


Healthcare without Bounds: Trends in Clinical Surveillance and Analytics 2018	
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<b>STUDY OVERVIEW:</b>	<p><b>Investments.</b> Hospitals and health systems are making investments in clinical surveillance solutions that enable physicians, nurses and other care team members to monitor high- and low-acuity patients who can experience deteriorating or life-threatening conditions. These solutions are being implemented within different care settings throughout the hospital including emergency and operating rooms, post-anesthesia care, intensive care, medical/surgical, and telemetry units.</p> <p><b>Market drivers.</b> Hospitals surveyed are seeking early warning and predictive indicators to trigger rapid response to deteriorating patient conditions. Hospitals need new tactics to prevent escalations in patient care as these negatively affect the patient, staff, and entire health system. Examples of escalations in patient care include patient transfers from general care to the ICU and emergent intubations – both of which increase length of stay and drive costs up considerably.</p> <p><b>Key hospital benefits for clinical surveillance solutions include:</b></p> <ul style="list-style-type: none"> <li>• improving quality of care and outcomes by enhancing patient safety and reducing the risk of hospital-acquired conditions and patient’s length of stay,</li> <li>• increasing regulatory compliance by following CDC, CMS, and Joint Commission guidelines,</li> <li>• reducing healthcare costs by avoiding expensive ICU transfers and hospital readmissions, and</li> <li>• increasing staff satisfaction by providing state-of-the art tools.</li> </ul> <p><b>Existing deployments.</b> The majority of hospitals surveyed that have deployed clinical surveillance solutions are leveraging their multi-million EHR investments as a starting point - focusing on early warning risk scoring and sepsis detection. EHR-based solutions provide best practice alerts, built-in decision support, predefined medical order sets, and retrospective analytical tools that rely upon non-real-time patient data. EHR-based solutions are not considered best-of-breed, difficult and time consuming to deploy, and require significant customization of alerts, templates and tools to mitigate false positive alerts and alert fatigue.</p> <p><b>Next generation tools.</b> Hospitals surveyed believe it is imperative to evaluate next generation clinical surveillance solutions that can:</p> <ul style="list-style-type: none"> <li>• embrace and extend the their EHR’s capabilities,</li> <li>• access real-time clinical and non-clinical data from multiple disparate data sources across the organization,</li> </ul>

- customize algorithms to best represent hospital-based protocols, and
- support large sophisticated data models capable of detecting a wide range of deteriorating conditions while reducing the signal to noise ratio.

**Call to action.** Hospitals surveyed have varying levels of understanding about clinical surveillance and analytics. They want education about next generation tools and need to know how to utilize them to enhance patient safety and improve care quality and outcomes.

Hospitals surveyed are also skeptical about overinflated vendor claims related to early detection and predictive warnings for patients considered at-risk of deteriorating conditions. Hospitals want vendors to provide:

- validation through published peer reviewed articles that demonstrate the clinical efficacy of their algorithms based on 'real' hospital data, and
- a means to review and modify their algorithms to best address the needs of their clinical environment and protocols. Vendors with fixed "one size fits all" algorithms will be forced to expose what is in their "black-box".

**Surveillance monitoring strategies are slowly evolving.** While hospitals surveyed have made significant investments in biomedical monitoring equipment AND have formulated alarm safety committees to address the Joint Commission's National Patient Safety Goal, eight-seven (87) percent of them report that they are still in the earliest stages of developing a vision and strategy for continuous surveillance monitoring.

**Surveillance monitoring investments driven by regulatory compliance.** The majority of hospitals surveyed report that surveillance monitoring investments are being driven primarily by federal and state regulatory requirements (such as sepsis) AND secondarily to address the Joint Commission's National Patient Safety Goal focused on alarm safety.

**Surveillance monitoring investments hampered by an uneducated buyer.** Forty-seven (47) percent of hospitals surveyed report that internal personnel have moderate knowledge about surveillance monitoring solutions. More sophisticated buyers can be found at academic medical centers who have already deployed an eICU.

<p><b>STUDY METHODOLOGY</b></p>	<p><b>Trends in Clinical Surveillance and Analytics 2018</b> presents the findings of an end-user market study identifying the market opportunities and challenges for hospitals and health systems within the United States who are developing their strategy or considering making investments in a real-time clinical surveillance and analytics solutions targeted at physicians, nurses and other care team members who are concerned about proactively identifying patients that can experience deteriorating or life-threatening conditions. This study is not intended to be an evaluation of existing vendor solutions or strategies.</p> <p>Content for <b>Trends in Clinical Surveillance and Analytics 2018</b> was derived from more than thirty (30) clinical informatics thought leaders at leading hospitals and health systems across the United States who are technically competent and knowledgeable about the opportunities and issues of clinical surveillance and related analytics for identifying deteriorating patient conditions.</p> <p>The telephone interviews were conducted over a three-month period starting in November 2017. During the interviews, Spyglass identified the market requirements for clinical surveillance and analytics tools through discussions about:</p> <ul style="list-style-type: none"> <li>• workflow inefficiencies in monitoring patients considered at-risk of deteriorating or life-threatening conditions,</li> <li>• current usage models for clinical surveillance tools, and</li> <li>• barriers for widespread clinical surveillance adoption.</li> </ul> <p>Spyglass also evaluated several early adopter healthcare organizations that have successfully deployed clinical surveillance and analytics solutions.</p>
<p><b>TARGET AUDIENCE</b></p>	<ul style="list-style-type: none"> <li>• <b>Software and hardware vendors, systems integrators and management consulting groups</b> who are selling hardware, applications and services into the healthcare industry</li> <li>• <b>Healthcare administrators and IT executives</b> who are making strategic decisions to fund clinical information technology solutions</li> <li>• <b>Clinicians</b> who are involved in informatics and clinical system evaluation and selection</li> <li>• <b>Investment banking and private equity investors</b></li> </ul>

ABOUT SPYGLASS  
CONSULTING  
GROUP

**Spyglass Consulting Group** is a market intelligence firm and consultancy focused on the nexus of information technology and healthcare. Spyglass offers products and services in customer and market intelligence, strategic partnership development, product marketing and investment due diligence. Spyglass' current research is entitled **Healthcare without Bounds** that focuses on the current and future potential of mobile computing and wireless technologies within the healthcare industry.

Spyglass customers include more than 140 leading high technology vendors, management consulting organizations and healthcare providers including **Cisco, IBM, Microsoft, Intel, Hewlett Packard, Johnson & Johnson, Pfizer, Siemens, GE Healthcare, Philips Medical, Sprint, and Kaiser Permanente.**

**Gregg Malkary** is the **founder** and **Managing Director** of **Spyglass Consulting Group**. He has more than 20 years' experience in the high technology industry working with Fortune 2000 companies to help them use information technology for competitive advantage. Malkary has domain expertise in mobile computing, wireless and broadband technologies with direct experience in the healthcare, hospitality, manufacturing, communications and entertainment markets.

Prior to founding **Spyglass Consulting Group** in August 2002, Malkary was an Associate Partner at **Outlook Ventures**, a venture capital firm focused on early stage investments in enterprise software and communications companies. Previously, Malkary was the Director of Strategic Planning for **Exodus Communications** where he was responsible for identifying, evaluating and executing growth initiatives for Exodus in the managed web-hosting marketplace. Malkary has also held consulting and senior management roles in business development, strategic planning and product marketing for public and private technology companies including **IBM, Hewlett Packard, Accenture, Silicon Graphics** and **Skytel Communications.**

Malkary frequently speaks at regional and national conferences focused on mobile computing, wireless technologies and healthcare related issues. Numerous industry publications have written about and quoted Malkary including the *Wall Street Journal*, *CIO*, *Business 2.0*, *MIT Technology Review*, *Network World* and *eWeek*.

Malkary is an honors graduate of **Brown University** having earned a MS and BA in Computer Science. He was awarded the prestigious North American Philips Corporation Fellowship for his graduate research work in graphical simulation environments.

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# Trends in Clinical Surveillance and Analytics ¶

## March 2018 ¶

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<b>EXECUTIVE SUMMARY</b> .....	5 ¶
<b>INTRODUCTION</b> .....	7 ¶
<b>MARKET OPPORTUNITY</b> .....	8 ¶
<b>DESCRIPTION. WHAT IS REAL-TIME CLINICAL SURVEILLANCE AND ANALYTICS?</b> .....	8 ¶
<b>MARKET SIZING. WHAT IS THE SIZE OF THE CLINICAL SURVEILLANCE AND ANALYTICS MARKET?</b> .....	9 ¶
<b>MARKET DRIVERS. WHICH MARKET FACTORS ARE DRIVING CLINICAL SURVEILLANCE AND ANALYTICS INVESTMENTS?</b> .....	10 ¶
<b>MARKET CONSTRAINTS. WHICH MARKET FACTORS ARE INHIBITING THE GROWTH OF THE CLINICAL SURVEILLANCE AND ANALYTICS MARKET?</b> .....	12 ¶
<b>MARKET SEGMENTATION. WHAT ARE THE KEY DIFFERENCES BETWEEN:</b> .....	13 ¶
Clinical decision support vs clinical surveillance? .....	13 ¶
Patient monitoring vs clinical surveillance? .....	14 ¶
Basic vs advanced clinical surveillance? .....	15 ¶
<b>MARKET SURVEY RESULTS</b> .....	16 ¶
<b>PROBLEM</b> .....	16 ¶
What are the problems with existing processes and tools to support clinical surveillance? .....	16 ¶
<b>INVESTMENTS</b> .....	18 ¶
Strategy. Have hospitals defined a strategy and vision for clinical surveillance? .....	18 ¶
Investment Plans. Have hospitals invested or plan to invest in clinical surveillance? .....	20 ¶
Investment Priorities. Is clinical surveillance an investment priority? .....	21 ¶
Investment ROI. Do clinical surveillance solutions provide a compelling ROI? .....	23 ¶
Key Decision Makers. Who are decision makers & influencers focused on clinical surveillance? .....	25 ¶
Domain Expertise. Do hospital personnel have knowledge & expertise about clinical surveillance? .....	26 ¶
EHR-based Tools. Are hospitals using their EHR as their primary platform to support clinical surveillance? .....	27 ¶
Monitoring War Room and eICU. Have hospitals deployed a monitoring war room and/or eICU to support their clinical surveillance strategy? .....	29 ¶
<b>TARGET AUDIENCE</b> .....	30 ¶
Which medical departments, patient conditions and core measures are targeted for clinical surveillance? .....	30 ¶
Medical Departments .....	30 ¶
At-Risk Patient Conditions .....	32 ¶
CMS Core Measures .....	33 ¶
Which end users are primary benefactors of clinical surveillance tools? .....	34 ¶

<b>MARKET REQUIREMENTS</b> .....→.....	<b>35</b> ¶
What are the market requirements for a real-time enterprise-class clinical surveillance and analytics solution? .....	36
Real-Time Surveillance Dashboard .....	36
Real-Time Middleware Integration .....	38
Real-Time Adaptive Analytics Tools .....	40
Real-Time Clinical Protocol Tracking .....	43
Real-Time Secure Mobile Communications .....	46
<b>MARKET VALIDATION</b> .....	<b>48</b> ¶
Is there peer-reviewed evidence demonstrating efficacy of real-time clinical surveillance? .....	48
Case Study—Clinical Surveillance for Ventilated Patients.....→.....	50
Case Study—Continuous Surveillance of Sleep Apnea Patients in a Medical-Surgical Unit.....→.....	52
<b>PROVIDER BEST PRACTICES</b> .....→.....	<b>53</b> ¶
How are hospitals applying best practices to support real-time clinical surveillance? .....	53
<b>CONCLUSIONS</b> .....	<b>55</b> ¶
<b>SURVEY DEMOGRAPHICS</b> .....	<b>57</b> ¶
<b>ABOUT SPYGLASS CONSULTING GROUP</b> .....	<b>62</b> ¶
<b>APPENDIX A: LIST OF FIGURES</b> .....	<b>63</b> ¶
<b>ENDNOTES</b> .....	<b>64</b> ¶