R1 RCM INC.
Form 10-K
February 22, 2019

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

Form 10-K

ýANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR

¨TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission file number 001-34746
R1 RCM Inc.
(Exact name of registrant as specified in its charter)

Delaware	02-0698101
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
401 North Michigan Avenue, Suite 2700 Chicago, Illinois	60611
(Address of principal executive offices)	(Zip Code)
(312) 324-7820 Registrant's telephone number, including area code	

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

Title of each class:	Name of each exchange on which registered:
Common Stock, $0.01 par Value	The NASDAQ Global Select Market

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ý No ¨

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No ý

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 ý No ¨

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

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. ý

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

Large accelerated filer	ý	Accelerated filer	o	Non-accelerated filer	o	Smaller reporting company	o	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. ¨

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

Aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, based on the last sale price for such stock on June 29, 2018: $954,539,609

As of February 18, 2019, the registrant had 110,220,449 shares of common stock, par value $0.01 per share, outstanding.

Portions of the registrant's definitive proxy statement for its 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

R1 RCM INC.
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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements, within the meaning of the federal securities laws, that involve substantial risks and uncertainties. You should not place undue reliance on these statements. All statements, other than statements of historical facts, included in this Annual Report on Form 10-K are forward-looking statements. The words "anticipate", "believe", "designed", "estimate", "expect", "forecast", "intend", "may", "plan", "predict", "project", "target", "will" or "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about our strategy, our future operations, our future financial position, our projected costs, our prospects, our plans, objectives of management, our ability to integrate the Intermedix business as planned and to realize the expected benefits from the acquisition, our ability to successfully deliver on our commitments to Intermountain and Ascension, our ability to deploy new business as planned, our ability to successfully implement new technologies, the expected outcome or impact of pending or threatened litigation and expected market growth. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected, including:

- our ability to achieve or maintain profitability;
- our ability to manage our operations effectively;
- our ability to retain existing customers or acquire new customers;
- disruptions in or damages to our shared services centers or third-party operated data centers;
- delayed or unsuccessful implementation of our technologies or services, or unexpected implementation costs;
- breaches or failures of our information technologies security measures or unauthorized access to a customer’s data;
- our exposure to risks related to our growing international operations;
- the development of markets for our RCM service offering;
- competition within the market;
- variability in the lead time of prospective customers;
- fluctuations in our results of operations or cash flows;
- the loss of key personnel;
- our ability to integrate our customers’ revenue cycle management employees;
- our potential liability resulting from future errors;
- negative perceptions of the collection of medical co-pays and other payments from patients;
- negative perceptions of offshore outsourcing and proposed legislation related thereto;

- our ability to recognize the benefits of acquisitions and strategic plans;
- risks related to our indebtedness;

- the impact of litigation;
- our legal responsibility for obligations related to our employees or our customers' employees;
- our ability to use our net operating loss carryforwards;
- changes in tax laws and unanticipated tax liabilities;
- our dependence on the A&R MPSA with Ascension;
- our ability to realize the anticipated benefits of the Intermedix Acquisition;
- our ability to comply with healthcare laws and regulations;
- developments in the healthcare industry, including national healthcare reform;
- our ability to comply with information privacy laws;
- our ability to comply with debt collection and other consumer protection laws and regulations;
- our ability to protect our intellectual property; and
- other factors set forth in Part I, Item 1A "Risk Factors" and elsewhere in this Annual Report on Form 10-K.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important information in the cautionary statements included in this Annual Report on Form 10-K, particularly in Part I, Item 1A "Risk Factors," that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.
You should read this Annual Report on Form 10-K and the documents that we have filed as exhibits to the Annual Report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I

Unless the context indicates otherwise, references in this Annual Report to "R1 RCM," "R1," the "Company" or "company," "we," "our" and "us" mean R1 RCM Inc. and its subsidiaries.

Item 1. Business

Overview

R1 is a leading provider of technology-enabled revenue cycle management ("RCM") services to healthcare providers, including health systems and hospitals, physicians groups, and municipal and private emergency medical service ("EMS") providers. Our services help healthcare providers generate sustainable improvements in their operating margins and cash flows while also enhancing patient, physician and staff satisfaction for our customers.

We achieve these results for our customers by managing healthcare providers' revenue cycle operations, which encompass processes including patient registration, insurance and benefit verification, medical treatment documentation and coding, bill preparation and collections from patients and payers. We do so by deploying a unique operating model that leverages our extensive healthcare site experience, innovative technology and process excellence. We assist our RCM customers in managing their revenue cycle operating costs while simultaneously increasing the portion of the maximum potential services revenue they receive. Together, these benefits can generate significant and sustainable improvements in operating margins and cash flows for our customers.

Our primary service offering consists of end-to-end RCM services for integrated healthcare delivery networks, which we deploy through an operating partner relationship or a co-managed relationship. Under an operating partner relationship, we provide comprehensive revenue cycle infrastructure to providers, including all revenue cycle personnel, technology solutions and process workflow. Under a co-managed relationship, we leverage our customers' existing RCM staff and processes, and supplement them with our infused management, subject matter specialists, proprietary technology solutions and other resources. Under the operating partner model, we record higher revenue and expenses due to the fact that almost all of the revenue cycle personnel are our employees and more third-party vendor contracts are controlled by us. Under the co-managed model, the majority of the revenue cycle personnel and more third-party vendor contracts remain with the customer and those costs are netted against our co-managed revenue. For the years ended December 31, 2018 and 2017, substantially all of our net operating and incentive fees from end-to-end RCM were generated under the operating partner model.

We also offer modular services, allowing customers to engage us for only specific components of our end-to-end RCM service offering, such as physician advisory services ("PAS"), practice management ("PM"), and revenue capture services ("RCS"). Our PAS offering assists healthcare organizations in complying with payer requirements regarding whether to classify a hospital visit as an in-patient or an out-patient observation case for billing purposes. Our PM services offer administrative and operational support to allow healthcare providers to focus on delivering high quality patient care and outsource non-core functions to us. Our RCS offering includes charge capture, charge description master ("CDM") maintenance and pricing services that help providers ensure they are capturing the maximum net compliant revenue for services delivered.

In conjunction with the acquisition of Intermedix, we expanded our service offering to physician groups and EMS providers. Intermedix provides RCM and PM services to primary care physician groups and hospital-based physicians in a variety of specialties including emergency medicine, hospitals, anesthesia, and others. Intermedix also provides RCM services to emergency-service providers including municipalities, private providers of emergency services and hospital-based emergency-services providers.

Once implemented, our technology solutions, processes and services are deeply embedded in our customers' day-to-day revenue cycle operations. We believe our service offerings are adaptable to meet an evolving healthcare

regulatory environment, technology standards and market trends.

Revenue Cycle Software and Services Market

Revenue cycle is an important function for healthcare providers as they seek to collect payment due to them from health insurance companies and patients. Healthcare providers operate their revenue cycle with a combination of labor, software and services vendors. Third-party vendors offer various solutions including consulting services, software and services point solutions that cover one or multiple components of the revenue cycle and full outsourcing services, among others. The Centers for Medicare and Medicaid Services (CMS) projects hospital care expenditures in the U.S. to amount to $1.26 trillion in 2019. We estimate the cost of hospital revenue cycle operations to be approximately 5% of revenue, resulting in a market size of $63 billion. Additionally, CMS projects physician care expenditures to amount to $775 billion in 2019. We estimate cost of physician revenue cycle operations to be approximately 5.5% of revenue, resulting in a market size of $43 billion. According to Research and Markets, revenue cycle spend is projected to grow at a compounded annual growth rate of 12% through 2022.

Health systems are currently facing challenges in their revenue cycle operations based on several factors including: (1) more complex and clinical-outcomes based reimbursement, (2) industry consolidation amongst hospitals and across the continuum of care, (3) increasing patient responsibility of their medical bills and (4) capital constraints to invest in the revenue cycle given financial difficulties and requirements to invest in improving clinical care. We believe these are positive trends for external vendors in the revenue cycle industry which we expect will drive further growth for the industry and our Company.

Segment

All of our significant operations are organized around the single business of providing revenue cycle operations for healthcare providers.

We view our operations and manage our business as one operating and reporting segment. All of our net services revenue and trade accounts receivable are derived from healthcare providers, primarily domiciled in the United States. The information about our business should be read together with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. See Note 22, Segments and Customer Concentrations, to our consolidated financial statements for information regarding our segment and customer concentrations.

Our Services

Drawing on our combination of our extensive healthcare-site expertise, innovative technology and process excellence, we seek to deliver measurable economic value to our customers across our RCM solutions.

End-To-End Revenue Cycle Management Offering

Our primary RCM service offering consists of comprehensive end-to-end RCM services, which address the full spectrum of revenue cycle challenges faced by healthcare providers. Our approach to deliver value for our customers is built on the R1 Performance Stack^{SM}, a holistic operating model designed to fit into a healthcare provider’s revenue cycle operations.

The R1 Performance Stack^{SM} consists of four components:

Workflow - End-to-end work flow differentiated on outcomes - We deploy a fully cataloged, standardized methodology for revenue cycle execution from order intake and scheduling to claim reimbursement. The approach is based on standard structures and rigorous methods, tested and proven in multiple organizations and environments.

Analytics - Performance monitoring & management system - We use hundreds of measurement methods to drive comprehensive daily accountability and to enable front-line operators to deliver on differentiated business outcomes every single day.

Operations - Scaled global delivery model & leading human capital - We bring experienced talent across global shared services, centralized analytics and deployment teams who all deliver one operating platform. Our teams understand the missions and unique needs of non-profit organizations and are trained, certified and continuously developed to deliver on customer revenue cycle needs.

Technology - Comprehensive revenue cycle work flow & analytics solutions - Our R1 Hub Technologies integrate across multiple host and payer systems and hard-wire our standard methods, operating metrics, and daily routines into an end-to-end technology platform.

Our RCM service offering is designed to adapt to a provider's organizational structure. We seek to integrate our technology, personnel, our accumulated body of knowledge and our culture within each customer's revenue cycle activities, with the expectation that we will enjoy a long-term collaborative relationship with each customer. We deliver technology and operational support in the form of both on-site management and centralized staffing to deliver improved efficiency and quality across all RCM functions.

Our end-to-end RCM agreements generally provide us with the opportunity to earn net operating fees and incentive fees. Net operating fees include gross base fees we charge our customers for operating the revenue cycle processes included in our agreements less corresponding costs of customers' revenue cycle operations which we undertake to pay pursuant to our RCM agreements, and agreements on a fixed fee, per-use and/or volumetric basis. We help our customers reduce their revenue cycle costs by implementing new operational practices, optimizing their technology suite and deploying more efficient processes. We work with our customers to transfer aspects of their revenue cycle operations to our shared services centers, which typically results in lower operating costs than operating those aspects of the revenue cycle at the customers' site.

Incentive fees are performance-based fees related to agreed-upon improvements in financial or operating metrics at our customers. When using these metrics to calculate this improvement, we typically utilize metrics that are already being tracked by, or easily calculated from, our or our customers' respective information systems and compare the results of those metrics against the results for the same metrics for a defined prior period.

We seek to improve our customers' processes using a variety of techniques including:

- Gathering Complete Patient and Payer Information. We focus on gathering complete patient information and validating insurance eligibility and benefits so patient care services can be recorded and billed to the appropriate parties. For scheduled healthcare services, we educate patients as to their potential financial responsibilities before receiving care. Through our systems, we maintain an automated electronic scorecard which measures the efficiency of up-front data capture, authorization, billing and collections throughout the life cycle of any given patient account. These scorecards are analyzed in the aggregate, and the results are used to help improve work flow processes and operational decisions for our customers.

- Improving Claims Filing and Payer Collections. Through our proprietary technology and process expertise, we identify, for each patient encounter, the amount our customer should receive from a payer if terms of the applicable contract with the payer and patient policies are followed. Over time, we compare these amounts with the actual payments collected to help identify which payers, types of medical treatments and patients represent various levels of payment risk for a customer. Using proprietary algorithms and analytics, we consider actual reimbursement patterns to predict the payment risk associated with a customer's claims to its payers, and we then direct increased attention and time to the riskiest accounts.

- Identifying Alternative Payment Sources. We use various methods to find payment sources for uninsured patients and reimbursement for services not covered by payers. Our patient financial screening technology and methodologies often identify federal, state or private grant sources to help pay for healthcare services. These techniques are designed

to ease the financial burden on uninsured or underinsured patients, increase the percentage of patient bills that are actually paid and improve the total amount of reimbursement received by our customers.

- Employing Proprietary Technology and Algorithms. We employ a variety of proprietary data analytics and algorithms. For example, we identify patient accounts with financial risk by applying proprietary analysis techniques to the data we have collected. Our systems are designed to streamline work processes through the use of proprietary algorithms that focus revenue cycle staff effort on those accounts deemed to have the greatest potential for improving net revenue yield or charge capture. We adjust our proprietary predictive algorithms to reflect changes in payer and patient behavior based upon the knowledge we obtain from our entire customer base. As new customers are added and payer and patient behavior changes, the information we use to create our algorithms expands, increasing the accuracy, reliability and value of such algorithms.

- Using Analytical Capabilities and Operational Excellence. We draw on the experience that we have gained from working with some of the best healthcare provider systems in the United States to train our customers' staff about new and innovative RCM practices. We use sophisticated analytical procedures to identify specific opportunities to improve business processes.

- Increasing Charge Capture. We are able to help our customers increase their charge capture by implementing optimization techniques and related processes. We use sophisticated analytics software to help improve the accuracy of claims filings and the resolution of disputed claims from payers. We also overlay a range of capabilities designed to reduce missed charges, improve the clinical/reimbursement interface and produce bills that comply with payer requirements and applicable healthcare regulations.

- Leveraging our Shared Services Centers. We help our customers increase their revenue cycle efficiency by implementing improved practices, streamlining work flow processes and outsourcing aspects of their revenue cycle operations to our shared services centers. Examples of services that can be completed at our shared services centers in the United States and India include pre-registration, medical transcription, cash posting, reconciliation of payments to billing records and patient and payer follow-up. By leveraging the economies of scale and experience of our shared services centers, we believe that we offer our customers better quality services at a lower cost.

We believe that these techniques are enhanced by our proprietary and integrated technology, management experience and well-developed processes. Our proprietary technology solutions include workflow automation and direct payer connection capabilities that enable revenue cycle staff to focus on problem accounts rather than on manual tasks, such as searching payer websites for insurance and benefits verification for all patients. We employ technology that identifies and isolates specific cases requiring review or action, using the same interface for all users, to automate a host of tasks that otherwise can consume a significant amount of staff time. Our proprietary technology enhances the ability of our customers' revenue cycle staff to improve their interaction with patients. We use real-time feedback from our customers to improve the functionality and performance of our technology and processes and incorporate these improvements into our service offerings on a regular basis. We strive to apply operational excellence throughout our customers' entire revenue cycle.

Modular Solutions

Our modular service solutions allow customers to engage us for specific components of end-to-end RCM and expanded service offerings. These service offerings, including PAS, PM, and RCS, allow our customers to place their focus on delivering high quality patient care, while outsourcing non-core functions to us. Providing modular solutions allows us to expand our customer base utilizing technology and service offerings which have already been developed.

Business Update

Intermountain Services Agreement

On January 23, 2018, we entered into an Amended and Restated Services Agreement (the "Intermountain Services Agreement") with IHC Health Services, Inc. ("Intermountain") having a 10-year term. Pursuant to the

Intermountain Services Agreement, we will provide revenue cycle management services to Intermountain hospitals and medical group providers under the operating partner model. In addition, we will provide revenue cycle management services to Intermountain's homecare, hospice and palliative care, durable medical equipment and infusion therapy business. In conjunction with the execution of the Intermountain Services Agreement, we entered into a Securities Purchase Agreement (the "Intermountain Purchase Agreement") with Intermountain, pursuant to which we sold to Intermountain, in private placements under the Securities Act of 1933, as amended (the "Securities Act"), (i) 4,665,594 shares of common stock and (ii) a warrant to acquire up to 1,500,000 shares of Common Stock at an initial exercise price of $6.00 per share, on the terms and subject to the conditions set forth in the warrant, for an aggregate purchase price of $20 million.

Intermedix Acquisition

On February 23, 2018, we entered into an Agreement and Plan of Merger (the "Intermedix Agreement"), with Intermedix Holdings, Inc. ("Intermedix") and solely in its capacity as Securityholder Representative, Thomas H. Lee Equity Fund VI, L.P. Pursuant to the terms of the Intermedix Agreement, the Company acquired Intermedix, including its healthcare division comprised of its physician and RCM, PM, and analytics businesses, for $460 million in cash, subject to customary adjustments for cash, debt, transaction expenses and normalized working capital, on May 8, 2018 ("Intermedix Acquisition"). We funded the purchase price for the Intermedix Acquisition and our associated transaction expenses with a combination of cash on hand and the incurrence of additional indebtedness through a term loan and subordinated debt. The acquisition of Intermedix expanded our service offering to non-acute settings to include physicians in addition to hospitals, and allows us to advance our vision to be the one revenue cycle partner for healthcare providers. The Intermedix Acquisition not only expands our total addressable market, but also enables us to better serve healthcare providers and compete more effectively as healthcare providers continue to consolidate and acquire physician networks.

AMITA Health / Presence Health

On June 24, 2018, we entered into an amendment to the A&R MPSA (the "Presence Amendment") with Ascension to provide that we will enter into a supplement to the A&R MPSA to provide for RCM services and PAS services for acute care to Presence Health hospitals in accordance with terms set forth in the Presence Amendment. Presence Health is a part of AMITA Health, which is a joint venture of Ascension's Alexian Brothers Health System and Adventist Midwest Health, part of Adventist Health System. The Presence Amendment provided that if we enter into a new master professional services agreement with AMITA Health for end-to-end RCM services in the future, the end-to-end RCM business with Presence will be governed by such new agreement. On and effective as of November 1, 2018, we entered into a new master professional services agreement with AMITA Health for end-to-end RCM and PAS services to AMITA Health hospitals and affiliated physician groups. Accordingly, Presence Health is now included in the scope of our agreement with AMITA Health.

Relationship with Ascension

On February 16, 2016, we entered into a long-term strategic partnership with Ascension Health Alliance, the parent of our largest customer and the nation's largest Catholic and non-profit health system, and TowerBrook Capital Partners ("TowerBrook"), an investment management firm. As part of the transaction, we amended and restated our Master Professional Services Agreement ("A&R MPSA") with Ascension Health ("Ascension") effective February 16, 2016 with a term of ten years. Pursuant to the A&R MPSA and with certain limited exceptions, we are the exclusive provider of RCM services and PAS with respect to acute care services provided by the hospitals affiliated with Ascension that execute supplement agreements with us. In addition, at the close of the transaction, we issued to TCP-ASC ACHI Series LLLP, a limited liability limited partnership jointly owned by Ascension Health Alliance and investment funds affiliated with TowerBrook ("Investor"): (i) 200,000 shares of our 8.00% Series A Convertible

Preferred Stock, par value $0.01 per share (the "Series A Preferred Stock") for an aggregate price of $200 million and (ii) a warrant with a term of ten years to acquire up to 60 million shares of our common stock, par value $0.01 per share, at an exercise price of $3.50 per share, on the terms and subject to the conditions set forth in the Warrant Agreement ("the Warrant"). The Series A Preferred Stock is immediately

convertible into shares of common stock. We refer herein to the foregoing transactions consummated on February 16, 2016 with the Investor and Ascension as the "Transaction".

This long-term strategic partnership has expanded our relationship with Ascension, and we expect that it will continue to expand that relationship, help us to grow our overall business and improve our ability to win customers outside of the Ascension hospital base. We believe the ten year term of the A&R MPSA, together with the significant investment in R1 by Ascension, our largest customer, provides our business with stability and growth. In addition, our management team continues to benefit from the oversight provided by having TowerBrook involved as a strategic investor.

We started onboarding the first phase of new hospitals in mid-2016, which was followed by the second phase of new hospitals in mid-2017. We have onboarded or started the onboarding process for substantially all of the new Ascension hospitals under the A&R MPSA. The A&R MPSA is structured as an operating partner model, whereby a significant number of Ascension’s revenue cycle employees become our employees. The operating partner model also transitions the control of the majority of the non-payroll expenses supporting a hospital’s revenue cycle operations to us.

In May 2017, we announced the expansion of our relationship with Ascension. The expanded relationship adds a health system which was acquired by Ascension after the signing of the A&R MPSA and increases the scope of our contract by adding physician RCM services for all Ascension ministries in Wisconsin.

On and effective as of June 24, 2018, we and Ascension entered into a supplement (the "Supplement") to the A&R MPSA. Pursuant to the Supplement, the Company will provide RCM services for physician groups that receive services from Ascension’s National Revenue Service Center and other groups associated with Ascension hospital systems. Each such physician group will be required to execute an addendum to the Supplement for those physician groups to receive services under the Supplement. Ascension has agreed that the Company may provide services to additional physician groups affiliated with or acquired by Ascension over time. The Supplement also provides for the re-badging of certain centrally-based revenue cycle operations employees who support Ascension’s physician groups. We began providing services under the Supplement during the fourth quarter of 2018.

Customers

Our customers typically are healthcare providers, including health systems and hospitals, physician groups, and municipal and private EMS providers. We seek to develop strategic, long-term relationships with our customers and focus on providers that we believe understand the value of our operating model and have demonstrated success in both the provision of healthcare services and the ability to achieve financial and operational results.

Hospital systems affiliated with Ascension have accounted for a significant portion of our net services revenue each year since our formation. For the years ended December 31, 2018, 2017 and 2016, net services revenue from healthcare providers affiliated with Ascension accounted for 69%, 90% and 78% of our total net services revenue, respectively.

Customer Agreements

We generally provide our RCM offering pursuant to managed services agreements with our customers. In rendering our services, we must comply with customer policies and procedures regarding charity care, personnel, data security, compliance and risk management, as well as applicable federal, state and local laws and regulations. Our end-to-end RCM agreements typically span two to ten years (subject to the parties' respective termination rights). In general, our end-to-end RCM agreements provide that:

- we are required to staff a sufficient number of our own employees commensurate with the service offering and provide the technology necessary to implement and manage our services;

- in our operating partner relationship model, we are responsible for providing all revenue cycle personnel, technology and process workflow;
- a portion of our fees are tied to the achievement of certain financial or operating metrics; and
- the parties provide representations and indemnities to each other.

Our agreements for modular solutions generally vary in length between one and three years. Customers pay a contractually negotiated fee for these services on a fixed fee, per-use or volumetric basis and, in certain cases, a portion of our fees are tied to the achievement of certain metrics.

Sales and Marketing

Our new business opportunities are generated by our sales and marketing team and other members of our senior management team. Our customer acquisition process utilizes traditional and non-traditional techniques to inform the marketplace of R1's solutions. Broad outreach and interest are turned into selling opportunities through demand generation programs and a marketing-sales pipeline management process. Initial interaction with a prospective healthcare provider begins with a key decision maker reporting to executive management. The initial interaction begins by comparing the potential customer's historical and projected results versus a standardized improvement model. The next step is a more detailed assessment of the prospect's existing operations versus our RCM model and a review of the potential opportunities. We begin negotiations with a standardized contract that is customized, as necessary, after collaborative discussions of operational and management issues and our proposed working relationship. Our sales process for RCM managed services agreements typically lasts six to 18 months from the introductory meeting to the agreement's execution, while our sales process for our modular solutions typically lasts three to six months.

Technology and Products

Technology and Product Development

Our technology and product development process begins with interaction with the marketplace and understanding of healthcare providers' needs and challenges. Our product management team in our Chicago headquarters, working closely with our operations team, leads these efforts with product development operations facilities in the United States, Lithuania and India. We continue to invest in the improvement of our technology and products in order to enhance the services that we provide our customers. We devote substantial resources to our development efforts and plan at an annual, quarterly, and monthly release level. We employ a structured system to assess the impact that potential new technologies, products or enhancements will have on net services revenue, costs, efficiency and customer satisfaction. The results of this analysis are evaluated in conjunction with our overall corporate goals when making development decisions. In addition to our technology and products development team, our operations personnel play an integral role in setting technology and product priorities in support of their objective of keeping our software operating 24 hours a day, seven days a week.

Proprietary Software Suite

Our integrated suite of RCM technology provides a layer of analytics, rules processing and workflow capabilities that interface with provider systems to optimize process efficiency and effectiveness. These technologies power the detection of defects on patient accounts and enable staff workflow at point of service areas, customer sites and our shared service centers. Our technology suite includes but is not limited to:

- "R1 Access" powers workflow in customer central business offices and at our scaled shared service centers for pre-registration, financial clearance and financial counseling. The platform processes patient accounts through proprietary rules engines tuned to identify defects in demographic data, authorization processes, insurance benefits and eligibility and medical necessity. Our rules engines in R1 Access are also used to calculate patient cost estimates and prior balance accounts receivables. For the uninsured, the platform helps staff triage

patients to find coverage for their visit. Our technology enables staff to work on an exception basis eliminating the need for manual intervention on accounts with no exceptions identified.

- "R1 Link" delivers all of the insight and defect detection capabilities of our proprietary rules engines in real-time to point of service emergen