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PRESENTATION

Allan Kells ***Cerner Corporation - Senior VP, IR***

Good morning. Welcome to Cerner Corporation's 2020 Investment Community Meeting. This is Allan Kells from Cerner Investor Relations, and I'd like to thank you for joining the webcast today. We are sorry we couldn't host this live in Orlando due to HIMSS being canceled, but we did want to go forward with the meeting because we have important information we'd like to share. Some of this information is forward-looking, and this slide contains the risks associated with these forward-looking statements.

Now I'd like to take you through the plan for this morning. We have 2 primary goals today. First, we'd like to highlight the 2019 successes, including financial results, key partnerships and overall progress on our transformation. I believe a lot of our 2019 success builds on work we started in 2018 as Brent began implementing changes. Then we clearly embraced the opportunity to accelerate our efforts in 2019, which has put us in a good place.

Second, we'd like to provide an update on our strategy and long-term plan. We spent significant time in 2019 refining our strategy and building a new long-term plan. These efforts have resulted in a more focused strategy and a plan that supports solid revenue growth, strong margin expansion and earnings growth. And we also expect to generate strong cash flow, which, combined with our balance sheet, position us to deploy capital for shareholder returns and investments in growth. I believe you'll walk away from this meeting with more clarity on our strategy and share our belief that Cerner is positioned to deliver profitable growth while also having a major impact on health care in the coming decade.

Looking at the agenda, our Chairman and CEO, Brent Shafer, will be our first speaker. He will cover several successes from 2019, progress on our transformation efforts and an update on our strategy. These topics will frame the rest of the presentation. Tracy Platt, who joined last year as our Chief Human Resources Officer, will then share how she is supporting our transformation and ensuring we have the right culture and workforce to achieve our strategy. Dan Devers, who oversees Cerner's cloud strategy and drove our selection process for our cloud partner, will share how we approached choosing our partner, the benefits we expect and some early progress.

We're also fortunate to have Dr. Shez Partovi joining us from AWS. He will share AWS' perspective on why they are excited to be working with Cerner and what they believe we can accomplish together. He'll be followed by Marc Naughton, our CFO, who'll provide a financial update and share our long-term financial targets. John Peterzalek, who is responsible for our client and services organizations, will provide an update on our core business, including marketplace observations, white space opportunities and revenue cycle. Travis Dalton, who runs our federal business, will follow John and provide an update on VA and DoD. Travis will be followed by Don Trigg, our President, who will discuss the areas of our business that make up our strategic growth organization. Art Glasgow will follow Don and provide more detail on our Data as a Service business opportunity. After Art, Don will make a few closing comments and then open the line for Q&A. Please note that you will need to be dialed into the number provided on our website to ask a question.

With that, I'll turn it over to Brent.

David Brent Shafer ***Cerner Corporation - Chairman & CEO***

Thank you, Allan. Good morning, everyone. Thank you for joining us. I think most of us -- we were looking forward to some time together in Florida at HIMSS. And certainly, the events that have unfolded over the last couple of weeks are dramatic, and we absolutely support the decision to cancel the conference in an effort to keep us all safe. So glad to be on the phone with you this morning, glad to be together and still have the opportunity to share some of the things that are going on at Cerner and our initiatives in front of us.

And as we just think about the world situation right now, I'd just like to say that as a company, we're in close coordination with the CDC and World Health Organization to shape both our corporate business continuity and associate safety plans as well as enhancements to our solution to support our clients' clinical efforts. And as I stand here this morning, just to reflect, I think this is my 34th year in health care. And thinking about the mission of Cerner and what we're here to do, I can't imagine a more relevant and more meaningful place to be because we are mission-critical. So those delivering care and in crisis situations like this, it certainly, I think, motivates us all to do everything we can to help and do the best we can to help -- the right care around the world. So -- and we're fully engaged. And you'll hear these initiatives today as we go through the morning.

So we're certainly encouraged by the broader health care community's efforts to mitigate global risk, and we'll all stay very close to this, as you can imagine. So today, I'll share an update on progress we've accomplished in the past year and previous strategies we put in motion to fuel Cerner's next era of sustainable and predictable growth and with specific focus on the transformation I spoke about on -- spoken about on previous calls.

So maybe if we take a moment and look back to 2019, I'll start by highlighting several of the more notable milestones in the last 12 months. First and most importantly, the past year included expansion of -- or initiation of many client relationships at the foundation of Cerner's ability to shape the future of health care. One example is the multiyear extension of our agreement with Intermountain Healthcare. Now CHIME-HIMSS recently named Intermountain's Marc Probst as the 2019 CIO of the Year, recognizing his pioneering work in health IT and the successes of Intermountain as a world-class health care system. The success of Intermountain and hundreds of other provider systems we work with each day reflect our company's extensive impact on health and wellness around the globe.

We also made good progress on our work to modernize the health records for the U.S. Departments of Defense and Veteran Affairs, which Travis Dalton will discuss in more details. And in July, we announced the strategic innovation partnership with Amazon and AWS to accelerate our work in creating a cognitive EMR. Through this collaboration, we'll modernize our core platforms to more rapidly deliver Cerner innovation to our clients, to reduce lengthy testing and upgrade cycles and to return the joy of practicing medicine to clinicians around the world. And this is a key initiative and absolutely needed in the marketplace. And Dan Devers is going to speak about this in more detail.

So we delivered financial results in line with our expectations, and we recently announced on our Q4 earnings call -- as we recently announced on the call. We made significant progress on our transformation, introduced our new operating model.

So let's talk a little bit about transformation. Cerner's transformation encompasses 3 efforts aimed at positioning the company for continued success as we enter a new post-digitization era of health care. The operating model reflects a realignment of our internal resources. It creates renewed focus on the success of our clients above all else, and it enables Cerner to more quickly deploy innovation and deliver predictable, profitable growth.

In addition to the operating model, we've initiated a series of transformative actions to more tightly align our processes with our internal structure. These actions include business simplification efforts aimed at reducing complexity and identifying efficiencies from our R&D investment.

The third leg of the transformation is a refined strategic focus to extend Cerner's core business and see growth opportunities in adjacent segments of health care and other industries. Our growth strategy involves both organic and inorganic growth opportunities, as you'll hear more about later in the call.

So if we think a little bit about structure, people and process, we've approached Cerner's transformation through 3 lenses. And those are the 3. The operating model was introduced in early '19 as the structure around which we create internal clarity, [employment] and stronger accountability around our clients.

From a people perspective, we expanded our Board in April by adding 4 new directors: John Greisch, Melinda Mount, George Riedel and Halsey Wise. These new members are making major contributions to the company, in partnership with our existing Board members. We also added a new Chief Human Resources Officer, and you'll hear from her today. We also added a Chief Marketing Officer. I'm glad to have him on board and helping us move forward.

Last month, we announced organizational updates, including Don Trigg as President, and expanded responsibility for all business units and also broadened John Peterzalek's role as Chief Client and Services Officer to fully align all aspects of the client experience. In addition to new roles for Don and John, we announced the creation of a new Client Success Office, with Jody Buchman named as Cerner's first Chief of Client Success. This role is responsible for ensuring the delivery and measurement of exceptional experiences to all Cerner clients, leveraging resources from across the organization and new tools designed to enhance our client service model.

The final component of transformation involves the refinement and standardization of processes governing the development and life cycle of Cerner products and the client service experience. Through portfolio management and other process improvements, we can ensure that we're focused on delivering the right solutions to our clients as efficiently as possible.

Portfolio management. One example of our process improvement work is the standardization of portfolio management across Cerner. Through this process, we're better aligning Cerner development resources with a more selective group of opportunities as informed by extensive modeling of current and emerging market dynamics. This more programmatic approach to identify market entry and exit points will shape our ongoing core and adjacent market growth strategy.

Since launching the standardized portfolio management process, we've made several strategic decisions, including: divesting of country-specific assets in Germany and Spain that were not aligned with our core platform approach; exiting the RevWorks portion of our ongoing health IT relationship with Adventist Health; and entering relationships with third-party companies like ResMed, GetWellNetwork and others to integrate functionality from proven best-in-class providers into our core platforms.

So transformative actions. The objective of our transformation is to identify operating efficiencies through business simplification to make Cerner fit for long-term, sustainable and profitable growth. Across the organization, we've implemented programs to reduce waste, eliminate nonvalue-added work and increase productivity. Concurrent with this effort, we're refreshing our product catalog and introducing new processes for quoting, contracting, invoicing and other components of the client experience to make it easier to do business with Cerner. As a result, we've created new capacity to fuel a set of growth strategies that define our plan for the next 3 to 5 years.

Others will speak to these in greater detail today, but our plan for growth is captured within these corporate imperatives. First, we must retain and expand our client footprint with specific focus on delivering a world-class revenue cycle product and executing on all our commitments in the federal market. Next, we will modernize Cerner's core platforms and create a next-generation augmented EMR. We will establish HealtheIntent as a foundational enabler of evolving care delivery and reimbursement strategies across MSAs and communities around the world. We will be a category-leading, data-enabled services company. We will recruit and reimagine a high-performance workforce architecture, and we will continue to deliver consistent and predictable financial results.

Now Cerner is a health care technology company that is uniquely positioned to shape tomorrow's health care. And one example of this is yesterday's announcement by the Department of Health and Human Services, releasing final rules related to the interoperability and data-blocking components as part of the 21st Century Cures Act. And if you know us and studied us, you know that for decades, Cerner has been a strong advocate for all these efforts, government-initiated and privately led, to create a seamless and connected world where everyone thrives. I'm proud to have spoken recently with CMS administrator Seema Verma in support of the rulemaking process, and I look forward to continuing these discussions with her as well as Secretary Alex Azar and ONC coordinator Don Rucker as we move into the implementation phase of 21st Century Cures.

As a global health care community, we move closer to our vision by embracing progress, encouraging innovation and supporting collaboration in pursuit of better outcomes, lower cost and improved accessibility and usability of technology.

Fundamentally, we believe health care is too important to stay the same. That is why we ardently support the conditions of certification included in the rules announcement. The API, as envisioned by HSS, already are widely used at Cerner today. Through our many and varied collaborations with third-party developers and others who have used data to build powerful applications, we've seen firsthand that incredible scale and responsible information sharing enables -- what it enables. We look to all health IT organizations to unite around ONC rule to make data exchange an essential part of data -- patients' health care experience.

I'll now turn the call over to Cerner's Chief Human Resources Officer, Tracy Platt. Now Tracy joined the team last summer from Medtronic, where she did extensive work in transformation and change management. And Tracy will spend a few minutes talking about transforming Cerner's culture and reimagining our workforce. And I can tell you, it's been a great addition to our team, and we're glad to have Tracy with us and glad to have her sharing some (inaudible) with you this morning.

Tracy L. Platt ***Cerner Corporation - Executive VP & Chief HR Officer***

Thank you, Brent. Good morning. I joined Cerner a little less than a year ago with approximately 20-plus years of experience in the health care industry, with primary experience of the medical devices and distribution. As Brent referenced, most recently joining from Medtronic with a 10-plus-year career there, focusing in multiple market segments and extensively on transformation to enable reinvestment in R&D and margin expansion, with strong experience in workforce architecture and culture.

You heard Brent cover the strategies for growth here at Cerner around client footprint, cloud strategy and health network as an example that has translated into a strong operational focus to deploy the supporting operating model around these key structural focus areas and in this required workforce capabilities also need to change to mobilize and capture these market opportunities.

In plotting our strategies into a continuum, we will double down on extending and defending our core business while also expanding capabilities of the cloud with our AWS partner set. We are activating on the additional horizons for growth through our emerging new and future growth businesses, such as health network and Data as a Service. To enable these strategies, I'm going to briefly speak to how we're actively mobilizing the necessary workforce capabilities and cultural attributes to sustainably deliver.

To illustrate, horizon 1 covers multiple talent segment requirements in order to maximize and modernize on opportunities with our core EMR business. A few of these include federal, cybersecurity and Software as a Service and the corresponding skill requirements as we further expand into cloud capability with our AWS partnership. Overall, we continue to attract and retain the necessary talent with augmentation of third-party skills providers.

For horizon 2, and drilling down into capability and skill requirements for health network as an example, we have identified and are mobilizing on experienced hire strategies in consumerism, strategic consulting and sales areas for further MSA market potential expansion.

And in horizon 3, as we work to continue to realize the promise of this with our Data as a Service business as an example, Cerner is bolstering and expanding its data analytics talent capabilities. When looking at the talent pool, it is evident that this is an extremely competitive space, and these are hard talent to find. However, Cerner has a data-rich environment that attracts the best and brightest.

And we are going to leverage that and the intersections of health care and real-world evidence-based methods of research, which will provide many satisfying data science problems to tackle.

We have a strong global workforce in place, and we are continuing to make refinements. We'll do this through key strategic workforce planning strategies that are reflective of each of these. We will continue to double down on building the necessary skill requirements with our existing workforce. We will also, from a buy perspective, continue to deploy experienced hire strategies and applicable inorganic plays. From a borrow perspective, we're going to continue to work with skills partners, such as Lumeris or ResMed, and partnership in the consumer space to augment our talent pool.

One final area to highlight is related to the innovative and inclusive culture we are actively building and creating emphasis on here at Cerner to continue to attract, engage and retain the best and brightest talent in the world. I wanted to show -- share with you some examples of our early successes and progress, which has come with some exciting recognition over the past year, to include: Forbes' one of America's best places for diversity; and Fortune's World's Most Admired Companies listing. Additionally, WomenInc. named 3 of our Board members to the Most Influential Corporate Directors in 2019. We're proud of these achievements, and we are just getting started on what is possible.

In close, we have active talent and cultural strategies underway to enable Cerner strategies and market potential. We will bring highly skilled, capable and diverse leaders prepared to lead and partner in the transformation of health care and offer an employment value proposition that in fact retain required talent capabilities to fulfill business strategy requirement. The entire Cerner leadership team is committed to this, and notable progress is being made.

With that, I will turn it over to Dan Devers to speak with you on our AWS partnership and cloud strategy.

Dan Devers ***Cerner Corporation - Senior VP of Cloud Strategy & Chief Intellectual Property Officer***

Thanks, Tracy. We'll transition from the people to the technology that will enable our plans. I'm Dan Devers, Senior VP of Cloud Strategy. This is my first opportunity to interact with this entire group, so I wanted to share a bit about my background, my experiences at Cerner. I'm a patent attorney and led the development of Cerner's industry-leading patent portfolio. I've had a legal and business role in starting a number of our new businesses at Cerner, including our CareAware device connectivity line. Additionally, I've worked on most of our large and unique client and industry partnerships and transactions, including our acquisition of Siemens Health Services and the formation of the CommonWell Health Alliance. Most recently, I focused on the selection and negotiation of our cloud partnership with AWS and Amazon. Our cloud partner objectives are all driven by innovation through migration and modernization of our key platforms: Millennium, HealtheIntent and CareAware. We will significantly shorten the time between creation of innovation to productive use of the innovation by our clients, thus getting more out of our substantial R&D investment.

In the migration and modernization of Millennium, we will provide cognitive EHR experiences to our clients, as I'll describe later and Dr. Partovi from AWS will further amplify. Of course, our platforms will enjoy typical public cloud benefits such as high security compliance, reliability and elasticity. This will provide Cerner with the ability to provide an open platform for advanced interoperability, eventually transition to a Software as a Service business model and allow data science at scale.

The client reaction to our announcement and early progress to achieve these objectives has been overwhelmingly positive. In addition to the innovations gained through migration and modernization, the partnership with Amazon and AWS will lead to first-of-its-kind innovations in the health care industry.

With these objectives in mind, it becomes very clear why we selected Amazon and AWS. First, we have a shared vision with Amazon and AWS around the power of IT, and particularly the cloud, to transform entire industries. The health care industry is one that will greatly benefit from the power of the cloud.

Second, Amazon and AWS have extraordinary assets and capabilities in the consumer space. This is particularly relevant as the consumer becomes more engaged in the management and payment for their care. Consumer engagement is a key priority for our provider clients, and advancing their consumer strategies is critical to our success. Dr. Partovi will also address consumerism and the consumer in his remarks.

Third, AWS has industry-leading AI and ML capabilities that are very well suited to addressing the challenges in health care and advancing the innovation objectives described before. Finally, the infrastructure and security provided by AWS are market-leading and provide a key differentiation in our selection of AWS.

We're early on our journey, but we've made significant progress since announcing the AWS and Amazon partnership. I'll highlight a few of those. First, we've migrated the remaining eligible HealtheIntent clients to AWS. Notably, this work was done ahead of schedule and with no client interruption. Likewise, we are on a path to migrate Cerner-hosted CareAware clients to AWS by year's end.

On the EHR side, in addition to starting the foundational work to migrate and modernize Millennium, we are advancing our cognitive EHR strategy, including the digital scribe alpha prototype that I'll discuss in a moment.

Finally, additional solutions are migrating to the public cloud, including certain Cerner command center solutions that assist our clients in managing their health system operations.

As I mentioned before, AWS is important -- is a very important part of Cerner's broader cognitive EHR strategy. Fundamentally, we seek to make data actionable for health care and reduce the cognitive burden on providers. This will greatly enhance the joy in the practice of medicine. As set forth herein, the cognitive EHR requires data capture of voice and a variety of other data types. To make the data actionable, the data requires transformation, for example, through speech-to-text and image recognition. As a result of 40 years in the clinical space starting in the laboratory, Cerner's developed leading-edge ontologies and mappings to leverage this transformed data, for example, to enable intelligence across the entire continuum of care. Finally, these building blocks provide the fuel for Cerner applications to provide the Cerner -- to provide the cognitive EHR experience such as virtual scribe.

So virtual scribe is one example that leverages AWS technologies, specifically Amazon Transcribe Medical, for the speech-to-text transformation portion of the process. virtual scribe passively listens to interaction between a clinician and patient to identify and document clinical concepts as a by-product of care. This alpha solution eliminates much of the time required for the clinician to document in the EHR and eliminates the need for traditional transcription.

Building on Brent's comments, from a topical perspective, voice is a preferred mode of documentation in the clean [sterile] care environment required to deal with pandemics such as the coronavirus.

Building out on intelligence broader than merely cognitive EHR, the cloud is key to machine learning strategies to transform data into health care intelligence. As a frame to how we think about intelligence in health care, we break it down into 4 categories.

Descriptive intelligence. That describes what has happened in the past. This includes reporting. The second category is diagnostic intelligence that explains why something happened. Traditional analytics is an example of diagnostic intelligence. Machine learning becomes more relevant with predictive intelligence that addresses what could happen in the future. And then most valuably, prescriptive intelligence is what one should do about what could happen. By way of example, decision support could be tied to a predicted condition instead of an actual condition.

One example of our work with AWS around predictive and prescriptive intelligence is embodied by HealtheDataLab. This solution involves management of a number of AWS services to address a key issue in the space. That issue is that data scientists spend about 80% of their time working on data preparation. This solution allows data scientists to spend more time on mining data for patterns, refining algorithms and building training sets, the important work that they are trained to do.

Coupled with Cerner's first-mile expertise in extracting and structuring data and last-mile expertise in interjecting intelligence back into the workflow, Cerner is well positioned to execute its -- against this long-standing desire to first, structure, study and store the data to create new knowledge, and then close the loop.

To provide more color, I'd like to introduce Dr. Shez Partovi. Dr. Partovi is a Senior Leader at AWS for worldwide business development in health care, life sciences, genomics, medical devices and agtech. Additionally, Dr. Partovi has extensive Cerner experience, coming from Dignity Health, where he served a number of roles, including most recently, Chief Digital Officer and Senior Vice President of Digital Transformation.

I'll turn it over to Dr. Partovi.

Dr. Shahram (Shez) Partovi ***Amazon Web Services, Inc. - Worldwide Director of Healthcare, Life Sciences & Genomics***

Thank you, Brent, for the invitation this morning. I'd love to just dive into what the partnership and collaboration between Amazon, AWS and Cerner is going to advance. You've heard some advanced notice of that from both Brent and Dan. And so let's go ahead and just take a look and see. There's 3 things basically that I would like to tell you this morning about what this collaboration can bring, and I'm going to give

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basically predict patient health events. This is one of the key elements of the collaboration. And then second, we'll dive into how this collaboration can personalize the consumer health journey. And finally, we'll spend a few minutes and talk about how this collaboration can protect the clinician experience. You heard Brent talk about bringing the joy of medicine back. And so through these 3 lenses, we're going to go ahead and dive deep and talk about how this collaboration advance and bring about a cognitive electronic health record.

So let's start with the first one, predicting patient health events. So you might say, "Well, what does Amazon have to say here? How -- what is your right of being in this space and doing this?" Well -- so you might be familiar with sort of 1-day delivery. We've been doing a long -- we've had a long heritage of machine learning. Because when you think of your 1-day delivery, it's not because we have better ways of delivering things to your door through mechanical means but rather because we can predict which you're going to deliver and actually move it to a fulfillment center closest to you before you deliver it. So these kinds of machine learning predictions have been going on for a really long time at Amazon. When Netflix predicts what movie you like, when Lyft predicts the best path, when Snapchat predicts what channel your millennial family member wants to look at or Expedia predicts what next trip you might want to take, they're all based on these predictions. So what we want to do is bring that to health care and work with Cerner to bring that to predicting patient health events. And we talk about delighting consumers and patients we -- I would like to think we have a long heritage of delighting consumers there as well, Amazon Prime, and Amazon.com, to give you an example.

So let's take a look together at how that applies to health care, and in particular, with the collaboration with Cerner. So when we talk about moving Cerner to the cloud, it's not so much that we're simply trying to move from one data center to another. That would be a very narrow lens of thinking about this collaboration. What we're really saying is that AWS has a set of core services that we've built and hardened. All those companies I just mentioned, they have been using those services to advance their offerings in sort of the nonhealth care environment. What we've done is wrap these services and sort of hit eligibility, and now we can bring these to health care. And so with this collaboration, what we're going to do, together with Cerner, is take out the undifferentiated heavy lifting, the parts that have no added value to building a sort of a cognitive EHR platform, that stuff that's common across different industries, and then allow Cerner and Cerner's talent and its capital to all be focused on applying agile innovation to the things that make a difference at the bedside, to physicians, to nurses to patients. And so this, together, is bringing the undifferentiated heavy lifting from the parts of AWS that we've hardened over years, combining that with the talent and with the innovation and agility that Cerner's known for -- is what brings forward the cognitive EHR.

Just to give you an example, we worked together with Cerner, and we said, "Well, can we predict what patient is going to get a congestive heart failure?" is an example of this sort of cognition EHR, helping clinicians do the right thing. What we did is we looked at 210,000 patients together, anonymized patient sets, and built a machine learning model that when a patient is pulled up in the electronic health record, they can actually predict congestive heart failure 15 months prior to it occurring. So you have to think of that experience. As a clinician, when you bring up the EHR, the machine intelligence inside the EHR is looking at the data based on models that can predict -- built, providing predictions and insights on the side. These shards of intelligence built directly into the EHR is an example of what the collaboration can bring. And it's about predicting things like length of stay, predicting readmission, predicting admission to ICU. So as the clinicians use EHR, these models will help bring these insights directly into workflow with Cerner, together bringing this to the bedside.

Now let's turn our attention to personalize the consumer health journey. Now you -- as an example for that, I know we've talked a bit today this morning about voice. You might be familiar with a tool called Alexa. So I'm joking there a bit. But what you might not know that if you take the 2 As of Alexa, you end up with Lex. Lex actually is an AWS service, which means that voice inside that cylinder that you might have, that conversational agent is actually available to be embedded in any software. And so this is an example we're working with the Cerner engineering teams. We want to be able to embed that kind of voice activation inside the EHR, so that the interactions with patients and consumers and physicians, we'll come to that in a second, can be frictionless.

And so voice is one example of the kind of AI-based services we've built. There are things that help with image, video text, translation services and so on. And so each of those now become available as a set of embedded -- when we talked earlier about doing undifferentiated heavy lifting, these are all the services that can be plugged into that bottom layer that's undifferentiated to allow Cerner to focus on the parts that are differentiating.

And one last thought before we leave the consumer, you see here about bringing AI-based services to advance consumer experience and patient experience. It was not just AI services. Let's drop the word AI. And if you drop the word AI, you might remember that Amazon itself has a number of consumer-facing assets. And so this is where this think big, which leap off the conventional thinking, what would it look like as you potentially integrate these services, where orders of patients with diabetes that can be fulfilled at Whole Foods. So these kinds of leaping off of EHR and going to the consumer beyond sort of technology are the opportunities as we look at this collaboration together. Right.

The last thing I'm going to talk about this morning is talking about in addition to these 3 highly protected clinician experience through this collaboration. So let's zoom in on that one. We've mentioned, and Brent did and Dan as well, how voice can bring -- remove friction at the bedside. When you look at that computer icon on that screen, ideally, together we can remove the keyboard and mouse from the example from the bedside, from the clinic and bring about this ambient sense of -- so ambient intelligence. These services we mentioned earlier that advance the consumer and patient experience, well, we have at least 2 today and 1 underway that are directly focused on the clinician, Transcribe Medical and Comprehend Medical, which I won't dive into, but are examples of technology that's prebuilt wrapped with HIPAA services and can be leveraged by Cerner as the sort of undifferentiated heavy lifting to bring a whole set of transformation to the EHR for improving and protecting the clinician experience.

And the last thing before I give it back to Dan, is if you've ever been to an Amazon Go store, you might know that in the Amazon Go store, there are no cash. There's nobody around. You just sort of scan your bar code when you move in

(technical difficulty)

of what you do. This is not just through RFID. It's through understanding the movement of consumers and so on. And now you have to imagine what it would look like with this ambient sensing when you walk up to, for example, the ED digital board. It recognizes that (inaudible). It transforms the digital board to be for what I want to see. And as you move away and the nurse comes, it redirects that digital board to something different. This idea that the environment becomes aware and is interacting with the EHR is the kind of stuff we've done in the consumer space and is again this opportunity to leap off the digital side and go into the real world and bring together sort of the experience that is transformative and what really is beyond what might be imagined today through conventional sort of digital experiences.

So together, predicting health events, personalizing consumer health journey and protecting the clinician experience are but 3 examples of how this collaboration can transform an electronic health record, the sort of clinical operating system and bring about the content EHR, EMR that Brent and Dan have spoken of.

Again, thank you so much for the invitation to be here this morning, and I will pass it back to the host. Right.

Dan Devers ***Cerner Corporation - Senior VP of Cloud Strategy & Chief Intellectual Property Officer***

Thank you, Dr. Partovi. Appreciate the additional color on your partnership in this regard. With that, I'll turn the program over to Marc Naughton.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Thanks, Dan. Thanks for all you're doing in driving our cloud strategy at Cerner. You're doing a fantastic job. Good morning, everyone. Let me start by taking you through the financial highlights.

2019 was a very solid year for Cerner. We grew our top line 6%, which is in line with our original expectations. The slide reflects our GAAP results, which were impacted by restructuring charges that we expect to wind down this year. Adjusted operating margins were 18.5% for the year. That reflects delivery of our Q4 target of 20%, which was 160 basis points higher than the Q4 of '18. Adjusted EPS was up 9% for the year, reflecting our margin progress and the impact of repurchases.

Our bookings declined for the year due to a significant decrease in long-term outsourcing bookings. Excluding this impact, bookings grew slightly for the year. We had solid cash flow and expect 2020 to be a year when cash flow begins to ramp up as we drive higher operating cash flow and reduce CapEx.

And finally, we deployed $1.5 billion of capital during the year, including $1.3 billion of share repurchases, over $100 million of recently initiated dividends and a small acquisition. So overall, a good year.

Before I go into the business model discussion of the presentation, I'd like to kind of take you back to '18 and explain a little bit of some -- a couple of some minor change that we've made to the model to really more accurately drive what we see as a contribution margin calculation. This slide reflects the changes we've made and the changes relative to 2018. The 2019 changes are comparable. The main change reflected on the slide is that some expenses related to our SaaS business model, which were included in SG&A in our prior view, have been moved up to more appropriately reflect their impact on the specific revenue stream and arriving in contribution margin.

The result of this minor change is that our contribution margin calculation now aligns very closely with how many companies report gross margins. So we see that as a positive.

Now let's go to the 2019 Cerner business model. I'll walk you through the model. This slide gives you the detailed breakdown of our operating margin, starting with what is now basically a gross margin by business model then subtracting R&D and SG&A. I'd like to point out that our Q4 margin of 20.3% was 160 basis points higher than the full year, as I indicated, reflecting the back end-loaded nature of the year. This difference was driven by a higher contribution margin and lower SG&A as a percent of revenue in Q4.

Now let me walk you through some of the changes compared to 2018. Revenue was up -- for license software was up 11% year-over-year with strong growth in SaaS. Contribution margin was down slightly, but it's important to note that approximately 50% of our total license software is now SaaS-based.

When we go to technology resale, that revenue was up slightly, and margin was down about 3% year-over-year due to a mix shift with a focus on equipment versus third-party software. Subscriptions revenue was up 10% year-over-year. Contribution margin was down 3% based on third-party costs directly attributable to subscriptions. Professional services revenue was up 10% year-over-year driven by federal primarily. Contribution margin of 24% was down slightly due to higher third-party services.

Managed services revenue was up 5%. Contribution margin was up to 43% -- or 42% due to cost leverage opportunities. Support and maintenance revenue was down 1% due to past health services client attrition and lower payments revenue. Contribution margin of 75% is basically flat year-over-year.

Going to the indirect expenses, R&D was up slightly for the year, but SG&A declined about 50 basis points at 13.9%, down from 14.4%. And that arrives at sort of the adjusted operating margin for the year of 18.5%.

So let me talk a little bit about the visibility of our revenue. Looking at our revenue mix, we continue to have a high percentage of recurring and visible revenue. About 63% is what we consider recurring. And that includes support, managed services, IT and RevWorks subscriptions and the SaaS portion of software, which I said is about half of our software. When you add our professional services revenue to this, about 90% of our total revenue is recurring or highly visible. Note that we do expect our Works businesses to decline as a percent of revenues, especially when the full year of Adventist is out. But this should be offset by growth in other recurring or visible revenue that is also more profitable. Finally, we continue to have nearly 85% visibility into revenue for the year based on contracted revenue that is scheduled to roll out.

Now at this point, I'd like to take you through the key -- 3 key topics I want to cover today: long-term revenue growth, margin and earnings growth and cash flow and capital deployment.

So on the long-term revenue growth, just to update to the model that we provide on an annual basis. As this slide indicates, we are now targeting 5% to 8% revenue growth after 2020, which is largely a reset year that we've discussed. There was some confusion during the Q&A portion of our call on this topic. So I'd like to clarify a few things.

First, the 5% to 8% range is basically the same as what we said last year, adjusted for about 1% of growth that was previously expected to come from outsourcing revenue. Second, I want to emphasize that when we talk about the 5% to 8% range, it does include an assumption that some growth is inorganic, just like our 6% to 9% range did last year. One other change compared to last year is that we moved revenue cycle and ITWorks into core to further simplify the components, which leaves us with 4 key sources of revenue: core, federal, strategic growth and an inorganic component.

Now let me take you through each element. The model shows core declining slightly over the period, about 1% to 2%. This largely reflects a shift of revenue to new growth areas with the main example being services resources that are moving from core to federal as the VA ramps up. Core also reflects the impact of a mature U.S. EHR market and client attrition partially offset by growth in global and revenue cycle. If a goal is to have a view of total EHR activity, you would need to combine the core and federal components of the graph, which will reflect positive growth. We separate the 2 to provide additional transparency. Note that 2019 and 2020 core declines are highly due to divestiture activity.

The federal CAGR of about 15% primarily reflects continued execution on VA and DoD, which Travis will discuss in a minute. In 2019, we moved a group of businesses outside the traditional EHR business into an organization we call Strategic Growth. This organization grew more than 20% in 2019 to over $500 million. As Don will discuss, these areas represent over $75 billion of market opportunity, and we think we can continue to grow them 20% organically.

As the box to the right indicates, in combination of core, federal and strategic growth is expected to drive 4% to 5% organic growth. In addition to organic growth, we have an inorganic component that represents 1% to 3% of the targeted growth. The 1% to 3% inorganic growth is similar to what we had factored in last year and most likely will be focused on the strategic growth areas.

In summary, this plan reflects a significant amount of work during 2019. We completely rebuilt the plan based on our refined strategy and input from our Board throughout the year and feel good about our ability to deliver it.

Let's go to operating margins and earnings growth. In addition to have a -- having a more underpinned top line plan, we have made great progress on operating margin. This applies to both our near-term targets and things we are doing to position for longer-term efficiencies.

Starting with 2020. Our guidance reflects achievement of our Q4 target and a full year operate -- adjusted operating margin of about 21%. There's a 250 basis points of margin expansion year-over-year and reflects the benefit of work completed in 2019 and ongoing work this year. I'd like to emphasize that we believe that this is significant -- there's significant opportunity for ongoing margin expansion beyond 2020, and we are embedding an efficiency and process improvement mindset into our culture and planning process to deliver it.

As we look at our long-term plan, we believe we can drive an average of about 100 basis points of expansion after the big increase in

2020. This would get us to mid-20% range by 2024. Doing this, combined with share repurchases, would allow us to drive upper-single to low double-digit adjusted EPS growth. The range of margin expansion and EPS can vary based on several factors such as revenue growth rate, mix and the margin profile of any M&A we do. But we think this is a very deliverable opportunity.

Going to free cash flow and the balance sheet. Clearly, if we deliver the revenue and earnings growth we expect, we'll drive stronger operating cash flow. Based on that and our expectation to reduce capital expenditures as we complete our campus build-out this year, we expect free cash flow to ramp quickly starting in 2020. We expect about $1 billion next year and about $1.5 billion by 2024.

Beyond this cash generation, even after taking on some debt last year, we ended the year below 1x leverage. So we clearly have capacity that can be used with capital return and M&A. In fact, we took advantage of recent rate declines, locking in $300 million of additional debt at 2.5% for 10 years.

As I mentioned, we deployed about $1.5 billion of capital last year. We expect to continue deploying capital this year through a combination of returning to shareholders and M&A. In fact, we've already repurchased about $400 million of stock so far in Q1.

So in summary, we've made significant progress in 2019, which included delivering against expectations, embracing an opportunity to accelerate our transformation efforts and implementing our operating model and portfolio management process to improve our focus and put us on path to higher-quality growth. We have a solid plan for driving revenue growth, strong margin expansion and strong earnings growth. And we expect to continue growing our cash flow and leveraging our balance sheet to create shareholder value through ongoing return of capital and M&A.

With that, let me turn the podium over to John Peterzalek, Executive Vice President and Chief Client and Services Officer. John?

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Thanks, Marc. Good morning, everybody. In this section, I'm going to talk a little bit about the industry, the markets, both in the U.S. and outside of the U.S., a brief revenue cycle update and then what our 2020 focus is.

So on the industry, there are several focus areas that are influencing health care today. And these areas shape our strategies around our core business and reflect the strategies or initiatives or things that are embedded in our client strategies as well.

First, intelligent innovation. Intelligent innovation is the driver behind predictive analytics and AI. And as we look at the growth of big data, it's apparent that taking big data and making it small, data that is small, actionable pieces of information that can help with the clinical outcome, efficiencies, insights, and we can distill this massive amount of information that is out there into digestible chunks. In addition to this, if you look at the more than 20 billion connected devices out there, much of it collecting information about me and feeding that into our health journey, these small pieces of information, along with relevant pieces of information from big data, are the driver behind predictive analytics, artificial intelligence. And the ability to take this is the promise to turn these predictions into actionable insights and actions. As Dan and Shez shared a little earlier, Cerner's developing and have several products generally available, or close to GA, that are embedding real-time, predictive analytics capabilities to the workflows. This is the start of the next generation of capabilities in the EHR.

Next, the industry is seeking better ways to have better experiences and outcomes. Our clients are looking at ways to improve the health of the communities and to use real innovation to enhance the outcome for those that they serve. So our work in population health and advancing solutions to manage and improve populations one person at a time is designed to address these challenges. We have been driving this for almost a decade.

We continue to integrate health and social care through analytics, mobility, device integration. And we are continuing to advance interoperability to work across solutions and platforms in pursuit of better outcomes and better experiences. And if you combine all these together, it is what are we using to drive our position at Cerner as the leading platform for innovation in the industry.

Another key focus area is open and interoperable platforms. Frankly, our industry has not had the best reputation and looked upon favorably for being open and interoperable, whether you're a technology partner, a health provider, a health care system. We need the demand being open and interoperable and acknowledge that the patient or the person owns their data. This has become a public policy issue, a political issue and actually is the cornerstone of our capabilities for work with the VA. Cerner has been fully supportive, as Brent mentioned earlier, of this position for more than a decade. And I believe we are the leader in driving the open dialogue in our portion of the industry. And we are driving to be a platform for health. By default, open, interoperable are always current. We are advancing interoperability, not only to work across our solutions and platforms but the industry as well.

Cerner continues to have considerable market momentum. We are very competitive in our primary markets, and we continue to add market share year-over-year. No supplier has added more market share in the U.S. than Cerner since 2015. Over 30% of the market we have out there run noncurrent systems. And most of these systems are exploring potential for a replacement. And this is our market opportunity in the replacement space, in that space, where Cerner is considered more often than any other supplier, in the greater-than-200 bed market, which is where most of these noncurrent systems reside. And our platform modernization efforts that we have, not only sustain the path for the now but the next, and it's a clear differentiator for Cerner as we go forward.

Outside the U.S., we continue to focus on a world-class experience. Regardless of where you are in the world, you should expect to have the same high-value Cerner experience. We will have a consistent experience and provide the ability to innovate and drive your success.

We had mentioned the recent divestitures outside the U.S. This does not change our position. In fact, it frees us up to focus on the markets that we want to focus on and drive high value in those markets.

As we've discussed in previous calls, as we look at opportunities outside the U.S., with Millennium or HealtheIntent, these opportunities are generally done not at a single-hospital level, but they're done across the region, a state, a province. So these opportunities take advantages of all the capabilities of our integrated platforms and our population health capabilities.

The crucial part in why we focus on a world-class experience is that a strong delivery mechanism, a strong reputation, the ability to be consistent opens us up not only for expansion in our current markets but are pivotal in our upcoming procurements that are out there. And my final point, we also have a solution, i.s.h.med, that remains a lightweight and geographically diverse option that every opportunity does not have to be a Millennium opportunity at the EHR level.

If we look to revenue cycle, our focus in revenue cycle is improving the experience and executing our commitments. We continue to grow in this space with over 56 new client signing in 2019. And we have 49 go-lives, either in process or happened over the last year.

If we look into 2020, our focus is going to be on delivering and executing. We know we have gaps in some of our solution areas out there, and we intend to close these gaps. So we're going to deliver on our road map commitments.

We have proven assets, both in Soarian and Millennium, and you'll see us take an invest in both of those worlds and combining them to deliver a high-quality solution around revenue cycle. And as embedded in all of our solutions, we intend to open this solution up through APIs and other areas where we will be a platform company there as well.

We'll work on enhancing the client experience to make sure every interaction you have with us in our revenue cycle will be a high-quality interaction. And we'll deliver on the promises that we make.

When you're dealing with systems that are in various levels of financial stability in the health care world out there, where they may not have incredibly strong cash positions, flawless delivery and execution is crucial. So we're going to focus on making sure that we have a hard methodology and every implementation we have is delivered flawlessly. And then finally, post implementation, we'll continue our proactive surveillance, making sure we are addressing and hitting our KPIs and that we are along for the full journey with our clients.

We still have significant opportunities out there remaining in our core. Our strong revenue cycle and ambulatory growth is converting white space into real opportunity. If we look within our top clients, we have over 400 facilities that are not on a Millennium solution. This represents great opportunity for expansion within our base and further increasing our market share.

If we look at our existing clients, our existing clients are aligning with us and committing to the future. We had 10 clients in 2019 that contributed over $1.5 billion in bookings through extensions and expansions. Our revenue cycle and ambulatory solution offerings are key, not only in these extensions but key in replacing our competitors as we expand within our clients. And then Don will hit this in his section, but we're pursuing and deepening relationships in adjacent care venues as well.

So what we're looking at doing in 2020, Brent had mentioned this and we've been speaking about this for the last 2 years, is we are going to relentlessly pursue our clients' success. Brent had mentioned this, the creation of a client success office led by Jody Buchman, and we are going to continue to mature that office. We're going to continue to drive capabilities in this office to ensure that every single client is successful. We talked about providing a consistent and positive implementation experience. We'll still continue on that journey. We'll work with our clients to make sure that we can lift them to our most current versions, so they can take advantage of our most current innovations. We talked a little bit about improving the clinician experience. All on this call have heard about physician burnout, clinician burnout, caregiver burnout. This is something we take incredibly seriously. We need to provide the best experience for the clinicians, the caregivers, the physicians that are out there. And we talked about our revenue cycle road map.

In terms of growing the business, we will continue to maintain our greater than 50% win rate across our core business segments. We talked about white space. We have great opportunities to turn white space into real opportunity with our clients. We'll accelerate growth through our strategic growth businesses that are a key component of what we do in our core clients and our core business. And then also, as mentioned, we will continue to focus on high-quality revenue as we become very selective about our long-term business that we have out there.

With that, I'll turn it over to Travis.

Travis S. Dalton ***Cerner Corporation - President & GM of Cerner Government Services***

Thank you, John. Appreciate it. Good morning. My name is Travis Dalton. I'm the President of Cerner Government Services, accountable for all aspects of the work we do with government. Been with Cerner for 19 years and been in this role with the CGS since 2013.

Today, I'd like to cover our program progress with the DoD and the VA. First of all, I'd like to start with the kind of a reminder of the why, so level set on the mission and vision. Primary goal is to enable seamless care across the VA and the DoD with our commitment with community providers. VA and DoD will be in a single environment, and eHealth Exchange and CommonWell will be coming live later this year to connect community providers. The government is also interested in utilizing commercial technology, creating economies of scale with taxpayer savings, the items like the single-item master, workforce management and other tools at scale and innovating with analytics, which I'll talk about in more detail later.

VA and DoD represents the largest transformation effort in health care, over 18 million beneficiaries, 500,000 providers and 3,000 sites of care. We're making real and meaningful progress, and I'd like to discuss that today.

In terms of some federal highlights, the DoD has completed their IOC, which is their pilot project. They've had a successful Wave Travis, which is our first Wave go-live last year. And we have 4 waves in process. The DoD is operating at maturity. The VA has a national standard in place, which is a material accomplishment across an enterprise as vast as VA. They stood up a program called VITAL, which is a training program designed to prepare them for go-live readiness. We're going live with our scheduling module in April in Columbus, Ohio. And we've migrated over 23 million veterans health records into HealtheIntent. VA and DoD are also going live with a joint health information exchange in the spring, which is a major accomplishment for those agencies as they march toward interoperability.

From a CGS, from a Cerner Government Services perspective, we continue to make progress and focus on operational maturity. We're operating at a -- as a prime contractor at scale with over 30 partners. The acquisition of AbleVets was a big help in that as they brought people, process and tools to our prime contractor capabilities. We've delivered on our financial commitments, and we continue and expect to do that forward. And we're focused on stakeholder management, managing the vast number of stakeholders that we encounter, both at the agency, bill, VSO, media influence -- influencer and other levels. Good progress and good accomplishments from last year.

In terms of our program time line, we're on track. The both programs are moving forward, and joint agency efforts are much better aligned. The VA and the DoD have stood up an organization called the FEHRM, which is essentially a joint program office that's driving decisions, policy and joint schedule efforts, and that's been very beneficial.

In terms of DoD, they have 23 Waves in addition to their initial operating capability, which I've discussed. IOC and Wave Travis are live today. The joint HIE will be going live in the April time frame. And we have 4 Waves in process at Nellis, Pendleton, San Diego and with the Coast Guard, which we added as a -- added last year. And then Waves 7 through 23 will go live in the 2024, 2025 time line. So we're still on track with DoD.

With VA, we're going to have 47 Waves plus the initial operating capability. We have the joint HIE going live, as noted; scheduling in Columbus, Ohio as well, which is an important milestone for us and the VA; and then our IOC is in progress. Mann-Grandstaff will be our first site going live in July. That was originally scheduled for March that will going live in July. We're supportive of taking a little extra time to make sure that we're well prepared there. I'll also note that, that does not change the entirety of our time line. We're still on track based on our original schedule, and it doesn't change our IOC time line as that was just capability set 1 for Mann-Grandstaff. So essentially, we move capability set one back by a short period of time, and we're still planning to go-live capability set to in that November time frame in addition to Seattle. And then finally, a major accomplishment for us is we'll be kicking off Waves 1 through 5 as well, which is important for us to stay on schedule, both in terms of program and our financial outlook.

So how are we going to be successful? It's really important that we are focused in 4 key areas. So obviously, we deliver on program. John mentioned flawless execution. That's crucial here that we stay focused on program delivery. Development of new requirements with the DoD and the VA. An example would be that the VA is leading in terms of their deployment of HealtheIntent. We have the opportunity to go back with DoD and work with them to develop new requirements in order to use HealtheIntent in the same capacity. Leveraging new contract vehicles. Via the acquisition, we're able to acquire the T4 vehicle, which allows us to compete for business that we wouldn't have otherwise been able to peak for with VA. And then expanding into new agencies. We have potential opportunities with the state department, Indian Health Services, CMS, NIH and others that we're -- we'll be working to shape over the coming years.

To do that, we have to do a number of things. So technical execution is crucial for us. We're working closely with the DoD on a daily basis on our cyber posture and maturity. Operating at scale with program management, rare and discipline, so we're working on -- we'll continue to work on that. Managing the stakeholder environment, which I've mentioned previously. And then some of the comments that Tracy made earlier around finding great people, developing talent and creating leadership culture program that will span a decade or more. It's going to be important that we continue to move forward on those workforce initiatives.

And then finally, building our success. I'll just note that this work is transformational for Cerner, our service members and veterans. We're very close to creating a national interoperable network for VA and DoD, which I think will also influence the behavior of our commercial markets in and around those medical treatment facilities -- military treatment facilities and veteran medical centers. We have the VA data. We have 30 years of this data. We can better identify, diagnose and care for chronic conditions. Veterans are less healthy and sicker than the general population. So the opportunity to do some of the things that were discussed in the AWS section are crucial for us to predict outcomes and move into a preventive care and a wellness position with VA in particular. We'll have the opportunity to look at environmental and toxic exposures, which are unique to our servicemen and women, and then focus on suicide prevention in PTSD early identification of risk.

And then finally, we'll be using our opioid toolkit as well to proactively engage an opioid and substance abuse. We're partnering with VSOs, researchers and other charitable organizations that are doing incredible work like the Elizabeth Dole Foundation; and No Vet Alone, which is focused on suicide prevention and PTSD.

It's incredible exciting -- it's incredibly exciting and rewarding, and I believe the opportunities for us are endless. And we're pleased with our progress and our momentum forward.

With that, I'm going to turn it over to Don Trigg to discuss strategic growth.

Donald D. Trigg ***Cerner Corporation - President***

Thanks, Travis. Good morning, everybody. So today, I'm going to do a couple of things. One, I'd like to talk a little bit about the financial performance of the businesses that make up strategic growth and both define them, talk a little bit about 2019 performance and highlights and then drill down a little bit on Marc's detail in terms of how we think about the 4-year CAGRs around these businesses going forward. Secondly, I'll talk a little bit about health network. So although we go to market from a point solution perspective, we have big ambitions around health network strategies in all 334 MSAs within the U.S. market and in our 5 global focus areas. And then finally, we'll talk a little bit about the data space, which is we think a huge strategic opportunity for the company. Brent talked a little bit about the path of digitization playing out over the last decade, and it's going to have big second and third order impacts, and we'll ask Art Glasgow to join us and talk a little bit about what the Data as a Service opportunity looks like for the company in the coming decade.

From a strategic growth market perspective, these are the businesses that make up the revenue strategy around how we move beyond Millennium, beyond the hospital-based EMR and beyond fee-for-service. We look for businesses that have significant strategic tailwinds, achievable market share but large addressable markets. As Marc described, we're looking for strategies that are EMR-agnostic, but at the same time, leverage key Cerner assets across our 3 key technical platforms. Fourth, we're looking for surmountable barriers to entry, including regulatory. And again, as Brent talked about, I think we have deep competency as a company around the regulatory space, and it can be a major strategic differentiator for us in the years to come. And then finally, we think a lot about speed to revenue as a meaningful dimension of how we over-attain against our 1-, 3- and 5-year targets for these businesses.

Just to level-set on how we think about the businesses that make up strategic growth, we really talk about 3 core go-to-market areas. First and foremost, as John described, we have a set of businesses that we think about in our core provider market, both provider organizations that use Millennium and also provide organizations that leverage one of our competitors. Secondly, we see some exciting opportunities in the nonprovider space, including the decade-long capabilities that we've built out around the employer; and the competencies and capabilities that they give us, both organically and with partner strategies like Amazon in the consumer space. And then finally, as I alluded to, we have 2 meaningful businesses that we're working to build out in the Data as a Service space, both in the release of information category as well as some emerging strategies around clinical trial candidate identification and participation --

From a 2019 performance perspective, as Marc framed, these businesses delivered 22.3% growth on a full year '19 basis. And I think importantly and as the right side of the slide highlights, some things happened foundationally over the course of the year that give us confidence that we can continue to sustain that growth performance on a multiyear basis. We are very happy with the progress around the Lumeris relationship as HealtheIntent becomes the foundation for how they think about their strategies around provider-sponsored plans in the Medicare Advantage space. Very strong performance around behavioral health within our long-term and post-acute business, not only best-in-class category leadership from a solution perspective but strong bookings growth and significant penetration outside our Millennium base.

David Bradshaw, the longtime CIO and Chief Strategy Officer at Memorial Hermann, came into Cerner and has had an immediate impact in the workforce health and consumer space. Record bookings there, but I think also, importantly, a real strategic opportunity for us to think about our health network concept against a set of very strategic nonprovider use cases.

And then finally, Art will spend some time and energy this morning talking a little bit about significant growth in the ROI business, including traction around consent-based legal. And I think, importantly, a key strategic partnership with Duke and their DCRI for profit CRO, which has been critical to us, stress testing our thinking around clinical trials.

As Marc said, from a go-forward perspective, as we think about 2020 and beyond for these businesses, we think there's achievable growth rates that put us on a sustained 20-plus percent performance level for these businesses. But again and I think importantly, as I'll segue here in a second, I think not just speed to revenue and point solution presence but really foundational strategies for this larger push around health network, which creates top line and revenue potentials well beyond what's represented here.

So let's talk a little bit about the health network strategy and how we think about that beyond the scope of the financial performance framed up in the first 1/3 of the deck. So as I talked about in the past, this is a strategy that really has a key technical foundation in our

EHR-agnostic HealtheIntent platform. And the thing I'd really queue you in on here beyond just the native cloud, big data capabilities and the third-party recognition is the fact that this is a platform that is materially deployed is global in its orientation and we think is enabling for the foundational pieces that both provider and nonprovider network strategies require. You have to lay a data foundation for that network. You have to think about provider network management, and that's going to include both traditional and nontraditional network nodes, whether that's venues like the home, or nontraditional settings like retail pharmacy and grocery. We have to think about recording analytics and data science as key capabilities for how you activate those networks and put them to work against key business model strategies.

Because of the nature of health care and the friction that you find across those traditional disparate networks, continuity of care and how we think about care coordination and care management of the individual is an essential attribute of any successful network. And all of these play into larger strategies around how you think about taking first-dollar risk for alternatively managing high-cost episodic bundles. And from our perspective, and as Brent talked about, this is a strategy and a network that has the consumer at the center, and we have to develop the capabilities around that progression from patient to member to consumer. And so we think we're well down a path to do that, and many of the foundational strategies represented in the revenue trend line that I described play into this larger network strategy and approach.

So let me just talk quickly, if I can, about 3 network use cases, if you will. I'll take one that's specific to our Millennium footprint, one that represents an EHR strategy that is non-Millennium in its orientation. And then finally, I'll describe a nonprovider use case that, I think, is equally important as we play through strategy and approach.

The first use case is Roper St. Francis. It's a four-hospital system located in Charleston, South Carolina, and looking to build out its network strategy within that tri-county region. And having great success leveraging HealtheIntent against this use case, which really is how do they think about the post-acute assets as a meaningful dimension of how they not only optimize for fee-for-service, but I think, importantly, enable some of their value-based strategies, which include an innovative narrow network strategy with volume employees located in this marketplace.

The second use case I'll highlight is Hackensack Meridian, one of the largest provider organizations in the state of New Jersey. As you can see from the slide, they are a user of one of our competitors. But as they started to advance their network strategy and think about taking first-dollar risk with a team that very much understands that space and actually comes out of the payer category, they realized that there were key network dimensions that were relevant to how they wanted to design and activate the network that went well beyond the scope of both their acute facility footprint and their owned physician footprint. And so HealtheIntent became a key enabler of how they thought about bringing together not just 50 disparate EMRs but over 140 different data sources.

And again, if you think back to that framework that I've provided around the network and network design, aggregation of the data and that provider network are just the starting point dimensions of how you think about network advancement and approach. And what you can see are some very significant objectives that they've set out for the business around patient experience, management of multiple venues of care, leveraging nontraditional role strategies in the care team in a way that meets the expectations for the patient, and in this case, the member for meaningful interaction with their providers and the ability and opportunity to significantly increase gaps in care closure.

So this is a great use case of someone who's thinking about HealtheIntent as a network enabler to win the zip code and enable strategies, not just for MSSP, where many provider organizations in the market are today, but meaningful strategies around Medicare Advantage, and ultimately, leadership in the commercial category as well.

And finally, I'll just take one nontraditional nonprovider network strategy that David Bradshaw and team have done an excellent job advancing. And this is a relationship we have with a regional grocer called Hy-Vee. A $10 billion-organization, 8 different states and interestingly, 30-plus percent of total top line coming from health and wellness. So this is an organization very much committed to health and wellness as a strategy and looked to Cerner as an innovative leader around our own employee population and as a way to start a conversation around how we could help with chronic condition management for Hy-Vee employees in a way that would leverage both the pharmacy and grocery assets within their store footprint but now has expanded into a larger conversation around HealtheIntent as a network-enabling strategy across all of the MSAs in which they operate in.

And while this is an early pilot, we think it's got big potential. And it really, and I think, amplifies from our perspective on how we want to think about not just provider assets but also retail pharmacy. And the grocery has meaningful dimensions of what it looks like to create comprehensive care plans for patient, members and consumers, and ultimately, particularly in the context of taking first-dollar risk, help manage these populations at a lower cost and a higher quality.

So I want to close before handing it off to Art Glasgow by just amplifying a little bit on Brent's earlier comments relative to the final rulemaking, which came out this week. And I went back in anticipation of the final rule, and after some of the conversations between Brent and Administrator Verma and looked at some early positioning that the company had done around this concept of data liquidity. And I won't read the totality of the quote, but suffice to say, over 2 decades ago, this is an organization that made it clear that the medical record was the property of the individual and who imagined as an organization, what it would look like to be able to put that information to work on behalf of the best possible health and care. And so as we think about what data liquidity can mean in the context of, not only health care for the coming decade but also in the current environment as we think about COVID-19, imagine what it would look like for an individual on a cruise ship to have access to his or her medication history. Imagine what it would look like to think about the extension of our ICU capabilities and virtualization of that capacity in a way which allows us to better manage community-based populations. Imagine what it would look like for us to start to think about strategies around the data that allow us to think about the home as a meaningful venue of care and truly begin to leverage telemedicine strategies for both acute episodes but also non-acute episodes as well.

So this is the beginning of a very important and significant change in health care over the course of the next decade, and we see huge opportunities for the company, not just to describe what it should look like but actually to meaningfully lead it.

So with that, let me pivot and hand off to Art Glasgow. Some of you have had an opportunity to hear me talk about Art in the past, a longtime CIO at Duke but also the Chief Product Officer at Optum. He's come in, in the last year and provided a lot of clarity around our thinking around what the opportunities look like in the data space.

And with that, I'll hand it off to Art to talk a little bit about the progress we've made in the last year. And what we see the opportunity set looking like in the quarters to come.

Art Glasgow *Cerner Corporation - Senior VP, Strategic Growth*

Great. Thank you, Don, and good morning, everybody. It's my pleasure to be able to spend a few minutes talking about the strategic growth opportunity, specifically in the data market that presents itself in front of Cerner.

Next slide. This is a pretty complicated topic, but if you could come away with 3 things today, I think it would really be a success. And the first is the data-dependent markets that we're focused on is primarily real-world evidence and the release of information are large markets and represent healthy growth avenues for Cerner. Secondly, our current provider clients are also looking at these markets and are actively pursuing solutions that are going to allow them to benefit from their data. And lastly, our position with the providers as well as our expertise with that health data put us in a unique position to add value to both sides of the equation.

Next slide. That unique opportunity is really about providing access to health data to nontraditional health markets. And I'll be -- I'll walk you through what markets we're currently focused on as well as some expansion that may be there.

Next slide. From a market overview, there are really 3 markets that represent the bulk of the data opportunity that are out there. The first is the life sciences market focused on therapy discovery. That is a $45 billion total addressable market. The second is the release of information market. We are currently focused on the legal and life insurance subsegments of that market, currently at $2 billion but much larger if you include the other submarkets. And lastly, the payer market, which we estimate to be a $22 billion addressable market.

Today, we're going to focus on really those first 2: life sciences and release of information, and I'll walk you through a few examples of how we're doing that. And while we do believe the payer market is a large addressable market, we continue to evaluate it, but there are business model concerns with our providers that would prevent us from making a full play in that market today.

Next slide. We believe now is the time, and we believe Cerner is uniquely positioned to pursue this for a couple of reasons. First, we do have the access to both the provider clients and the EHR data that we steward for them. And that scale and breadth of data represents one of the largest data assets in the world today across a demographically unique and important subset of providers. Secondly, the regulatory tailwinds, we've talked a little bit about the 21st Century Cures Act already. All of these push towards greater interoperability. The FDA is currently pursuing regulations that support the use of real-world evidence in clinical trials as a cost savings measure. Similarly, we see the same thing occurring outside the U.S. So now is the time from a regulatory standpoint. And lastly, the work that's been done over the last 20, 30 years to really build a digital foundation in health care, both in cloud computing, AI and basic interoperability has allowed for a portability of data that just simply didn't exist previously.

Next slide. So the first market that we're focused on is the real-world evidence market. And again, this is the use of health care data to support therapy discovery primarily in pharmaceutical and life sciences company. And we're going to talk a little bit about some of the things we've done organically here to prove that our data is worthwhile and valuable to life sciences and that we can partner with our providers to do this. But I do want to make a point that for us to reach meaningful scale, we believe this is the one area of the business that we are going to have to pursue an inorganic growth strategy on top of what we've done organically.

Next slide. So the problem is really that bringing drugs to market are really expensive. $2.5 billion in 10 years using randomized clinical trials in order to pass FDA regulations and receive a patent. That's really expensive and fraught with risk. And the idea is to use data in a real-world manner to lower the cost of that trial, either by creating segments of the trial that are done virtually or by using data to monitor drug device safety post release, expand the label indications and many more use cases. What's unique about what we're doing is we're really partnering with our providers to do this. So most use of data today is static. Companies gather data, clinical data as well as claims data, organize it and sell it to life sciences companies in order to be able to provide some of those services.

We're actually creating a network, the Cerner Learning Health Network, that brings our partners and in real-time, our provider partners and allows them both to participate in the servicing of data through life sciences, and allows them to also garner some benefit for doing so financially. So we're driving revenue back to our providers to do this. Now this requires a different data use rights agreement, which we've already negotiated with many of our providers and continue to negotiate today and is really the differentiator by which we're going to market to life sciences.

As an example, next slide, we created a small partnership with Duke Clinical Research Institute, which is a captive clinical research organization, to see if our data made sense to pharma and whether it could be used. And Duke Clinical Research Institute brought Janssen Pharmaceuticals to bear, who is looking for some help in creating registries around a multiyear, multi-site cardiovascular outcomes trial that they were running. We were successful in recruiting 3 provider sites who wish to participate with us. And within a matter of weeks, we're able to create a longitudinal cohort of over 400,000 patients, which would typically have taken the better part of a year for Janssen to do.

We continue to drive business off of this single pilot, including 3 additional follow-up contracts with Janssen, Amgen and Novo Nordisk and are looking to expand this beyond just the use of registry creation. But again, this was the first pilot that really proved to us and to our potential partners that there was value in this data and that Cerner could access it, and to our providers that there was value for our providers to openly partner with us in pursuit of this.

Next slide. Based on the success of that partnership, we have started looking at other CROs or nontraditional CROs in the market and are currently discussing with United BioSource Corporation a number of different pilots that expands just beyond registry creation. Well, of course, they're still interested in the creation of registries. UBC is working with us on a clinical trial design, using data to help pharma companies design more intelligent trials.

UBC is well known for their HEOR research and safety and efficacy programs as well as some of their commercial programs, and we're currently partnering with them to figure out how to use that data there as well. And then lastly, UBC actually does engage in trial management and are looking to partner with us for how we use that data to create RWE trials, which would greatly reduce the cost of trials for pharma. So we're very excited about what we've done here in the real-world evidence business. We've shown some great organic growth. But again, we're going to have to think a little bit larger to create some scale in this business as well.

Next slide. So I contrast that with the release of information business, where we think we have a great organic opportunity. And the release of information business is essentially providing access to health information for non-HIPAA use cases to nonhealth care markets.

Next slide. And again, the markets that we're currently focused on are the legal and life insurance markets. You can see some of the key competitors down there. Interestingly, our closest competitor from an EHR perspective has also decided to attempt to enter this market. And the reason why this market is so interesting to both of us is, this market has largely been, while large, a low-margin market than most of the competitors because of the people-intensive, high-cost approach that they have to take the gathering to health data from multiple provider sites in order to meet the request coming from various industries. That doesn't apply in our case. We are electronic. We can get to this data without human intervention, in most cases, and we can do it far faster than most of our competitors can as well.

So I'd like to talk to you on the next slide about a really exciting example that proved to us that we have a great growth opportunity here. So the 3M Corporation, as you probably have seen, is being sued for defective earplugs that were used in Gulf War and Afghanistan War. And they had multiple mass tort cases against them across the country. And when there's multiple mass tort cases, the government sometimes consolidates them into what's known as a multi-district litigation under a single federal court. And this federal court needed to hire a records retrieval firm to be able to support deploy of medical records across hundreds of thousands, if not millions, of potential plaintiffs in the case. We were fortunate to have been selected late third quarter, early fourth quarter last year to be the sole-sourced records provider. We've signed over 65 law firms to date growing daily, who are using us. We've pulled over 74,000 records on behalf of veterans this year-to-date. And we're doing it on approximately a 4-hour turnaround time, where previously it was taking weeks.

This model is one that we believe is going to show tremendous growth. And in fact, from a revenue perspective, based on this contract alone, the HealtheHistory business, which is the business that supports this area, is going to grow by a factor of about 30 to 40 in the course of a single year. Low revenue numbers, but still amazing growth. And we're currently competing for 2 additional multi-district litigation opportunities today.

Next slide. Likewise, in the life insurance industry, where every time you go to apply for life insurance, you sign a release that allows the life insurance company to access your health records to support underwriting, speed is key. And we signed USAA, one of the largest property and casualty insurance companies for their life insurance segment to utilize HealtheHistory to support that underwriting program. And we're consistently hitting within 30 to 60 days, meeting their underwriting requirements. And USAA has highlighted this as one of their key innovations of the last year that's really driving their ability to move faster and reduce shrink in their underwriting capability.

We believe it's important as well because when we expand beyond life insurance to areas like workers' compensation or government or property and casualty, having these existing relationships will allow for some immediate revenue growth organically, which we believe is the opportunity here in the release of information business.

So I want to thank you for your time and turn it back to Don Trigg.

Donald D. Trigg ***Cerner Corporation - President***

Thanks, Art. Before I open it up for questions and comments, I'll just make some closing comments. I think as you heard over the course of the morning, we feel very good about the state of our core business. John talked about some of the key areas of focus, inclusive of the work around revenue cycle and the white space opportunity there. And Travis laid out, I think, a strong forward path relative to our federal business. And hopefully, Art and I gave you a sense for not only the path to 20% organic growth inside our strategic growth business but some of, I think, the exciting opportunities for us to think about leveraging strong free cash flow and the balance sheet for inorganic strategies opportunistically in the quarters to come.

So all that fits in to a larger change initiative that Brent has been advancing over the last number of quarters that we think represents not only good progress in full year '19 but continues to make progress as we work through 2020.

So with that, let me close our prepared comments and open the line up for questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question comes from Robert Jones with Goldman Sachs.

Robert Patrick Jones ***Goldman Sachs Group Inc., Research Division - VP***

I guess maybe just to pick up where you just left off, the real-world evidence opportunity, as you highlighted, is a very big one. I think there are several obviously players, as you also highlighted, that are in the market pursuing this opportunity. It sounds like for Cerner to maybe take more full advantage of this market opportunity, you'd need to do a deal. I'm just curious if maybe you could give us kind of order of magnitude of how big a deal you'd be willing to do in that space. And then within the capabilities that you have today relative to the others that are also out there with real-world data and real-world evidence offerings, what capabilities would you be looking to add on to that offering?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

This is Marc. Before Art answers the -- what we'd be looking for, I would indicate -- obviously, we can't really talk a lot about potential M&A opportunities or size at this point. But I think it's fair to say that we're going to -- we'll take a look at what opportunities, and we have a strong balance sheet that allows us to do M&A upsize. But at this point, we don't have any guidance to provide relative size. But Art, maybe you could talk a little bit about the elements that we think we need to have from a capability standpoint.

Art Glasgow ***Cerner Corporation - Senior VP, Strategic Growth***

Yes, absolutely, Marc. Thank you. So we don't believe it's necessarily a better, faster technology platform that's primarily needed, although those things could be interesting tuck-ins down the line. We believe primarily what we need is a business platform that has the existing relationships with pharma who's currently engaged in pursuing some of this business today. That does not mean a traditional CRO. In fact, we've largely excluded that because of the low-margin, people-intensive aspect of some of that business. But in terms of scale, I think you'll find there's kind of a sweet spot in the market for companies that tend to look like that, that have some technology ability, but more importantly, the relationships with pharma and the existing strategy that matches well with access to data that we can provide.

Robert Patrick Jones ***Goldman Sachs Group Inc., Research Division - VP***

Okay. Great. I guess just one other more forward-looking as we think about the things that need to play out in order to achieve the long-term growth. Obviously, there's a number of initiatives. But I think one of the things you highlighted that isn't too inconsistent from the previous long-term growth outlook was around just the health network, which you guys spent some time talking about. It still sounds like you're calling for mid-20s growth there. I'm just wondering what needs to play out, both from internally what you need to do differently if there is anything you need to do differently. And then from the end market standpoint, what are you assuming as far as the shift towards more reimbursement structures that might drive the offerings within your Health Network's portfolio to maybe have a stronger uptake than what we've seen so far?

Donald D. Trigg ***Cerner Corporation - President***

Yes, it's a great question. So one, I think we have the good fortune of having made a material investment in the HealtheIntent platform and worked with a set of organizations that were, I'll say, early to risk. So really, we're doing more than sort of science projects around MSSP, but we're actually taking material business model risk and thinking about management of the first dollar. So I think the capabilities that we built out at Advocate in Chicago and accelerated across early adopters of that platform created really some best-in-class capabilities relative to key use cases around value-based care. And I think if you look at more near-term activity, like the partnership with Lumeris, specific to Medicare Advantage, we've not only thought through that now in the context of use cases with collaborative payers but also in the context of de novo planned start-up activities for provider organizations as well.

Having said that, what we spent time and energy talking about internally are what the path to larger value-based strategies look like.

And a big line-of-sight focus for us is how do we think about the platform against key fee-for-service use cases. So how do you think about out-of-network referrals as a key dimension of how you manage your network? How do you think about network management contextual to key specialties and service lines? And how does all of that then become preparatory for an organization that has a handle on total cost of care and can advance value-based strategies over time and feel increasingly comfortable taking risk at the enterprise level? So we like the momentum in the market against key fee-for-service use cases. And we think as the trend towards value plays out, and we think that's a when-not-an-if reality, we think that will create additional traction and take rate around the point solutions that we're taking to market.

So there's always gaps that you have in your solution suite relative to things that you're wanting to do to differentiate, but we think we have a very strong toolkit to take out to the market today, and we're getting traction and take rate around it.

Operator

Our next question comes from Lisa Gill with JPMorgan.

Lisa Christine Gill ***JP Morgan Chase & Co, Research Division - Senior Publishing Analyst***

Marc, do we not get the joke if we're not there in person? I'm a little bit disappointed if not.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

I think it was intentional by Allan to bury me into the middle of this presentation.

Lisa Christine Gill ***JP Morgan Chase & Co, Research Division - Senior Publishing Analyst***

All right. I guess we'll have to be there first in next year. So just as we think about, obviously, with everything with COVID-19 out in the marketplace, are you seeing any decision-making being pushed off on the IT side? I mean I don't really think of this as having any kind of long-term impact, but just curious if you're seeing any decision-making being pushed off as hospitals are focused on what's going on in the marketplace would be my first question.

And then secondly, as we continue to be focused on the consumer, and Don, I appreciated the comments that you had from Neal around the medical record and really being the property of the individual. How do we think about Cerner playing a role in that? How do we think about HIPAA? Do you become a more consumer-facing organization? Or has this come through the providers that then touch the consumer? Just how do we think about how that plays out?

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Okay. This is John. I'll hit the first one on the impact of the coronavirus out there right now. But to date, we haven't seen a slowing or pausing of any activity our projects due to COVID-19. From a Cerner perspective, we continue to travel and support of our clients and our delivery for our clients. There's -- they're doing some preparation activities that we're supporting, but we continue to travel for those. The situation is always kind of fluid out there, as we know, but we'll continue to work closely with our clients to make sure we support them. I mean there's a real potential that we may see the demand for our client services, their health services increase with this. It's a little bit of an unknown. But to date, no impact in terms of our projects and initiatives.

One interesting note that I'm making, and Don had mentioned this, that several of our strategic solutions we have out there, think of things like telehealth, surveillance, analytics, the population health platform within HealtheIntent. They're actually playing crucial roles as our clients plan for the potential of delivery of care outside of their current environments. And Don had also mentioned that when the situation stabilizes, potentially there's real opportunity for increased funding around some of these capabilities that are out there.

Donald D. Trigg ***Cerner Corporation - President***

Lisa, this is Don. So this is an awesome question on what's it kind of looked like for us to think about the progression from patient-based use cases to member-based use cases to ultimately a health care market where we see elevated rates of consumerism. I think we're spending a lot of time and energy on that topic.

I think what I would say is we're trying to be smart about that progression. And so today, a lot of our work is around what I'll call the compulsories of supporting provider supply-side use cases around that patient member consumer continuum. So the well-being application that we brought to market with Geisinger, how we think about key partner strategies as a way to be provided to the patient in a way that is seamless to him or her, leveraging partnerships with [Kyris] and GetWellNetwork from a HealthLoop perspective, Amwell from a tele perspective. So really thinking about what are those partner capabilities that we want to provide on a plug-and-play capability to that patient or member today.

I think as we play forward around the strategy, where we believe there's a meaningful place to differentiate and where our partnership strategies around not just the AWS side of Amazon but pan-Amazon begin to feature, are how do we become a trusted steward for consumer data and consumer insights and then really become best-in-class in terms of how those consumer insights get activated within the last-mile workflow of the physician within a health network. And so I think our work in the employer space, our partnership with Lumeris, our ambitions around not just [BEPC] but larger strategies around episodic bundles, all those play into what it looks like to ultimately have a larger consumer strategy, mostly through a set of key partners to include providers within MSAs where we're driving business strategies. So I think short of kind of a pure kind of D2C orientation but really trying to be smart and sophisticated around path from patient member to consumer.

And then just the final thing I would say is also thinking a ton about the regulatory environment and thinking about it globally and what does it look like, not just to play through the information-blocking provisions within 21st Century Cures but also to think about what update strategies to HIPAA might look like, strategies around GDPR-style statutory changes and what those do or don't do to adoption rates around key strategies. So we have to be smart on that topic, and I think really differentiate ourselves from big tech and Silicon Valley-based start-ups because we understand what's playing out and how it will impact diffusion rates around our strategies.

Operator

Our next question comes from George Hill with Deutsche Bank.

George Robert Hill ***Deutsche Bank AG, Research Division - MD & Equity Research Analyst***

Yes. I guess, maybe Marc or John, would you guys talk a little bit about the size and the timing of the non-VA and DoD government opportunities that you see going forward? And kind of how should we expect that the kind of the processes look like going forward? And I imagine you guys expect pretty good win rates, but just we've seen these kind of be diffused with like L.A. hospitals and stuff. Would just love comments around that.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

This is Marc. Just to kind of level-set, the DoD and the VA are by far the largest opportunities in the federal space. So the other ones that are -- that Travis talked about are certainly opportunities and ability to leverage our experience with the government and the systems we're building. But from an order of magnitude, it's a nice ability to continue to grow that business. But order of magnitude, they're not multiple billions of dollars and most of these are. But I'll defer to John, Travis and the others to comment.

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Yes. I would say that in the context of some of the things mentioned, stuff like the IHS and those type of things, those have been ongoing activities we've had for multiple years. The good thing is, is we now have a platform to either look at more of those types of things, but I see them just being a part of our normal process in terms of what we look at, how we onboard them and those type of things. We just have a better platform for which to look at those.

Travis S. Dalton ***Cerner Corporation - President & GM of Cerner Government Services***

This is Travis. I'll just add that I actually think we have an opportunity to utilize some of the things that Don is working on the strategic growth space. So we can actually utilize some of those capabilities and solutions into those other provider agencies beyond VA and DoD. So I think we've got opportunities beyond. But to Marc's point, the vast majority of our opportunity wise and clear execution on what it is we're on task due today, but we do have some possibilities beyond.

George Robert Hill ***Deutsche Bank AG, Research Division - MD & Equity Research Analyst***

That's helpful. And if I could have a quick follow-up for Don. Don, is it safe to assume that the relative TAM bucket sizes that we called out in the 6 categories of strategic growth are reflective of their size, kind of in Cerner's strategic growth buckets? And I guess from a -- do we think that the time that those markets develop is generally over the same period? Or do you expect some of the markets are going to mature faster than others?

Donald D. Trigg ***Cerner Corporation - President***

Yes. It's a great question, George. I think what we tried to do there, which is a little bit of iterative work that we've done since JPMorgan has really give you a sense for what do we think the kind of nearer-term opportunities look like from a SOM perspective, where do we think there are clear line of sight to achievable opportunities beyond that. But I think -- so Marc highlighted the TAMs. But I would say, if you look at just a more narrow line of sight around offerings that we have today and which I enumerated on that next page, we feel very comfortable that we can achieve the growth rates that we laid out on a 4-year basis. So there's real growth here across all those markets, and we're very well positioned to do it today against current solution capabilities.

Operator

Our next question comes from Michael Cherny with BofA Securities.

Michael Aaron Cherny ***BofA Merrill Lynch, Research Division - Director***

Marc, I want to dive back into some of the margin targets and some of the comments that you and also Brent made on some of the process improvements. As you think about that 100 basis points of annual margin expansion, clearly with revenue growth, there should be some mix dynamics and incremental pull-through drivers that comes through it. But can you talk a little bit more about some of the process improvements in terms of some of the specifics you're pushing forward through beyond head count rationalization, some of the pieces you're putting in place to make sure you can -- you maintain a, I guess, more agile, more nimble overall organization?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. I think from a -- certainly, cost optimization has been kind of the initial focus in going through and making sure we are driving all the efficiencies we came out of the organization. And for the most part, you're seeing the benefit of that coming through our SG&A line. And I will see, we will look out kind of over through the 2024 time, we would continue to see a lot of benefits accruing to the SG&A line because that is where a lot of the optimization impact is going to occur.

But I also think kind of, as you mentioned, as we actually start continuing to grow the revenue line, you'll also see the contribution margin opportunities increase. Because I think many of the things that we're looking at that are going to be more efficient ways to host our solutions using AWS, more efficient ways for us to deliver our technology through HealtheIntent, all of those come with them a cost savings relative to the current operating models. As we continue to evolve toward a cloud-based platform, just moving Millennium to a native cloud environment could save $130 million of annual cost that we can incur today on sublicensed software that it takes us to run Millennium in our data center. So all of these are opportunities that would go directly to increasing the contribution margins for those businesses.

So I think, as I look at the past to the mid-20% range, probably around 25% by 2024, I see it coming from both the leverage we get out of SG&A and leverage we're going to see that's going to come directly through contribution margins. So both of those will get some leverage on the R&D standpoint, but a lot of our goals in R&D is to get better and more efficient in how we do it and put out a whole lot more stuff.

David Brent Shafer ***Cerner Corporation - Chairman & CEO***

Yes. Just to build on that, your comment about being agile and more productive overall. I mean part of doing this work is by bringing clarity, clarity around process, clarity around decision rights, clarity around roles and responsibilities. You enable people to just go a lot faster. And as we kind of -- as we started this journey, what we all talked about 1.5 years ago or so was this is a business that's built up over time. And as it built up, we built in a fair amount of complexity. And so everything that Marc just said is that's all about reducing the complexity and enabling speed and agile decision-making throughout the organization. So I think we're on the right path there.

Operator

Our next question comes from Matthew Gillmor with Baird.

Matthew Dale Gillmor ***Robert W. Baird & Co. Incorporated, Research Division - Senior Research Analyst***

I wanted to ask about the revenue cycle product road map. I think Brent and John had mentioned delivering world-class revenue cycle is one of the key strategic priorities. And I think you also mentioned you'll be looking to fill in some gaps. So maybe just sort of help us understand what the gaps that you're filling in. Is that more sort of on capabilities? Or is it more sort of execution? And sort of how long it will take to fill those gaps?

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Yes. This is John. If you look at the gaps that are out there, there's a couple of things that we need to focus on. And we've actually published these to our clients in terms of our road maps in an expected time frame. So what I'd start by saying is we do have a competitive solution out there. So by saying world class, I don't want to give the impression that it's not a competitive solution. It is competitive and it gets more competitive every day as we drive to world class. But if we look at the primary gaps, I would say that they're on the back end of our solutions in terms of what you would say is patient accounting. And we look to fill those over the next 18 months. We released a 3-year road map about 18 months ago in terms of closing those gaps, and we're on schedule in context of delivering those.

I also mentioned that we want to ensure that every interaction we have with the implementation, not only of our revenue cycle but our other solutions, is a world-class experience. Experience is very important. Experience is important with the delivery of the clinical systems. It's important with the delivery of the revenue cycle systems. So we'll focus on ensuring that every single implementation is a world-class experience, and we'll continue to push that as well.

So we do have those solution gaps. We do have those to make sure that we have a world-class experience. And when we fulfill those gaps, the reality is there's those gaps in something. And we consider this to be an ongoing process as well. We're not done. And the fact is will never be done.

Operator

Our next question comes from Sandy Draper with SunTrust.

Alexander Yearley Draper ***SunTrust Robinson Humphrey, Inc., Research Division - MD of Equity Research***

I think, probably a question for John. There have been a couple of press releases about a couple of legacy customers moving over to a major competitor. Now I realize the sales cycles are long, and so those are probably reflective of what the competitive dynamic was 18 to 24 months ago. Just to get your thoughts on what your customers are saying today. How do you see retention because you highlighted that's important?

And then also maybe for Marc. One of your competitors noted this year they've got a headwind because of higher level of attrition from deals that happened a couple of years ago or were lost a couple of years ago. Is that something we should be thinking about maybe a couple of years out?

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Yes. This is John. I'll go first on the question about some of the recent news. And in each one of these situations, you'd expect, are different and have their own story. But what I would say is that it really underscores our need to focus and execute on our plans around our client success functions. We had mentioned we had set up the client success office, but we need to make sure that every single day, every single client is being incredibly successful. And we know what our gaps are, and we know what our challenges are. To your point, these things don't happen overnight. They work over time, but there is the reality that this is a competitive environment.

And while we win new clients and we expand, as I mentioned in a couple of my comments, we expand in the vast majority of our clients in our client base. The folks that leave us, so the clients that leave us are incredibly disappointing. And again, that's why we have to have a deliberate focus on client success every day for each client. I'll also note that while these directional announcements are public, these clients will remain an EHR client of Cerner's for multiple years. And also important to note that post transition of the EHR, they will continue to be clients of Cerner with our other platforms, HealtheIntent and, in some cases, CareAware.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. This is Marc. The headwind from attrition from lost deals as John indicated, it takes a long time to unwind. Many of our clients do have other platforms such as HealtheIntent they're running. So you're really the support element. And we've talked about when we look at our core and our growth, the fact that the core, as we define it, increases slightly, and some of that is going to be from attrition. Now the reality is that you're kind of -- some of the attrition we saw from the Siemens acquisition is really kind of just now beginning to hit us. So that gives you a sense of the timing that it takes to get to that. So I think it does impact the support element, but I think John's team is really focused on how you avoid that. As John said, each one has a unique story, but we know the signs. Some of this is not keeping current on the software, things like that. So we are focused on getting our clients to the latest and greatest version of software, doing everything we can to make sure they're following our guidance because not every client follows exactly what we guide them to do. And so we need to be more forceful to make them successful, which will retain them as a client. But for our part, it's a slight headwind, but we don't have a whole lot of attrition. So it isn't material.

Alexander Yearley Draper ***SunTrust Robinson Humphrey, Inc., Research Division - MD of Equity Research***

Great. That's helpful. And I think this will be a very quick follow-up, probably for Art. You mentioned there are, I think, 400,000 records you accessed when you were doing the real-world evidence project for Duke. Was that -- that can't all be for Cerner. So I'm just trying to understand how you're getting access to that many records and people. And so just trying to understand HealtheIntent, how long the tentacles are in terms of reaching out?

Art Glasgow ***Cerner Corporation - Senior VP, Strategic Growth***

Yes. Sure. So those 400,000 records are all inherent as a subset of HealtheIntent. As you know, HealtheIntent, while sitting on top of Millennium, is EHR-agnostic and does have the ability to see the full community record as well.

Operator

Our next question comes from Ricky Goldwasser with Morgan Stanley.

Rivka Regina Goldwasser ***Morgan Stanley, Research Division - MD***

So a couple of questions here. So first of all, on M&A and inorganic growth, you're projecting 4-year CAGR of about 1% to 3%, just for comparability. Can you just remind us how much inorganic was included in the strategic category in the guidance range that you provided in 2019? And also as we think about M&A, what's the sweet spot that you think about in terms of size of deal? So that's question one.

Question two relates to the -- and if you have any updates for us on 2020. Obviously, you provided pretty wide revenue guidance range between 0.6% to 5% when you think about what happened since you provided guidance around European divestiture, the Advent deal, though I understand that it might take longer to flow through the numbers.

And also, you just -- I think, Marc, you highlighted the debt refinancing. So how do you think about guidance for 2020 from where you stand now? Let me stop here. And then I have one other follow-up.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Okay. I think that from an inorganic view, at least as far as our discussion on long-term growth last year compared to this year, they both included about the same amount of inorganic opportunities as we look at the long-term growth for the company. We've been clear that our expectation is to be able to leverage the balance sheet, and that would be our goal to do so, particularly targeting areas in the strategic growth area. I don't know that there's a sweet spot from an M&A perspective. I think we're going to be very targeted on where we see something that can take our capabilities and leverage them to create a growth engine much faster than we could do it organically. That's the whole reason for us to do an inorganic. We're not looking for market share. We're looking for capabilities that leverage what we -- our plan but get us there just faster. So that's the sweet spot. There is not a dollar amount sweet spot that we're looking at.

Now relative to 2020, when we do our Q1 call, we'll be able to provide a little bit better update. At this point, we're not updating any views that we have relative to guidance on this call, but we should be able to give a little bit more color. Obviously, there are things to process, things going on that we'll have more clarity by that time and hopefully give you -- be able to take that range down to a little bit smaller level then. But as of now, there's nothing I can really share with you today.

Allan Kells ***Cerner Corporation - Senior VP, IR***

Yes. Ricky, this is Allan. The only thing that's really changed is that the global divestiture was about $20 million of revenue a quarter. So when that closes, that's basically that amount would go away. So if you think of the middle of the year closing, you're maybe a $20 million a quarter after that. But as we indicated when we announced it, the profitability associated with that, we can offset through other initiatives. So it'd sort of be net neutral from an earnings standpoint. So that would really be the only update.

Rivka Regina Goldwasser ***Morgan Stanley, Research Division - MD***

Okay. And then the presentation of AWS was very helpful. Can you just kind of like talk a little bit about the revenue model and kind of like what's the economic split between Amazon AWS and Cerner?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. This is Marc. There is no split between -- I mean, right now, at least currently, our activities with AWS as a partner involve them working with us, obviously, on the technology side, leveraging that. But that was kind of part of our deal for them to help us on the technology side. So that's just part of basically our agreement to basically use them as our hosting partner. And so their economics are, they're going to get a lot of hosting dollars. Our economics are we're going to get the lower cost relative to using AWS hosting and access to a variety of technologies, including cloud technologies, that will enable us to move our solutions forward faster with less development time on our side. So those are kind of the economics that are involved. There isn't, today, anything that splits. That's not saying that as we work more with AWS and Amazon that there might be some opportunities for us to work together in something that would include that. But at least it's in place today. I would say there isn't such a sharing today.

Donald D. Trigg ***Cerner Corporation - President***

Right. One of the things we talked about around the larger Amazon relationship and the work with AWS is one of the partnership selection criteria was the opportunity to really leverage capabilities and engage with Amazon across the breadth of their business. So there's a collaboration framework that's in place. We look at those on a case-by-case basis. And that was really a model designed out by Dan Devers and now that he is responsible for and will be driving.

Operator

Our next question comes from Charles Rhyee with Cowen.

Charles Rhyee ***Cowen and Company, LLC, Research Division - MD & Senior Research Analyst***

Wanted to ask about Lumeris. You guys talked -- it sounded like things are going very well with that JV there. And if I recall back when you guys first announced it, the idea was to help Lumeris use HealtheIntent to have it established as their platform, potentially to look to expand that further out into your client base that our providers are looking to take risk. Can you give us a sense on where we are in sort of that kind of road map? And is this something that we're still waiting on for certain things to happen? Or maybe give us a sense on where we stand today.

Donald D. Trigg ***Cerner Corporation - President***

Charles, this is Don. That's a great question. So I think the first thing I would say is just separate and apart from the partnership, as we get in the marketplace and have conversations, everybody is looking to grow key service lines. Everybody is looking to work their expense line and make money at Medicare rates, and everybody's thinking about risk-based contracting as a dimension of how they have to play toward their business strategy over the next 5-plus years. And so Lumeris is a really important framework for us to be able to take into our provider client accounts and have the right level of strategic conversation around where they're going on a 5-year basis and what our capabilities look like to support those strategies going forward. So it's meaningfully differentiated from other EMR companies and very relevant to the conversation that C-level executives want to have today as they put forward their 5-year plan around their business.

Secondly, from a Lumeris perspective, you'll recall that one of the discrete things that we were keen to do was to really think about their MA plan with 70,000 members in St. Louis as a driver client for best-in-class capabilities of HealtheIntent to manage first dollar risk. And that is an effort that played forward over the course of 2019. Like any legacy platform deprecation, Travis could walk through the VISTA variant of that in the VA space. They had discrete capabilities that we had to be able to match like-for-like. So we had a concept of parity plus as well as some areas that we wanted to innovate around both provider and member experience. And as I described on one of the slides, that's an effort that was successful over the course of 2019. And now we're in the process in 2020 of actually deprecating their legacy ADSP platform and really making HealtheIntent the differentiated platform that they're taking to market, not only in Millennium client environments but also in non-Millennium client environments. So it's a major step change for us in terms of the partnership. And it really affords us, we think, the opportunity on a go-forward 4-year basis to really start to think about, not only what's it looked like to align with our clients on business strategy and be relevant to what they're wanting to do from a risk perspective but also think about meaningful penetration of non-Millennium environments in a way that creates a take rate for HealtheIntent as an EHR-agnostic platform and allows us to increase the number of lives and the strategic relevance of those lives across multiple markets. So the information, very good progress. We continue to be deeply committed to the partnership and excited about the progress.

Charles Rhyee ***Cowen and Company, LLC, Research Division - MD & Senior Research Analyst***

And does that mean that sort of as we get through 2020, you're in a better position for 2021 to extend outwards? Would that be more like with the 2022 planned season?

Donald D. Trigg ***Cerner Corporation - President***

No. Absolutely. We're going to see positive revenue impact starting in 2020. And over the course of the projections that were put in front of you, that lives in the health network line of the view that I provided from a segment and CAGR perspective. But we're getting an economic benefit from deprecation of ADSP. We're participating in all the 1,120 go-lives. And to your implicit point, as we start to see the number of lives within those they plan to grow, they are PMPM-based economics that have a value proposition to us out quarter out year.

Charles Rhyee ***Cowen and Company, LLC, Research Division - MD & Senior Research Analyst***

That's helpful. If I could sneak one more in for Don as well or maybe Art. When you -- it made sense from an earlier question how HealtheIntent, being sort of EMR-agnostic, you can pull a community record when you're doing real-world evidence. There are other data -- bigger data aggregators that are pulling claims data on an agnostic -- EMR-agnostic basis. Can you just maybe delve in a little more what differentiates HealtheIntent here specifically from some of these larger data aggregators?

Art Glasgow ***Cerner Corporation - Senior VP, Strategic Growth***

Yes. I'm happy to take that, Don, if you'd like. So I think what differentiates HealtheIntent right now is just its breadth and its speed. So HealtheIntent allows us really to create those cohorts that we talked about in the registry pilot extremely quickly. And HealtheIntent is not a static database as well. So most of those other data aggregators are gathering the data once and then it ages, months-over-months, years-over-years. HealtheIntent refreshes itself every 17 seconds in the cloud. So it's an extremely live database. Now I will say, moving forward, and one of the reasons why we focused on the need for inorganic growth in this area is as we expand the use cases by which we're going to service, pharma and life sciences, we're probably going to have to go deeper than the HealtheIntent data. But that data does exist below HealtheIntent and Millennium. So as we get deeper into the clinical data, into the unstructured clinical data, we'll only be able to add value to the overall data asset, that Cerner stewards, on behalf of our provider customers today.

Donald D. Trigg ***Cerner Corporation - President***

And the only other thing I would just say, Charles, is Art's made a real point to talk about the composition of our client base. And so the opportunity for regional IDNs and, in particular, community hospitals to participate in a clinical trial activity and clinical trial economics is an interesting dimension as you think about our client footprint relative to some of the other competitors who have a very AMC-dominated client basis. So there's a differentiation, both to the clinical data but also from a market segment perspective in terms of some of the real strength of our client base.

Operator

Our next question comes from Steve Halper with Cantor Fitzgerald.

Steven Paul Halper ***Cantor Fitzgerald & Co., Research Division - Analyst***

On Slide 73, you did highlight that the numbers exclude Millennium SaaS migrations in 2024, 2025. Is that the attrition that you talked about previously?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

No. Steve, this is Marc. It just indicated that we wouldn't -- there isn't an impact from a wholesale switch to a SaaS business model in the numbers because that's not our expectations of what will happen as we move forward given the approach we're taking toward going to the cloud. So that's the key element to that.

Steven Paul Halper ***Cantor Fitzgerald & Co., Research Division - Analyst***

So that comment is not related to the planned attrition?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

No. No. It's the -- we're just saying that, certainly, it makes sense if you're going to build an accurate model that you assume there are some small level of attrition. But keep in mind, we also expect to sell back into that base. Revenue cycle has got a fairly significant white space still in our base, so just even in the core and the solutions that are included in the core. And I would stress that this is my model that reduces it. John's model does not have our core business reducing. He is going to do everything he can to make sure that core business grows because he sees the opportunity there. I think from a modeling standpoint, I'm being a little bit conservative on that.

Operator

Our next question comes from Sean Dodge with RBC Capital Markets.

Sean Wilfred Dodge ***RBC Capital Markets, Research Division - Analyst***

Maybe, Marc, going back real quick to the Millennium staff migrations. I guess at a high level, how should we think about how those should affect revenues? Is the expectation they'll be somewhat growth-dilutive but drive up the proportion of recurring revenue? Or given you've already sold licenses and you're flipping them to SaaS, is this something that could be accretive to those ranges that you've laid out?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Well, once again, we kind of indicated that in the range we have for this period, SaaS isn't going to be an impact from a business model standpoint. I think it's important, when you look at us, when you think of SaaS, the recurring business, well, you look at our business. We have hosting. We have a lot of -- we have support. A lot of the elements of our business are already recurring in nature. So unlike many companies that flip to a SaaS model, we already have a majority of our revenue coming in on a pretty consistent basis. Your point that on the SaaS model, you continue to get paid for the license software in perpetuity as opposed to the one-time element that you have is certainly something that's on our radar. But once again, the projection that we provided don't really have any -- because of the time frame, don't have any impact on SaaS. And I think that's appropriate that SaaS won't have much of an impact in that time frame.

Sean Wilfred Dodge ***RBC Capital Markets, Research Division - Analyst***

Okay. And then just a quick one on the VA contract. The delay in the go-live for the Mann-Grandstaff site, I know Travis, you said, it doesn't affect the rest of the project. Does it? Or how much does it impact your expectations for VA revenue for the year?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. This is Marc. It doesn't impact it.

Operator

Our next question comes from Donald Hooker with Keybanc.

Donald Houghton Hooker ***KeyBanc Capital Markets Inc., Research Division - VP and Equity Research Analyst***

So on your slide, your outlook slide, you were referencing 4% to 5% organic growth. Can you maybe talk about kind of the stability of that over time? And should we expect kind of lumps ups and downs? I mean, obviously, the inorganic component of your outlook is -- presumably, it's pretty lumpy, obviously, and hard to predict. But the organic component, I mean, how much volatility should we expect there? Could we have sort of years of 6%, 7% growth and years of low single-digit growth? Or is it more stable?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. I think the graph that's included on that slide is intended to be somewhat indicative of kind of what you see the overall growth. We kind of indicated that 2020 is a reset year. But really, when you go from 2020 towards 2024, the growth rate isn't going to vary a whole lot from year-to-year. Now once again, that can change depending on inorganic activity and the timing of that inorganic activity. We've layered in kind of a ramp-up of inorganic that goes up in 20 -- basically kind of 2021 and then increases up from there. So it will depend on that. But otherwise, the growth is pretty level throughout the period of time that we look at.

Donald Houghton Hooker ***KeyBanc Capital Markets Inc., Research Division - VP and Equity Research Analyst***

Okay. And then in the federal business line, the growth there, obviously, is a little higher with the VA. Can you just update us in terms of kind of the -- I would assume that's kind of a lower margin area. I mean, I guess, there are a number of revenues in that segment. But kind of maybe just ballpark sort of the profitability of entering that federal segment and the other -- some of the other segments you have?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Well, I think the federal segment, because we are -- it's basically a commercial contract vehicle. So it isn't a cost plus. We've -- it's similar to what our other businesses are certainly -- they get perhaps a bit of a volume discount when you buy -- we offer special deals. If you buy $10 billion, you get a special -- you get some off. But overall, it's going to be -- it will be comparable from an overall margin perspective because it does include software. It includes a lot of the elements that all of our business include, hosting and all those elements. So from a margin standpoint, it really isn't a lot different from the rest of the business. And that's why we're able to kind of continue to grow our margins with that becoming a bigger part of our business as we go forward.

Travis S. Dalton ***Cerner Corporation - President & GM of Cerner Government Services***

Yes. This is Travis. As Marc noted, it's a firm fixed price contract. So it's very similar to a commercial contract. We've got, I'd say, very good services rates. And also, it's consistent in terms of line of business mix that you would see in a commercial contract. So I expect similar margin profile.

Donald Houghton Hooker ***KeyBanc Capital Markets Inc., Research Division - VP and Equity Research Analyst***

And then last real quick one. Can you update me -- update us on maybe your ambitions around perhaps taking more risk with clients around population health? Or is that not material in your strategic planning?

Donald D. Trigg ***Cerner Corporation - President***

Yes. It -- probably to speak to Marc's conservatism point, I think it's something that is interesting to us, and the chance to actually align with clients around their business strategies and to be aligned relative to performance is something that we think, when your technology and services can deliver it, it's exciting to talk through that with clients and think about how that might be a dimension of a contractual relationship. It's not something that we built into the model. And that features in the organic assumptions that we laid out this morning.

Operator

Our next question comes from Kevin Caliendo with UBS.

Adam Chase Noble ***UBS Investment Bank, Research Division - Equity Research Associate of Healthcare***

This is actually Adam Noble on for Kevin. I just wanted to ask first about the international segment. Any thoughts, particularly given the divestitures, around how that growth might compare to the domestic segment in the long-term revenue growth plan? And how should we think about some of the strategic growth buckets factoring into that international growth?

John T. Peterzalek ***Cerner Corporation - Chief Client & Services Officer***

Yes. This is John. I'll answer that in a general comment. In terms of the strategic growth capabilities outside the U.S., they're very relevant outside the U.S., particularly as you look at some of the payer models that are out there, and most of the payer models out there tend to lean towards the ability to aggregate populations. They tend to lean towards the ability to use analytics to impact the cost of care for those countries or those entities. In terms of the -- I think the other question

is around the divestitures and those type of things looking at growth. I'm going to go back to the same comment that I believe Marc made and I made that it allows us to focus on exactly what we want to focus on outside the U.S. There's opportunities in other procurements, so we'll have an opportunity to focus on. And there's a lot of opportunities to expand within the markets where we already have a considerable footprint and ability to leverage that footprint going forward. So while there may be a reset post divestitures, I see a great opportunity for continued growth outside the U.S.

Donald D. Trigg ***Cerner Corporation - President***

Yes. Let me just amplify on -- from a health network perspective, if you look at a country like England and trend lines around the NHS, their strategy around integrated care systems fundamentally represents a network strategy across multiple regions within that geography. The same would be true from the Nordics and other focused global markets. So the extensibility of these strategies has actually never been higher, and that introduces some really interesting international growth opportunities for us on a go-forward 5-year basis from a network perspective. And then, obviously, as well in terms of the use cases that Art laid out, as we think about what it looks like to come up with a comprehensive clinical trial identification and participation strategy, that also introduces some interesting global potentials as well.

Adam Chase Noble ***UBS Investment Bank, Research Division - Equity Research Associate of Healthcare***

That's super helpful. If I could just ask one on capital allocation. I know you guys have talked about growing the dividend over time with free cash flow. You guys have some pretty healthy free cash flow growth in the long-term target. How should we think about the share repurchase in that context as well? Would you expect the additional free cash flow to mainly be deployed in M&A? Or would you expect to be able to grow the buyback as well at the time?

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Yes. This is Marc. Certainly, our intent is to leverage our capital allocation to the benefit of shareholders. When we can find an investment opportunity that we think will move the business forward and enhance our growth opportunities and deliver our -- four our future growth, we only feel like that's the best investment for our capital. But we are going to be very targeted. We're not going to grow through acquisition. We're going to use it strategically. So in that case, we certainly expect to continue doing share repurchases. I think that as you go through the approach, certainly, dividend, increasing the dividend. Certainly, as our earnings increase, it increases dividend. It makes a whole lot of sense. Keeping repurchases somewhere in a base level of 50% of free cash flow would be kind of a target, but that's kind of, to some extent, will be determining on M&A. And it might be a [mid] to minimum in a non-M&A environment. So I think that overall, certainly, we see all of those elements as part of our capital allocation going to depend on which -- what opportunities we see. But -- and I think from a balance sheet perspective, we did plan some additional debt at very attractive rates. We think 1x leverage, absent M&A is a pretty reasonable level of leverage for the balance sheet. And to the extent M&A opportunities don't present themselves, we'll likely use that for repurchases. As I indicated today, we've already, in Q1, been very active in the markets and exceeded our 12-month target of the $1.5 billion. We were going to be purchased -- purchasing over $400 million already this quarter.

Why don't we take one more question?

Operator

Our next question comes from Jeff Garro with William Blair.

Jeffrey Robert Garro ***William Blair & Company L.L.C., Research Division - Research Analyst***

I want to touch on the portfolio management review, and I know it's hard to give a precise time line. And last quarter, you said it would be ongoing. You've also mentioned that moves from here are likely smaller than the Adventist outsourcing move and the European divestiture. But I wanted to ask what to expect from here? And maybe more specifically ask about RevWorks or kind of broader selectivity in RCM professional services engagements.

Donald D. Trigg ***Cerner Corporation - President***

Sure. This is Don, Jeff. So as Brent framed, there was a very extensive portfolio management process that we work through over the course of full year '19, and I think some meaningful progress there. We not only talked about some of the strategies around global but also some of the key partnerships that have emerged as an outgrowth of making a decision to deprecate and move to a different solution strategy around things like home health, in-room entertainment strategies and the relationship with GetWell. And as part of that process, obviously, and the Adventist announcement thinking a lot about revenue cycle and to the very earlier good question about what does the right go-to-market strategy look like there, so the near-term strategies in that space have been focused on what it looks like to realize the white space opportunity. So how do we think about a new deployment model, which we put in place over the course of '19? How do we think about HealtheIntent as a key enabler of reporting capabilities that we know are necessary for managing post-conversion environments? Really good progress, I think, on the front end from a red sketch perspective, including API enabling and opening that up.

And then finally, and I think importantly, really trying to think about from a front, middle, back perspective, what are the best capabilities in Millennium and in Soarian that we can leverage to actually continue to not only meet the minimum viable product requirements but also differentiate the offering. So that's all work that's in-flight and in progress. And we're certainly thinking about skills partners and strategies in that space as part of how we actually fulfill what's a very measurable space and exceed the expectations of our clients. So I think more to come in terms of what the breadth of partnership activities may look like there. But I think that's some of the framework in which the decisions around that would fit in.

Jeffrey Robert Garro ***William Blair & Company L.L.C., Research Division - Research Analyst***

And then just to follow up. You mentioned more to come on partnerships and the spaces you're attacking. Can you give a little more commentary on kind of your focus on software versus services and a similar dichotomy in partnerships, whether those partnerships are more likely to be technology partners or services partners?

Donald D. Trigg ***Cerner Corporation - President***

Yes. So I mean, we're very focused on the software and the technology side of this business. That's where the R&D and the IP investment is focused. I think as we API-enable pieces of the stack, it creates interesting opportunities for us to think about our relationship with Experian, which we announced last year, and front-end leverage, how we think about things like the relationship with Simplee and what it looks like to allow patient member consumer self-pay. So you're seeing some of those partnership strategies emerge. And yes, services is an area where we would be predisposed to want to think about skills partner strategies. That could be tech-enabling those strategies because there's an existing relationship inside a large client environment or it could be a skills partner that we partner with as part of a total solution offering.

Marc G. Naughton ***Cerner Corporation - Executive VP & CFO***

Okay. I want to thank you all for joining us today. We appreciate the opportunity to share some of our successes in 2019 and provide an updated future view of the revenue growth and profitability. We really appreciate the insightful interactions we've had today, and I wish you all a good day. Thank you so much.

David Brent Shafer ***Cerner Corporation - Chairman & CEO***

Thank you all.

Operator

Ladies and gentlemen, thank you for your participation in today's conference. This does conclude your program, and you may now disconnect.