PSYCHEMEDICS CORP
Form 10-K
March 04, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

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

For the Fiscal Year Ended December 31, 2018

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

Commission File Number: 1-13738

PSYCHEMEDICS CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**58-1701987**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

289 Great Road **Acton, Massachusetts**	**01720**
(Address of Principal Executive Offices)	(Zip Code)

Registrant’s Telephone Number Including Area Code: **(978) 206-8220**

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

Title of Class	Name of each exchange on which registered:
Common Stock, $0.005 par value	The Nasdaq Stock Market L.L.C.

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by a check mark if the registrant is a well-known seasoned issuer (as defined in Rule 405 of the Securities Exchange Act of 1934). Yes o No x

Indicate by a check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934). Yes o No x

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files.) Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or emerging growth company. See definitions of "accelerated filer", "large accelerated filer", "non-accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

Large Accelerated Filer	o	Accelerated Filer	x	Non-Accelerated Filer o
Smaller Reporting Company	x	Emerging Growth Company	o	

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. o

Indicate by a check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities and Exchange Act of 1934). Yes o No x

As of June 30, 2018, there were 5,507,262 shares of Common Stock of the Registrant outstanding. The aggregate market value of the Common Stock of the Registrant held by non-affiliates (assuming for these purposes, but not conceding, that all executive officers, directors and 5% shareholders are "affiliates" of the Registrant) as of June 30, 2018 was approximately $76 million, computed based upon the closing price of $19.24 per share on June 30, 2018.

As of March 4, 2019, there were 5,507,262 shares of Common Stock of the Registrant outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates by reference portions of the Registrant's definitive proxy statement, to be filed with the Securities and Exchange Commission no later than 120 days after the close of its fiscal year; provided that if such proxy statement is not filed with the Commission in such 120-day period, an amendment to this Form 10-K shall be filed no later than the end of the 120-day period.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements under “Business,” “Risk Factors,” “Legal Proceedings,” “Market for Registrant’s Common Stock and Related Stockholder Matters” and “Management Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this Annual Report on Form 10-K (this “Form 10-K”) constitute forward-looking statements under Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements made with respect to future earnings, earnings per share, revenues, operating income, cash flows, competitive and strategic initiatives, potential stock repurchases, liquidity needs, dividends, future business, growth opportunities, profitability, pricing, new accounts, customer base, market share, test volume, sales volume, sales and marketing strategies, U.S. and foreign drug testing laws and regulations and the enforcement of such laws and regulations, required investments in plant, equipment and people, new test development, and contingencies, including litigation results. These statements involve known and unknown risks, uncertainties and other factors that may cause results, levels of activity, growth, performance, earnings per share or achievements to be materially different from any future results, levels of activity, growth, performance, earnings per share or achievements expressed or implied by such forward-looking statements.

The forward-looking statements included in this Form 10-K and referred to elsewhere are related to future events or our strategies or future financial performance. In some cases, you can identify forward-looking statements by terminology such as “may,” “should,” “believe,” “anticipate,” “future,” “potential,” “estimate,” “encourage,” “opportunity,” “g “leader,” “could”, “expect,” “intend,” “plan,” “expand,” “focus,” “through,” “strategy,” “provide,” “offer,” “allow,” “commitm “result,” “increase,” “establish,” “perform,” “make,” “continue,” “can,” “ongoing,” “include” or the negative of such terms or c terminology. All forward-looking statements included in this Form 10-K are based on information available to us as of the filing date of this report, and the Company assumes no obligation to update any such forward-looking statements. Our actual results could differ materially from the forward-looking statements.

Factors that may cause such differences include but are not limited to: (1) intense competition in the drug testing industry, particularly among companies that test utilizing hair samples; (2) risks associated with the development of markets for new products and services offered; (3) pricing policies; (4) risks associated with capacity expansion; (5) risks associated with U.S. government regulations, including, but not limited to, FDA regulations, (6) risks associated with our international operations, including, but not limited to, Brazilian laws, proposed laws and regulations, market development and currency risks; (7) Psychemedics' ability to maintain its reputation and brand image; (8) the ability of Psychemedics to achieve its business plans, productivity improvements, cost controls, leveraging of its global operating platform, and acceleration of the rate of innovation; (9) information technology system failures and data security breaches; (10) the uncertain global economy; (11) our ability to attract, develop and retain executives and other qualified employees and independent contractors, including distributors; (12) Psychemedics' ability to obtain and protect intellectual property rights; (13) litigation risks; and (14) changes in economic conditions which affect demand for our products and services.

Additional important factors that could cause actual results to differ materially from expectations reflected in our forward-looking statements include those described in Item 1A, “Risk Factors.”

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PSYCHEMEDICS CORPORATION

FORM 10-K
ANNUAL REPORT
For the Year Ended December 31, 2018

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PART I

Available Information; Background

Psychemedics Corporation (together with its subsidiaries, “the Company” or “Psychemedics”) maintains executive offices located at 289 Great Road, Acton, MA 01720. Our telephone number is (978) 206-8220. Our stock is traded on the NASDAQ Stock Market under the symbol “PMD”. Our Internet address is ***www.psychemedics.com***. The Company makes available, free of charge, on the Investor Information section of its website, its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission (the “SEC”). Copies are also available, without charge, from Psychemedics Corporation, Attn: Investor Relations, 289 Great Road, Acton, MA 01720. Alternatively, reports filed with the SEC may be viewed or obtained at the SEC Public Reference Room in Washington, D.C., or the SEC’s Internet site at *www.sec.gov*. We do not intend for information contained in our website to be part of this Annual Report on Form 10-K.

Item 1. Business

General

Psychemedics Corporation is a Delaware corporation organized on September 24, 1986. The consolidated financial statements of the Company include the accounts and results of operations of Psychemedics Corporation and its wholly-owned subsidiary Psychemedics International, LLC (Delaware) and their jointly-owned subsidiary Psychemedics Laboratórios Ltda (Brazil). All significant inter-company balances and transactions have been eliminated in consolidation. A majority of the Company’s assets are located within the United States. The Company provides testing services for the detection of drugs of abuse through the analysis of hair samples. The Company’s testing methods utilize a patented technology that digests the hair and releases drugs trapped in the hair without destroying the drugs. This is fundamental to the entire process because the patented method gets virtually 100% of the drug out of the hair, and if you cannot get the drug out of the hair, you cannot measure it. The Company then performs a proprietary custom-designed enzyme immunoassay (EIA) on the liquid supernatant, with confirmation testing by mass spectrometry.

The Company’s primary application of its patented technology is as a testing service that analyzes hair samples for the presence of certain drugs of abuse. The Company’s customized proprietary EIA procedures to drug test hair samples differ from the more commonly used immunoassay procedures employed to test urine samples. The Company’s tests provide quantitative information that can indicate the approximate amount of drug ingested as well as historical data, which can show a pattern of individual drug use over a longer period of time, thereby providing superior detection compared to other types of drug testing. This information is useful to employers for both applicant and employee testing, as well as treatment professionals, law enforcement agencies, school administrators, and parents concerned about their children's drug use. The Company provides screening and confirmation by mass spectrometry using industry-accepted practices for cocaine, marijuana, PCP, amphetamines (including ecstasy, eve and Adderall), opiates (including heroin, hydrocodone, hydromorphone, oxycodone, oxymorphone and codeine), synthetic cannabinoids (including K2, Spice, Blaze) and benzodiazepines (Xanax®, Valium®, and Ativan®). In addition, in 2013, the Company launched a hair test for alcohol which also looks back on use over a 90 day period, as our hair drug tests do.

Testing services are currently performed at the Company's Culver City, California campus located at 5832 Uplander Way and 6100 Bristol Parkway.

Background on Drug Testing with Hair

When certain chemical substances enter the bloodstream, the blood carries these substances to the hair where they become "entrapped" in the protein matrix in amounts approximately proportional to the amount ingested. The Company utilizes a patented drug extraction method followed by a unique enzyme immunoassay (EIA) procedure to identify drugs in the hair. The patented drug extraction method effectively releases drugs from the hair without destroying the drugs, getting virtually 100% of the drug out of the hair. The patented method can be used with a broad range of immunoassay screen techniques and mass spectrometry methods.

The immunoassays produced by the Psychemedics R&D team were uniquely designed specifically to meet and even exceed the standards of radioimmunoassay ("RIAH"), the original testing method created and utilized by the Company prior to 2013. Because Psychemedics is the only hair testing laboratory that manufactures its own screening assays, it has full control over all aspects of its technology, and that powerful advantage facilitated the Company's creation of its EIA assays with equivalence to its own previously FDA-cleared radioimmunoassays.

The EIA screened positive results are then confirmed by mass spectrometry. Depending upon the length of hair, the Company is able to provide historical information on drug use by the person from whom the sample was obtained. Because head hair grows approximately 1.3 centimeters per month, a 3.9 centimeter head hair sample can reflect drug ingestion over the approximate three months prior to the collection of the sample. Another option is sectional analysis of the head hair sample, in which the hair is sectioned into lengths which approximately correspond to certain time periods, thereby providing information on patterns of drug use.

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Validation of the Company’s Proprietary Testing Methods

The process of analyzing human hair for the presence of drugs has been the subject of numerous peer-reviewed, scientific field studies. Many of the studies have been funded by the National Institute of Justice or the National Institute on Drug Abuse (“NIDA”). Several hundred research articles written by independent researchers have been published supporting the general validity and usefulness of hair analysis.

Some of the Company’s customers have also completed their own testing to validate the Company’s hair test results compared to other companies’ urine test results. These studies consistently confirmed the Company’s superior detection rate compared to urinalysis testing. When results from the Company’s hair testing methods were compared to urine results in side-by-side evaluations, 5 to 10 times as many drug abusers were accurately identified by the Company’s proprietary methods.

In 1998, the National Institute of Justice, utilizing Psychemedics’ previously utilized RIAH hair testing assay, completed a Pennsylvania Prison study where hair analysis revealed an average prison drug use level of approximately 7.9% in 1996. Comparatively, urinalysis revealed virtually no positives. After measures to curtail drug use were instituted (drug-sniffing dogs, searches and scanners), the use level fell to approximately 2% according to the results of hair analysis in 1998. Again, the urine tests showed virtually no positives. The study illustrates the usefulness of hair analysis to monitor populations and the weakness of urinalysis.

The Company has received 510k clearance from the Food and Drug Administration (FDA) on eight EIA assays used to test head and body hair for drugs of abuse.

The Company’s decontamination wash protocol and the effects in eliminating surface contamination were analyzed in a study conducted by scientists at the Laboratory of the Federal Bureau of Investigation and published in August 2014 in the Journal of Analytical Toxicology. The FBI concluded that the use of an extended wash protocol of the type used by the Company will exclude false positive results from environmental contact with cocaine. In the study, the FBI cited Psychemedics’ studies published in 1993, 2002, 2004, and 2005, and named our lab director, Dr. Michael Schaffer, and our lab, in its acknowledgments. The FBI study also supported the use of metabolites known as hydroxycocaines as evidence of ingestion. These metabolites were first identified in hair by Psychemedics.

Advantages of Using the Company’s Patented Method

The Company asserts that hair testing using its patented method confers substantive advantages over detection through urinalysis. Although urinalysis testing can provide accurate drug use information, the scope of the information is short-term and is generally limited to the type of drug ingested within a few days of the test. Studies published in many scientific publications have indicated that most drugs disappear from urine within a few days.

In contrast to urinalysis testing, hair testing using the Company's patented method can provide long-term historical drug use information resulting in a significantly wider window of detection. This window may be several months or longer depending on the length of the hair sample. The Company's standard test offering, however, uses a 3.9 centimeter length head hair sample cut close to the scalp, which measures use for approximately three months prior to collection of the sample.

This wider window enhances the detection efficiency of hair analysis, making it particularly useful in pre-employment and random testing. Hair testing not only identifies more drug users, but it may also uncover patterns and severity of drug use (information most helpful in determining the scope of an individual's involvement with drugs), while serving as a deterrent against drug use. Hair testing employing the Company's patented method greatly reduces the incidence of "false negatives" associated with evasive measures typically encountered with urinalysis testing. For example, urinalysis test results are adversely impacted by excessive fluid intake prior to testing and by adulteration or substitution of the urine sample. Moreover, a drug user who abstains from use for a few days prior to urinalysis testing can usually escape detection. Hair testing is effectively free of these problems, as it cannot be thwarted by evasive measures typically encountered with urinalysis testing. Hair testing is also attractive to customers since sample collection is typically performed under close supervision yet is less intrusive and less embarrassing for test subjects.

Hair testing using the Company's patented method (with mass spectrometry confirmation) further reduces the prospects of error in conducting drug detection tests. Urinalysis testing is more susceptible to problems such as "evidentiary false positives" resulting from passive drug exposure or poppy seeds. To combat this problem, in federally mandated testing, the opiate cutoff levels for urine testing were raised 667% (from 300 to 2,000 ng/ml) on December 1, 1998, and testing for the presence of a heroin metabolite, 6-MAM, was required. These requirements, however, effectively reduced the detection time frame for confirmed heroin use, such that 6-MAM in urine can typically only be detected for several hours post drug use. In contrast, the metabolite 6-MAM is stable in hair and can be detected for months.

In the event a positive urinalysis test result is challenged, a test on a newly collected urine sample is not a viable remedy. Unless the forewarned individual continues to use drugs prior to the date of the newly collected sample, a re-test may yield a negative result when using urinalysis testing because of temporary abstinence. In contrast, when the Company's hair testing method is offered on a repeat hair sample, the individual suspected of drug use cannot as easily affect the results because historical drug use data remains locked in the hair fiber.

When compared to other hair testing methods, not only are the Company's assays cleared by the FDA for head and body hair, they also employ a unique patented method of digesting hair that the Company believes allows for the most efficient release of drugs from the hair without destroying the drugs. The Company's method of releasing drugs from hair is a key advantage and results in superior detection rates.

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Disadvantages of Hair Testing

There are some disadvantages of hair testing as compared to drug detection through urinalysis. Because hair starts growing below the skin surface, drug ingestion evidence does not appear in hair above the scalp until approximately five to seven days after use.

Thus, hair testing is not suitable for determining drug presence in “for cause” testing as is done in connection with an accident investigation. It does, however, provide a drug history which can complement urinalysis information in “for cause” testing.

The Company’s prices for its tests are generally somewhat higher than prices for tests using urinalysis, but the Company believes that its superior detection rates provide more value to the customer. This pricing policy could, however, adversely impact the growth of the Company’s sales volume.

Hair Alcohol Testing

In 2013, the Company launched a test for alcohol using hair. This test measures average alcohol consumption over a period of approximately three months, indicates the approximate level of alcohol use during that time period, and can provide a behavioral indication of excessive use. The test measures the amount of ethyl glucuronide (EtG) in the hair – a trace metabolite of ethanol and a direct alcohol biomarker.

Intellectual Property

Certain aspects of the hair analysis method currently used by the Company are covered by US and foreign patents owned by the Company. The Company has been granted a total of ten US patents, including a patent issued to the Company in 2011 that focuses on digesting hair and releasing drugs trapped in the hair without destroying the drugs. This patent can be used with a broad range of immunoassay screen techniques, mass spectrometry methods, and chromatographic procedures. In 2012, the Company received an additional patent that extended the range of the patent received in 2011. Additional patent applications are currently pending in the U.S. and internationally.

The Company also relies on trade secrets to protect certain aspects of its proprietary technology. The Company’s ability to protect the confidentiality of its trade secrets is dependent upon the Company’s internal safeguards and upon the laws protecting trade secrets and unfair competition.

In the event that patent protection or protection under the laws of trade secrets is not sufficient and the Company's competitors succeed in duplicating the Company's products, the Company's business could be materially adversely affected.

Target Markets

Workplace

The Company focuses its primary marketing efforts on the private sector, with particular emphasis on job applicant and employee testing.

Most businesses use drug testing to screen job applicants and employees. The Hazeldon Foundation survey from 2007 indicated that 85 percent of human resource ("HR") professionals believe that drug testing is an effective way to identify substance abuse. The prevalence of drug screening programs reflects a concern that drug use contributes to employee health problems and costs (as the same study found that 62 percent of HR professionals believe that absenteeism is the most significant problem caused by substance abuse and addiction, followed at 49 percent by reduced productivity, a lack of trustworthiness at 39 percent, a negative impact on the company's external image at 32 percent, missed deadlines at 31 percent, and in certain industries, safety hazards.) It has been estimated that the cost to American businesses is more than $100 billion annually.

The principal criticism of employee drug testing programs centers on the effectiveness of the testing program. Most private sector testing programs use urinalysis. Such programs are susceptible to evasive maneuvers and the inability to obtain confirmation through repeat samples in the event of a challenged result. An industry has developed over the Internet, and through direct mail, marketing a wide variety of adulterants, dilutants, clean urine and devices to assist drug users in falsifying urine test results.

Moreover, scheduled tests such as pre-employment testing and some random testing programs provide an opportunity for many drug users to simply abstain for a few days in order to escape detection by urinalysis.

The Company presents its patented hair analysis method to potential clients as a better technology well suited to employer needs. Field studies and actual client results support the accuracy and superior effectiveness of the Company's patented technology and its ability to detect varying levels of drug use.

The Company performs a confirmation test of all screened positive results through mass spectrometry. The use of mass spectrometry is an industry accepted practice used to confirm a positive test result from the screening process. The Company offers its clients an expanded drug screen with mass spectrometry confirmation of cocaine, PCP, marijuana, amphetamines, opiates, synthetic cannabinoids and benzodiazepines. In addition, the Company offers a hair test for alcohol which also looks back on use over a 90 day period, as our hair drug tests do.

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Professional Drivers

In 2016, Brazil started drugs of abuse testing for all professional drivers in the country using a hair test. This is a mandated program from a law passed in 2015. In the United States, a similar requirement exists for professional drivers, however, a urine test is currently required. The U.S. government is currently evaluating alternative mediums for testing of drugs of abuse for professional drivers, including hair.

Schools

The Company currently serves hundreds of schools throughout the United States and in several foreign countries. The Company offers its school clients the same five-drug screen with mass spectrometry confirmation that is used with the Company's workplace testing service.

Parents

The Company also offers a personal drug testing service, known as "PDT-90"®, for parents concerned about drug use by their children. It allows parents to collect a small sample of hair from their child in the privacy of the home, send it to the Company's laboratory and have it tested for drugs of abuse by the Company. The PDT-90 testing service uses the same patented method that is used with the Company's workplace testing service.

Research

The Company is involved in the following ongoing studies involving use of drugs of abuse in various populations: In 2017, the Company partnered with an NIH-funded study titled "Adolescent Brain Cognitive Development" (ABCD) which expects to enroll 12,000 youth age 9-10 over a 2-2.5 year recruitment period. The objective of the ABCD consortium is to establish a national, multisite, longitudinal cohort and database by studying youth prospectively in order to examine brain and cognitive development in children and adolescents through a period (10 years) when significant development of intellectual and emotional functions occurs. Psychemedics' role in this study is to test hair to detect use of drugs over the time period. The Company is also partnering with Olin Neuropsychiatry Research Center Institute of Living Hartford Hospital in a research study entitled, "Neurochemical and Functional Correlates of Memory in Emerging Adult Marijuana Users." The study is aiming to better characterize the impact of heavy marijuana use on memory and is funded by a grant from NIDA.

Geographic Scope

Revenues outside the United States were 32% of consolidated revenues for 2018 and 34% for 2017 and 2016.

Distribution

The Company markets its corporate drug testing services through its own sales force and through distributors. The Company markets its home drug testing service, PDT-90, through the internet.

The business in Brazil is sold exclusively through one independently owned and operated distributor which is only engaged in the sale of the Psychemedics tests.

In 2016, the Company was certified as a Center of Excellence by BenchmarkPortal for its customer service function. Customer service is a key component to the sales and support function and this certification validates the efforts by the Company to support our customers. The Company was recertified in 2017 and 2018.

Significant Customers

The Company had one customer, Psychemedics Brasil (an independent distributor in Brazil) that represented 31%, 33% and 34% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. Psychemedics Brasil also accounted for 20% and 23% of the total accounts receivable balance as of December 31, 2018 and 2017, respectively.

Competition

The Company competes directly with numerous commercial laboratories that test for drugs primarily through urinalysis testing. Most of these laboratories, such as Quest Diagnostics, have substantially greater financial resources, market identity, marketing organizations, facilities, and more personnel than the Company. The Company has been steadily increasing its base of corporate customers and believes that future success with new customers is dependent on the Company’s ability to communicate the advantages of implementing a drug program utilizing the Company’s patented hair analysis method.

The Company's ability to compete is also a function of pricing. The Company's prices for its tests are generally somewhat higher than prices for tests using urinalysis. However, the Company believes that its superior detection rates, coupled with the customer's ability to test less frequently due to hair testing's wider window of detection (several months versus approximately three days with urinalysis), provide more value to the customer. This pricing policy could, however, lead to slower sales growth for the Company.

The Company also competes with other hair testing laboratories. The Company distinguishes itself from hair testing competitors by emphasizing the superior results the Company obtains through use of its unique patented extraction method (getting drug out of the hair), in combination with the Company's FDA cleared immunoassay screen.

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Government Regulation

The Company is licensed as a clinical laboratory by the State of California as well as certain other states. All tests are performed according to the laboratory standards established by the Department of Health and Human Services, through the Clinical Laboratories Improvement Amendments (“CLIA”), and various state licensing statutes.

A substantial number of states regulate drug testing. The scope and nature of such regulations varies greatly from state to state and is subject to change from time to time. The Company addresses state law issues on an ongoing basis.

The Federal Food, Drug and Cosmetic Act, as amended (the “FDC Act”) requires companies engaged in the business of testing for drugs of abuse using a test (screening assay) not previously recognized by the FDA to submit their assay to the FDA for recognition prior to marketing. In addition, the laboratory performing the tests is required to be certified by a recognized agency. In 2002, the Company received 510k clearance to market all five of its assays utilizing RIAH technology.

In 2008, the Company received the first CAP (College of American Pathologists) certification specifically including hair testing.

In 2011, the Company received ISO/IEC 17025 International Accreditation for a broad spectrum of laboratory testing including drugs of abuse and forensics in hair and urine specimens. ISO/IEC 17025 accreditation provides formal recognition to laboratories that demonstrate technical competency and maintains this recognition through periodic evaluations to ensure continued compliance.

In 2012, the Company received 510k clearance from the FDA to market five of its assays utilizing the Company’s custom developed EIA technology.

In 2013, the Company received 510k clearance from the FDA to market two additional assays utilizing the Company’s custom developed EIA technology.

In 2015, the Brazilian government signed into law a requirement for professional drivers to take a hair drug test when obtaining or renewing their driver's license. The law also requires professional drivers to be tested when they are hired or fired.

In 2016, the Company received accreditation from the Standards Council of Canada as an accredited testing laboratory.

In 2017, the Company received 510k clearance from the FDA to market one additional assay utilizing the Company’s custom developed EIA technology.

Research and Development

The Company is continuously engaged in research and development activities. During the years ended December 31, 2018, 2017 and 2016, $1.6 million, $1.4 million and $1.4 million, respectively, were expended for research and development. The Company continues to perform research activities to develop new products and services and to improve existing products and services utilizing the Company’s proprietary technology. The Company also continues to evaluate methodologies to enhance its drug screening capabilities. Additional research using the Company’s proprietary technology is being conducted by outside research organizations through government-funded studies.

Employees

As of December 31, 2018, the Company had 250 employees, six of whom are in R&D and one in Brazil. None of the Company’s employees are subject to a collective bargaining agreement.

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Item 1A. Risk Factors

In addition to other information contained in this Form 10-K, the following risk factors should be carefully considered in evaluating Psychemedics Corporation and its business because such factors could have a significant impact on our business, operating results and financial condition. These risk factors could cause actual results to materially differ from those projected in any forward-looking statements.

Companies may develop products that compete with our products and some of these companies may be larger and better capitalized than we are.

Many of our competitors and potential competitors are larger and have greater financial resources than we do and offer a range of products broader than our products. Some of the companies with which we now compete or may compete in the future may develop more extensive research and marketing capabilities and greater technical and personnel resources than we do, and may become better positioned to compete in an evolving industry. Inability to compete successfully could harm our business and prospects.

Increased competition, including price competition, could have a material impact on the Company's net revenues and profitability.

Our business is intensely competitive, both in terms of price and service. Pricing of drug testing services is a significant factor often considered by customers in selecting a drug testing laboratory. As a result of the clinical laboratory industry undergoing significant consolidation, larger clinical laboratory providers are able to increase cost efficiencies afforded by large-scale automated testing. This consolidation results in greater price competition. The Company may be unable to increase cost efficiencies sufficiently, if at all, and as a result, its net earnings and cash flows could be negatively impacted by such price competition. The Company may also face increased competition from companies that do not comply with existing laws or regulations or otherwise disregard compliance standards in the industry. Additional competition, including price competition, could have a material adverse impact on the Company's net revenues and profitability. The Company operations in Brazil are subject to price pressures as this is a new market with new competitors entering the market. The Company may also face changes in fee schedules, competitive bidding for laboratory services or other actions or pressures reducing payment schedules as a result of increased or additional competition.

Our results of operations are subject in part to variation in our customers' hiring practices and other factors beyond our control.

Our results of operations have been and may continue to be subject to variation in our customers' hiring practices, which in turn is dependent, to a large extent, on the general condition of the economy. Results for a particular quarter may vary due to a number of factors, including:

- economic conditions in our markets in general;
- economic conditions affecting our customers and their particular industries;
- the introduction of new products and product enhancements by us or our competitors; and
- pricing and other competitive conditions.

A failure to obtain and retain new customers, or a loss of existing customers, or a reduction in tests ordered, could impact the Company's ability to successfully grow its business.

The Company needs to obtain and retain new customers. In addition, a reduction in tests ordered, without offsetting growth in its customer base, could impact the Company's ability to successfully grow its business and could have a material adverse impact on the Company's net revenues and profitability. We compete primarily on the basis of the quality of testing, reputation in the industry, the pricing of services and ability to employ qualified personnel. The Company's failure to successfully compete on any of these factors could result in the loss of customers and a reduction in the Company's ability to expand its customer base. See also the risk factor entitled, *"We are subject to numerous political, legal, operational and other risks as a result of our international operations which could impact our business in many ways."*

Our business could be harmed if we are unable to protect our technology.

We rely primarily on a combination of trade secrets, patents and trademark laws and confidentiality procedures to protect our technology. Despite these precautions, unauthorized third parties may infringe or copy portions of our technology. In addition, because patent applications in the United States are not publicly disclosed until either (1) 18 months after the application filing date or (2) the publication date of an issued patent wherein applicant(s) seek only US patent protection, applications not yet disclosed may have been filed which relate to our technology. Moreover, there is a risk that foreign intellectual property laws will not protect our intellectual property rights to the same extent as United States intellectual property laws. In the absence of the foregoing protections, we may be vulnerable to competitors who attempt to copy our products, processes or technology.

Our business could be affected by IT system failures or Cybersecurity breaches.

A computer or IT system failure could affect our ability to perform tests, report test results or properly bill customers. Failures could occur as a result of the standardization of our IT systems and other system conversions, telecommunications failures, malicious human acts (such as electronic break-ins or computer viruses) or natural disasters. Sustained system failures or interruption of the Company's systems in one or more of its operations could disrupt the Company's ability to process and provide test results in a timely manner and/or bill the appropriate party. Failure of the Company's information systems could adversely affect the Company's business, profitability and financial condition.

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Our technologies, systems and networks may be subject to cybersecurity breaches. Although we have experienced occasional, actual or attempted breaches of our cybersecurity, none of these breaches has had a material effect on our business, operations or reputation. If our systems for protecting against cybersecurity risks prove to be insufficient, we could be adversely affected by having our business systems compromised, our proprietary information altered, lost or stolen, or our business operations disrupted. As cyber attacks continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information systems and related infrastructure security vulnerabilities.

Failure to maintain confidential information could result in a significant financial impact.

The Company maintains confidential information regarding the results of drug tests and other information including credit card and payment information from our customers. The failure to protect this information could result in lawsuits, fines or penalties. Any loss of data or breach of confidentiality, such as through a computer security breach, could expose the Company to a financial liability.

Our future success will depend on the continued services of our key personnel.

The loss of any of our key personnel could harm our business and prospects. We may not be able to attract and retain personnel necessary for the development of our business. We do not have key personnel under contract other than 3 officers who have agreements providing for severance and non-compete covenants in the event of termination of employment following a change of control. Further, we do not have any key man life insurance for any of our officers or other key personnel.

There is a risk that our insurance will not be sufficient to protect us from errors and omissions liability or other claims, or that in the future errors and omissions insurance will not be available to us at a reasonable cost, if at all.

Our business involves the risk of claims of errors and omissions and other claims inherent to our business. We maintain errors and omissions and general liability insurance subject to deductibles and exclusions. There is a risk that our insurance will not be sufficient to protect us from all such possible claims. An under-insured or uninsured claim could harm our operating results or financial condition.

Our research and development capabilities may not produce viable new services or products.

In order to remain competitive, we need to continually improve our products, develop new technologies to replace older technologies that have either become obsolete or for which patent protection is no longer available. It is uncertain whether we will continually be able to develop services that are more efficient, effective or that are suitable for our customers. Our ability to create viable products or services depends on many factors, including the implementation of appropriate technologies, the development of effective new research tools, the complexity of the chemistry and biology, the lack of predictability in the scientific process and the performance and decision-making capabilities of our scientists. There is no guarantee that our research and development teams will be successful in developing improvements to our technology.

Improved testing technologies, or the Company's customers using new technologies to perform their own tests, could adversely affect the Company's business.

Advances in technology may lead to the development of more cost-effective technologies that can be operated by third parties or customers themselves in their own offices, without requiring the services of a freestanding laboratory. Development of such technology and its use by the Company's customers could reduce the demand for its testing services and negatively impact our revenues.

We may not be able to recruit and retain the experienced scientists and management we need to compete in our industry.

Our future success depends upon our ability to attract, retain and motivate highly skilled scientists and management. Our ability to achieve our business strategies depends on our ability to hire and retain high caliber scientists and other qualified experts. We compete with other testing companies, research companies and academic and research institutions to recruit personnel and face significant competition for qualified personnel. We may incur greater costs than anticipated, or may not be successful, in attracting new scientists or management or in retaining or motivating our existing personnel.

Our future success also depends on the personal efforts and abilities of the principal members of our senior management and scientific staff to provide strategic direction, to manage our operations and maintain a cohesive and stable environment.

Our facilities and practices may fail to comply with government regulations.

Our testing facilities and processes must be operated in conformity with current government regulations. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation. If we fail to comply with these requirements, we may not be able to continue our services to certain customers, or we could be subject to fines and penalties, suspension of production, or withdrawal of our certifications.

We operate a facility that we believe conforms to all applicable requirements. This facility and our testing practices are subject to periodic regulatory inspections to ensure compliance.

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Our business could be harmed from the loss or suspension of any licenses.

The forensic laboratory testing industry is subject to significant regulation and many of these statutes and regulations are subject to change. The Company cannot assure that applicable statutes and regulations will not be interpreted or applied by a regulatory authority in a manner that would adversely affect its business. Potential sanctions for violation of these regulations could include the suspension or loss of various licenses, certificates and authorizations, which could have a material adverse effect on the Company’s business. In addition, potential delays in renewals of licenses could also harm the Company.

If our use of chemical and hazardous materials violates applicable laws or regulations or causes personal injury we may be liable for damages.

Our drug testing activities, including the analysis and synthesis of chemicals, involve the controlled use of chemicals, including flammable, combustible, and toxic materials that are potentially hazardous. Our use, storage, handling and disposal of these materials is subject to federal, state and local laws and regulations, including the Resource Conservation and Recovery Act, the Occupational Safety and Health Act and local fire codes, and regulations promulgated by the Department of Transportation, the Drug Enforcement Agency, the Department of Energy, and the California Department of Public Health and Environment. We may incur significant costs to comply with these laws and regulations in the future. In addition, we cannot completely eliminate the risk of accidental contamination or injury from these materials, which could result in material unanticipated expenses, such as substantial fines or penalties, remediation costs or damages, or the loss of a permit or other authorization to operate or engage in our business. Those expenses could exceed our net worth and limit our ability to raise additional capital.

Our operations could be interrupted by damage to our laboratory facilities.

Our operations are dependent upon the continued use of our laboratories and equipment in Culver City, California. Catastrophic events, including earthquakes, fires or explosions, could damage our laboratories, equipment, scientific data, work in progress or inventories of chemicals and may materially interrupt our business. We employ safety precautions in our laboratory activities in order to reduce the likelihood of the occurrence of certain catastrophic events; however, we cannot eliminate the chance that such events will occur. Rebuilding our facilities could be time consuming and result in substantial delays in fulfilling our agreements with our customers. We maintain business interruption insurance to cover continuing expenses and lost revenue caused by such occurrences. However, this insurance does not compensate us for the loss of opportunity and potential harm to customer relations that our inability to meet our customers’ needs in a timely manner could create.

Agreements we have with our employees, consultants and customers may not afford adequate protection for our trade secrets, confidential information and other proprietary information.

In addition to patent protection, we also rely on copyright and trademark protection, trade secrets, know-how, continuing technological innovation and licensing opportunities. In an effort to maintain the confidentiality and ownership of our trade secrets and proprietary information, we require our employees, consultants and advisors to execute confidentiality and proprietary information agreements. However, these agreements may not provide us with adequate protection against improper use or disclosure of confidential information and there may not be adequate remedies in the event of unauthorized use or disclosure. Furthermore, we may from time to time hire scientific personnel formerly employed by other companies involved in one or more areas similar to the activities we conduct. In some situations, our confidentiality and proprietary information agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants or advisors have prior employment or consulting relationships. Although we require our employees and consultants to maintain the confidentiality of all proprietary information of their previous employers, these individuals, or we, may be subject to allegations of trade secret misappropriation or other similar claims as a result of their prior affiliations. Finally, others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets. Our failure or inability to protect our proprietary information and techniques may inhibit or limit our ability to compete effectively, or exclude certain competitors from the market.

We are subject to numerous political, legal, operational and other risks as a result of our international operations which could impact our business in many ways.

Although we conduct a majority of our business in the United States, a significant portion of our business is derived from Brazil. Our international operations increase our exposure to the inherent risks of doing business in international markets. Depending on the market, these risks include without limitation:

- changes in the local economic environment or local laws or regulations
- political instability, social changes, local market practices and changes
- intellectual property legal protections and remedies
- trade regulations
- foreign currency exchange rate fluctuations
- attracting and retaining qualified employees and independent contractors including distributors
- export and import and exchange controls
- weak legal systems which may affect our ability to enforce contractual rights
- the Company reliance on one distributor in Brazil

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As the Company has previously disclosed, there are greater challenges and uncertainties in a new, large and developing market, such as Brazil. Psychemedics Brasil, our independent distributor in Brazil, has had 55% of its shares acquired by Instituto Hermes Pardini S.A., a provider of medical and diagnostic services in Brazil, including reference laboratory services. We are in discussions with our distributor and its acquirer about the future of our distribution agreement (which either party may terminate upon prior written notice following July 2019), including whether it will be extended, terminated or replaced by a transition agreement for us to continue to sell our drug tests to our current distributor for a period of time. The outcome of these discussions is not certain, and any significant decrease in sales to our distributor would have a materially adverse impact on our business. However, we believe that the overall market demand for drug testing services in Brazil will continue to grow, and it remains uncertain whether the acquirer will have the capacity to supply our distributor with the volume of drug tests that we currently provide, at least in the near term. At the same time, we have also been exploring additional options in Brazil.

International operations also require us to devote significant management resources to implement our controls and systems in new markets, to comply with the U.S. Foreign Corrupt Practices Act and similar anti-corruption laws in non-U.S. jurisdictions and to overcome challenges based on differing languages and cultures.

International trade policies may impact demand for our products and our competitive position.

Government policies on international trade and investment such as import quotas, capital controls or tariffs, whether adopted by individual governments or addressed by regional trade blocs, can affect the demand for our services, impact the competitive position of our products or prevent us from being able to sell products in certain countries. The implementation of more restrictive trade policies, such as more detailed inspections, higher tariffs or new barriers to entry, could negatively impact our business, results of operations and financial condition. For example, a government's adoption of "buy national" policies or retaliation by another government against such policies could have a negative impact on our results of operations.

Global operations are subject to extensive trade and anti-corruption laws and regulations.

The U.S. Foreign Corrupt Practices Act and similar foreign anti-corruption laws generally prohibit companies and their intermediaries from making improper payments or providing anything of value to improperly influence foreign government officials for the purpose of obtaining or retaining business, or obtaining an unfair advantage. Recent years have seen a substantial increase in the global enforcement of anti-corruption laws. Our operations outside the United States could increase the risk of such violations. Violations of anti-corruption laws or regulations by our employees or by intermediaries acting on our behalf may result in severe criminal or civil sanctions, could disrupt our business, and result in an adverse effect on our business and results of operations or financial condition.

We may incur additional tax expense or become subject to additional tax exposure.

We are subject to income taxes in the United States and Brazil. Our future results of operations could be adversely affected by changes in the effective tax rate as a result of a change in the mix of earnings, changes in our method of distribution in foreign countries, changes in countries with differing statutory tax rates, changes in our Brazil-derived revenues, changes in our overall profitability, changes in tax laws or treaties or in their application or interpretation, changes in tax rates, changes in generally accepted accounting principles, changes in the valuation of deferred tax assets and liabilities, changes in the amount of earnings indefinitely reinvested offshore, the results of audits and examinations of previously filed tax returns and continuing assessments of our tax exposures. We may be subject to examination of our income tax returns by the U.S. Internal Revenue Service and other tax authorities. If our effective tax rates were to increase, or if the ultimate determination of our taxes owed is for an amount in excess of amounts previously accrued, our operating results, cash flows and financial condition could be adversely affected. For information regarding additional matters related to our taxes, please see Note 5 — "Income taxes" to the financial statements included in this Annual Report.

Currency exchange rate fluctuations affect our results of operations, as reported in our financial statements.

We currently have revenues from many countries, however, we are only subject to currency exchange risk related to the Brazilian Real. We are subject to currency exchange rate risk to the extent that our costs are denominated in currencies other than those in which we earn revenues. In addition, while we share currency exchange risk with our Brazilian distributor, changes in currency exchange rates have had, and will continue to have, an impact on our revenues, results of operations and comprehensive income. There can be no assurance that currency exchange rate fluctuations will not adversely affect our results of operations, financial condition and cash flows.

We also face risks arising from the imposition of exchange controls and currency devaluations. Exchange controls may limit our ability to convert foreign currencies into U.S. dollars or to remit dividends and other payments by our foreign subsidiaries or businesses located in or conducted within a country imposing controls. Currency devaluations result in a diminished value of funds denominated in the currency of the country instituting the devaluation.

Risks Related to Our Stock

Our quarterly operating results could fluctuate significantly, which could cause our stock price to decline.

Our quarterly operating results have fluctuated in the past and are likely to fluctuate in the future. Our results are impacted by the extent to which we are able to gain new customers, both domestically and internationally, competitive pricing, and on the hiring practices of our existing customers, including seasonality. Demand for drug testing can be impacted by changes in government requirements regarding testing for drugs of abuse, delays in implementation of such requirements, as well as general economic conditions. Entering into new customer contracts can involve a long lead time. Accordingly, negotiation can be lengthy and is subject to a number of significant risks, including customers' budgetary constraints and internal reviews. Due to these and other market factors, our operating results could fluctuate significantly from quarter to quarter. In addition, we may experience significant fluctuations in quarterly operating results due to factors such as general and industry-specific economic conditions that may affect the budgets and the hiring practices of our customers.

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Due to the possibility of fluctuations in our revenue and expenses, we believe that quarter-to-quarter comparisons of our operating results are not necessarily a good indication of our future performance. Our operating results in some quarters may not meet the expectations of stock market analysts and investors. If we do not meet analysts' and/or investors' expectations, our stock price could decline.

Our stock price could experience substantial volatility.

The market price of our common stock has historically experienced and may continue to experience extensive volatility. Our quarterly operating results, the success or failure of future development efforts, changes in general conditions in the economy or the financial markets and other developments affecting our customers, our distributors, our competitors or us could cause the market price of our common stock to fluctuate substantially. This volatility may adversely affect the price of our common stock. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company's securities. A securities class action suit against us could result in potential liabilities, substantial costs and the diversion of management's attention and resources, regardless of whether we win or lose.

Payment of a dividend could decline or cease.

Because the Company has historically paid dividends, any cessation of our program or reduction in our quarterly dividend could affect our stock price. As of December 31, 2018, the Company has paid dividends on our common stock for eighty-nine consecutive quarters. It is our intent to continue this practice as long as we are able. However, if we are forced to cease this practice or reduce the amount of the regular dividend, due to operating or economic conditions, our stock price could suffer. Further, if the Company ceases its future dividends, a return on investment in our common stock would depend entirely upon future appreciation. There is no guarantee that our common stock will appreciate in value or even maintain the price at which stockholders have purchased their shares.

The general economic condition could deteriorate.

Our business is dependent upon new hiring and the supply of new jobs created by overall economic conditions. If the economy deteriorates, leading to a downturn in new job creation, our business and stock price could be adversely affected.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

The Company maintains its corporate office and northeast sales office at 289 Great Road, Acton, Massachusetts; the office consists of 6 thousand square feet and is leased through February 2023.

The Company leases two facilities for laboratory purposes in Culver City, California. The first is 14 thousand square feet of space with an additional 10 thousand square feet of storage space. This facility is leased through December 2020 with an option to renew for an additional two years. The second facility of 16 thousand square feet is leased through January 2020.

Item 3. Legal Proceedings

The Company is involved in various suits and claims in the ordinary course of business. The Company does not believe that the disposition of any such suits or claims will have a material adverse effect on the continuing operations or financial condition of the Company.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

Item 5. Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities

The Company's common stock is traded on the NASDAQ Stock Market under the symbol "PMD". As of February 28, 2019, there were 159 record holders of the Company's common stock. The number of record owners was determined from the Company's stockholder records maintained by the Company's transfer agent and does not include beneficial owners of the Company's common stock whose shares are held in the names of various security holders, dealers and clearing agencies. The Company believes that the number of beneficial owners of the Company's common stock held by others as or in nominee names exceeds 3,000.

The following table sets forth for the periods indicated the range of prices for the Company's common stock as reported by the NASDAQ Stock Market and dividends declared by the Company.

	High	Low	Dividends
Fiscal 2018:			
First Quarter	$22.88	$18.69	$ 0.15
Second Quarter	21.50	17.98	0.18
Third Quarter	22.31	18.38	0.18
Fourth Quarter	19.00	13.94	0.18
Fiscal 2017:			
First Quarter	$27.46	$13.81	$ 0.15
Second Quarter	25.00	18.30	0.15
Third Quarter	27.99	17.40	0.15
Fourth Quarter	21.74	15.99	0.15

The Company has paid dividends over the past twenty-one years. It most recently declared a dividend on March 4, 2019, which will be paid on March 25, 2019. The Company's current intention is to continue to declare dividends to the extent funds are available and not required for operating purposes or capital requirements, and only then, upon approval by the Board of Directors.

Issuer Purchases of Equity Securities

During 2018, the Company did not repurchase any common shares for treasury.

Unregistered Sales of Equity Securities and Use of Proceeds

There were no unregistered sales of common stock of the Company during 2018.

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Performance Graph

Calculated by the Company using *www.yahoo.com/finance* historical prices

	2013	2014	2015	2016	2017	2018
PSYCHEMEDICS CORPORATION	100.00	107.22	77.20	180.26	156.30	129.07
RUSSELL 2000 INDEX	100.00	103.53	97.62	116.63	131.96	115.89
NASDAQ COMPOSITE INDEX	100.00	113.40	119.89	128.89	165.29	158.87

(1) The above graph assumes a $100 investment on December 31, 2013, through the end of the 5-year period ended December 31, 2018 in the Company's Common Stock, the Russell 2000 Index and the NASDAQ Composite Index. The prices all assume the reinvestment of dividends.

(2) The Russell 2000 Index is composed of the smallest 2,000 companies in the Russell 3,000 Index. The Company has been unable to identify a peer group of companies that engage in testing of drugs of abuse, except for large pharmaceutical companies where such business is insignificant to such companies' other lines of businesses. The Company therefore uses in its proxy statements a peer index based on market capitalization.

(3) The NASDAQ Composite Index includes companies whose shares are traded on the NASDAQ Stock Market.

Item 6. Selected Financial Data

The selected financial data presented below is derived from our financial statements and should be read in connection with those statements.

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(In thousands, except for per share data)				
Revenue	$42,674	$39,701	$38,980	$26,975	$29,205
Gross profit	20,618	19,822	21,450	12,717	15,138
Income from operations	7,610	8,157	10,110	1,471	4,690
Net income	4,584	6,121	6,678	1,511	3,206
Total assets	24,974	26,508	25,032	22,036	23,701

Working capital	9,810	9,640	6,359	4,564	6,604
Shareholders' equity	18,747	18,620	15,607	11,674	12,837
Basic net income per share	$0.83	$1.12	$1.23	$0.28	$0.60
Diluted net income per share	$0.83	$1.10	$1.22	$0.28	$0.60
Cash dividends declared per common share	$0.69	$0.60	$0.60	$0.60	$0.60

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

The Management's Discussion and Analysis of Financial Condition and Results of Operations should be read together with the more detailed business information and financial statements and related notes that appear elsewhere in this annual report on Form 10-K. This annual report may contain certain "forward-looking" information within the meaning of the Private Securities Litigation Reform Act of 1995. This information involves risks and uncertainties. Actual results may differ materially from the results discussed in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in Item 1A — Risk Factors.

Overview

Psychemedics Corporation is the world's largest provider of hair testing for drugs of abuse, utilizing a patented hair analysis method involving digestion of hair, enzyme immunoassay technology and confirmation by mass spectrometry to analyze human hair to detect abused substances. The Company's customers include Fortune 500 companies, as well as small to mid-size corporations, schools and governmental entities, located in the United States and internationally. During the year ended December 31, 2018, the Company produced $42.7 million in revenue, while generating a gross margin of 48% and pre-tax margins of 18%. The Company had net income of $4.6 million and diluted earnings per share of $0.83 for the year ended December 31, 2018, a decrease of $1.5 million, or 25% from the prior year primarily due to a one-time tax benefit from the passage of the Tax Cuts and Jobs Act ("Tax Act") in 2017 of $1.2 million or $0.22 per share and unfavorable changes in foreign exchange rates. Pre-tax income in 2018 was $7.7 million, down 6% due primarily to unfavorable changes in foreign exchange rates. If the exchange rate remained the same, the Company's pre-tax income would have been $9.9 million or an increase of 21% over 2017. Due to the volatility of the US dollar to Brazilian Real exchange rate, the Company changed its distribution structure with its Brazilian distributor in the third quarter of 2018 to share in the exchange rate risk, as further described below in this Annual Report.

At December 31, 2018, the Company had $8.0 million of cash and marketable securities. During 2018, the Company had operating cash flow of $8.0 million and it distributed approximately $3.8 million or $0.69 per share of cash dividends to its shareholders. In addition, the Company spent approximately $1.4 million on equipment, leasehold improvements and software development. As of December 31, 2018, the Company has paid eighty-nine consecutive quarterly cash dividends.

The following table sets forth, for the periods indicated, the selected statements of operations data as a percentage of total revenue:

	Year Ended December 31,		
	2018	2017	2016

Revenue	100.0%	100.0%	100.0%
Cost of revenue	51.7 %	50.1 %	45.0 %
Gross profit	48.3 %	49.9 %	55.0 %
Operating expenses:			
General and administrative	15.1 %	14.2 %	12.8 %
Marketing and selling	11.8 %	11.8 %	12.7 %
Research and development	3.6 %	3.4 %	3.6 %
Total operating expenses	30.5 %	29.4 %	29.1 %
Operating income	17.8 %	20.5 %	25.9 %
Other income (expense)	0.1 %	0.1 %	-0.3 %
Income before taxes	17.9 %	20.6 %	25.6 %
Provision for income taxes	7.2 %	5.2 %	8.5 %
Net income	10.7 %	15.4 %	17.1 %

Revenue by Geographic Region

	Year Ended December 31,		
	2018	2017	2016
Consolidated Revenue:			
United States	$29,189	$26,327	$25,608
Brazil	13,046	13,069	13,083
Other	439	305	289
Total Revenue	$42,674	$39,701	$38,980

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Results for the Year Ended December 31, 2018 Compared to Results for the Year Ended December 31, 2017 (in thousands)

	2018	2017	Change	%
Revenue	$42,674	$39,701	$2,973	7 %
Cost of revenue	22,056	19,879	2,177	11 %
Gross profit	20,618	19,822	796	4 %
Operating expenses:				
General and administrative	6,430	5,642	788	14 %
Marketing and selling	5,027	4,666	361	8 %
Research and development	1,551	1,357	194	14 %
Total operating expenses	13,008	11,665	1,343	12 %
Operating income	7,610	8,157	(547)	-7 %
Other income (expense)	43	20	23	115%
Income before taxes	7,653	8,177	(524)	-6 %
Provision for income taxes	3,069	2,056	1,013	49 %
Net income	$4,584	$6,121	$(1,537)	-25 %

Revenue: Domestic revenue was up 11% and international revenue was up 1% from 2017 to 2018. See geographic breakdown of revenue above. Total revenue growth of 7% was primarily due to a 15% increase in volume, offset by a 6% negative impact from foreign currency exchange and a 2% impact from decrease of average revenue per sample, primarily as a result of business mix.

Gross profit: The increase in costs of revenue was primarily due to higher costs associated with higher volume. Gross profit was adversely impacted by foreign currency exchange as noted in revenue section above. Without this impact, gross profit percentage would have been 51% as compared to 50% in 2017.

General and administrative ("G&A") expenses: The increase in G&A expenses primarily related to additional audit related costs associated with the Company becoming an accelerated filer and implementing new accounting standards. These costs included external audit fees, internal control consultants and additional personnel. As a percentage of revenue, G&A expenses represented 15.1% in 2018 versus 14.2% in 2017.

Marketing and selling expenses: The increase in marketing and selling expenses was primarily a result of additional personnel and personnel related costs in 2018. Total marketing and selling expenses represented 11.8% of revenue for 2018 and 2017.

Research and development ("R&D"): R&D expenses represented 3.6% and 3.4% of revenue for 2018 and 2017, respectively.

Income Taxes: During the year ended December 31, 2018, the Company recorded a tax provision of $3.1 million representing a tax rate of 40% compared to a tax rate of 25% in 2017. Approximately half of the tax provision in 2018 was attributed to domestic taxes, with the other half attributed to Brazil. The increase in 2018 was primarily due a higher tax rate impact from Brazil in 2018 and to the passing of the Tax Act in 2017. The Tax Act impacted 2017 with a benefit of $1.2 million and it also had the effect of increasing the Brazil net tax rate, as the lower U.S. tax rate reduced the deductibility of Brazil taxes. For information regarding additional matters related to our taxes, please see Note 5 — "Income taxes" to the financial statements included in this Annual Report.

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Results for the Year Ended December 31, 2017 Compared to Results for the Year Ended December 31, 2016 (in thousands)

	2017	2016	Change	%
Revenue	$39,701	$38,980	$721	2 %
Cost of revenue	19,879	17,530	2,349	13 %
Gross profit	19,822	21,450	(1,628)	-8 %
Operating expenses:				
General and administrative	5,642	4,965	677	14 %
Marketing and selling	4,666	4,960	(294)	-6 %
Research and development	1,357	1,415	(58)	-4 %
Total operating expenses	11,665	11,340	325	3 %
Operating income	8,157	10,110	(1,953)	-19 %
Other expense	20	(134)	154	-115 %
Income before taxes	8,177	9,976	(1,799)	-18 %
Provision for (benefit from) income taxes	2,056	3,298	(1,242)	-38 %
Net income	$6,121	$6,678	$(557)	-8 %

Revenue: Domestic revenue was up 3% and the international revenue was flat from 2016 to 2017. See geographic breakdown of revenue above. In 2017, we implemented strategic initiatives, including certain pricing considerations, to defend and increase our market share in Brazil.

Gross profit: The increase in costs of revenue and decrease in gross profit was primarily due to higher costs associated with higher volume. Gross profit was also adversely impacted by our strategic pricing initiatives in Brazil noted above, including increased costs from Brazilian sales taxes, which the Company also incurred as a result of the establishment of a Brazilian subsidiary in the second quarter of 2017. Gross profit was also impacted by an increase in depreciation expense.

General and administrative ("G&A") expenses: The increase in G&A expenses related to additional costs associated with the Brazil operations and higher legal and audit fees. As a percentage of revenue, G&A expenses represented 14.2% in 2017 versus 12.7% in 2016.

Marketing and selling expenses: The decrease in marketing and selling expenses was primarily a result of a temporary decrease in personnel and personnel related costs in 2017. Total marketing and selling expenses represented 11.8% and 12.7% of revenue for 2017 and 2016, respectively.

Research and development (“R&D”): R&D expenses represented 3.4% and 3.6% of revenue for 2017 and 2016, respectively.

Other income: Other income primarily consisted of interest earned on CD’s which was partially offset by interest expense related to debt. The increase in income came from a reduction of interest expense from a lower loan balance and an increase in interest income from CD’s which did not exist in 2016.

Income Taxes: During the year ended December 31, 2017, the Company recorded a tax provision of $2.1 million representing a tax rate of 25%, versus a tax rate of 33% in 2016. There were two significant items impacting the rate in 2017. The larger item was the passing of the Tax Act in December 2017. While this law changed tax rates for 2018, the lower tax rate required a remeasurement of the Company’s deferred tax liability at December 31, 2017. The law also allowed for additional depreciation for assets purchased and placed in service in the fourth quarter of 2017. The impact of this (primarily from the remeasurement of the deferred tax liability) was a reduction of tax liability and income tax benefit of $1.2 million for 2017. This benefit was partially offset by the imposition of income taxes in Brazil incurred as a result of the Company’s formation of a subsidiary in Brazil in the second quarter of 2017. The impact of this was an increase in the tax provision of $0.6 million.

Liquidity and Capital Resources

At December 31, 2018, the Company had $8.0 million of cash and marketable securities, compared to $8.2 million at December 31, 2017. The Company’s operating activities generated net cash of $8.0 million in 2018, $9.1 million in 2017 and $9.3 million in 2016. Investing activities used $5.4 million in 2018, $1.2 million in 2017 and $2.1 million in 2016. Financing activities used $5.6 million in 2018, used $3.5 million in 2017 and generated $5.9 million in 2016.

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Operating cash flow of $7.9 million in 2018 primarily reflected net income of $4.6 million adjusted for depreciation and amortization of $3.1 million, stock compensation expense of $0.6 million, and a decrease in net deferred tax liabilities of $0.3 million. Operating cash flow was affected by the following changes in assets and liabilities: an increase in accounts receivable of $0.4 million, an increase in accounts payable of $0.1 million, an increase in accrued expenses of $0.1 million, and a decrease in prepaid expenses (and other current assets) of $0.1 million. The operating cash flow was $1.2 million less than in 2017.

Operating cash flow of $9.1 million in 2017 primarily reflected net income of $6.1 million adjusted for depreciation and amortization of $2.8 million, stock compensation expense of $0.6 million, and a decrease in net deferred tax liabilities of $1.5 million. The net deferred tax liability was significantly different than in prior years due to change in the tax law. See income tax discussion above. Operating cash flow was affected by the following changes in assets and liabilities: a decrease in accounts receivable of $1.3 million, a decrease in accounts payable of $1.0 million, an increase in accrued expenses of $0.9 million, and an increase in prepaid expenses (and other current assets) of $0.1 million. The operating cash flow was $0.1 million less than in 2016.

Operating cash flow of $9.3 million in 2016 primarily reflected net income of $6.7 million adjusted for depreciation and amortization of $2.3 million, stock compensation expense of $0.7 million, and an increase in net deferred tax liabilities of $0.2 million. This was affected by the following changes in assets and liabilities: an increase in accounts receivable of $2.3 million, an increase in accounts payable of $0.1 million, an increase in accrued expenses of $0.8 million, and a decrease in prepaid expenses (and other current assets) of $0.8 million. The operating cash flow was $4.7 million greater than in 2015, primarily driven by an increase in income from the Brazilian opportunity.

Investing cash flow principally reflected investments in marketable securities and the purchase of capital expenditures. Marketable securities consist of the purchase of one CD for $4.0 million in 2018 and no marketable securities in 2017 and 2016. Capital expenditures were $1.2 million, $1.2 million, and $2.0 million in 2018, 2017 and 2016, respectively. In 2018, the expenditures related principally to laboratory equipment and computer software. Capitalized patent costs and an increase in long term assets were $133 thousand, $49 thousand, and $82 thousand in 2018, 2017, and 2016, respectively.

During 2018, 2017 and 2016, the Company did not repurchase any shares of common stock for treasury. The Company has authorized 750,000 shares for repurchase since June of 1998, of which 250,000 shares of common stock were authorized in March of 2008 for repurchase. Since 1998, a total of 550,684 shares have been repurchased. The Company also distributed cash dividends to its shareholders of $3.8 million in 2018, $3.3 million in 2017 and $3.3 million in 2016.

At December 31, 2018, the Company's principal sources of liquidity included approximately $8.0 million of cash, cash equivalents and marketable securities. Management currently believes that such funds, together with future operating profits, should be adequate to fund anticipated working capital requirements, including debt obligations, and capital expenditures for at least the next 12 months. Depending upon the Company's results of operations, its future capital needs and available marketing opportunities, the Company may use various financing sources to raise additional funds. Such sources could include, issuance of common stock or debt financing, lines of credit, or equipment leasing, although there is no assurance that such financings will be available to the Company on terms it deems acceptable, if at all.

At December 31, 2018, the Company has paid dividends over the past eighty-nine quarters. It most recently declared a dividend on March 4, 2019 with a payment date of March 25, 2019 in the amount of $991 thousand. The Company's current intention is to continue to declare dividends to the extent funds are available and not required for operating purposes or capital requirements, and only then, upon approval by the Board of Directors. There can be no assurance that in the future the Company will declare dividends.

Contractual obligations as of December 31, 2018 (including a lease extension executed in February 2019) were as follows (in thousands):

	Payments Due by Period				
	Less Than	1 – 3	4 – 5	Greater Than	
Contractual Obligation	1 Year	Years	Years	5 Years	Total
Operating leases	$1,055	$752	$126	$-	$1,933
Loan Obligations	$416	$832	$380	$-	$1,628
Total	$1,471	$1,584	$506	$-	$3,561

Purchase Commitment

Operating leases consist of rent obligations for the company's facilities and data center. The Company has no significant contractual obligation for supply agreements as of December 31, 2018.

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Critical Accounting Policies

The Company's significant accounting policies are described in Note 2 to the financial statements included in Item 8 of this annual report. Management believes the most critical accounting policies are as follows:

Revenue Recognition

The Company is in the business of performing drug testing services and reporting the results thereof. The Company's services are primarily drug and alcohol testing for its customers for an agreed-upon fee per unit tested. The revenues are recognized when the drug test is performed and reported to the customer.

The Company records revenue for the shipping of samples from the customer or independent hair collection facility to the laboratory for customers that choose to use the Company's shipping account. The Company also records revenue for the collection of the hair sample for customers that choose to have the Company manage this process at the same time the sample test is completed and results reported to the customer. The associated costs incurred in connection with these services is recorded as costs of revenue. The Company records revenue for these services on a gross basis as it has determined it is the principal under these arrangements.

The Company also provides expert testimony, when and if necessary, to support the results of the tests, which is generally billed separately and recognized as the services are provided.

Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates, including bad debts, long-lived asset lives, income tax valuation, stock based compensation 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. Actual results could differ from those estimates.

Capitalized Development Costs

We capitalize costs related to significant software projects developed or obtained for internal use in accordance with U.S. generally accepted accounting standards. Costs incurred during the preliminary project work stage or conceptual stage, such as determining the performance requirements, system requirements and data conversion, are expensed as incurred. Costs incurred in the application development phase, such as coding, testing for new software and upgrades that result in additional functionality, are capitalized and are amortized using the straight-line method over the useful life of the software for 5 years. Costs incurred during the post-implementation/operation stage, including training costs and maintenance costs, are expensed as incurred. We capitalized internally developed software costs of approximately $299 thousand, $511 thousand and $315 thousand during the years ended December 31, 2018, 2017 and 2016, respectively. The software development is for primarily for two projects. Determining whether particular costs incurred are more properly attributable to the preliminary or conceptual stage, and thus expensed, or to the application development phase, and thus capitalized and amortized, depends on subjective judgments about the nature of the development work, and our judgments in this regard may differ from those made by other companies. General and administrative costs related to developing or obtaining such software are expensed as incurred.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is based on management's assessment of the ability to collect amounts owed to it by its customers. Management reviews its accounts receivable aging for doubtful accounts and uses a methodology based on calculating the allowance using a combination of factors including the age of the receivable along with management's judgment to identify accounts that may not be collectible. The Company routinely assesses the financial strength of its customers and, as a consequence, believes that its accounts receivable credit risk exposure is limited. The Company maintains an allowance for potential credit losses but historically has not experienced any significant losses related to individual customers or groups of customers in any particular industry or geographic area. Bad debt expense has been within management's expectations.

Income Taxes

The Company accounts for income taxes using the liability method, which requires the Company to recognize a current tax liability or asset for current taxes payable or refundable and a net deferred tax liability for the estimated future tax effects of temporary differences between the financial statement and tax reporting bases of assets and liabilities to the extent that they are realizable. Deferred tax expense (benefit) results from the net change in deferred tax assets and liabilities during the year. A deferred tax valuation allowance is required if it is more likely than not that all or a portion of the recorded deferred tax assets will not be realized.

On December 22, 2017, the U.S. government enacted the Tax Act. The Tax Act made broad and complex changes to the U.S. tax code that affected 2017, including, but not limited to, accelerated depreciation that allowed for full expensing of qualified property. The Tax Act also established a reduction in the U.S. federal corporate income tax rate from 35% to 21% for 2018 and future years. As a result of the Tax Act, in 2017, we remeasured certain deferred tax assets and liabilities based on the tax rates at which they are anticipated to reverse in the future, which is generally 21%. This resulted in a decrease to our deferred tax liabilities of $1.2 million and a corresponding decrease in our income tax expense in 2017. At December 31, 2018, the Company had net deferred tax liabilities in the amount of

$1.0 million, which were primarily comprised of depreciation and amortization, representing a decrease of $0.2 million from the prior year end balance.

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The Company operates within multiple taxing jurisdictions and could be subject to audit in these jurisdictions. These audits may involve complex issues, which may require an extended period of time to resolve. The Company has provided for its estimated taxes payable in the accompanying financial statements. The Company did not have any interest or penalties accrued as of December 31, 2018 or 2017. The Company does not expect the unrecognized tax benefits to change significantly over the next twelve months.

The Company’s distribution of services though a wholly owned subsidiary in Brazil which commenced in the second quarter of 2017 caused the Company to become subject to Brazil income taxes. These taxes are included in the total provision for income taxes reflected in the financial statements. While the Company deducted Brazil income taxes, it was not able to offset these taxes as a tax credit in the United States as the testing for the Company’s services were, and continue to be, performed in the United States. In the third quarter of 2018, the company changed its method of distribution in Brazil to once again sell its services directly to its independent distributor, which impacted the Company’s Brazil tax provision. For information regarding additional matters related to our taxes, please see Note 5 — "Income taxes" to the financial statements included in this Annual Report.

The above listing is not intended to be a comprehensive list of all of the Company’s accounting policies. In many cases, the accounting treatment of a particular transaction is specifically dictated by accounting principles generally accepted in the United States, with no need for management’s judgment in their application. There are also areas in which management’s judgment in selecting any available alternative would not produce a materially different result.

Brazilian Distributor Risks and Uncertainties

As the Company has previously disclosed, there are greater challenges and uncertainties in a new, large and developing market, such as Brazil. Psychemedics Brasil, our independent distributor in Brazil, has had 55% of its shares acquired by Instituto Hermes Pardini S.A., a provider of medical and diagnostic services in Brazil, including reference laboratory services. We are in discussions with our distributor and its acquirer about the future of our distribution agreement (which either party may terminate upon prior written notice following July 2019), including whether it will be extended, terminated or replaced by a transition agreement for us to continue to sell our drug tests to our current distributor for a period of time. The outcome of these discussions is not certain, and any significant decrease in sales to our distributor would have a materially adverse impact on our business. However, we believe that the overall market demand for drug testing services in Brazil will continue to grow, and it remains uncertain whether the acquirer will have the capacity to supply our distributor with the volume of drug tests that we currently provide, at least in the near term. At the same time, we have also been exploring additional options in Brazil.

Recent Accounting Pronouncements

See Note 2 – Summary of Significant Accounting Policies in the accompanying Notes to the Consolidated Financial Statements included in this Annual Report for further detail on recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Not required

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Item 8. Financial Statements and Supplementary Data

(a) Financial Statements:

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors

Psychemedics Corporation

Acton, Massachusetts

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Psychemedics Corporation (the “Company”) and subsidiaries as of December 31, 2018 and 2017, the related consolidated statements of income and comprehensive income, shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company and subsidiaries at December 31, 2018 and 2017, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) and our report dated March 4, 2019, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the 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 consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2004.

Boston, Massachusetts

March 4, 2019

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PSYCHEMEDICS CORPORATION
CONSOLIDATED BALANCE SHEETS

(in thousands, except par value)

	December 31, 2018	December 31, 2017
ASSETS		
Current Assets:		
Cash and cash equivalents	$4,069	$8,165
Marketable securities	3,905	-
Accounts receivable, net of allowance for doubtful accounts of $67 in 2018 and $64 in 2017	4,829	4,488
Prepaid expenses and other current assets	1,067	1,212
Total Current Assets	13,870	13,865
Property and equipment:		
Computer software	3,914	3,614
Office furniture and equipment	1,997	1,961
Laboratory equipment	15,162	15,504
Leasehold improvements	2,445	2,402
	23,518	23,481
Accumulated depreciation and amortization	(13,341)	(11,670)
	10,177	11,811
Other assets	927	832
Total Assets	$24,974	$26,508
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$682	$398
Accrued expenses	2,962	2,870
Current portion of long-term debt	416	957
Total Current Liabilities	4,060	4,225
Long-term debt	1,212	2,420
Deferred tax liabilities, long-term	955	1,243
Total Liabilities	6,227	7,888
Commitments and Contingencies (Note 9)		
Shareholders' Equity:		
Preferred stock, $0.005 par value, 873 shares authorized, no shares issued or outstanding	-	-
Common stock, $0.005 par value; 50,000 shares authorized 6,175 shares issued in 2018 and 6,160 shares issued 2017, 5,507 shares outstanding in 2018 and 5,492 shares outstanding in 2017	31	31

Additional paid-in capital	31,523	31,022
Less - Treasury stock, at cost, 668 shares	(10,082)	(10,082)
Accumulated deficit	(1,326)	(2,113)
Accumulated other comprehensive loss	(1,399)	(238)
Total Shareholders' Equity	18,747	18,620
Total Liabilities and Shareholders' Equity	$24,974	$26,508

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

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PSYCHEMEDICS CORPORATION
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

(in thousands, except per share amounts)

	Year Ended December 31,		
	2018	2017	2016
Revenues	$42,674	$39,701	$38,980
Cost of revenues	22,056	19,879	17,530
Gross profit	20,618	19,822	21,450
Operating Expenses:			
General & administrative	6,430	5,642	4,965
Marketing & selling	5,027	4,666	4,960
Research & development	1,551	1,357	1,415
Total Operating Expenses	13,008	11,665	11,340
Operating income	7,610	8,157	10,110
Other income (expense)	43	20	(134)
Net income before provision for income taxes	7,653	8,177	9,976
Provision for income taxes	3,069	2,056	3,298
Net income	$4,584	$6,121	$6,678
Other Comprehensive Income (Loss):			
Foreign currency translation	(1,161)	(238)	-
Total Comprehensive Income	$3,423	$5,883	$6,678
Basic net income per share	$0.83	$1.12	$1.23
Diluted net income per share	$0.83	$1.10	$1.22
Dividends declared per share	$0.69	$0.60	$0.60
Weighted average common shares outstanding:			
Basic	5,502	5,480	5,447
Diluted	5,547	5,540	5,475

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

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PSYCHEMEDICS CORPORATION
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(in thousands, except per share amounts)

	Common Stock			Treasury Stock				
	Shares	$0.005 par Value	Paid-In Capital	Shares	Cost	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total
BALANCE, December 31, 2015	6,091	$ 30	$ 30,022	668	$ (10,082)	$ (8,296)	$ -	$ 11,674
Shares issued – vested	37	1	(1)	-	-	-	-	-
Tax withholding related to vested shares from employee stock plans	-	-	(202)	-	-	-	-	(202)
Stock compensation expense	-	-	671	-	-	-	-	671
Excess tax benefit from stock-based compensation plans	-	-	113	-	-	(60)	-	53
Cash dividends declared ($0.60 per share)	-	-	-	-	-	(3,267)	-	(3,267)
Net income	-	-	-	-	-	6,678	-	6,678
BALANCE, December 31, 2016	6,128	31	30,603	668	(10,082)	(4,945)	-	15,607
Shares issued – vested	32	-	-	-	-	-	-	-
Exercise of stock options	-	-	35	-	-	-	-	35
Tax withholding related to vested shares from employee stock plans	-	-	(198)	-	-	-	-	(198)
Stock compensation expense	-	-	582	-	-	-	-	582
Cash dividends declared ($0.60 per share)	-	-	-	-	-	(3,289)	-	(3,289)
Net income	-	-	-	-	-	6,121	-	6,121
Other comprehensive loss	-	-	-	-	-	-	(238)	(238)
BALANCE, December 31, 2017	6,160	31	31,022	668	(10,082)	(2,113)	(238)	18,620
Shares issued – vested	15	-	-	-	-	-	-	-
Tax withholding related to vested shares from employee stock plans	-	-	(93)	-	-	-	-	(93)
Stock compensation expense	-	-	594	-	-	-	-	594
Cash dividends declared ($0.69 per share)	-	-	-	-	-	(3,797)	-	(3,797)
Net income	-	-	-	-	-	4,584	-	4,584
Other comprehensive loss	-	-	-	-	-	-	(1,161)	(1,161)
BALANCE, December 31, 2018	6,175	$ 31	$ 31,523	668	$ (10,082)	$ (1,326)	$ (1,399)	$ 18,747

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

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PSYCHEMEDICS CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Year Ended December 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net income	$4,584	$6,121	$6,678
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	3,063	2,807	2,294
Deferred income taxes	(288)	(1,450)	168
Loss on disposal of equipment	6	-	-
Non-cash interest income	(41)	-	-
Stock compensation expense	594	582	671
Changes in operating assets and liabilities:			
Accounts receivable	(355)	1,316	(2,298)
Other current assets	145	(133)	822
Accounts payable	77	(990)	144
Accrued expenses	144	893	790
Net cash provided by operating activities	7,929	9,146	9,269
Cash flows from investing activities:			
Purchases of investments in marketable securities	(4,035)	-	-
Increase in long-term assets; capitalized patent costs	(133)	(49)	(82)
Purchases of property and equipment and capitalized software development costs	(1,191)	(1,197)	(2,012)
Net cash used in investing activities	(5,359)	(1,246)	(2,094)
Cash flows from financing activities:			
Dividends paid	(3,797)	(3,289)	(3,267)
Proceeds from stock options and tax withholding related to vested shares from employee stock plans	(93)	(163)	(149)
Proceeds from equipment financing	-	2,078	610
Payments of equipment financing	(1,749)	(2,082)	(3,120)
Net cash used in financing activities	(5,639)	(3,456)	(5,926)
Effect of exchange rate changes on cash and cash equivalents	(1,027)	(217)	-
Net increase (decrease) in cash and cash equivalents	(4,096)	4,227	1,249
Cash and cash equivalents, beginning of year	8,165	3,938	2,689
Cash and cash equivalents, end of year	$4,069	$8,165	$3,938
Supplemental disclosures of cash flow information:			
Cash paid for income taxes	$3,743	$2,824	$1,814
Cash paid for interest	$108	$70	$134

Non-cash investing and financing activities	$(41)	-	-
Purchases of equipment through accounts payable and accrued liabilities	$207	$25	$472

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

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PSYCHEMEDICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2018

1. Nature of Business

Psychemedics Corporation (the “Company”) provides hair testing for drugs of abuse, utilizing a patented hair analysis method involving digestion of hair, enzyme immunoassay and mass spectrometry to analyze hair to detect abused substances. The Company’s customers include Fortune 500 companies, as well as small to mid-size corporations, schools and governmental entities located in the United States and internationally, as well as professional drivers in Brazil.

2. Summary of Significant Accounting Policies

Risks and Uncertainties

The Company is subject to a number of risks and uncertainties similar to those of other companies, such as those associated with the continued expansion of the Company’s sales and marketing network, technological developments, intellectual property protection, development of markets for new products and services offered by the Company, the economic health of principal customers of the Company, financial and operational risks associated with expansion of testing facilities used by the Company, government regulation (including, but not limited to, Food and Drug Administration regulations, Brazilian laws, proposed laws and regulations, and delays in implementation of laws and regulations), competition and general economic conditions.

Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates, including those related to bad debts, long-lived asset lives, income tax valuation and share based compensation, 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. Actual results could differ from those estimates. Changes in estimates are recorded in the period in which they become known.

Cash Equivalents

All highly liquid investments with original maturities of 90 days or less are considered cash equivalents. These consist of certificates of deposit (CD's). There was $4.6 million of CD's as of December 31, 2017. As of December 31, 2018, there were no investments classified as cash equivalents.

Marketable Securities

All investments with original maturities of more than 90 days are considered marketable securities. As of December 31, 2018, the company had one held-to-maturity security (a CD with Bank of America in Brazil) with a maturity of 180 days, ending on April 29, 2019. The CD had an original cost and current fair value of BRL 15 million (USD $4.0 million). As of December 31, 2017, there were no investments classified as marketable securities.

Fair Value Measurements

The Company follows the provisions of Accounting Standards Codification (ASC) 820, *Fair Value Measurements and Disclosures* ("ASC 820"), which defines fair value, establishes guidelines for measuring fair value and expands disclosures regarding fair value measurements and expands disclosures regarding fair value measurements. Fair value is defined under ASC 820 as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value under ASC 820 must maximize the use of observable inputs and minimize the use of unobservable inputs. The standard describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

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

Level 2 – Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities or other inputs that are observable or can be corroborated by observable market data

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value

A financial instrument's level is based on the lowest level of any input that is significant to the fair value measurement.

The Company had one marketable security (a CD) as of December 31, 2018 which was classified as Level 2 with a fair market value of $4.0 million. As of December 31, 2017, the company had CD's (cash equivalents) which was classified as Level 2 with a fair market value of $4.5 million.

Inventory

Some materials used in the provision of services to our customers are included in prepaid expenses and recorded to cost of revenues upon use. Most consumables such as chemicals and antibodies are expensed as purchased.

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PSYCHEMEDICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2018

2. Summary of Significant Accounting Policies (continued)

Property and Equipment

Property & equipment are stated at cost. Depreciation and amortization are provided over the estimated useful lives of the assets, using the straight-line method. Repair and maintenance costs are expensed as incurred. The estimated useful lives of the assets are:

Computer software (years)	3	to	5
Office furniture and equipment (years)	3	to	7
Laboratory equipment (years)	5	to	7
Leasehold improvements		Lesser of estimated useful life or lease term	

The Company recorded depreciation and amortization related to property and equipment and capitalized software of $3.0 million, $2.8 million, and $2.3 million in 2018, 2017 and 2016 respectively. All equipment was placed in service as of December 31, 2018.

Capitalized Software Development Costs

We capitalize costs related to significant software projects developed or obtained for internal use, including costs incurred in a cloud computing arrangement. Costs incurred during the preliminary project work stage or conceptual stage, such as determining the performance requirements, system requirements and data conversion, are expensed as incurred. Costs incurred in the application development phase, such as coding, testing for new software and upgrades that result in additional functionality, are capitalized and are amortized using the straight-line method over the useful life of the software for 5 years. Costs incurred during the post-implementation/operation stage, including training costs and maintenance costs, are expensed as incurred. In accordance with Company policy, during the years ended December 31, 2018 and 2017, we capitalized internally developed software costs of $299 thousand and $511 thousand, respectively. Amortization expense related to software development costs was $525 thousand, $418 thousand and $435 thousand in 2018, 2017, and 2016, respectively. Determining whether particular costs incurred are more properly attributable to the preliminary or conceptual stage, and thus expensed, or to the application development phase, and thus capitalized and amortized, depends on subjective judgments about the nature of the development work, and our judgments in this regard may differ from those made by other companies. General and administrative costs related to developing or obtaining such software is expensed as incurred.

Other Assets

Other assets primarily consist of capitalized legal costs relating to patent applications. The Company amortizes these costs over the lesser of the legal life or estimated useful life of the patent from the date of grant of the applicable patent. The typical life is twenty years. As of December 31, 2018 and 2017, the Company had capitalized legal costs relating to outstanding patent applications of $737 thousand and $711 thousand, respectively. Amortization expense was $38 thousand, $37 thousand, and $36 thousand in 2018, 2017 and 2016, respectively. The amount of amortization related to patent applications is expected to remain below $50 thousand per year for the next five years.

Revenue Recognition

The Company is in the business of performing drug testing services and reporting the results thereof. The Company's services are primarily drug and alcohol testing for its customers for an agreed-upon fee per unit tested. The revenues are recognized when the drug test is performed and reported to the customer.

On January 1, 2018, the Company adopted Topic 606 using the modified retrospective method. The adoption of Topic 606 did not have a material effect on the Company's financial position or results of operations.

Revenue is recognized when control of the services is transferred to our customers, in an amount that reflects the consideration (none of which is variable) the Company expects to be entitled to in exchange for those services. The Company typically invoices customers monthly for services provided and payments are generally due within 30 to 60 days of the invoice date.

The table below disaggregates our external revenue by major source (in thousands). For additional revenue detail relating to geographic breakdown of sales, see Note 12 – "Business Segment Reporting".

	Year Ended December 31,		
	2018	2017	2016
Consolidated Revenue:			
Testing	$39,174	$36,310	$35,855
Shipping / Collection (hair)	3,159	3,018	2,687

Other	341	374	438
Total Revenue	$42,674	$39,701	$38,980

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PSYCHEMEDICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2018

2. Summary of Significant Accounting Policies (continued)

Testing Revenue

Drug and alcohol tests for drugs of abuse using hair, performed in the Company’s forensic laboratory in California, represents our primary service. Sales to customers are initiated through sales agreements, most of which have standard terms. Most tests are identified through a chain of custody form (“CCF”) and can therefore be uniquely tracked. Revenue is recognized when performance obligations under the terms of the contract with a customer are satisfied; generally, this occurs with the transfer of control of our service, which occurs at a specific point-in-time. The specific point-in-time is the completion of the test and availability of test results to the customer. Most tests are completed the same day that the hair specimen is received.

Substantially all tests are completed within a few days. As the tests are performed in a forensic laboratory, the exact date and time of each test completion is available and used in the timing of recognition of revenue.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for providing services. Sales taxes the Company pays concurrent with revenue-producing activities are excluded from revenue.

Shipping and Hair Collection Revenue

Shipping revenue represents the amount billed to customers related to shipping of the hair specimen and CCF (“sample”) to the Company’s laboratory. Collection revenue represents the amount billed to customers related to the collection of the hair specimen. This collection is done by third parties who have contracted with the Company. Shipping and hair collection revenue is recognized when performance obligations under the terms of the contract with a customer are satisfied; generally, this occurs with the transfer of control of the Company’s service, which occurs at a specific point-in-time. The specific point-in-time is the completion of the test (associated with the shipping or hair collection charge) and availability of test results to the customer.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for providing services. As the Company controls the service before transferring to the customer, it is considered a principal in the transaction, and therefore records revenues on gross basis, with shipping and hair collection costs in costs of revenues.

Other Revenue

Other revenue represents several items including; urine testing performed by other labs, medical review officer charges, legal/testifying services, and other miscellaneous charges. The total of all of these items is approximately 1% of sales. The amounts are generally billed to customers as services are performed, which occurs at a specific point-in-time.

Practical Expedients and Exemptions

The Company generally expenses sales commissions when incurred because the amortization period is one year or less. These costs are recorded within marketing and selling expense.

Research and Development Expenses

The Company expenses all research and development costs as incurred.

PSYCHEMEDICS CORPORATION
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2. Summary of Significant Accounting Policies (continued)

Income Taxes

The Company accounts for income taxes using the liability method pursuant to ASC 740, *"Income Taxes"*. Under this method, the Company recognizes deferred tax assets and liabilities for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts using enacted tax rates in effect for the year the differences are expected to reverse. The Company evaluates uncertain tax positions annually and considers whether the amounts recorded for income taxes are adequate to address the Company's tax risk profile. The Company analyzes the potential tax liabilities of specific transactions and tax positions based on management's judgment as to the expected outcome.

Concentration of Credit Risk and Off-Balance Sheet Risk

The Company has no significant off-balance-sheet risk such as foreign exchange contracts, option contracts, or other foreign hedging arrangements. Financial instruments that potentially subject the Company to concentrations of credit risk are principally cash and accounts receivable. The Company's policy is to place its cash in high quality financial institutions. At time, these deposits may exceed or be exempt from federally insured limits. The Company does not believe significant credit risk exists with respect to these institutions. Concentration of credit risk with respect to accounts receivable is limited to certain customers to whom the Company makes substantial sales. To reduce risk, the Company routinely assesses the financial strength of its customers and, as a consequence, believes that its accounts receivable credit risk exposure is limited. The Company maintains an allowance for potential credit losses but historically has not experienced any significant losses related to individual customers or groups of customers in any particular industry or geographic area. The Company does not require collateral.

Significant Customers

The Company had one customer, Psychemedics Brasil (an independent distributor in Brazil) that represented 31%, 33% and 34% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. The Company had one customer that accounted for 20% and 23% of the total accounts receivable balance as of December 31, 2018 and 2017 respectively.

Comprehensive Income

The Company's comprehensive income was $3.4 million and $5.9 million for the years ended December 31, 2018 and 2017, respectively, and includes the effect of foreign currency translation. Comprehensive income was the same as net income for the year ended December 31, 2016.

Stock-Based Compensation

The Company accounts for equity awards in accordance with ASC 718, "*Compensation — Stock Compensation"* ("ASC 718"). ASC 718 requires employee equity awards to be accounted for under the fair value method. It also requires the measurement of compensation cost at fair value on the date of grant and recognition of compensation expense over the service period for awards expected to vest. Accordingly, share-based compensation is measured at the grant date based on the fair value of the award. The Company uses the straight-line method to recognize share-based compensation over the service period of the award, which is generally equal to the vesting period. The Company uses the simplified approach to calculate the expected exercise date of options, which is one of the components used to determine the fair value of the options. This approach is used due to the small number of recipients receiving stock options not providing a reasonable basis for estimating expected term. In 2016, the Company adopted ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*, which simplifies several aspects of the accounting for employee share-based payment transactions including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification of related amounts within the statement of cash flows. As a result, we recognize the impact of forfeitures when they occur with no adjustment for estimated forfeitures and recognize excess tax benefits as a reduction of income tax expense regardless of whether the benefit reduces income taxes payable.

Stock compensation expense by income statement account is as follows (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Cost of revenues	$62	$71	$88
General & administrative	436	398	420
Marketing and selling	29	55	116
Research and development	67	58	47
Total stock compensation	$594	$582	$671

See Note 7 for additional information relating to the Company's stock plan.

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2. Summary of Significant Accounting Policies (continued)

Basic and Diluted Net Income per Share

Basic net income per share is computed by dividing net income available to common shareholders by the weighted average number of common shares outstanding during the period. Diluted net income per share is computed by dividing net income available to common shareholders by the weighted average number of common shares and dilutive common stock equivalents outstanding during the period. The number of dilutive common stock equivalents outstanding during the period has been determined in accordance with the treasury-stock method. Common equivalent shares consist of common stock issuable upon the exercise of outstanding options and the unvested portion of stock unit awards ("SUAs").

Basic and diluted weighted average common shares outstanding are as follows (in thousands):

	2018	2017	2016
Weighted average common shares outstanding, basic	5,502	5,480	5,447
Dilutive common equivalent shares	45	60	28
Weighted average common shares outstanding, assuming dilution	5,547	5,540	5,475

For the year ended December 31, 2018, options to purchase 86 thousand common shares were outstanding but not included in the dilutive common equivalent share calculation as their effect would have been anti-dilutive. There were no options to purchase shares that were anti-dilutive for the years ended December 31, 2017 and 2016.

Financial Instruments

Financial instruments include cash, CD's (classified as either cash equivalents or marketable securities based on their attributes), accounts receivable and accounts payable. Estimated fair values of these financial instruments approximate carrying values due to their short-term nature. The Company has one outstanding equipment loan which has an interest rate of the 30-day LIBOR rate + 1.75%. As there is a market interest rate, the carrying amount is fair value.

Basis of Preparation and Consolidation

The consolidated financial statements, include the financial statements of the Company and its subsidiaries have been prepared using accounting principles generally accepted in the United States ("U.S. GAAP"). The financial statements of the Company and its subsidiary companies have been consolidated on a line-by-line basis by adding together like items of assets, liabilities, income and expenses. All intercompany transactions and balances have been eliminated.

Foreign Currency Translation

To the extent sales are made through our Brazil subsidiary, such sales are transacted in Brazilian Real and translated into US dollars. Foreign currency denominated assets and liabilities are translated into U.S. dollars using the exchange rates in effect at the consolidated balance sheet date. Results of operations and cash flows are translated using the average exchange rates throughout the period. The effect of exchange rate fluctuations on translation of assets and liabilities that are in the functional currency is included as a component of shareholders' equity in accumulated other comprehensive income (loss). The total change in foreign currency translation adjustment for the year ended December 31, 2018 and 2017 was a loss of $1.2 million and $0.2 million, respectively. This amounted to a $0.9 million and $0.2 million after tax impact.

Segment Reporting

The Company manages its operations as one segment, drug testing services. As a result, the financial information disclosed herein materially represents all of the financial information related to the Company's principal operating segment. See Note 13 for geographic breakdown of revenue.

Subsequent Events

On March 4, 2019, the Company declared a quarterly dividend of $0.18 per share for a total of $991 thousand, with a payment date of March 25, 2019 to shareholders of record on March 14, 2019.

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PSYCHEMEDICS CORPORATION
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2. Summary of Significant Accounting Policies (continued)

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, *Leases*, which was subsequently amended in 2018 by ASU 2018-10, ASU 2018-11 and ASU 2018-20 (collectively, Topic 842). which introduces the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous guidance. The new standard establishes a right-of-use ("ROU") model that requires a lessee to record an ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. The new standard will become effective for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years, with early adoption permitted. The Company will elect an optional transition method to account for the impact of the adoption with a cumulative-effect adjustment in the period of adoption and will not restate prior periods. The Company expects to elect certain practical expedients permitted under the transition guidance. The Company is substantially complete with the evaluation of the effect that the adoption of this ASU will have on the financial statements. The Company believes that most of its operating lease commitments (which primarily consists of leased facilities) will be subject to the new standard. In connection with the adoption of ASC 842, the Company expects to recognize additional right-of-use assets and operating lease liabilities of approximately $1.6 million as of January 1, 2019.

In February 2018, the FASB issued ASU 2018-02, “Income Statement – Reporting Comprehensive Income” (Topic 220) Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which will allow a reclassification from accumulated other comprehensive income to retained earnings for the tax effects resulting from the Tax Cuts and Jobs Act (Tax Reform Act) that are stranded in accumulated other comprehensive income. This standard also requires certain disclosures about stranded tax effects. ASU 2018-02, however, does not change the underlying guidance that requires that the effect of a change in tax laws or rates be included in income from continuing operations. ASU 2018-02 will be effective for the Company’s fiscal year 2020, with the option to early adopt prior to the effective date. It must be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Reform Act is recognized. The Company is currently evaluating the impacts the adoption of this accounting guidance will have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, “Intangibles—Goodwill and Other—Internal-Use Software: Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract”. The FASB issued ASU 2018-15 to align the requirements for capitalizing implementation costs in a cloud computing arrangement service contract with the requirements for capitalizing implementation costs incurred for an internal-use software license. ASU 2018-15 will be effective for the Company's fiscal year 2020, with the option to early adopt prior to the effective date. The Company is currently evaluating the impact that this updated standard will have on its consolidated financial statements.

In August 2018, the SEC issued Release No. 33-10532 that amends and clarifies certain financial reporting requirements. The principal change to our financial reporting will be the inclusion of the annual disclosure requirement of changes in stockholders' equity in Rule 3-04 of Regulation S-X to interim periods. We will adopt this new rule beginning with our financial reporting for the quarter ended March 31, 2019. Upon adoption, we will include our Consolidated Statements of Stockholders' Equity with each quarterly filing on Form 10-Q.

3. Accounts Receivable

The Company maintains an allowance for uncollectible accounts receivable based on management's assessment of the collectability of its customer accounts by reviewing customer payment patterns and other relevant factors. The Company reviews the adequacy of the allowance for uncollectible accounts on a quarterly basis and adjusts the balance as determined necessary. Write-offs are recorded at the time a customer account is deemed uncollectable. The following is a rollforward of the Company's allowance for doubtful accounts (in thousands):

	As of December 31,	
	2018	2017
Balance, beginning of period	$64	$50
Provision for doubtful accounts	40	30
Write-offs	(37)	(16)
Balance, end of period	$67	$64

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4. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	As of December 31,	
	2018	2017
Accrued payroll and employee benefits	$363	$291
Accrued bonus expense	302	290
Accrued vacation expense	514	481
Accrued taxes	614	1,086
Accrued shipping expense	688	364
Other accrued expenses	481	358
Total Accrued Expenses	$2,962	$2,870

5. Income Taxes

The income tax provision consists of the following (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Current –			
Federal	$2,117	$2,507	$3,016
State	119	101	114
Foreign	1,122	898	-
	3,358	3,506	3,130
Deferred –			
Federal	(168)	(1,326)	279
State	(121)	(124)	(111)
Foreign		-	-
	(289)	(1,450)	168

Income Tax Provision	$3,069	$2,056	$3,298

A reconciliation of the effective rate with the federal statutory rate is as follows:

	Year Ended December 31,		
	2018	2017	2016
Federal statutory rate	21.0%	34.0 %	34.0%
State income taxes, net of federal benefit	0.0 %	-0.2 %	0.1 %
Permanent differences	0.2 %	0.4 %	0.1 %
Stock based compensation	0.1 %	-0.7 %	0.0 %
Federal R&D Credits	-1.7 %	-1.3 %	-1.1 %
Foreign Taxes, net of federal benefit	20.5%	7.1 %	0.0 %
Federal Deferred Rate Decrease	0.0 %	-14.2%	0.0 %
Effective tax rate	40.1%	25.1 %	33.1%

The change in effective tax rate from 2017 to 2018 was primarily driven by two factors: new U.S. tax legislation and an increase in Brazil income taxes in 2018. In 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cut and Jobs Act (the “Tax Act”). The Tax Act made broad and complex changes to the U.S. tax code that affected 2017, including accelerated depreciation that allowed for full expensing of qualified property. The Tax Act also established new tax laws that affected 2018 and will affect future years, including a reduction in the U.S. federal corporate income tax rate from 35% to 21%. As a result of the Tax Act, in 2017, we remeasured certain deferred tax assets and liabilities based on the rates at which they were anticipated to change to in the future, which was generally 21%. In 2017, this resulted in a reduction of the deferred tax liability of $1.2 million, or a 14.2 percentage point reduction. The Company changed its distribution channel in the third quarter of 2018, from providing services through the Company’s Brazilian subsidiary to providing services direct from the Company. This change required multiple changes in the calculation of taxes including the elimination of Brazil income taxes and an increase in the amount of import taxes, a portion of which are classified in the U.S. as income taxes. These taxes are based on revenue, and not pre-tax income which affected the pre-tax effective tax rate in 2018. In addition, the reduction of the U.S. tax rate, reduced the deductibility of Brazilian taxes. As a result of these factors, the 2018 Brazil effective tax rate was 20.5% in 2018 versus 7.1% in 2017. As of December 31, 2018, there were no Federal tax credit carryforwards from 2017 and there were $854 thousand of California tax credit carryforwards relating to 2012 to 2018 which have an unlimited carryforward period.

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5. Income Taxes (continued)

The components of the net deferred tax liabilities included in the accompanying balance sheets are as follows (in thousands):

	As of December 31,	
	2018	2017
Deferred Tax Assets		
Allowance for doubtful accounts	$15	$14
Accrued expenses	112	105
Stock-based compensation	114	79
R&D tax credits	675	578
Total Deferred Tax Assets	$916	$776
Deferred Tax Liabilities		
Excess of tax over book depreciation and amortization	$(1,832)	$(1,980)
Prepaid expenses	(39)	(39)
Total Deferred Tax Liabilities	(1,871)	(2,019)
Net Deferred Tax Liabilities	$(955)	$(1,243)

ASC 740 contains a two-step approach to recognizing and measuring uncertain tax positions (tax contingencies). The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not that the position will be sustained on an audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement. The Company considers many factors when evaluating and estimating the Company’s tax positions and tax benefits, which may require periodic adjustments and which may not accurately forecast actual outcomes. The Company had no uncertain tax positions at December 31, 2018 or 2017 that would affect its effective tax rate.

The net income before income taxes in the U.S. was $7.7 million and $8.2 million for the years ended December 31, 2018 and 2017, respectively. Net income before income taxes in Brazil was $5.9 million and $8.7 million for the years ended December 31, 2018 and 2017, respectively.

The Company operates within multiple taxing jurisdictions and could be subject to audit in these jurisdictions. These audits may involve complex issues, which may require an extended period of time to resolve. The Company has provided for its estimated taxes payable in the accompanying financial statements. Interest and penalties related to income tax matters are recognized as a general and administrative expense. The Company did not have any interest or penalties accrued as of December 31, 2018 or 2017. The Company is currently under a standard I.R.S. review for the tax year 2016. The tax years ended December 31, 2015 through December 31, 2018 remain subject to examination by all major taxing authorities.

6. Preferred Stock

The Board of Directors has the authority to designate authorized preferred shares in one or more series and to fix the relative rights and preferences without vote or action by the stockholders. The Board of Directors has no present plans to designate or issue any shares of preferred stock.

7. Stock-Based Awards

The 2006 Incentive Plan initially adopted in 2006 provides for grants of options with terms of up to ten years, grants of restricted stock or stock unit awards (SUAs), issuances of stock bonuses or grants other stock-based awards plus cash based awards, to officers, directors, employees, and consultants. Such shares are issuable out of the Company's authorized but unissued common stock. As of December 31, 2018, the total number of shares issuable under the 2006 Incentive Plan was 850 thousand shares, of which 77 thousand shares remained available for future grant. In January 2019, the 2006 Incentive Plan was amended to increase the total number of shares issuable thereunder from 850 thousand to 1.2 million, subject to shareholder approval

The fair value of the SUAs is determined by the closing price on the date of grant. The fair value of options is determined using a Black-Scholes model. The SUAs vest over a period of two to four years and are convertible into an equivalent number of shares of the Company's common stock provided that the employee receiving the award remains continuously employed throughout the vesting period. The Company records compensation expense related to the SUAs and options on a straight-line basis over the vesting term. Employees are issued shares upon vesting, net of tax withholdings. As a result of our adoption of ASU 2016-09 in 2016, we recognize the impact of forfeitures when they occur with no adjustment for estimated forfeitures and recognize excess tax benefits as a reduction of income tax expense regardless of whether the benefit reduces income taxes payable.

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7. Stock-Based Awards (continued)

On May 3, 2018, the Company granted SUAs covering 6.4 thousand shares of common stock and options to acquire up to 117 thousand shares of common stock and on July 24, 2018 the Company granted options to acquire up to 2.5 thousand shares of common stock. The SUAs vest over a period of two years for non-employee board members and four years for employees and are convertible into an equivalent number of shares of the Company's common stock provided that the director or employee receiving the award remains employed throughout the vesting period. The stock options become exercisable over two years for non-employee board members and four years for employees (the September 15, 2015 options become exercisable over five years) and have a term of 10 years. The Company records compensation expense related to the SUAs and options on a straight-line basis over the vesting term. Employees are issued shares upon vesting, in the case of SUA's or upon exercise of options, net of tax withholdings, unless the employee chooses to receive all shares and pay for the associated employment taxes. No other types of equity-based awards have been granted or issued under the 2006 Incentive Plan.

The following table represents all shares granted by the Company under the 2006 Incentive Plan for the last three years (shares in thousands):

Grant Date	Type	Shares	Fair Value Per Share (1)
July 24, 2018	Options	2	$5.49
May 3, 2018	SUA	6	$21.04
May 3, 2018	Options	117	$5.69
May 4, 2017	Options	121	$4.46
May 4, 2017	SUA	13	$18.87
May 12, 2016	Options	121	$2.34
May 12, 2016	SUA	17	$13.82

(1) The fair value for the SUA's is the closing price of the Company's stock on that date. The fair value for options represents the fair value calculated using the Black-Scholes model. Options have contractual lives of 10 years and the fair value calculated using a Black-Scholes model. The options granted on May 12, 2016 have a fair value of $2.34 per share based on the $13.82 grant date and exercise prices and assuming a 6.25 year estimated term, 33%

volatility, 1.75% interest rate and a 5.6% dividend yield rate. The options granted on May 4, 2017 have a fair value of $4.46 per share based on the $18.87 grant date and exercise prices and assuming a 6.25 year estimated term, 37% volatility, 2.75% interest rate and a 4.7% dividend yield rate. The options granted on May 3, 2018 have a fair value of $5.69 per share based on the $21.04 grant date and exercise prices and assuming 6.25 and 5.75 year estimated terms, 38% volatility, 3.4% interest rate and a 4.2% dividend yield rate. The options granted on July 24, 2018 have a fair value of $5.49 per share based on the $19.83 grant date and exercise prices and assuming a 6.25 year estimated term, 39% volatility, 3.4% interest rate and a 4.1% dividend yield rate.

A summary of the Company's stock option activity is as follows (in thousands, except price per share):

	Number of Shares	Weighted Ave. Exercise Price per Share	Aggregate Intrinsic Value(2)
Outstanding, December 31, 2017	279	$ 15.40	$ 1,436
Granted	119	$ 21.01	
Exercised	-	$ -	
Forfeited	-	$ -	
Outstanding, December 31, 2018	398	$ 17.09	$ 493
Exercisable, December 31, 2018	143		$ 313

(2) The aggregate intrinsic value on this table was calculated based on the amount, if any, by which the closing market price of the Company's stock on December 31 of the applicable year exceeded the exercise price of any of the underlying options, multiplied by the number of shares subject to each such option. The closing stock price as of December 31, 2018 and 2017 was $15.87 and $20.56, respectively.

There were no options exercised under the 2006 Incentive Plan during the years ended December 31, 2018 or 2016. There were 2.5 thousand options exercised under the 2006 Incentive Plan during the year ended December 31, 2017. The Company had options exercised under our expired stock option plan of 134 thousand for the year ended December 31, 2016. There were 143 thousand options exercisable as of December 31, 2018 and 56 thousand options exercisable as of December 31, 2017.

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7. Stock-Based Awards (continued)

A summary of the Company's stock unit award activity is as follows (in thousands, except price per share):

	Number of Shares	Weighted Average Price per Share (3)	Weighted Average Fair Value (3)
Outstanding & Unvested, December 31, 2017	33	$ 16.08	$ 516
Granted	6	$ 21.04	$ 135
Converted to common stock	(15)	$ 15.67	$ (238)
Cancelled	(5)	$ 15.67	$ (70)
Forfeited	-	$ -	$ -
Outstanding & Unvested, December 31, 2018	19	$ 18.20	$ 343

(3) Weighted average price per share is the weighted grant price based on the closing market price of each of the stock grants related to each transaction type. The weighted average fair value is the weighted average share price times the number of shares.

The fair value of stock unit award vesting was $308 thousand, $554 thousand and $691 thousand for the years ended December 31, 2018, 2017 and 2016, respectively. The intrinsic value of stock unit awards converted to common stock was based on the stock price on the vesting date and amounted to $493 thousand, $776 thousand and $727 thousand for the years ended December 31, 2018, 2017 and 2016, respectively.

As of December 31, 2018, a total of 494 thousand shares of common stock were reserved for issuance under 2006 Incentive Plan. As of December 31, 2018, the unamortized fair value of outstanding options and awards was $1.2 million to be amortized over a weighted average period of approximately 2.8 years.

8. Employee Benefit Plan

The Psychemedics Corporation 401(k) Savings and Retirement Plan (the 401(k) Plan) is a qualified defined contribution plan in accordance with Section 401(k) of the Internal Revenue Code. All employees over the age of 21 are eligible to make pre-tax contributions up to a specified percentage of their compensation. Under the 401(k) Plan, the Company may, but is not obligated to, match a portion of the employees' contributions up to a defined maximum. Matching contributions of $264 thousand, $246 thousand and $246 thousand were made in the years ended December 31, 2018, 2017 and 2016, respectively.

9. Commitments and Contingencies

Commitments

The Company leases certain of its facilities and equipment under operating lease agreements expiring on various dates through February 2023. Total minimum lease payments, including scheduled increases, are charged to operations on the straight-line basis over the life of the respective lease. Rent expense was approximately $1.0 million, $0.9 million and $0.9 million in 2018, 2017 and 2016, respectively.

At December 31, 2018 (including a lease extension executed in February 2019), minimum commitments remaining under lease agreements were approximately as follows (in thousands):

Years Ending December 31:	
2019	$1,055
2020	622
2021	130
2022	108
2023	18
Total	$1,933

Contingencies

The Company is subject legal proceedings and claims in the ordinary course of its business. The Company believes that although there can be no assurance as to the disposition of these proceedings, based upon information available to the Company as of the timing of filing of this report, the expected outcome of these matters would not have a material impact on the Company's results of operations or financial condition.

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December 31, 2018

10. Debt and Other Financing Arrangements

On March 20, 2014, the Company entered into an equipment financing arrangement with Banc of America Leasing & Capital, LLC (the “Lender”), which it amended on August 8, 2014, September 15, 2015 and October 30, 2017, including a Master Loan and Security Agreement and related documentation (collectively the “Equipment Loan Arrangement”) which provided the Company with the ability to finance, at its option, up to $12.8 million of new and used equipment purchases. Each such purchase financed under the Equipment Loan Arrangement is documented by the execution of an equipment note. Each note has a maturity date of 60 months from the applicable loan date, and bears interest at the then current 30-day LIBOR rate + 2.00% for loans made prior to October 2018 and the 30-day LIBOR rate + 1.75% for the loan made on October 30, 2017. Principal and interest are payable over the 60-month repayment period and principal is repayable without premium or penalty. Borrowings under the Equipment Loan Arrangement are secured by a first priority security interest in the equipment acquired with the proceeds of the equipment notes. Under the Equipment Loan Arrangement, the Company is subject to a maximum quarterly funded debt to EBITDA ratio and a minimum fixed charge coverage ratio. The Company was in compliance with all loan covenants as of December 31, 2018. The total book value of equipment pledged as collateral for these loans as of December 31, 2018 was $3.8 million.

Under the Equipment Loan Arrangement, the Company executed notes on March 24, 2014, May 22, 2014, June 13, 2014, August 8, 2014, September 15, 2015, March 23, 2016 and November 10, 2017 in the amounts of $1.1 million, $1.9 million, $3.0 million, $1.0 million, $1.1 million, $610 thousand and $2.1 million, respectively, for total borrowings of $10.8 million, of which $1.7 million and $2.1 million was repaid in 2018 and 2017, respectively. As of December 31, 2018, only the note from November 10, 2017 had a balance as all other notes with balances were paid off in 2018. The weighted average interest rate for these notes for the year ended December 31, 2018 was 3.8% and represented $107 thousand of interest expense. As of December 31, 2018, weighted average interest rate was 4.1%.

The annual principal repayment requirements for debt obligations as of December 31, 2018 are as follows (in thousands):

2019	$416
2020	416
2021	416
2022	380
Total long-term debt	1,628
Less current portion of long-term debt	(416)

Total long-term debt, net of current portion	$1,212

11. Selected Quarterly Financial Data (Unaudited)

The following are selected quarterly financial data for the years ended December 31, 2018 and 2017 (in thousands):

	Quarter Ended - 2018			
	MAR 31	JUN 30	SEP 30	DEC 31
Revenues	$10,935	$10,787	$11,016	$9,936
Gross profit	5,355	5,172	5,358	4,733
Income from operations	1,906	2,056	2,120	1,528
Net income	1,251	1,177	1,275	881
Basic net income per share	$0.23	$0.21	$0.23	$0.16
Diluted net income per share	$0.23	$0.21	$0.23	$0.16

	Quarter Ended - 2017			
	MAR 31	JUN 30	SEP 30	DEC 31
Revenues	$10,209	$9,684	$10,049	$9,760
Gross profit	5,316	4,609	5,121	4,777
Income from operations	2,268	1,710	2,232	1,947
Net income	1,500	907	1,364	2,350
Basic net income per share	$0.27	$0.17	$0.25	$0.43
Diluted net income per share	$0.27	$0.16	$0.25	$0.42

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PSYCHEMEDICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2018

12. Other income

Other income consists primarily of interest income related to short term CD's partially offset by interest expense related to the Company's equipment financing arrangement. Interest income for the year ended December 31, 2018 and 2017 was $149 thousand $92 thousand, respectively. There was no interest income for the year ended December 31, 2016. Interest expense for the year ended December 31, 2018, 2017 and 2016 was $106 thousand, $72 thousand and $134 thousand, respectively.

13. Business Segment Reporting

The Company manages its operations as one segment, drug testing services. As a result, the financial information disclosed herein materially represents all of the financial information related to the Company's principal operating segment. All Brazil sales are though one independent distributor, which is the only customer greater than 10% of sales. The Company's revenues by geographic region are as follows (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Consolidated Revenue:			
United States	$29,189	$26,327	$25,608
Brazil	13,046	13,069	13,083
Other	439	305	289
Total Revenue	$42,674	$39,701	$38,980

All the Company's operations are in the United States. Assets in Brazil consist primarily of Cash, Cash Equivalents and Marketable Securities. The Company's assets by geographic region are as follows (in thousands):

Assets:	As of December 31, 2018	2017
United States	$20,314	$18,434
Brazil	4,660	8,074
Total Assets	$24,974	$26,508

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

a) Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation as of December 31, 2018, under the supervision and with the participation of our management, including our Chief Executive Officer and Vice President of Finance, as well as a third party internal control firm, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act. Based upon that evaluation, our Chief Executive Officer and Vice President of Finance have concluded that our disclosure controls and procedures were effective as of December 31, 2018 to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is (i) recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Vice President of Finance, as appropriate to allow timely decisions regarding required disclosure.

b) Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f) and 15d-15(f). The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance, as opposed to absolute assurance, of achieving their internal control objectives.

Management conducted an assessment of the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in the 2013 Internal Control – Integrated Framework issued by the Committee of

Sponsoring Organizations of the Treadway Commission (COSO). Based on the assessment, management concluded that, as of December 31, 2018, the Company's internal control over financial reporting is effective.

The Company's internal control over financial reporting as of December 31, 2018, has been audited by BDO USA, LLP, an independent registered public accounting firm, who also audited the Company's consolidated financial statements. BDO USA LLP's attestation report on the Company's internal control over financial reporting is included herein.

c) Remediation of Previously Disclosed Material Weakness

The Company, throughout 2018, completed several changes to its internal control over financial reporting and remediated the previously reported material weakness. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on timely basis.

Management previously reported a material weakness in the Company's internal control over financial reporting, specifically, a failure to perform a timely and effective risk assessment over the financial reporting process and a failure to maintain adequate documentation of how control activities address the financial statement risks, including the identification of key reports and design of controls in validating the completeness and accuracy of reports utilized in the revenue controls cycle.

The following changes were made to the Company's internal control over financial reporting. The company hired a third-party consultant and a finance manager with internal control expertise. The consultant, with assistance of company personnel, performed a risk assessment, updated internal control documentation and identified and tested controls and key reports. Our finance manager, under the supervision of our Vice President of Finance, implemented design controls and reports on the implementation of such controls regularly to management.

The Company has completed the documentation and testing of the corrective actions described above and, as of December 31, 2018, has concluded that the remediation activities implemented are sufficient to allow us to conclude that the previously disclosed material weakness has been remediated as of December 31, 2018.

d) Changes in Internal Control over Financial Reporting

The actions described above in the remediation of the previously reported material weakness, which concluded during the fourth quarter constitute a change in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

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Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors

Psychemedics Corporation

Acton, Massachusetts

Opinion on Internal Control over Financial Reporting

We have audited Psychemedics Corporation (the “Company’s”) and its subsidiaries’ internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the “COSO criteria”). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated balance sheets of the Company and subsidiaries as of December 31, 2018 and 2017, the related consolidated statements of income and comprehensive income, stockholders’ equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as “the financial statements”) and our report dated March 4, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying “Item 9A, Management’s Report on Internal Control over Financial Reporting”. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ BDO USA, LLP

Boston, Massachusetts

March 4, 2019

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Item 9B. Other Information

None

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Following is a list that sets forth as of March 4, 2019 the names, ages and positions within the Company of all of the Executive Officers of the Company and the Directors of the Company. Each such director has been nominated for reelection at the Company's 2019 Annual Meeting, to be held on May 3, 2019 at 2:00 P.M. at the Seaport Hotel, 200 Seaport Boulevard, Boston, Massachusetts.

Name	Age	Position
Raymond C. Kubacki	74	Chairman, Chief Executive Officer, President, Director
Charles Doucot	53	Executive Vice President
Neil Lerner	51	Vice President, Finance
Michael I. Schaffer, Ph.D.	74	Vice President, Laboratory Operations
Harry Connick	93	Director, Audit Committee Member, Compensation Committee Member, Nominating Committee Member
Walter S. Tomenson, Jr.	72	Director, Audit Committee Member, Compensation Committee Member, Nominating Committee Member
A. Clinton Allen	75	Director, Audit Committee Member, Nominating Committee Member
Fred J. Weinert	71	Director, Audit Committee Member, Compensation Committee Member, Nominating Committee Member, Brazil Oversight Committee Member

All Directors hold office until the next annual meeting of stockholders or until their successors are elected. Officers serve at the discretion of the Board of Directors.

Mr. Kubacki has been the Company's President and Chief Executive Officer since 1991. He has also served as Chairman of the Board of the Company since 2003. From March 2011 until June 2017, he served as a director of Integrated Environmental Technologies, Ltd. From 2007 until 2010, he served as a director of Protection One, Inc. and from 2004 to 2007 he served as a director of Integrated Alarm Services Group, Inc. He is also a trustee of the

Center for Excellence in Education based in Washington, D.C. and holds an Executive Masters Professional Director Certification, their highest level award, from the American College of Corporate Directors, a public company director education and credentialing organization. Mr. Kubacki has been a director of the Company since 1991.

Mr. Doucot has served as Executive Vice President since January 2019. From May 2018 until January 2019, he served as Vice President Sales & Marketing. Prior to joining the Company, he served as Vice President Sales & GM of Burning Glass Technologies, a data analytics company, from January 2016 to December 2017. From April 2014 to January 2016 he served as Sr. VP and GM at Lumesse, an HR technology company, responsible for the Americas Business and starting a new business unit. From August 2009 to February 2014 he served as VP WW Sales and Marketing for Kalido, a big data and analytics company. Mr. Doucot began his career spending over 15 years at Hewlett-Packard Company with increasing levels of global responsibility.

Mr. Lerner has served as Vice President, Finance and Treasurer since May 2011. From October 2010 until May 2011, he served as Vice President, Controller. Prior to joining the Company, he served as Director of Operational Accounting at Beacon Roofing Supply, Inc., Corporate Controller with Atlas TMS, Divisional Controller with Mastec, Inc, and multiple financial management roles with Johnson & Johnson. Mr. Lerner is a Certified Public Accountant and has a Masters degree in International Management.

Dr. Schaffer has served as Vice President of Laboratory Operations since 1999. Since December 2016, he has served as a member of the Drug Testing Advisory Board (DTAB) which advises the administrator of Substance Abuse and Mental Health Services Administration (SAMHSA) on drug testing activities and laboratory certification. From 1990 to 1999, he served as Director of Toxicology, Technical Manager and Responsible Person for the Leesburg, Florida laboratory of SmithKline Beecham Clinical Laboratories. From 1990 to 1999, he was also a member of the Board of Directors of the American Board of Forensic Toxicologists. Dr. Schaffer has also served as an inspector for the College of American Pathologists since 1990.

Mr. Connick served as District Attorney for Orleans Parish (New Orleans, LA) from 1974 to 2003. In 2002, Mr. Connick received from Drug Czar, John P. Walters, the Director's Award for Distinguished Service in recognition of exemplary accomplishment and distinguished service in the fight against illegal drugs. Mr. Connick has been a director of the Company since 2003.

Mr. Tomenson was a senior advisor to Integro Ltd., having retired in 2011. Mr. Tomenson was Managing Director and Chairman of Client Development of Marsh, Inc. from 1998 until 2004. From 1983 to 1998 he was Chairman of FINPRO, the financial/professional services division of Marsh, Inc. Mr. Tomenson is a Trustee of Trinity College School Fund, Inc. He also serves on the Executive Council of Inner-City Scholarship Fund. He serves on the board of the Country Club of Florida and on the board of the Misquamicut Club (Watch Hill, RI) and is a board member and Vice-Chairman of the Achievement Centers for Children and Families (Delray Beach, FL). Mr. Tomenson holds an Executive Masters Professional Director Certification, the highest level award, from the American College of Corporate Directors, a public company director education and credentialing organization. Mr. Tomenson has been a director of the Company since 1999.

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Mr. Allen is the Founder and President of the American College of Corporate Directors, a public company director education and credentialing organization. Mr. Allen also serves as a member of the board of Collectors Universe,(CLCT : NASDAQ), a member of the board of Brooks Automation (BRKS : NASDAQ), and is Lead Director of LKQ Corporation (LKQ:NASDAQ), a Fortune 500 Company. Mr. Allen had previously served as Vice-Chairman of the Company from 1990 to 2000 and Chairman from 2000 to 2003. He rejoined the Board as an independent member in 2015.

Mr. Weinert is an entrepreneur whose current activities are concentrated in commercial real estate, international business development and environmental consulting. He served on the Business Advisory Council for the University of Dayton for over 20 years from 1984 until 2005. From 1973 until 1989, Mr. Weinert held various executive positions in the Finance and Operations groups of Waste Management, Inc. and its subsidiaries, including 6 years as the President of Waste Management International, Inc. Mr. Weinert has been a director of the Company since 1991.

The information required by Item 405 of Regulation S-K will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

The Company has a code of ethics that applies to all employees and non-employee directors. This code satisfies the requirements set forth in Item 406 of Regulation S-K and applies to all relevant persons set forth therein. The Company will mail to interested parties a copy of the Code of Ethics upon written request and without charge. Such request shall be made to our General Counsel, 289 Great Road, Acton, Massachusetts 01720.

The information required by Item 407 of Regulation S-K will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this item will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required by this item will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item will be set forth in the Proxy Statement of the Company relating to the 2019 Annual Meeting of Stockholders to be held on May 3, 2019 and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) (1) Financial Statements required by Item 15 are included and indexed in Part II, Item 8

(a) (2) Financial Statement Schedules included in Part IV of this report. Schedule II is omitted because information is included in Notes to Financial Statements. All other schedules under the accounting regulations of the SEC are not required under the related instructions and are inapplicable and, thus have been omitted.

(a) (3) See “Exhibit Index” included elsewhere in this Report.

Item 16. Form 10-K Summary

None

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

PSYCHEMEDICS CORPORATION

Date: March 4, 2019 By: /s/ RAYMOND C. KUBACKI
Raymond C. Kubacki
Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

	/s/ RAYMOND C. KUBACKI Raymond C. Kubacki	Chairman, President and Chief Executive Officer, Director (Principal Executive Officer)	March 4, 2019
	/s/ NEIL LERNER Neil Lerner	Vice President, Finance (Principal Financial and Accounting Officer)	March 4, 2019
	HARRY CONNICK* Harry Connick	Director	
	WALTER S. TOMENSON, JR* Walter S. Tomenson, Jr.	Director	
	FRED J. WEINERT* Fred J. Weinert	Director	
	A. CLINTON ALLEN* A. Clinton Allen	Director	
*By:	/s/ RAYMOND C. KUBACKI Raymond C. Kubacki	Attorney-in-Fact	March 4, 2019

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EXHIBIT INDEX

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation filed with the State of Delaware on August 1, 2002 — (Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q for the Quarter ended September 30, 2002).
3.2	Amended and Restated By-Laws of the Company — (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on July 31, 2015).
4.1	Specimen Stock Certificate — (Incorporated by reference from the Registrant's Registration Statement on Form 8-A filed on July 31, 2002).
10.2.1 P	Lease dated October 6, 1992 with Mitchell H. Hersch, et. al with respect to premises in Culver City, California — (Incorporated by reference from the Registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 1992).
10.2.2 P	Security Agreement dated October 6, 1992 with Mitchell H. Hersch et. al — (Incorporated by reference from the Registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 1992).
10.2.3	First Amendment to Lease dated with Mitchell H. Hersch, et.al California — (Incorporated by reference from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997).
10.2.4	Second Amendment to Lease dated with Mitchell H. Hersch, et.al. California — (Incorporated by reference from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997).
10.2.5	Third Amendment to Lease dated December 31, 1997 with Mitchell H. Hersch, et.al. California — (Incorporated by reference from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997).
10.2.6	Fourth Amendment to Lease dated May 24, 2005 with Mitchell H. Hersch, et.al. California — (Incorporated by reference from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2005).
10.2.7	Sixth Amendment to Lease dated October 13, 2015 with Mitchell H. Hersch, et.al. California — Supersedes the Fifth amendment in its entirety (Incorporated by reference from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2015)

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Exhibit Number	Description
10.3*	2006 Incentive Plan, as amended — (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May 19, 2016).
10.4*	Form of Stock Unit Award used with employees and consultants under the 2006 Incentive Plan — (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May 19, 2016).
10.5*	Form of Stock Unit Award used with non-employee directors under the 2006 Equity Incentive Plan — (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May 19, 2016).
10.6*	Form of Incentive Stock Option Agreement used with employees under the 2006 Incentive Plan (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May19, 2016)
10.7*	Form of Non Qualified Stock Option Agreement used with employees and consultants under the 2006 Incentive Plan (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May 19, 2016)
10.8*	Form of Non Qualified Stock Option Agreement used with non-employee directors under the 2006 Incentive Plan (Incorporated by reference from the Registrant's Current Report on Form 8-K filed on May 19, 2016)
10.9*	Change in control severance agreement with Ray Kubacki dated February 20, 2018
10.10*	Change in control severance agreement with Michael Schaffer dated February 20, 2018
10.11*	Change in control severance agreement with Charles Doucot dated May 1, 2018
10.12*	Severance agreement with Charles Doucot dated February 26, 2019
10.13	Lease dated March 12, 2014 with Bristol-Culver Associates, LLC and Mountain Organic Farms, LLC with respect to 6100 Bristol parkway premises in Culver City, CA — (Incorporated by reference from the Quarterly Report on Form 10-Q for the quarter ended March 31, 2014)
10.13.1	Second Amendment to Lease dated March 12, 2014 with Bristol-Culver Associates, LLC and Mountain Organic Farms, LLC with respect to 6100 Bristol parkway premises in Culver City, CA
10.14	Loan agreement dated March 20, 2014 with Banc of America Leasing and Capital, LLC — (Incorporated by reference from the Quarterly Report on Form 10-Q for the quarter ended March 31, 2014)
10.14.1	Letter Agreement dated September 15, 2015 with Banc of America Leasing and Capital, LLC, together with Equipment Security Note dated September 15, 2015 and Proposal Letter dated August 19, 2015 — (Incorporated by reference from the Quarterly Report on Form 10-Q for the quarter ended September 30, 2015)

10.14.2	Letter Agreement dated October 30, 2017 with Banc of America Leasing and Capital, LLC, together with Equipment Security Note dated November 10, 2017 — (Incorporated by reference from the Annual Report on Form 10-K for the year ended December 31, 2017)
21.1	Subsidiaries of the Registrant
23.1	Consent of BDO USA, LLP, Independent Registered Public Accounting Firm
24	Power of Attorney
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Vice President - Finance Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Vice President - Finance Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

P Indicates a filing submitted in paper

* Management compensation plan or arrangement