Enterprise EHR Vendor Evaluation

What's Really Important

May 21, 2013
Health Care IT Suite

Managing Director
Kenneth A. Kleinberg, MS, FHIMSS

Contributing Experts
Kenneth A. Kleinberg, MS, FHIMSS
Peter Kilbridge, MD
Douglas Thompson, MBA, FHIMSS
Arthur Harvey, MS, CPHIMS

Contributing Consultant
Santa Mohan

Executive Director
Jim Adams

LEGAL CAVEAT

The Advisory Board Company has made efforts to verify the accuracy of the information it provides to members. This report relies on data obtained from many sources, however, and The Advisory Board Company cannot guarantee the accuracy of the information provided or any analysis based thereon. In addition, The Advisory Board Company is not in the business of giving legal, medical, accounting, or other professional advice, and its reports should not be construed as professional advice. In particular, members should not rely on any legal commentary in this report as a basis for action, or assume that any tactics described herein would be permitted by applicable law or appropriate for a given member’s situation. Members are advised to consult with appropriate professionals concerning legal, medical, tax, or accounting issues, before implementing any of these tactics. Neither The Advisory Board Company nor its officers, directors, trustees, employees and agents shall be liable for any claims, liabilities, or expenses relating to (a) any errors or omissions in this report, whether caused by The Advisory Board Company or any of its employees or agents, or sources or other third parties, (b) any recommendation or graded ranking by The Advisory Board Company, or (c) failure of member and its employees and agents to abide by the terms set forth herein.

The Advisory Board is a registered trademark of The Advisory Board Company in the United States and other countries. Members are not permitted to use this trademark, or any other Advisory Board trademark, product name, service name, trade name, and logo, without the prior written consent of The Advisory Board Company. All other trademarks, product names, service names, trade names, and logos used within these pages are the property of their respective holders. Use of other company trademarks, product names, service names, trade names and logos or images of the same does not necessarily constitute (a) an endorsement by such company of The Advisory Board Company and its products and services, or (b) an endorsement of the company or its products or services by The Advisory Board Company. The Advisory Board Company is not affiliated with any such company.

IMPORTANT: Please read the following.

The Advisory Board Company has prepared this report for the exclusive use of its members. Each member acknowledges and agrees that this report and the information contained herein (collectively, the “Report”) are confidential and proprietary to The Advisory Board Company. By accepting delivery of this Report, each member agrees to abide by the terms as stated herein, including the following:

1. The Advisory Board Company owns all right, title and interest in and to this Report. Except as stated herein, no right, license, permission or interest of any kind in this Report is intended to be given, transferred to or acquired by a member. Each member is authorized to use this Report only to the extent expressly authorized herein.

2. Each member shall not sell, license, or republish this Report. Each member shall not disseminate or permit the use of, and shall take reasonable precautions to prevent such dissemination or use of, this Report by (a) any of its employees and agents (except as stated below), or (b) any third party.

3. Each member may make this Report available solely to those of its employees and agents who (a) are registered for the workshop or membership program of which this Report is a part, (b) require access to this Report in order to learn from the information described herein, and (c) agree not to disclose this Report to other employees or agents or any third party. Each member shall use, and shall ensure that its employees and agents use, this Report for its internal use only. Each member may make a limited number of copies, solely as adequate for use by its employees and agents in accordance with the terms herein.

4. Each member shall not remove from this Report any confidential markings, copyright notices, and other similar indicia herein.

5. Each member is responsible for any breach of its obligations as stated herein by any of its employees or agents.

6. If a member is unwilling to abide by any of the foregoing obligations, then such member shall promptly return this Report and all copies thereof to The Advisory Board Company.
Foreword

Thank you for your interest in this Advisory Board analysis of Enterprise EHR vendors. For those of you in health care IT, I am sure you would agree that these last few years have been the most exciting and busiest times we've experienced in our field, with the industry finally on its way to transforming from a paper-based to an electronic-based system. With even more challenging changes starting as we move from a fee-for-service system to more risk-based models, the need for health care IT will be even greater.

Of the hundreds (well, thousands) of vendors in health care IT, we've focused in this report on the most crucial segment: the leaders in the enterprise EHR market, those vendors that serve the acute, ambulatory, and extended care environments with EHR systems in support of a provider's clinical and financial needs. Although vendors that serve primarily the ambulatory markets, niche areas such as the emergency department, or newer areas such as population health, will continue to win business, there is a strong trend for providers to want to consolidate their vendor portfolios as much as practical, given the expanding portfolio of applications needs and the increasing requirement to integrate or interoperate with both owned and affiliated organizations. They increasingly want to work with a vendor that offers a suite built on an enterprise architecture that minimizes integration challenges, support challenges, etc.—a single source. With the costs of health care IT and EHRs so high, the stakes couldn't be higher.

Our goal in this report is to provide an evaluation structure that providers can use to gain an overall picture of the market, and to adapt it to their own needs. We've provided our own analysis and opinion, and hope it will be a valuable resource for organizations either starting down this path, heavily immersed in the evaluation process, or already having made major decisions and now looking to the future.

The primary researchers were the analysts supporting the IT Suite’s Applications and Technologies Collaborative. The primary team behind this report includes three colleagues and me:

- **Kenneth Kleinberg**, in IT since my college days in the 1970s. I've devoted the second half of my IT career to health IT with prior positions at Health Language (now part of Wolters Kluwer), Allscripts, Symbol Technologies (now part of Motorola), and Gartner.
- **Peter Kilbridge**, M.D., our group’s CMIO with 25 years experience and leadership positions at NYU Medical Center, St Louis Children’s Hospital, and Duke.
- **Doug Thompson**, with 25 years of experience as an expert in the benefits of health care IT. Doug has worked with Navigant, FCG, Apache Medical Systems, Ernst & Young, and other leading organizations.
- **Arthur Harvey**, with more than two decades of health IT experience, formerly of HealthVision and most recently as the head of applications at Boston Medical Center. Arthur is our architecture heavyweight.

I also want to acknowledge the contributions of the other members of our IT Suite, including Jim Adams, our executive director, Meg Aranow and Ernie Hood, both former CIOs, and Santa Mohan, who previously worked at Cerner.

We hope you find this report valuable and that we have the opportunity to interact with all of you directly in calls and at Advisory Board and other health Care IT events, especially our annual national meeting series that takes place in a number of cities across the United States.

Kenneth Kleinberg
Managing Director, Health Care IT Suite
Why This Analysis

We conducted this research on enterprise EHR vendor evaluation to support the needs of providers from a few different perspectives.

- We believe there are quite a few organizations that have already picked and been using a primary EHR vendor, and may be wondering if it’s going to meet their enterprise needs, especially as we move toward accountable care. They may be investigating if they need to make a change or already know they do so.

- There are many organizations, particularly large integrated delivery systems (IDSs) that span many geographies; that have one or more acute care, ambulatory care, and revenue cycle vendors; and are looking to consolidate or simplify their portfolios.

- And finally, we believe that there are many organizations that have picked an enterprise vendor—perhaps they made their choice years ago—and now want to know how they currently compare with other solutions on the market, what gaps they need to fill with third-party best of breed, and which direction to press their vendor to keep abreast of where the enterprise EHR market and health care IT is going.

Why Are So Many Organizations Interested in EHR Vendor Evaluation?

<table>
<thead>
<tr>
<th>Starting Point</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quite a few organizations have already picked a primary EHR vendor, and wonder if they made the right long-term enterprise pick (or know that they have not)</td>
<td>Make a change</td>
</tr>
<tr>
<td>Many organizations have one or more acute care, ambulatory care, and RCM vendors</td>
<td>Consolidate and simplify the portfolio</td>
</tr>
<tr>
<td>Many organizations have picked an enterprise vendor and want to know how they currently compare to what’s out there and what’s coming—where do they still need best of breed?</td>
<td>Press their vendor in the right direction</td>
</tr>
</tbody>
</table>

Source: The Advisory Board Company research and analysis.
The six vendors that best meet our definition of an enterprise EHR vendor are: Allscripts, Cerner, Epic, McKesson, MEDITECH, and Siemens. Our definition includes:

- Providing a suite of products on a single platform to serve the continuum of care, which includes acute, ambulatory, and extended care
- Providing clinical and financial systems
- Serving more than just one niche of the market—for example, not just critical access hospitals.
- Actively advancing their products and capabilities
- Has a significant market share

There have been many vendors, both big and small, that have come and gone in this market or been only partially successful—many wish they were on this list—and some on this list may not be on it in future years. None of these vendors are perfect or ready to meet every provider’s need; for example, most of these vendors are in various stages of fully achieving a single integrated platform. However, in the highly contested market for enterprise EHRs, these six vendors are the top players.

What Is an Enterprise EHR Vendor?

- Provides a suite of products on a single platform to serve the continuum of care (acute, ambulatory, extended care)
- Provides clinical and financial systems
- Serves more than just one niche of the market (e.g., not just critical access hospitals)
- Is still actively advancing products and capabilities
- Has a significant market share

Source: The Advisory Board Company research and analysis.
Our methodology included many sources:

- **RFI (Request for Information)**
  Results—an RFI was sent to the major vendors in February 2013 just before the HIMSS annual conference in New Orleans—that focused on seven major evaluation criteria. Vendors had the opportunity to describe their resources, strategy, awards, leadership, capabilities, roadmaps etc., plus almost 200 additional criteria about technology, architecture, and product capabilities.

- **Face-to-face meetings** we’ve held with vendors over the last years including some recent meetings and demos at HIMSS.

- **Information** from KLAS, HIMSS Analytics, the Office of the National Coordinator (ONC), CMS, the financial analyst community, etc.

- **Hundreds of conversations and meetings** we have with Advisory Board members and everyone’s network of consultants and industry experts.

- **Analyst peer review**—with a healthy dose of skepticism, an interest in advancing the industry, and of serving members. Peer review is a big part of our strength and was a key part in this analysis.

---

**What Information Did We Look At?**

- **Vendor Responses**
  Results of each vendor having filled out an RFI for 7 major criteria with additional detailed questions about technology, architecture, and product capabilities.

- **Industry Interactions**
  Face-to-face meetings and demos at vendor locations, HIMSS, etc.

- **Analysts’ Peer Review**
  Spirited discussion/debate

- **Today’s Analysis**

- **In-Depth Research**
  Additional sources, such as KLAS, HIMSS Analytics, ONC, CMS, financial reports

- **Advisory Board Membership**
  Hundreds of conversations and meetings with Advisory Board provider members, consultants, and other industry experts

---

Source: The Advisory Board Company research and analysis.
Providers may find themselves in different positions regarding their freedom to choose an EHR vendor (from right to left).

- **Freedom to Shop**: Having the enviable position of being able to continue to shop, having the time and resources to evaluate any vendor, having all options open; in this case, it’s generally a buyers market.

- **Some Limitations**: Having constraints in terms of current installed base, what they can afford, etc.; in this case it might be pretty clear who would make their short list.

- **Internal Pressures**: Being subject to further constraints, such as some powerful physician groups or board members having major influence.

- **External Pressures**: Being under very powerful market pressures, including being surrounded by a certain vendor

- **Forced Events**: Being forced to make a change based on a product sunset, a merger or acquisition of their organization, and so forth.

It is important to note that every organization will have different circumstances when it comes to which vendor or vendors they employ.

### Multiple Strategies and Circumstances

<table>
<thead>
<tr>
<th>Forced Events</th>
<th>External Pressures</th>
<th>Internal Pressures</th>
<th>Some Limitations</th>
<th>Freedom to Shop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events such as provider merger, vendor merger or acquisition, product sunset, MU readiness</td>
<td>Major market forces (every major player in the community picks the same vendor)</td>
<td>Certain board members or powerful physician groups have major influence</td>
<td>Pretty good idea of top 3 based on some resource, price, or installed base limitations</td>
<td>Detailed evaluation of many vendors; all options open</td>
</tr>
</tbody>
</table>

**Low**

**Freedom to Choose**

**High**

Source: The Advisory Board Company research and analysis.
This is US EHR market share information from HIMSS Analytics.

MEDITECH has the largest number of acute installs, principally community hospitals. With 1,142 installs, they have a significant lead on all other vendors. The fastest growing vendor is Epic, who has added hundreds of facilities in the past two years. In terms of very large hospital installs (1,000+ bed) Epic and Cerner each have about 30% of that market.

In the ambulatory space Epic holds a significant lead over the other vendors. Allscripts shows the biggest difference between its acute and ambulatory market share, the vast majority of its acute customers were gained as part of the Eclipsys acquisition.

Both markets show significant fragmentation with over 30% falling into the "other" category. On the acute side this represents a large number of installs at rural, critical access, and specialty hospitals by vendors such as CPSI, HMS, and Healthland. On the ambulatory side this represents significant growth by web-based vendors such as athenahealth and eClinicalWorks, and significant market share of vendors exclusively or principally devoted to ambulatory such as GE and Nextgen.
You Win Some, You Lose Some…

These numbers, based on HIMSS Analytics data, represent the net change in number of US hospital installs for each of the enterprise EHR vendors. It reflects new contracts and installations in process, as well as facilities that have announced that a product is to be replaced. Figures represent all applicable products a vendor currently has in the market. A migration to a different product with the same vendor (e.g., McKesson Horizon to McKesson Paragon) will not impact the totals. Results are shown for the period from 2006-2012 (inside the arrows) and for just 2012 (numbers outside the arrow).

While the overall rankings in this graphic may not be a surprise, the pace that Epic is taking on new customers is shocking. It does call into question how they will support continued growth, but to this point in time they have met that challenge.

Cerner is exhibiting steady growth, primarily in the large hospital space while all of the other vendors have had recent problems keeping customers.

Apart from GE, which has exited the enterprise market, the rest of the vendors have had uncertainty about various components of their products which likely has impacted retention and growth.

Numbers within the arrow – Net Hospitals Gained/Lost, 2006–2012
Numbers outside the arrow – Net Hospitals Gained/Lost, 2012
Source: HIMSS Analytics Database

1) Hospital, Clinical Data Repository Market in United States.
This data from CMS represents what percentage of Eligible Hospitals and Eligible Providers (EP) have used each of the vendors to attest to Meaningful Use Stage 1. The data covers the period from April of 2011 through December 2012 and looks just at complete attestations (not modular). Of total complete attestations, Epic has 18.1% in the hospital market and 21% in the EP market. It is unsurprising that Epic leads in both areas, but it is of interest that both Allscripts and Siemens have done well on MU in comparison to their overall market share.

CMS released updated attestation data for January of 2013 which showed some surging numbers for some of the vendors (e.g., MEDITECH in the hospital market, Epic in the EP market). Top vendors have claimed attestation rates of their client base of 50% to 60% in the hospital market; the claimed percentages are less in the EP market. From now on, it will be possible to use CMS attestation tracking information to determine if a provider has attested in different years with different vendors.

Source: Advisory Board analysis of public use dataset available from ONC and CMS on EHR products used for the attestation of Meaningful Use.

1) Attestation period covered is April 2011 to December 2012.
Presented here are the results of KLAS’s polls of the provider market for their experiences using various vendors. Epic tops the list of large hospitals (>200 beds), with Cerner second, McKesson Paragon third, Siemens Soarian fourth, Allscripts fifth, and MEDITECH sixth. In the smaller hospital category, Siemens earned the topic score, with McKesson Paragon second, and Cerner third.

Epic again was the topic pick for the large and medium practice category, it but didn’t fair well in the smallest practice range—no surprise since Epic doesn’t focus on smaller hospitals and providers. Cerner scored fourth in the large practices category and also scored in the medium and small categories, indicating that its ambulatory product is gaining traction. McKesson barely makes the chart on the ambulatory side with its Practice Partner product; we expect that as Paragon ambulatory gains adoption, we’ll see its KLAS scores take a place on this chart. Siemens’s ambulatory product is still in beta, so it doesn’t have a score yet. Allscripts scored in all the ambulatory categories but didn’t compare well to dedicated ambulatory products from non-enterprise vendors. MEDITECH scored fourth in the medium size ambulatory practices with LSS, with a forward ambulatory product is still in development.

<table>
<thead>
<tr>
<th>EMR Software and Services Rankings</th>
<th>Acute Care (Large) &gt;200 beds</th>
<th>Acute Care (Small) &lt;200 beds</th>
<th>Ambulatory &gt;75 Physicians</th>
<th>Ambulatory 11-75 Physicians</th>
<th>Ambulatory 1-10 Physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epic EpicCare</strong></td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Cerner Millennium PowerChart</strong></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td><strong>McKesson Paragon Clinicals</strong></td>
<td>3</td>
<td>2</td>
<td></td>
<td>12 (PP)</td>
<td>13 (PP)</td>
</tr>
<tr>
<td><strong>Siemens Soarian Clinicals</strong></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Allscripts Sunrise Clinical Manager</strong></td>
<td>5</td>
<td></td>
<td>6 (Ent)</td>
<td>7 (Pro)</td>
<td>12 (Pro)</td>
</tr>
<tr>
<td><strong>MEDITECH C/S Enterprise Medical Record v.6</strong></td>
<td>6</td>
<td>4</td>
<td>4 (LSS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: KLAS publicly available information.
Seven Major Criteria for Vendor Evaluation

For the Advisory Board Enterprise Vendor EHR evaluation, these are the seven major criteria we used to evaluate the vendors. The criteria are divided into two categories.

The first category focused on short-term factors: what can the vendor deliver currently—looking at the products themselves, the service and support capabilities, the portfolio of clients, and the ecosystem of partners.

The second category focused more on the long term: how the vendor is positioned for the future—an evaluation of vision and leadership, of the vendor’s resources and finances, and of the architecture and technology of the vendor for them to build upon.

Source: The Advisory Board Company research and analysis.
20 Major Sub-criteria for Products

For the products category, which is the first of our seven main criteria, these are the 20 major sub-criteria we used in the evaluation. Note that these sub-criteria cover the continuum of care and include clinical and financial capabilities.

Core clinicals included such functionality as order sets, CPOE, and physician documentation. Ancillaries included lab, radiology, operating room, pharmacy, and others. Specialties included emergency department, intensive care, cardiology, and others. Other areas of note include interoperability (health information exchange, terminology management), business intelligence (enterprise data management, population management, analytics, registries, etc.), patient engagement (patient portal), enterprise revenue cycle management (billing, CAC), and payer integration (claims). In total, close to 200 capabilities were looked at for the sub-criteria.

These sub-criteria relate to the Advisory Board Accountable Care capability and maturity model we have been using for the last few years where we help our provider members evaluate their health IT performance on multiple dimensions. The analysis in this report gives one overall score to the products based on looking at all of these sub-criteria.
Ratings Key

This is the key to the 1-5 scale with five circles best and one circle least. The five circles rating indicates generally leading edge, comprehensive capabilities, and execution at state of the industry levels—it does not mean that vendor has everything now or what you might need in the future. Although we used some internal scoring approaches, this was not a quantitative analysis—its our researched judgment and opinion. Providers should ensure that they consider what’s really needed for their particular implementation, training, services, ongoing maintenance, etc. (Total Cost of Ownership). How helpful and accurate the vendors are with helping estimate this is going to vary.

Also, this analysis is a work in progress—providers should view it as a starting point for discussion and interaction. While we weighted all factors equally, we expect that each provider will want to weight the factors and combinations of factors in different ways. How this information is used by a provider in combination with other sources will differ by provider. Several providers have done their own detailed evaluations using many of the same criteria, and have spent countless hours with demos, site visits, contract negotiation, etc. We hope this analysis helps provider with the big picture.

How to Interpret the Ratings

- Scale represents a one circle (least) to five circles (best) scale
- A five circles rating indicates generally leading edge and comprehensive capabilities and execution regarding state of the industry—it does not mean that the vendor has everything needed now or in the future or that it is the best at everything with that criteria
- This was not a quantitative analysis, although we used some internal scoring approaches—it is our opinion
- This is a work in progress—a starting point for further discussion and interaction
- Each provider organization will want to weight different factors and combinations of factors in differing ways
- How this information is used in combination with each provider’s own analysis will differ by provider

Source: The Advisory Board Company research and analysis.
All vendors scored well in the products category, as would be expected given their market leading positions; Cerner and Epic received the highest (five circle) scores. A key attribute of an enterprise vendor is a portfolio-wide enterprise architecture. Even these leading vendors varied in the degree they supported it, although all were moving in that direction.

Acute care capabilities were a strength of all these vendors, although there were still gaps or variable maturity for many vendors in such areas as OB, registries, ICU, etc.

The largest differentiator for these vendors was the degree to which they provided integrated ambulatory capabilities; this varied from mature (Epic) to early stages (Siemens, McKesson).

Mobility capabilities also varied, with Epic having strong capabilities, Allscripts having a good ambulatory mobile product (Wand), Cerner attempting to close the gap, and some still in the planning stages (McKesson).

HIE capabilities were also key in this analysis, with a few vendors having gained this capability via acquisitions (e.g., Siemens, Allscripts). Patient portal (Epic has the strongest) and LTC connectivity (e.g., Allscripts, MEDITECH) were also key in the ratings.

Source: The Advisory Board Company research and analysis.
The services and support rating looks at all types of services provided by the vendor, including technical support, implementation planning and assistance, training, consulting, upgrades, etc.

Epic gets our top rating of four out of five circles while Allscripts received the least (two out of five). The other vendors all received three out of five circles.

Differentiators in this space include breadth of services, knowledge/experience of senior staff, responsiveness to client requests, coordination of services, maturity and use of methodology, and support for real process change, workflow design, change management, and benefits realization.

Vendors also varied in their willingness to let customers take their own path during implementations or, as one experienced implementation consultant described it, the “flexibility to fail.”

One particular concern is the lack of experience of service and support staff (an industry-wide problem today). Vendors with a more prescriptive approach and with a more organically grown product suite generally have it easier in terms of implementations and supporting their clients.
Enterprise EHR Vendor Evaluation

Clients

All of these vendors have substantial client bases. Epic and MEDITECH scored the highest with five out of five circles. Cerner and Siemens each scored four circles, and Allscripts and McKesson each scored three circles. Among the factors and differentiators are:

- Total number of clients, as well as number of acute, ambulatory, and extended care facilities
- Mix of academic, IDN, and community clients
- Number of large and small clients (bed size, practice size, etc.)
- Number of prestigious/leading edge sites (e.g., ACO, PCMH)
- International (non-US) focus and success in English-speaking markets (including Canada, UK, Scandinavia, Middle East, Australia) and non-English-speaking markets
- KLAS scores, which are indicative of client satisfaction across acute and ambulatory offerings
- Market momentum including win/loss
- Number of clients and percentage of a vendor’s clients that have attested for MU
- User conference participation and success

Does the Vendor Have a Substantial and Satisfied Client Base?

**Allscripts**
- 235 US Sunrise facilities, 162 international facilities
- Large ambulatory customer base (multi. products)
- Mix of academic, IDN, community clients
  - KLAS: 48% customers rated go-live support OK / not good

**Cerner**
- Large acute installed base (700 total EHR clients, 1,240 acute facilities worldwide)
- Increasing sales
- 89% “buy again” -- KLAS
  - Ambulatory base lags acute market share

**McKesson**
- Paragon: 265 facilities
- Most Paragon under 400 beds
  - KLAS: most clients rated go-live support OK or not good
  - Paragon ambulatory product pending, base limited

**Epic**
- US EMR 1.100 hospitals, 265,000 physicians worldwide
- Fastest sales growth
- Large number of ACO, PCMH customers
- 100% “buy again” – KLAS
- Best customer ratings

**MEDITECH**
- 1,520 facilities worldwide
- Combination of LTC, CAH, Children’s, IDN, AMC
- Community HIS KLAS score
  - Ambulatory product pending, base limited
  - MUSE User conference not well embraced by vendor

**SIEMENS**
- 404 US, 39 international facilities (Soarian clinical or financial)
- 60% of clients MU certified
- Mix of AMC, IDN, community, CAH
  - Ambulatory base very limited

Source: The Advisory Board Company research and analysis.
No enterprise vendor offers every possible product and service capability today, requiring providers to seek out additional vendors to fill the gaps or to provide a higher quality offering. Factors in this category include a formal partner program, joint marketing and sales investments, developer programs, and track record. It’s interesting to note here that the vendors that provide the most organic single-source prescriptive approach, Epic and MEDITECH, have arguably the least need to partner and received only three circles. Epic uses the term “third-party relationships” rather than partner, although it does offer a recommended list of third parties and has the reputation of working well with them. MEDITECH has a group of a few dozen partners it works closely with, but doesn’t have the same open partner strategy or number of partners as some of the others. Allscripts, with five circles, views partnerships as an opportunity to broaden its market appeal—it has a mature formal partner programs, claiming 175 partners and suppliers—and encourage third-party open development. McKesson and Cerner also received five circles; like Allscripts, they paid high attention to partners at their user group events. Siemens scored four circles; special mention is made of its unique partnership with Tibco.

### Does the Vendor Have an Ecosystem of Complementary Partners?

- **Allscripts**
  - Certified Partner program
  - 50+ partners
  - Re-sells some solutions
  - Active developer program
  - Large ACE user conference
  - Open strategy
  - Challenged to mix partners from its many acquisitions

- **Cerner**
  - Formal partner program
  - Med Device Cert. Program
  - Incorporates partner solutions in Cerner offerings
  - Annual and regional user conferences include partners
  - Kudos from partners
  - Single source strategy

- **Epic**
  - Third-party relationships
  - Huge user conference with vendor booths
  - Recommended partner list
  - Credentialed consultants
  - No developer program
  - No public partner recognition

- **MEDITECH**
  - Formal Business Partnership program
  - 50+ Partnerships
  - VAR, Referral, Marketing categories
  - InSight User group event
  - Acquires many partners!

- **SIEMENS**
  - Consultant Alliance Program
  - Unique Tibco partnership
  - Siemens User Conference includes partners
  - A few dozen partners
  - No developer program
  - Waning NextGen partnership

Source: The Advisory Board Company research and analysis.
Epic and Cerner, with strong momentum, highly visible and long-standing founding CEOs, stable management teams, and excellent financial results, are the clear leaders in vision and leadership (five circles). Epic has an almost cult following, with its distinct culture and a reputation for keeping its word. That Epic is private and Cerner is public shows one model is not superior. MEDITECH has stayed consistent with its business model of keeping control and delivering quality products—although the effort to move clients to their 6 series has left the door open for their clients to shop. Siemens, with one of the most accomplished and respected past CIOs at the helm, has been making the right investments, but slow execution of the ambulatory product has hurt them. McKesson, with the most acquisitions of any enterprise vendor, has had many struggles with integrating them. Although it is executing on its Health 20/20 plan, there is a lot of ground to make up. Allscripts has the distinction of having the most gutsy large-scale acquisitions and mergers of any of the enterprise vendors, with all the accompanying challenges including board and management resignations/changes. With a new CEO, there is still the potential to prosper, however health care has a long memory and is risk-intolerant.

Source: The Advisory Board Company research and analysis.
This category considers competitive risk: does the vendor have the resources to compete today and in the future? Epic, Cerner, and MEDITECH scored five circles. Epic is the most successful EMR vendor in the world, with revenues growing rapidly. With Epic’s low cost of marketing and sales, and its reputation for fiscal conservatism, we believe it is highly profitable with deep financial reserves. Cerner’s market share is also growing. It recently reported record revenues and profits, and its stock reached an all-time high. Its balance sheet is very solid. MEDITECH revenues have grown 50% since 2008, but its net income has more than tripled. Despite some trouble signs, its balance sheet is strong and getting stronger. Both Siemens and McKesson are doing well financially, but very little of their total revenues and profits are from EMRs. Both companies have lost EMR market share to Epic and Cerner, as has Allscripts, which was in turmoil in 2012 with board and management changes. Its 2012 revenues were flat from 2011 and it had a small loss, although it still has a reasonably strong balance sheet. However, vendors that did not advance market share the last few years through MU will miss out on future update and support business.

<table>
<thead>
<tr>
<th><strong>MCKESSON</strong></th>
<th><strong>MEDITECH</strong></th>
<th><strong>SIEMENS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Mkt share (IP 10%)</td>
<td>+ Mkt share (IP 22%, OP 7%)</td>
<td>+ Revenues, profits solid</td>
</tr>
<tr>
<td>+ Revenues, profits growing</td>
<td>+ Rapidly growing revenues</td>
<td>+ Mkt share (IP 6%)</td>
</tr>
<tr>
<td>+ Technology profits strong</td>
<td>+ Skyrocketing profits</td>
<td>+ Strong balance sheet</td>
</tr>
<tr>
<td>+ Strong balance sheet</td>
<td>+ Very strong balance sheet</td>
<td>– EMR data not broken out</td>
</tr>
<tr>
<td>– EMR data not broken out</td>
<td>– Falling US EMR mkt share</td>
<td>– Falling US EMR mkt share</td>
</tr>
<tr>
<td>– Falling US EMR mkt share</td>
<td>– Competitive challenges</td>
<td>– Mkt share (OP 1%)</td>
</tr>
<tr>
<td>– Mkt share (OP 4%)</td>
<td>– Customer, product issues</td>
<td>– Missed MU opportunities</td>
</tr>
<tr>
<td>– Missed MU opportunities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Allscripts**
- Mkt share (OP 14%)
- Substantial R&D spending
- Strong balance sheet
- Board, executive turmoil
- Flat revenues, no 2012 profit
- Falling US EMR mkt share
- Missed MU opportunities
- Big acquisition to integrate

**Cerner**
- Mkt share (IP 13%, OP 10%)
- Increasing sales
- Record revenues, profits
- Growing mkt share
- Substantial R&D spending
- Strong balance sheet
- Less debt than peers
- Epic’s momentum

**Epic**
- Mkt share (IP 14%, OP 32%)
- Fastest sales growth
- Fastest growing mkt share
- Record revenues, profits
- Largest R&D spending
- Best customer ratings
- Strong balance sheet
- Track record of delivery

*Assumed

Source: The Advisory Board Company research and analysis.
Here we evaluate vendors on their modern SOA; demonstrated robustness and scalability; architectural openness; remote and local hosting options; and mobile solutions. Allscripts, McKesson, and Siemens offer a modern SOA using commonly available tools and technologies, have user-accessible APIs and support either local or remote hosting. Epic and MEDITECH rely on an older technology stack and allow very limited user API access. Both of these products are intended to be customer hosted. Cerner lacks an SOA but does provide user APIs and remote hosting. Both Epic and Cerner have a well-deserved reputation for robustness and scalability, and support a number of very large clients. Only Siemens has a completely web-based UI which allows for advanced deployment scenarios. While all the vendors have some level of mobile device support, McKesson has a number of products still under development and MEDITECH has a pure HTML-based product with limited functionality.

Overall, Siemens and Allscripts have the most modern, open "go forward" approach from a pure technology perspective. Along with Cerner and Epic, they scored four circles. McKesson and MEDITECH scored three circles.

Source: The Advisory Board Company research and analysis.
Here are the seven criteria shown as a stacked bar graph for the six vendors. We make the following observations.

The two vendors that tied for scoring highest were Cerner and Epic, each with a total of 31 out of 35 possible points, for slightly different reasons. Both vendors had strong products, vision, leadership, and resources/finances. Epic has the edge with its service and support and clients, but Cerner made up for that with its partner capabilities. MEDITECH and Siemens scored next highest with 27 points each. MEDITECH had its strongest scores being its client base and its resources and finances. Siemens scored four out of five across all categories with the exception of service and support. McKesson, with 25 points, placed fourth with a strong partner score. Allscripts scored slightly lower, with 24 points out of 35; it had particular challenges in the service and support and resources/finances categories, but it did score well on its products, ecosystem of partners, and architecture.

Out of a total of 35 points, the spread from the highest to the lowest score was 7 points. For each category, no spread was larger than two. For the products and the architecture/technology categories, the spread was only 1 point.

How Do the Vendors Stack Up in Total?

- 7 Dimensions – 35 possible points…

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Architecture/Technology</th>
<th>Resources/Finances</th>
<th>Vision/Leadership</th>
<th>Ecosystem</th>
<th>Clients</th>
<th>Service and Support</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allscripts</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Cerner</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Epic</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>McKesson</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>MEDITECH</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Siemens</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Totals: 24 31 31 25 27 27

Source: The Advisory Board Company research and analysis.
Enterprise EHR Vendor Evaluation

Summary Analysis: Short-Term Versus Long-Term

This graph is our summary analysis—bringing all the information together on one view with major criteria grouped in to the two major categories of short-term capabilities on the vertical scale versus long-term prospects on the horizontal scale. We note here that all these vendors scored above the midpoints of both categories of criteria; they were all in the upper-right quadrant of the evaluation space. However, we did see some separation here.

Epic and Cerner are clearly the leaders and best positioned now and for the foreseeable future. MEDITECH and Siemens are also positioned well, although not as well as Epic and Cerner. McKesson and Allscripts are still substantial players but scored less than the others, with Allscripts, coming in with the lowest in the rankings, but again, every vendor on this chart is a player and they all have an opportunity to succeed.

It should also be stressed that this graphic is based on weighting all factors equally and combining them in this particular fashion. The Advisory Board Company would be happy to work with its members to tailor this analysis with more customized weightings and groupings that meet a particular provider’s needs.

1) Short Term Capabilities: Aggregate of points scored for Products, Services and Support, Clients, and Ecosystem
2) Long Term Prospects: Aggregate of points scored for Vision/Leadership, Resources/Finances, and Architecture/Technology

Source: The Advisory Board Company research and analysis.
Included in the appendix on the next six pages are profiles of each of the enterprise EHR vendors in this report. Our format was to provide on one page each vendor’s mission, a brief overview or the company history, number of employees and revenues, a listing of the major products, what we considered the be the most compelling strengths and challenges in bullet point form, and some client information. We expect providers will refer to these slides when needing a quick overview of a vendor or some talking points about their pluses and minuses.

Reference: A One-Page Summary of Each Enterprise EHR Vendor

Fast Facts with talking points about vendor capabilities and their plusses and minuses

<table>
<thead>
<tr>
<th>Mission</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td></td>
</tr>
<tr>
<td>Strengths</td>
<td></td>
</tr>
<tr>
<td>Challenges</td>
<td></td>
</tr>
<tr>
<td>Clients</td>
<td></td>
</tr>
</tbody>
</table>
## Allscripts Company Profile

<table>
<thead>
<tr>
<th>Mission</th>
<th>Allscripts’ stated focus is on outcomes, connected communities and openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>Allscripts, (public: MDRX), based in Chicago, IL, is the collection of a few major acquisitions and mergers, including A4, ECIN, Misys Eclipsys, and most recently, dbMotion and Jardogs. Allscripts has over 7,000 employees with revenues in 2012 of $1.45 billion. It has a new CEO and promotes an open approach.</td>
</tr>
<tr>
<td>Products</td>
<td>Primary acute care products are Sunrise Clinical Manager (SCM) and the new Sunrise Financial Manager (SFM). Primary ambulatory products are the Enterprise and Professional EMRs and a PM system. Allscripts also has multiple ED products, HIE capabilities, and extended care offerings. The company is developing a new graphical workbench front end and has the aim of having its primary integrated ambulatory offering based on the SCM database. It is merging its two ED products.</td>
</tr>
</tbody>
</table>
| Strengths | • Leading edge acute and full-function ambulatory EMRs, with financial management/decision support tools  
• Significant installed ambulatory base—mature services organization  
• Large number of partners and visionary ecosystem for apps development  
• Experience in connecting with extended care |
| Challenges | • Many overlapping products from acquisitions/mergers that need to be integrated into an enterprise architecture  
• Lack of new sales, past board turmoil, and history of not meeting market expectations  
• Concerned client base about the future of the company |
| Clients | States 123 contracts for SCM (400 hospitals, 18 AMCs), 180,000 physician users, and connections to 10,000 post acute organizations. Notable clients include North Shore Long Island Jewish (NY), Bronx-Lebanon (NY), Blessing Hospital (IL), Springhill Medical Center (AL), and United Hospital System (WI). |

Source: The Advisory Board Company research and analysis
# Cerner Company Profile

<table>
<thead>
<tr>
<th>Mission</th>
<th>Cerner’s stated mission is to contribute to the systemic improvement of health care delivery and the health of communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>Cerner (public: CERN), founded in 1979, is based in Kansas City, MO. It employs over 12,000 people and has a market capitalization of $13 billion. Revenue in 2012 was reported as $2.67 billion. The company has achieved success primarily with an organic growth strategy. R&amp;D exceeds $300 million per year.</td>
</tr>
<tr>
<td>Products</td>
<td>Cerner’s core clinical system is Millennium EHR, including Expert Orders, Discern (CDS), Power Chart, and PowerNote. HIE capabilities are partially self-developed and partially developed via a partnership with Certify Data (recently acquired by Humana). The Cerner patient portal is called IQHealth. Cerner’s solutions are used by some of the largest hospitals and provide many ACO capabilities. Cerner continues to move toward hosted solutions. Cerner also provides solutions to critical access hospitals.</td>
</tr>
</tbody>
</table>
| Strengths | • An Enterprise architecture-based product suite mostly self-developed  
• A strong acute care EMR offering  
• Large installed base—momentum with a remote hosting solution  
• Visible leadership and solid financials |
| Challenges | • Needs a stronger ambulatory offering and a more integrated, robust RCM suite  
• Still in the early stages of providing BI/DW, telemedicine, patient engagement  
• A market perception that implementations can take longer and be more difficult |
| Clients | Cerner states that it has 700 EHR clients that represent 2,329 sites globally, of which 1,240 are acute and 649 are ambulatory. At least one of its products is used by 2,650 hospitals, 3,750 physician practices, 40,000 physicians, 500 ambulatory facilities, 800 home health facilities, and 1,600 retail pharmacies. Notable clients include Banner Health (AZ), UPMC (PA), Sharp Healthcare (CA) and Dignity Health (CA). |

Source: The Advisory Board Company research and analysis.
## Epic Company Profile

<table>
<thead>
<tr>
<th>Mission</th>
<th>Epic makes integrated software for mid-size and large medical groups, hospitals (including children’s hospitals and AMCs) and integrated healthcare organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>Epic Systems Corporation, Verona, WI, is a private company founded in 1979. Its 2012 revenue was $1.526 billion. It has 6,400 employees, almost all based in Verona. With an organic growth approach and a unique culture and campus, the company has a loyal and growing customer base including AMCs, pediatric hospitals, and IDSs.</td>
</tr>
<tr>
<td>Products</td>
<td>Many clinical products are branded as EpiCare. Specialties include ED (ASAP), obstetrics (Stork), oncology (Beacon), and cardiology (Cupid). Epic’s enterprise billing suite is Resolute and the managed care platform is Tapestry. The HIE is Care Everywhere. The patient portal is MyChart. Mobile solutions include Canto and Haiku. Epic is built on the Cache database. The UI is called Hyperspace. The Cogito BI suite includes Chronicles, Clarity, and Cogito Data Warehouse.</td>
</tr>
</tbody>
</table>
| Strengths | • An organic growth strategy built on a highly scalable, enterprise architecture  
• Strong leadership, culture, and reputation—invests heavily in R&D and people  
• Low cost of sales and marketing—chooses clients carefully, private and profitable  
• Strong market momentum—in some cases spanning large regions |
| Challenges | • A market perception of being expensive and inflexible  
• Some clients report that implementation employees can be headstrong  
• Does not sell to smaller facilities—does not have a formal partner program |
| Clients | Epic states 291 organizations that represent 1,100 hospitals, 14,000 clinics, and 265,000 physicians when fully rolled out. Many Epic clients provide Epic to other hospitals and clinics. Clients include Geisinger (PA), Kaiser Permanente (CA), The Cleveland Clinic (OH), Johns Hopkins Medicine (MD), Texas Health Resources (TX), MemorialCare (CA), and the US Coast Guard. Epic has the most stage 7 hospitals and the most stage 7 clinics of any vendor. |

Source: The Advisory Board Company research and analysis
# McKesson Company Profile

<table>
<thead>
<tr>
<th>Mission</th>
<th>To help organizations deliver better care and drive better results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overview</strong></td>
<td>McKesson (public: MCK), one of the world’s top three drug distribution companies, acquired HBOC in 1988. McKesson Technology Solutions (MTS), Alpharetta, GA, with 14,000 employees, launched Better Health 2020 in 2011 to refocus R&amp;D and product plans. The media estimates MTS revenues at a few billion dollars.</td>
</tr>
<tr>
<td><strong>Products</strong></td>
<td>The primary EHR product is Paragon (initially aimed for smaller entities but now the designated go-forward product for all providers to replace Horizon). Paragon released an ED Clinicals capability in 3Q 2012 and is working on an integrated ambulatory offering. Other product lines include STAR and Series. Practice Partner was acquired as an ambulatory product. McKesson’s HIE is RelayHealth. McKesson has a few dozen products applicable to ACOs.</td>
</tr>
</tbody>
</table>
| **Strengths** | • Huge parent with significant resources  
• Large installed base —dozens of products in support of ACOs  
• Growing installed base of Paragon clients |
| **Challenges** | • Integration is a continual challenge for a solution portfolio that is the conglomeration of the largest number of acquisitions in the industry  
• In the process of building out the Paragon suite, bringing live multi-hospital clients and migrating an uncertain Horizon client base to Paragon.  
• Limited mobility offerings—Mobility-specific Paragon applications still in development |
| **Clients** | McKesson states that over 190 organizations have contracted for Paragon, representing 265 facilities (by contrast, McKesson had a few hundred Horizon clients including early development partner Vanderbilt Medical Center). Paragon was rated #1 by KLAS for community hospital solutions for the last seven years. Paragon clients include McLaren Health System (MI), Carolinas Healthcare System (NC), Marquette General (MI), and Legacy Healthcare Partners (TX). |

Source: The Advisory Board Company research and analysis.
# MEDITECH Company Profile

## Mission

MEDITECH states that it provides The EHR for NEW Healthcare with a focus on software for the Hospital information Systems market.

## Overview

MEDITECH (private) was founded in 1969 and is based in Westwood, MA. It states that it has 3,866 employees. The 2012 10-K reported revenue of $598 million. Its physical assets (e.g., properties) are a key asset; it recently announced a new facility in Foxboro. It has had a long-term, stable executive management team.

## Products

MEDITECH’s three platforms are MAGIC (original), C/S, and the latest 6.0. It plans to complete the acquisition of LSS (ambulatory) in early 2014 and is also working on a new ambulatory product. MEDITECH provides clinical and financial/administrative solutions across the care continuum.

## Strengths

- Largest client base of community hospitals
- Company has considerable financial strength
- Reasonable costs of Magic and C/S make it affordable to smaller facilities

## Challenges

- A lack of customization and response to clients—it does not embrace the MEDITECH User group (MUSE)
- Clients spread over three different platforms
- 6.0 version requires substantial migration effort and costs which is driving clients to consider other vendors

## Clients

MEDITECH states is has 1,520 national and international clients across the United States, Canada, and the UK, representing over 700 organizations. Its most well known client, HCA, currently runs a customized version in its more than 200 hospitals. Citizens Memorial (MO) is MEDITECH’s only Stage 7 EMRAM hospital, although more than 115 hospitals are stage 6. Other representative clients include St Joseph Health (CA), Centura Health (CO), Halifax Health (FL), and Avera Health (SD).

Source: The Advisory Board Company research and analysis
## Siemens Company Profile

### Mission
Siemens states that it stands for innovative products and complete solutions as well as service and consulting in the health care industry.

### Overview
Siemens Healthcare (part of Siemens Corporation – public: SI), based in Malvern, PA, has 51,000 employees worldwide with 2012 revenue of $17.8 billion, but this includes its large medical imaging and services business and other areas. Health care IT-related revenue has been estimated by the media at more than $1.8 billion. It acquired SMS in 2000.

### Products
Siemens flagship enterprise EMR is Soarian, including EMR/Clinicals, ED, Financials, HIM, Healthcare Intelligence (BI/analytics), and others. Older legacy platforms include Invision and MedSeries 4. It is developing its own Soarian-based ambulatory solution. It acquired MobileMD in 2011 for HIE capabilities and a patient portal.

### Strengths
- Large global parent—strong medical device and imaging name recognition
- Runs the largest data center in health care IT
- Cloud-based architecture, web-based GUI, multiple deployment options
- Client-defined clinical workflows using bundled TIBCO BPM/workflow engine
- Next-generation RCM capabilities
- Best KLAS score for clinicals for community hospitals in 2012

### Challenges
- New integrated ambulatory product behind schedule but now in beta
- Pharmacy on a different platform than Soarian
- Limited market share and market momentum compared to leading enterprise vendors
- Track record of lagging in bringing products to market (improved over last few years)

### Clients
Siemens states 404 facilities contracted for Soarian (Clinicals or Financials), with 157 Soarian Clinical sites live with 13,000 physicians using CPOE and 70 hospitals live on Soarian Revenue Cycle. Clients include The Chester County Hospital (reference site for use of the Tibco BPM engine), Main Line Health (PA), CentraState (NJ), PinnacleHealth (PA), and Yakima Memorial Hospital (WA).

Source: The Advisory Board Company research and analysis.