makes an adjustment to reflect collateralization and any other specific lease adjustments, such as adjustments for the term of the lease and currency risks.

For leases with a term of one year or less ("short-term leases"), the Company has elected not to recognize lease liabilities and associated ROU assets. Lease payments on short-term leases are recognized as lease expense within direct costs or SG&A expenses on the consolidated statements of operations, depending on the nature of the lease, on a straight-line basis over the lease term. The Company has also elected to account for lease components and non-lease components in a contract as a single lease component for leases entered into or modified post-adoption.

The Company determines if its lease arrangements are operating or finance leases at the lease commencement date. This determination includes evaluating whether (i) the underlying asset transfers ownership at the end of the lease term; (ii) the lease term represents the major part of the remaining economic life of the underlying asset; (iii) the present value of lease payments represents substantially all of the fair value of the underlying asset; (iv) an option to purchase the underlying asset is reasonably certain to be exercised and (v) the underlying asset is of a specialized nature. Finance leases are included within the current portion of and long-term debt and finance lease obligations on the consolidated balance sheets.

The amount of finance lease ROU assets and liabilities and the associated financial statement line item they are included within on the consolidated balance sheets are as follows:

Classification	**December 31, 2019**
Property and equipment, net	$ 23,084
Current portion of long-term debt and finance lease obligations	$ 2,861
Long-term debt and finance lease obligations, less current portion	24,510
Total finance lease liabilities	$ 27,371

The Company records lease expense for operating leases, some of which have escalating rent over the remaining lease term, ratably over the lease term as lease expense within direct costs or SG&A expenses on the consolidated statements of operations, depending on the use of the underlying asset. The Company records lease expense for finance leases as a combination of the amortization of the ROU asset and the amount recognized as interest on the outstanding lease liability. The amortization of the ROU asset and the interest on the outstanding lease liability are recorded within depreciation and amortization expense and interest expense, net, respectively, on the consolidated statements of operations. Variable lease costs are lease payments that are not included in the measurement of the lease liability. Variable lease costs are either (1) payments that are entirely variable period to period such as common area maintenance, electricity and real estate taxes or (2) incremental changes in an index or rate on which lease payments are based. The Company initially measures leases that are based on an index or rate by using the applicable rate at the commencement of the lease. Any subsequent changes in an index or rate are recognized as variable lease costs. Variable lease costs are recorded in the period they are incurred. The Company had an insignificant amount of sublease income for the year ended December 31, 2019.

The components of total lease expense were as follows:

Lease expenses	**Year Ended December 31, 2019**
Finance lease cost:	
Amortization of ROU assets	$ 2,497
Interest on lease liabilities	1,968
Operating lease expense	54,179
Short-term lease expense	1,301
Variable lease expense	15,804
Total lease expense	$ 75,749

Supplemental cash flow information related to operating and finance leases were as follows:

	Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for operating leases	$ 52,502
Operating cash flows for finance leases	1,968
Financing cash flows for finance leases	1,948
ROU assets obtained in exchange for lease obligations:	
Operating leases	42,520
Finance leases	3,736

Other information on operating and finance leases were as follows:

	December 31, 2019
Weighted-average remaining lease term:	
Operating leases	6.3 years
Finance leases	8.5 years
Weighted-average discount rate:	
Operating leases	5.8%
Finance leases	7.2%

As of December 31, 2019, the undiscounted lease payments for operating and finance lease liabilities were as follows:

Year	Operating Leases	Finance Leases	Total
2020	$ 55,907	$ 4,730	$ 60,637
2021	49,195	4,865	54,060
2022	35,476	5,000	40,476
2023	25,822	4,610	30,432
2024	18,239	4,335	22,574
2025 and thereafter	58,479	12,069	70,548
Total lease payments	243,118	35,609	278,727
Less: imputed interest	(43,390)	(8,238)	(51,628)
Total	$ 199,728	$ 27,371	$ 227,099

The future minimum payments for operating leases and capital leases as of December 31, 2018 on an ASC 840 basis were as follows:

Year	Operating Leases	Capital Leases	Total
2019	$ 55,120	$ 2,484	$ 57,604
2020	52,228	2,458	54,686
2021	43,490	2,751	46,241
2022	29,131	3,032	32,163
2023	19,829	2,773	22,602
2024 and thereafter	71,895	10,317	82,212
Total lease payments	$ 271,693	$ 23,815	$ 295,508

12. Income Taxes

The components of income before provision for (benefit from) income taxes were as follows:

	Years Ended December 31,		
	2019	2018	2017
Domestic	$ 668,036	$ 118,393	$ (219,274)
Foreign	(608,761)	28,237	235,743
Income before provision for (benefit from) income taxes	$ 59,275	$ 146,630	$ 16,469

The components of the provision for (benefit from) income taxes were as follows:

	Years Ended December 31,		
	2019	2018	2017
U.S. federal income taxes:			
Current	$ 32,051	$ 16,775	$ 7,252
Deferred	(55,206)	(24,426)	(293,164)
U.S. state income taxes:			
Current	1,614	2,843	3,406
Deferred	(18,658)	(3,038)	(15,074)
Foreign income taxes:			
Current	44,657	49,411	25,192
Deferred	(1,501)	(1,986)	(11,972)
Provision for (benefit from) income taxes	$ 2,957	$ 39,579	$ (284,360)

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the “Tax Cuts and Jobs Act of 2017” (the “Tax Act”). The Tax Act made broad and complex changes to the U.S. tax code including, but not limited to, (i) reducing the corporate statutory income tax rate from 35% to 21%, effective for 2018 and thereafter, (ii) amending the limitations on deductions for interest and (iii) transitioning U.S. international taxation from a worldwide system to a territorial system, inclusive of a one-time mandatory transition tax on accumulated unremitted foreign earnings as of December 31, 2017.

The corporate statutory U.S. federal income tax rate was 21% for the years ended December 31, 2019 and 2018 and 35% for the year ended December 31, 2017. Taxes are computed at the corporate statutory U.S. federal income tax rate are reconciled to the provision for (benefit from) income taxes from operations as follows:

	Years Ended December 31,		
	2019	**2018**	**2017**
Effective tax rate	5.0%	27.0%	(1,726.6)%
Income tax expense at federal statutory rate	$ 12,461	$ 30,792	$ 5,764
State taxes, net of federal tax benefit	(13,437)	(706)	(4,577)
Nondeductible interest	7,781	9,749	7,643
Residual tax impact on foreign earnings	—	—	(91,820)
Research and development credits	(11,206)	(9,609)	(9,321)
Other nondeductible transaction costs	1,226	—	—
Recapitalization costs, net	—	—	(36,403)
Goodwill impairment	—	6,221	13,431
Rate change	—	—	(110,290)
Change in valuation allowance	(6,550)	8,532	(6,318)
Foreign tax rate differential	39,776	(40,724)	(50,222)
Foreign tax credit	(39,456)	(24,999)	—
Global intangible low-taxed income	65,918	46,269	—
Foreign-derived intangible income	—	(6,225)	—
Provision to return adjustment	(2,948)	(9,098)	(1,116)
Other taxes	1,542	2,358	1,645
Other permanent items	3,623	2,417	(1,571)
Intercompany financing	(67,607)	13,981	(3,780)
Effect of double taxation, net of dividend received	2,164	4,022	4,598
Unrecognized tax benefits	9,807	6,541	(1,752)
Other, net	(137)	58	(271)
Provision for (benefit from) income taxes	$ 2,957	$ 39,579	$ (284,360)

The year over year change in 2019 and 2018 for the benefit related to state taxes, net of federal tax benefit, is mainly due to limitations in the taxability of certain permanent adjustments related to the Tax Act. The year over year changes in 2019 and 2018 for the benefit related to the change in valuation allowance is attributable to the realization of carryforward interest in foreign jurisdictions. During 2019, the change in foreign tax rate differential and intercompany financing was due to non-taxable gains resulting from the dissolution of intercompany debt financing structures. The 2018 and 2017 benefit related to the foreign tax rate differential is attributable to an increase in the income from operations before taxes recorded in foreign jurisdictions which have tax rates lower than the U.S. statutory tax rate and also considers the year over year changes in local tax rates.

The Company recorded a net tax benefit of $209.0 million for the impact of the Tax Act, which included a $6.9 million increase to the 2017 provisional estimate which was recorded as a reduction to the Company's provision for income taxes during 2018. The net tax benefit included a $92.0 million net benefit resulting from the one-time mandatory transition tax on accumulated unremitted foreign earnings, offset by corresponding foreign tax credits and the release of a previously established deferred tax liability for accumulated unremitted foreign earnings. Prior to the Tax Act, the Company accrued a deferred tax liability for U.S. taxes on the portion of unremitted foreign earnings considered not permanently reinvested. Such earnings and the related deferred tax liability were determined at the 35% tax rate prior to the Tax Act. Due to implementation of these provisions, the related deferred tax liability for accumulated unremitted foreign earnings was reduced to zero, resulting in a tax benefit. In addition, the remeasurement of certain deferred tax assets and liabilities, based on the rates at which they are expected to reverse, resulted in a net tax benefit of $117.0 million.

In addition to the impacts of the Tax Act above, during 2017, the Company recognized a $36.4 million net benefit for the cash settlement of the initial PPD Options, partially offset by nondeductible Transaction Costs related to the Recapitalization. See Note 2, "Recapitalization Transaction," and Note 4, "Stock-based Compensation," for additional information on the cash settlement of the initial PPD Options and the nondeductible Transaction Costs.

Deferred income taxes were as follows on the dates set forth below:

	December 31,			
	2019		2018	
	Assets	Liabilities	Assets	Liabilities
Property and equipment and intangible assets	$ —	$ 232,945	$ —	$ 255,583
Operating lease obligations/ROU assets	49,932	46,404	—	—
Accrued expenses	26,412	—	15,611	—
Investment basis difference	—	32,066	—	39,854
Stock options and restricted stock	11,173	—	8,793	—
Future benefit of tax credits	25,920	—	19,755	—
Future benefit of carryforward losses	53,077	—	57,042	—
Uncertain tax benefits	1,026	—	4,227	—
Unearned revenue	32,230	—	49,044	—
Other	21,410	25,800	34,584	34,099
Disallowed interest carryforward	78,697	—	74,221	—
Valuation allowance	(38,178)	—	(88,980)	—
Total deferred income taxes	$ 261,699	$ 337,215	$ 174,297	$ 329,536

As of December 31, 2019, the Company has federal, various state and foreign net operating losses in the amounts of $1.7 million, $410.0 million and $175.2 million, respectively, that are subject to various carryforward periods of 5 years to 20 years or an indefinite carryforward period and has also recorded deferred tax assets related to foreign tax credits in the amount of $24.3 million and other miscellaneous credits of $1.6 million, the majority of which expire in 2028. Additionally, the Company has recorded a deferred tax asset of $68.2 million as a result of the business interest expense limitations of the Tax Act and $10.5 million related to certain foreign tax carryforward attributes subject to an indefinite carryforward period. As a result of the HoldCo Notes issuance in 2019, the Company reassessed the deductibility of certain foreign tax carryforward attributes that resulted in a $32.7 million derecognition of a deferred tax asset and the corresponding valuation allowance as the Company does not expect to receive a tax deduction. In addition during 2019, in connection with the dissolution of intercompany debt financing structures and the liquidation of certain legal entities, the Company derecognized $12.7 million of loss carryforwards and the corresponding valuation allowance.

At December 31, 2019 and 2018, the Company recorded a valuation allowance against the carryforward attributes of $36.8 million and $87.6 million, respectively, which represents the portion of these amounts that the Company believes are not likely to be utilized. The Company also recorded a valuation allowance of $1.4 million for the year ended December 31, 2019 and 2018 against deferred tax assets for certain jurisdictions where no benefit is expected to be realized.

The changes in valuation allowance for deferred tax assets for the periods indicated below were as follows:

	December 31,		
	2019	2018	2017
Balance at the beginning of the period	$ (88,980)	$ (78,025)	$ (79,740)
Additions charged to costs and expenses	(2,463)	(11,527)	(5,375)
Additions or reductions charged to other accounts [1]	43,418	—	(197)
Reductions charged to costs and expenses	9,847	572	7,287
Balance at end of the period	$ (38,178)	$ (88,980)	$ (78,025)

(1) The balance includes the impact of deferred tax assets, purchase accounting and currency translation adjustments.

The following is a tabular reconciliation of the total unrecognized tax benefits for the periods indicated below:

	December 31,		
	2019	2018	2017
Unrecognized tax benefit at beginning of period	$ 28,442	$ 21,890	$ 20,102
Gross increases - tax positions in prior period	5,997	6,408	4,606
Gross decreases - tax positions in prior period	(7,967)	(277)	(839)
Gross increases - tax positions in current period	13,908	7,970	1,488
Foreign exchange rate movements	49	(275)	161
Lapse of statute	(696)	(7,274)	(3,628)
Unrecognized tax benefit at end of period	$ 39,733	$ 28,442	$ 21,890

Included in the balance of unrecognized tax benefits as of December 31, 2019, 2018 and 2017 are $28.8 million, $20.4 million and $13.8 million, respectively, net of the federal benefit of state taxes that if recognized, would reduce the Company's effective tax rate. Additionally, as of December 31, 2019 and 2018, the company has established an unrecognized tax benefit of $13.0 million and $3.8 million, respectively, related to the Tax Act. The Company believes that it is reasonably possible that the total amount of unrecognized tax benefits could decrease by up to $3.6 million within the next 12 months due to the filing of amended returns, settlement of audits and the expiration of the statutes of limitations.

Interest and penalties recognized during the years ended December 31, 2019, 2018 and 2017 were insignificant. As of December 31, 2019 and 2018, the Company had accrued $4.3 million and $3.7 million, respectively, of interest and penalties with respect to unrecognized tax benefits. To the extent interest and penalties are not assessed with respect to unrecognized tax benefits, the Company will reduce amounts reflected as a reduction of the overall income tax provision (benefit).

The Company has analyzed its filing positions in all significant federal, state and foreign jurisdictions where it is required to file income tax returns, as well as open tax years in these jurisdictions. The significant jurisdictions with periods subject to examination are the 2016 through 2018 tax years for the United States and the 2017 and 2018 tax years for the United Kingdom. Various foreign and state income tax returns are under examination by taxing authorities. The Company does not believe that the outcome of any examination will have a material impact on its results of operations, financial condition and/or cash flows.

13. Derivative Instruments and Hedging Activities

Interest Rate Hedging

The Company has variable rate borrowings under its Term Loan, and as a result, is exposed to interest rate fluctuations on these borrowings. From time to time, the Company enters into interest rate swaps to mitigate the risk in fluctuations in interest rates. The interest rate swaps effectively convert variable rate borrowings under the Term Loan to fixed rate borrowings based on the fixed interest rate for the interest rate swaps plus the applicable margin on the Term Loan. The terms of these interest rate swaps are substantially the same as those of the Term Loan, including interest settlements. The Company accounts for these interest rate swaps as cash flow hedges because their purpose is to hedge the Company's exposure to increases in interest rates on its variable rate borrowings. The Company recognizes in accumulated other comprehensive loss ("AOCL") or accumulated other comprehensive income ("AOCI"), each net of tax, any changes in the fair value, representing unrealized gains or losses, of the effective portion of its interest rate swaps.

In 2018, the Company terminated all of its outstanding interest rate swaps, resulting in cash proceeds of $29.6 million. These interest rate swaps were set to mature in November 2020. Unrealized gains previously recorded in AOCI through the date of termination will be reclassified into interest expense, net, through the original maturity date of the interest rate swaps. The Company expects to reclassify current unrealized gains of $8.6 million, net of tax, within the next 12 months from AOCI to interest expense, net, on the statements of operations as interest payments are made on the Term Loan.

In February 2020, the Company entered into three new interest rate swaps. See Note 22, "Subsequent Events," for additional information related to the new interest rate swaps.

Foreign Currency Hedging

The Company has significant international revenues and expenses denominated in currencies other than its reporting currency. As a result, the Company's operating results can be affected by changes in foreign currency exchange rates. In an effort to mitigate this risk, from time to time, the Company purchases foreign currency forward contracts as hedges against anticipated and recorded transactions denominated in foreign currencies. The Company's foreign currency forward contracts expired in 2017, and the Company had no foreign currency forward contracts outstanding as of or during the years ended December 31, 2019 and 2018.

The Company does not use derivative financial instruments for speculative or trading purposes and does not offset the fair value amounts of its derivatives. The Company recognized the following amounts of pre-tax gain as a component of OCI or OCL during the years ended December 31, 2019, 2018 and 2017:

Derivatives in Cash Flow Hedging Relationships	Pre-Tax Gain Recognized in OCI or OCL Years Ended December 31,		
	2019	2018	2017
Foreign currency forward contracts	$ —	$ —	$ 4,708
Interest rate swaps	—	18,960	2,269

The following table provides the location of the effective portion of the pre-tax gain (loss) reclassified from AOCL or AOCI into revenue, direct costs and interest expense, net, respectively, on the consolidated statements of operations during the years ended December 31, 2019, 2018 and 2017:

Derivatives in Cash Flow Hedging Relationships	Location of Gain (Loss) Reclassified from AOCL or AOCI into Statements of Operations	Pre-Tax Gain (Loss) Reclassified from AOCL or AOCI into Income Years Ended December 31,		
		2019	2018	2017
Foreign currency forward contracts	Revenue	$ —	$ —	$ 1,887
Foreign currency forward contracts	Direct costs	—	—	3,000
Interest rate swaps	Interest expense, net	12,327	5,618	(11,914)

14. Employee Savings and Pension Plan

Savings Plans

The Company provides 401(k) retirement savings plans or other defined contribution savings plans ("Savings Plans") to its qualified U.S. and non-U.S. employees. Under the Company's primary U.S. savings plan, the Company matches 50% of the employee's pre-tax retirement savings contribution up to a maximum of 3% of eligible earnings. Vesting in the Company match is 25% per vesting year of service in the plan, subject to a minimum number of hours worked threshold and other events which may trigger immediate vesting of the Company match. Under the Company's primary non-U.S. savings plan in the United Kingdom, employees can contribute a maximum of their annual compensation and the Company matches those contributions with 5% to 8% of the employee's annual compensation. Company matching contributions, net of forfeitures, for the Savings Plans for the years ended December 31, 2019, 2018 and 2017 were $27.6 million, $25.5 million and $22.0 million, respectively.

Pension Plan

The Pension Plan was closed to new participants as of December 31, 2002. In December 2009, the Company closed the Pension Plan to additional contributions effective January 1, 2010. As amended, participants are entitled to receive benefits previously accrued, which are based on the expected amount of compensation at retirement and the number of years of service through January 1, 2010, but participants will receive no additional credit for future years of service. The Company will, however, continue to make contributions in respect of the funding plan. The expected funding contributions to the Pension Plan are discretionary and can change at any time based on updated statutory funding position calculations, resulting changes to the funding recovery plan and other factors determined by the Company.

Pre-tax pension costs and other amounts recognized in net income and OCL or (OCI) for the Pension Plan included the following components:

	Years Ended December 31,		
	2019	2018	2017
Net periodic pension cost (credit):			
Interest cost	$ 2,397	$ 2,370	$ 2,596
Expected return on plan assets	(2,106)	(3,195)	(4,125)
Amortization of actuarial loss	605	784	1,693
Net periodic pension cost (credit)	$ 896	$ (41)	$ 164
Other changes in plan assets and benefit obligations recognized in OCL or (OCI):			
Net actuarial loss (gain) arising during period	$ 2,180	$ (1,169)	$ (11,881)
Amortization of actuarial loss	(605)	(784)	(1,693)
Foreign currency translation adjustment	—	110	1,269
Total OCL or (OCI)	$ 1,575	$ (1,843)	$ (12,305)
Total recognized in net periodic pension cost (credit) and OCL or (OCI)	$ 2,471	$ (1,884)	$ (12,141)

The weighted-average assumptions used to determine net periodic pension cost for periods below were as follows:

	Years Ended December 31,		
	2019	2018	2017
Discount rate	3.0%	2.6%	2.7%
Rate of compensation increase	3.7%	3.7%	3.7%
Long-term rate of return on plan assets	2.5%	3.7%	5.6%

The change in benefit obligation, change in plan assets, funded status and amounts recognized for the Pension Plan were as follows:

	December 31, 2019	December 31, 2018
Change in benefit obligation:		
Projected benefit obligation, beginning of year	$ 80,435	$ 91,356
Interest cost	2,397	2,370
Net actuarial loss (gain)	11,287	(6,400)
Plan amendments	—	135
Benefits paid	(2,465)	(2,168)
Foreign currency translation adjustment	811	(4,858)
Projected benefit obligation, end of year	$ 92,465	$ 80,435
Change in plan assets:		
Fair value of plan assets, beginning of year	$ 84,894	$ 88,794
Actual return on plan assets	11,254	(1,716)
Employer contributions	—	5,077
Benefits paid	(2,465)	(2,168)
Foreign currency translation adjustment	867	(5,093)
Fair value of plan assets, end of year	$ 94,550	$ 84,894
Funded status recorded as other assets	$ 2,085	$ 4,459

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets were as follows:

	December 31, 2019	December 31, 2018
Projected benefit obligation	$ 92,465	$ 80,435
Accumulated benefit obligation	89,637	76,676
Fair value of plan assets	94,550	84,894

As of December 31, 2019, expected funding contributions to the Pension Plan were as follows:

Year	Amount
2021	$ 3,639
2022	3,769
Total	$ 7,408

The weighted-average assumptions used to determine benefit obligations at the end of the plan year were as follows:

	December 31, 2019	December 31, 2018
Discount rate	2.1%	3.0%
Rate of compensation increase	3.6%	3.7%

The Pension Plan's target allocations and weighted-average asset allocations by asset category were as follows:

		Weighted-Average Asset Allocation	
	Target	December 31,	
Asset Category	Allocation	2019	2018
Equity securities	38.5%	39.0%	38.9%
Debt securities	61.5%	60.8%	61.0%
Cash	—%	0.2%	0.1%
Total	100.0%	100.0%	100.0%

The trustees' investment objectives for the Pension Plan is to provide for growth of capital with a moderate level of volatility by investing in accordance with the target asset allocations above to meet the benefit obligations of the Pension Plan. The Pension Plan's long-term strategy is to align the investment approach with the pension obligation as the value of the investments increases, with an objective of being fully funded, while managing the risk of the investment portfolio. The target allocations above were selected by the trustees with the advice of an independent third-party investment manager. The independent third-party investment manager manages the assets and tracks the return on a benchmark portfolio, matching the above strategic asset allocation. The trustees review the performance of the investment manager and Pension Plan assets on a continuous basis to ensure the trustees' investment strategy is meeting the trustees' investment objectives. The Pension Plan assets are valued using the net asset value that is reported by the investment manager. During 2018, the target allocations for investments changed from 70% to 40% for equity securities and from 30% to 60% for debt securities, to better align with the future expected liabilities of the Pension Plan. In 2019, the target allocation was further revised in line with this strategy to 38.5% equity securities and 61.5% debt securities. The Company considers the Pension Plan assets to be a Level 2 classification within the fair value hierarchy.

The allocation of Pension Plan assets is as follows on the dates set forth below:

	December 31,	
	2019	2018
Equity securities	$ 36,832	$ 32,973
Debt securities	57,531	51,819
Cash	187	102
Total	$ 94,550	$ 84,894

As of December 31, 2019, expected benefit payments from the Pension Plan for each of the next five years, and the next five years in the aggregate, were as follows:

Year	Amount
2020	$ 941
2021	955
2022	971
2023	986
2024	1,002
Next 5 years	5,248
Total	$ 10,103

15. Fair Value Measurements

Recurring Fair Value Measurements

The following table presents information about the Company's assets and liability measured at fair value on a recurring basis:

As of December 31, 2019	Level 1	Level 2	Level 3	Total
Assets				
Investments	$ 1,895	$ —	$ 248,453	$ 250,348
Total assets	$ 1,895	$ —	$ 248,453	$ 250,348
Liabilities				
Contingent consideration	$ —	$ —	$ 9,489	$ 9,489
Recapitalization investment portfolio liability	—	—	191,678	191,678
Total liabilities	$ —	$ —	$ 201,167	$ 201,167

As of December 31, 2018	Level 1	Level 2	Level 3	Total
Assets				
Investments	$ 9,591	$ —	$ 256,124	$ 265,715
Total assets	$ 9,591	$ —	$ 256,124	$ 265,715
Liability				
Recapitalization investment portfolio liability	$ —	$ —	$ 198,524	$ 198,524
Total liability	$ —	$ —	$ 198,524	$ 198,524

Investments - The Company records all of its investments (other than its equity method investments for which the fair value option has not been elected) at fair value. The Company's Level 3 investments are in investment partnerships which invest in novel, innovative and potentially commercially viable biomedical products in clinical development as well as in early stage life sciences companies. It is inherently difficult to make accurate fair value estimates based on long-range projections of any pharmaceutical or biomedical product, especially with respect to products that have not completed clinical development and therefore have not received regulatory approval. Due to the lack of observable inputs, assumptions used can significantly impact the resulting fair value and therefore the partnerships' result of operations. In addition, due to inherent uncertainty of valuation for these investments, estimates of fair value might differ from the value that would have been used had a ready market for these investments existed or from the value which would be realized upon disposition of these investments, and the differences could be material.

The Company has elected the fair value option of accounting for its investments in Auven and venBio. The estimate of fair value for these investments involves an evaluation of the investment and its underlying assets, including the market for the investment, available information on historical and projected financial performance, the potential sale or initial public offering of the underlying assets, the stage of development of the underlying assets, recent private transactions, control over the investment partnership and the lack of marketability of the investments, as well as the Company's expected holding period, among other things. The Company records the fair value of these investments at the net asset value determined by the investment partnership adjusted for the aforementioned factors including the Company's lack of control and the lack of marketability of the investments, where applicable. Due to the significant unobservable inputs and use of the Company's own assumptions, the Company classifies such fair value investments within Level 3 of the fair value hierarchy.

The following table summarizes the Company's quantitative information about the fair value measurements of Auven and venBio at the dates indicated:

	Quantitative Information About Level 3 Fair Value Measurements for December 31, 2019			
Description	**Fair Value**	**Valuation Technique**	**Unobservable Input**	**Range of Rates**
Fair value option investments	$243,067	Market evaluation/pricing models	Discount for lack of marketability	10.0% - 30.0%
		Recent acquisition transactions	Discount for lack of control	20.0% - 35.0%

	Quantitative information about Level 3 Fair Value Measurements for December 31, 2018			
Description	**Fair Value**	**Valuation Technique**	**Unobservable Input**	**Range of Rates**
Fair value option investments	$253,995	Market evaluation/pricing models	Discount for lack of marketability	12.5% - 27.5%
		Recent acquisition transactions	Discount for lack of control	25.0% - 30.0%

The Company also holds an equity investment in a publicly traded late-stage clinical biopharmaceutical company which it classifies within Level 1 of the fair value hierarchy due to the active market with quoted prices for this investment. See Note 7, "Investments," for additional information on the Company's investments.

Changes in fair value of the Company's investments measured on a recurring basis using significant unobservable inputs (Level 3) were as follows:

	2019	**2018**
Balance as of January 1,	$ 256,124	$ 272,431
Reclassifications from cost method to fair value method	—	3,610
Recognized fair value (loss) gain	(11,288)	9,691
Cash distributions received	(452)	(27,778)
Capital contributions paid	4,069	1,546
Transfer out to Level 1	—	(3,376)
Balance as of December 31,	$ 248,453	$ 256,124

Contingent consideration - The Company recorded a contingent consideration liability due to the seller in connection with its Medimix acquisition during the year ended December 31, 2019. The contingent consideration liability was $9.5 million as of December 31, 2019. No amounts were paid during the year ended December 31, 2019. Payment is contingent on specified operating results being achieved in periods subsequent to the acquisition and will only be made if certain earn-out thresholds are achieved. The fair value of contingent consideration was based on unobservable inputs (Level 3) including assumptions relating to future business results. Any adjustments to fair value are recognized in earnings in the period identified. See Note 6, "Business Combinations," for additional information regarding the Medimix acquisition.

Recapitalization Investment Portfolio Liability - The Company's Recapitalization Investment Portfolio Liability represents an obligation that is estimated and probable to become distributable by transferring assets (i.e., cash) to the Pre-Closing Holders as part of the 2017 Recapitalization. The liability is recognized based on changes in the fair value of the investments underlying the Investment Portfolio, net of taxes and other expenses and is classified within Level 3 of the fair value hierarchy. See Note 2, "Recapitalization Transaction," for additional information.

Changes in fair value of the Recapitalization Investment Portfolio Liability measured on a recurring basis using significant unobservable inputs (Level 3) were as follows:

	2019	**2018**
Balance as of January 1,	$ 198,524	$ 206,507
Recapitalization investment portfolio consideration change in value	(6,846)	7,849
Cash distributions paid	—	(15,832)
Balance as of December 31,	$ 191,678	$ 198,524

Nonrecurring Fair Value Measurements

See Note 1, “Basis of Presentation and Summary of Significant Accounting Policies,” for additional information on the Company’s assets and liabilities that are not remeasured to fair value on a recurring basis.

Fair Value of Financial Instruments

The Company estimated the fair value of its financial instruments using available market information as of December 31, 2019 and 2018. The estimate of fair value has been determined based on the fair value hierarchy for U.S. GAAP. The following table presents information about the carrying value and estimated fair value of the Company’s financial instruments on the dates set forth below:

	December 31, 2019		December 31, 2018	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
Assets:				
Cash and cash equivalents	$ 345,187	$ 345,187	$ 553,066	$ 553,066
Liabilities:				
Term Loan	3,096,429	3,111,911	3,128,552	2,933,299
OpCo Notes	1,125,000	1,164,566	1,125,000	1,077,874
Initial HoldCo Notes	550,000	559,873	550,000	531,878
Additional HoldCo Notes	900,000	915,120	—	—
Other debt	5,707	5,707	8,950	8,950

Cash and Cash Equivalents - The carrying amount approximates fair value due to the short-term maturity of these financial instruments (less than three months). The Company considers the fair value of cash and cash equivalents to be a Level 1 classification within the fair value hierarchy.

Term Loan - The estimated fair value of the Term Loan is based on recently reported market transactions and prices for identical or similar financial instruments obtained from a third-party pricing source. The Company considers the fair value of the Term Loan to be a Level 2 classification within the fair value hierarchy.

OpCo Notes and *HoldCo Notes* - The estimated fair value of the OpCo Notes and HoldCo Notes is based on recently reported market transactions and prices for identical or similar financial instruments obtained from a third-party pricing source. The Company considers the fair value of the OpCo Notes and HoldCo Notes to be a Level 2 classification within the fair value hierarchy.

Other Debt - The carrying amount of the other debt approximates fair value due to the nature of the obligation. The Company considers the fair value of other debt to be a Level 2 classification within the fair value hierarchy.

16. Accumulated Other Comprehensive Loss

The balances of AOCL or AOCI, each net of tax, were as follows on the dates set forth below:

	Foreign Currency Translation	Derivative Instruments	Pension Plan	Accumulated Other Comprehensive Loss
Balance as of December 31, 2016	$ (383,257)	$ (2,289)	$ (12,131)	$ (397,677)
OCI before reclassifications	126,333	5,122	9,765	141,220
Amounts reclassified from AOCL	16,825	4,097	1,158	22,080
Net OCI	143,158	9,219	10,923	163,300
Balance as of December 31, 2017	(240,099)	6,930	(1,208)	(234,377)
(OCL) or OCI before reclassifications	(91,177)	14,498	861	(75,818)
Amounts reclassified from AOCI or AOCL	—	(4,261)	643	(3,618)
Other	—	922	—	922
Net (OCL) or OCI	(91,177)	11,159	1,504	(78,514)
Balance as of December 31, 2018	(331,276)	18,089	296	(312,891)
OCI or (OCL) before reclassifications	24,824	—	(1,803)	23,021
Amounts reclassified from AOCL or AOCI	—	(9,523)	489	(9,034)
Net OCI or (OCL)	24,824	(9,523)	(1,314)	13,987
Balance as of December 31, 2019	$ (306,452)	$ 8,566	$ (1,018)	$ (298,904)

The following table presents the significant reclassifications to the statements of operations out of AOCI or AOCL and the line item affected on the consolidated statements of operations for the respective periods:

	Years Ended December 31,			
Details about AOCI or AOCL Components	2019	2018	2017	Affected line item in statements of operations
Gains (losses) on derivative instruments:				
Foreign currency forward contracts	$ —	$ —	$ 1,887	Revenue
Foreign currency forward contracts	—	—	3,000	Direct costs
Interest rate swaps	12,327	5,618	(11,914)	Interest expense, net
Total before income tax (expense) benefit	12,327	5,618	(7,027)	
Income tax (expense) benefit	(2,804)	(1,357)	2,930	Provision for (benefit from) income taxes
Total net of income tax	$ 9,523	$ 4,261	$ (4,097)	
Foreign currency translation:				
Income tax expense	$ —	$ —	$ (16,825)	Provision for (benefit from) income taxes
Defined benefit pension plan:				
Amortization of actuarial loss	$ (605)	$ (784)	$ (1,693)	Net periodic pension costs (1)
Income tax benefit	116	141	535	Provision for (benefit from) income taxes
Total net of income tax	$ (489)	$ (643)	$ (1,158)	

(1) Net periodic pension costs are included as a component of other (expense) income, net, on the consolidated statements of operations for the year ended December 31, 2019 and 2018 and as a component of direct costs and SG&A expenses on the consolidated statements of operations for the year ended December 31, 2017.

17. Related Party Transactions

Majority Sponsor Transactions

The Company entered into a consulting agreement with affiliates of the Majority Sponsors under which the Company pays the Majority Sponsors a fee for consulting services provided to the Company as well as reimbursements for out-of-pocket expenses incurred in conjunction with such services. The Company incurred consulting and out-of-pocket expenses for services rendered under the consulting agreement of $3.8 million, $3.6 million and $3.3 million for the years ended December 31, 2019, 2018 and 2017, respectively. These expenses are recorded as a component of SG&A expenses on the consolidated statements of operations. The consulting services agreements terminated pursuant to their terms upon completion of the Company's IPO on February 10, 2020. See Note 22, "Subsequent Events," for additional information.

Affiliates of one of the Majority Sponsors had investments in the Term Loan totaling $78.0 million and $80.5 million, respectively, as of December 31, 2019 and 2018. The Company paid $3.9 million and $3.7 million of interest, respectively, and $0.8 million of principal to the relevant affiliates for the Term Loan for the years ended December 31, 2019 and 2018.

During the year ended December 31, 2017, the Company paid Transaction Costs, consisting mainly of professional fees, for the benefit of and on behalf of affiliates of the Sponsors, of $7.3 million to effect the Recapitalization. See Note 2, "Recapitalization Transaction," for additional information.

SNBL Transactions

Both the Company and SNBL have service agreements to provide administrative and support services to PPD-SNBL, both of which will remain in effect as long as the PPD-SNBL shareholders agreement remains in effect. The Company and SNBL also have a collaboration agreement under which the parties may collaborate on various drug development services. This collaboration agreement will remain in effect as long as SNBL owns at least 20% of PPD-SNBL.

For the years ended December 31, 2019, 2018 and 2017, the Company incurred expenses for services rendered under the services agreement of $1.5 million, $1.3 million and $2.5 million, respectively. The expenses are recorded as a component of SG&A expenses on the consolidated statements of operations. As of December 31, 2019 and 2018, the Company owed SNBL $0.3 million for services rendered under the services agreement. Additionally, as of December 31, 2019 and 2018, PPD-SNBL owed SNBL $5.7 million and $9.0 million, respectively, related to a working capital loan. During the year ended December 31, 2019, the Company repaid $3.4 million of principal on this working capital loan. This loan is classified as long-term debt on the consolidated balance sheets and is included in Note 10, "Long-term Debt and Finance Lease Obligations," as "other debt."

18. Earnings Per Share

The following table provides a reconciliation of the numerator and denominator of the basic and diluted EPS computations for the periods set forth below:

	Years Ended December 31,		
Numerator:	2019	2018	2017
Net income	$ 52,755	$ 106,865	$ 300,829
Net income attributable to noncontrolling interest	(4,934)	(2,679)	(4,802)
Net income attributable to PPD, Inc.	47,821	104,186	296,027
Recapitalization investment portfolio consideration	6,846	(7,849)	(97,136)
Net income attributable to common stockholders of PPD, Inc.	$ 54,667	$ 96,337	$ 198,891
Denominator:			
Basic weighted-average common shares outstanding	279,285	279,238	291,027
Effect of dilutive stock options and restricted stock	1,408	79	2,799
Diluted weighted-average common shares outstanding	280,693	279,317	293,826
Earnings per share:			
Basic	$ 0.20	$ 0.34	$ 0.68
Diluted	$ 0.19	$ 0.34	$ 0.68

See Note 2, “Recapitalization Transaction,” for additional information related to the Recapitalization and Note 5, “Stockholders’ Deficit and Redeemable Noncontrolling Interest,” for additional information related to shares.

Potential common shares outstanding that are considered anti-dilutive are excluded from the computation of diluted EPS. Potential common shares related to stock options and other awards under share-based compensation programs may be determined to be anti-dilutive based on the application of the treasury stock method and are also anti-dilutive in periods when the Company incurs a net loss.

The number of potential common shares outstanding that were considered anti-dilutive using the treasury stock method and therefore excluded from the computation of diluted EPS, weighted for the portion of the period they were outstanding, are as follows:

	Years Ended December 31,		
	2019	2018	2017
Anti-dilutive stock options and restricted stock	434	106	5,333

19. Segments

The Company is managed through two reportable segments, Clinical Development Services and Laboratory Services. The Company determines reportable segments using the management approach. The management approach is based on how the CODM organizes the segments for purposes of assessing performance and making operating decisions. The Clinical Development Services segment provides a wide range of services to its customers including early development/Phase I, patient recruitment and enrollment, investigator site management, Phase II-IV clinical trial management, medical communications and various peri- and post-approval services. The Laboratory Services segment provides comprehensive services to its customers including bioanalytical, vaccine sciences, GMP, central lab and biomarker testing. Both segments provide services to pharmaceutical, biotechnology, medical device, government organizations and other industry participants.

The Company's CODM assesses segment performance and makes resource allocation decisions based on segment revenues and segment operating income. During the first quarter of 2020, the CODM began assessing performance and making resource allocation decisions based on total segment revenue, including direct, third-party pass-through and out-of-pocket revenue and segment operating income, including reimbursed costs. As a result, the Company has updated its segment presentation and prior period information for the years ended December 31, 2019 and December 31, 2018, which have been recast to reflect the change in the measurement of segment performance measures. No changes have been made to the segment presentation for the year ended December 31, 2017, as prior to the adoption of ASC 606 on January 1, 2018, third-party pass-through and out-of-pocket revenue, as well as reimbursed costs, were not allocated to the Company's segments. In addition, during the fourth quarter of 2019, the CODM updated the manner in which financial information is reviewed for purposes of assessing performance and making operating decisions to include SG&A expenses attributable to each reportable segment as part of segment operating income. As a result, the Company has updated its segment presentation and all prior period information has been recast to reflect the change in the measurement of segment performance measures.

For the years ended December 31, 2019 and December 31, 2018, segment operating income is segment revenue less segment direct costs, segment reimbursed costs and segment SG&A expenses. For the year ended December 31, 2017, segment operating income is segment revenue, which excludes reimbursed revenue, less segment direct costs and segment SG&A expenses. For all periods presented, segment operating income excludes certain unallocated direct costs and SG&A expenses, depreciation and amortization, goodwill and long-lived asset impairments and other nonrecurring expenses consistent with the information reviewed by the CODM. The CODM reviews the Company's assets on a consolidated basis and does not assess performance or make operating decisions based on segment assets.

Information on reportable segment revenue and segment operating income, including a reconciliation of segment operating income to consolidated income from operations, for the respective periods were as follows:

	Years Ended December 31,		
	2019	2018	2017
Segment revenue:			
Clinical Development Services	$ 3,354,163	$ 3,182,870	$ 2,319,103
Laboratory Services	676,854	566,101	448,373
Total segment revenue	4,031,017	3,748,971	2,767,476
Segment direct costs:			
Clinical Development Services	1,162,678	1,064,557	1,053,557
Laboratory Services	307,346	258,472	235,137
Total segment direct costs	1,470,024	1,323,029	1,288,694
Segment reimbursed costs:			
Clinical Development Services	845,580	876,617	—
Laboratory Services	79,054	64,296	—
Total segment reimbursed costs	924,634	940,913	—
Segment SG&A expenses:			
Clinical Development Services	529,425	475,242	464,794
Laboratory Services	81,373	68,305	60,097
Total segment SG&A expenses	610,798	543,547	524,891
Segment operating income:			
Clinical Development Services	816,480	766,454	800,752
Laboratory Services	209,081	175,028	153,139
Total segment operating income	$ 1,025,561	$ 941,482	$ 953,891
Total segment revenue	$ 4,031,017	$ 3,748,971	$ 2,767,476
Other revenue not allocated to segments (1)	—	—	233,574
Total revenue	4,031,017	3,748,971	3,001,050
Total segment direct costs	1,470,024	1,323,029	1,288,694
Total segment reimbursed costs	924,634	940,913	—
Total segment SG&A expenses	610,798	543,547	524,891
Operating costs and expenses not allocated to segments:			
Direct costs	14,234	10,783	14,289
Reimbursed costs	—	—	233,574
SG&A expenses	328,008	269,488	284,442
Recapitalization costs	—	—	114,766
Depreciation and amortization	264,830	258,974	279,066
Goodwill and long-lived asset impairments	1,284	29,626	43,459
Total operating costs and expenses	3,613,812	3,376,360	2,783,181
Income from operations	$ 417,205	$ 372,611	$ 217,869

(1) Other revenue not allocated to segments for the year ended December 31, 2017 consists of reimbursed revenue.

20. Entity-wide Information by Geographic Location

The tables below present certain entity-wide information about the Company's operations by geographic location. The Company allocates revenues to geographic locations based on where the services are performed. Total revenues by geographic location are as follows:

	Years Ended December 31,		
	2019	2018	2017
Revenue:			
North America[1]	$ 2,155,609	$ 1,981,814	$ 1,413,079
Latin America	147,375	129,644	117,665
Europe, Middle East and Africa[2]	1,310,573	1,280,861	979,921
Asia-Pacific	417,460	356,652	256,811
Revenue	4,031,017	3,748,971	2,767,476
Reimbursed revenue	—	—	233,574
Total revenue	$ 4,031,017	$ 3,748,971	$ 3,001,050

[1] Revenue for the North America region includes revenue attributable to the United States of $2,132,275, $1,960,637 and $1,392,873, respectively, for the years ended December 31, 2019, 2018 and 2017.

[2] Revenue for the Europe, Middle East and Africa region includes service revenue attributable to the United Kingdom of $659,350, $655,314 and $518,174, respectively, for the years ended December 31, 2019, 2018 and 2017.

Total property and equipment, net by geographic location is as follows:

	December 31,	
	2019	2018
Property and equipment, net:		
North America[1]	$ 372,163	$ 328,690
Latin America	4,294	2,732
Europe, Middle East and Africa	51,780	53,434
Asia-Pacific	30,608	14,247
Total property and equipment, net	$ 458,845	$ 399,103

[1] Property and equipment, net for the North America region includes property and equipment, net attributable to the United States of $372,033 and $328,664, respectively, as of December 31, 2019 and 2018.

21. Quarterly Results of Operations (unaudited)

The following table summarizes the Company's unaudited quarterly results of operations:

	2019			
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Revenue	$ 1,046,884	$ 1,023,864	$ 996,531	$ 963,738
Income from operations	113,276	118,699	97,511	87,719
Net income attributable to noncontrolling interest	(1,544)	(1,161)	(1,368)	(861)
Recapitalization investment portfolio consideration	(9,984)	11,231	(5,029)	10,628
Net income (loss) attributable to common stockholders of PPD, Inc.	$ 6,766	$ 26,652	$ 25,716	$ (4,467)
Basic earnings (loss) per share(1)	$ 0.02	$ 0.10	$ 0.09	$ (0.02)
Diluted earnings (loss) per share(1)	$ 0.02	$ 0.09	$ 0.09	$ (0.02)

	2018			
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
Revenue	$ 978,637	$ 907,404	$ 910,535	$ 952,395
Income from operations	101,646	77,888	99,791	93,286
Net (income) loss attributable to noncontrolling interest	(1,366)	(839)	56	(530)
Recapitalization investment portfolio consideration	23,198	(27,258)	(1,329)	(2,460)
Net income (loss) attributable to common stockholders of PPD, Inc.	$ 36,591	$ 4,100	$ 57,699	$ (2,053)
Basic earnings (loss) per share(1)	$ 0.13	$ 0.01	$ 0.21	$ (0.01)
Diluted earnings (loss) per share(1)	$ 0.13	$ 0.01	$ 0.21	$ (0.01)

(1) The sum of the quarterly per share amounts may not equal per share amounts reported for year-to-date periods. This is due to changes in the number of weighted-average shares outstanding and the effects of rounding for each period.

22. Subsequent Events

Stock Split

On January 15, 2020, the Company filed its amended and restated certificate of incorporation which, among other things, effected a 1.8-for-1 stock split of its common stock and increased the authorized number of shares of its common stock to 2.08 billion. All references to share and per share amounts in the Company's consolidated financial statements herein have been retrospectively revised to reflect the stock split and increase in authorized shares for all periods presented.

Initial Public Offering

On February 6, 2020, the Company's common stock began trading on Nasdaq under the symbol "PPD." On February 10, 2020, the Company completed its IPO of its common stock at a price to the public of $27.00 per share. The Company issued and sold 69.0 million shares of common stock in the IPO, including 9.0 million common shares issued pursuant to the full exercise of the underwriters option to purchase additional shares. The IPO raised proceeds of approximately $1,765.7 million for the Company, after deducting underwriting discounts and commissions and estimated offering expenses.

The Company used the net proceeds from the IPO (1) to redeem $550.0 million in aggregate principal amount of Initial HoldCo Notes, plus accrued and unpaid interest thereon and $5.5 million of redemption premium and (2) to redeem $900.0 million in aggregate principal amount of Additional HoldCo Notes, plus accrued and unpaid interest thereon and $9.0 million of redemption premium. Any excess net proceeds from the IPO will be used for general corporate purposes, which may include, among other things, further repayment of indebtedness as further discussed below.

In addition, the consulting services agreements with the Majority Sponsors terminated pursuant to their terms upon completion of the IPO on February 10, 2020. See Note 17, "Related Party Transactions," for additional information regarding these agreements.

In connection with the IPO, the Company's board of directors adopted, and the Company's stockholders approved, the PPD, Inc. 2020 Omnibus Incentive Plan ("2020 Incentive Plan"), which allows us to implement a new market-based long-term incentive program to align the Company's executive compensation package with similarly situated public companies. Any awards previously granted under the Eagle I Plan remain subject to the terms of the Eagle I Plan and the applicable award agreements. There are 39,053,663 shares of common stock available for future issuance under the 2020 Incentive Plan. No additional awards will be granted under the Eagle I Plan. Additionally, in connection with the IPO, the Company's Amended and Restated Certificate of Incorporation, among other things, provides that the Company's authorized capital stock consists of 2.0 billion shares of common stock, par value $0.01 per share and 100.0 million shares of preferred stock, par value $0.01 per share. Further, all non-voting shares of common stock were converted to voting shares of common stock.

Interest Rate Hedging

In February 2020, the Company entered into three interest rate swaps to hedge the exposure to the variability in interest payments on its Term Loan, in order to convert the majority of the Term Loan's variable rate to a fixed rate. The swaps have a notional value of $3.5 billion, with an effective date of March 31, 2020 and a termination date of March 31, 2025. The swaps will follow the same accounting as described in Note 13, "Derivative Instruments and Hedging Activities." See Note 1, "Basis of Presentation and Summary of Significant Accounting Policies," for additional information on the Company's accounting policy for derivative instruments and hedging activities.

SCHEDULE I

Condensed Financial Information of the Registrant

PPD, Inc. (Parent Company Only)
STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
(in thousands)

	Year Ended December 31, 2019	Year Ended December 31, 2018	For the period from May 11, 2017 to December 31, 2017
Equity in income of subsidiaries	$ 53,159	$ 105,308	$ 244,936
General and administrative expenses	6,452	1,345	221
Income before income tax benefit	46,707	103,963	244,715
Income tax benefit	(1,114)	(223)	(69)
Net income	47,821	104,186	244,784
Equity in other comprehensive income (loss) of subsidiaries	13,777	(78,994)	79,300
Total comprehensive income	$ 61,598	$ 25,192	$ 324,084

The accompanying notes are an integral part of these condensed financial statements.

PPD, Inc. (Parent Company Only)

BALANCE SHEETS

(in thousands)

ASSETS

	December 31, 2019	December 31, 2018
Cash and cash equivalents	$ 2,458	$ 2,757
Deferred costs	3,699	—
Total assets	$ 6,157	$ 2,757

LIABILITIES AND STOCKHOLDERS' DEFICIT

	December 31, 2019	December 31, 2018
Other liabilities	$ 205,819	$ 217,513
Recapitalization investment portfolio liability	191,678	198,524
Investments in subsidiaries	2,306,808	1,109,141
Total liabilities	2,704,305	1,525,178
Common stock $0.01 par value, 2,080,000 shares authorized; 280,127 shares issued and 279,426 shares outstanding as of December 31, 2019 and 2,080,000 shares authorized; 279,545 shares issued and 279,030 shares outstanding as of December 31, 2018	2,801	2,795
Other stockholders' deficit	(2,700,949)	(1,525,216)
Total stockholders' deficit	(2,698,148)	(1,522,421)
Total liabilities and stockholders' deficit	$ 6,157	$ 2,757

The accompanying notes are an integral part of these condensed financial statements.

PPD, Inc. (Parent Company Only)
STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31, 2019	Year Ended December 31, 2018	For the period from May 11, 2017 to December 31, 2017
Net cash used in operating activities	$ (15,492)	$ (2,105)	$ (94)
Cash flows from investing activities:			
Return of capital from subsidiaries	1,260,681	123,000	539,876
Net cash provided by investing activities	1,260,681	123,000	539,876
Cash flows from financing activities:			
Purchase of treasury stock	(4,012)	(8,630)	—
Proceeds from exercise of stock options	4,524	923	—
Proceeds from recapitalization share issuance	—	—	2,770,001
Payout for recapitalization share redemptions	—	—	(3,309,876)
Recapitalization tax benefit distribution	—	(99,745)	—
Recapitalization investment portfolio distribution	—	(14,741)	(3,798)
Proceeds from employee stock purchases	—	480	7,466
Return of capital and special dividend to stockholders	(1,246,000)	—	—
Net cash used in financing activities	(1,245,488)	(121,713)	(536,207)
Net change in cash and cash equivalents	(299)	(818)	3,575
Cash and cash equivalents at beginning of period	2,757	3,575	—
Cash and cash equivalents at end of period	$ 2,458	$ 2,757	$ 3,575

The accompanying notes are an integral part of these condensed financial statements.

Notes to Registrant's Condensed Financial Statements (Parent Company Only)

Basis of Presentation

These condensed PPD, Inc. ("PPD" or "Parent Company") only financial statements have been prepared in accordance with Rule 12-04 of Regulation S-X, as the restricted net assets of the subsidiaries of the Parent Company exceed 25% of the consolidated net assets of the Parent Company as stipulated by Rule 5-04, Section I from Regulation S-X. The ability of the Parent Company's operating subsidiaries to pay dividends is restricted due to the terms of the subsidiaries' Credit Agreement and indentures as defined in Note 10, "Long-term Debt and Finance Lease Obligations," to the audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

PPD became the Parent Company as a result of a Recapitalization in 2017. As a result, these Parent Company only condensed financial statements reflect the periods following this Recapitalization event. See Note 1, "Basis of Presentation and Summary of Significant Accounting Policies" and Note 2, "Recapitalization Transaction," in the audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information on the Recapitalization.

These condensed Parent Company only financial statements have been prepared using the same accounting principles and policies described in the notes to the audited consolidated financial statements, with the only exception being that the Parent Company accounts for investments in its subsidiaries using the equity method. Other liabilities in the condensed balance sheets include related party transactions with subsidiaries. Cash payments made by subsidiaries on behalf of the Parent Company during the year ended December 31, 2019 include $2.6 million in professional fees related to the Parent Company's initial public offering ("IPO") and $19.7 million in cash settlements to stockholders related to the stock option modification. Cash payments made by subsidiaries on behalf of the Parent Company during the year ended December 31, 2018 include $1.3 million related to the recapitalization investment portfolio liability and $8.6 million related to the recapitalization tax benefit liability. These condensed financial statements should be read in conjunction with the audited consolidated financial statements and related notes thereto included elsewhere in this Annual Report on Form 10-K.

Dividends paid

The following summarizes the dividends paid to the Parent Company by subsidiaries in 2019 and 2018 (in thousands).

	Dividends Paid
Paid in May 2019	$ 1,086,281
Paid in November 2019	174,400
Total paid in 2019	$ 1,260,681
Paid in June 2018	$ 107,000
Paid in November 2018	16,000
Total paid in 2018	$ 123,000

Subsequent Event

Initial Public Offering

On February 6, 2020, the Parent Company's common stock began trading on Nasdaq under the symbol "PPD". On February 10, 2020, the Parent Company completed its IPO of its common stock at a price to the public of $27.00 per share. The Parent Company issued and sold 69.0 million shares of common stock in the IPO, including 9.0 million common shares issued pursuant to the full exercise of the underwriters option to purchase additional shares. The IPO raised proceeds of approximately $1,765.7 million for the Parent Company, after deducting underwriting discounts and commissions and estimated offering expenses. The Parent Company used the proceeds to redeem the previously outstanding HoldCo Notes held by a subsidiary of the Parent Company. See Note 22, "Subsequent Events," in the audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K for additional information.