2018 Health Care IT Top Ten

Beyond Meaningful Use and Operational Excellence

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2018 Health Care IT Top Ten
Beyond Meaningful Use and Operational Excellence

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1. About Health Care IT Advisor

2. The 2018 Health Care IT Top Ten

3. Q&A
Advisory Board’s Research Platform

Where Health Care IT Advisor Fits In

- **Health Care Advisory Board**
  - Accountable Care, Margin Performance, Physician Strategy, Care Transformation

- **Population Health Advisor**
  - Care Transformation, Population Health Management

- **Physician Executive Council**
  - Physician Leadership, Medical Staff Engagement, Clinical Standardization

- **Health Care IT Advisor**
  - Business Intelligence/Analytics, Telemedicine, EMR, IT Performance Management, Information Security

- **Quality Reporting Roundtable**
  - MACRA, Meaningful Use, Physician Quality Reporting System, Value-Based Modified Program, Inpatient Quality Reporting

- **Market Innovation Center**
  - Service Line Growth, Accountable Care, Physician Marketing

- **Service Line Strategy Advisor**
  - Service Line Growth, Technology Assessment, Strategy and Business Planning

- **Nursing Executive Center**
  - Patient-Focused Care, Quality, Workforce Planning, Employee Engagement

- **Medical Group Strategy Council**
  - Patient-Focused Care, Strategy and Business Planning, Physician and Advanced Practitioner Engagement

- **Cardiovascular Roundtable**
  - Accountable Care, Operational Efficiency

- **Oncology Roundtable**
  - Accountable Care, Operational Efficiency, Physician Alignment, Palliative Care

- **Philanthropy Leadership Council**
  - Campaign Planning, Major Gifts, Internal Alliance Building, Fundraising Staff Management, Foundation Strategy

- **Imaging Performance Partnership**
  - Accountable Care, Volume Growth, Referral Strategy, Quality, Utilization, Efficiency, Throughput

- **Human Resources Advancement Center**
  - Frontline Accountability, Employee Engagement, Workforce Planning

- **Financial Leadership Council**
  - Revenue Cycle, Accountable Care, Capital Planning, Physician Revenue Cycle, Supply Chain

- **Employee Engagement Initiative**
  - Workforce Planning, Employee Engagement

- **Physician Engagement Initiative**
  - Workforce Planning, Employee Engagement, Physician Performance Improvement

Source: The Advisory Board.

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# The CIO Challenge: Do More with Less

## Cost Pressures
- Flat or lower budgets
- Escalating IT needs and costs

## Time Pressures
- Meaningful Use and MACRA
- Reimbursement changes
- Analytics “time to value”

## Changing Role for IT
- Population health management
- Consumerism
- Digital health systems

## Higher Need and Expectations for Value

### A+ 

**CIO Either Not in the Room or Not at the Table**
- Business/clinical decisions made without a full understanding of IT’s capabilities and limitations
- IT decisions made without fully understanding business and clinical strategies and needs

### Non-IT Leaders Not Educated and Empowered
- Rapidly changing IT marketplace
- Consumerization of IT
- Disruptive potential of IT
## Continuum of Guidance for Executives

From Syndicated Research to One-on-One Interactions with Expert Analysts

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<tr>
<td>• Short-form notes</td>
<td>• Member summits</td>
<td>• Regulatory assessments</td>
<td>• Strategic Plan</td>
<td>• Small group</td>
<td>• Analyst inquiry/guidance</td>
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<td>• Longer reports</td>
<td>• Live webconferences</td>
<td>• Diagnostic tools</td>
<td>evaluation</td>
<td>forums</td>
<td>• Guided walk-through</td>
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<td>• Searchable library</td>
<td>• On-demand webconferences</td>
<td>• Analytical frameworks</td>
<td>• Executive team</td>
<td>networking</td>
<td>of presentations</td>
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<td>• Business toolkits</td>
<td>presentation</td>
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<td>• Private webconferences</td>
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<td>review</td>
<td>• Industry meetings</td>
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**From Syndicated...**

**...To Tailored**

Source: Health Care IT Advisor research and analysis.
2018 National Meeting

Beyond Meaningful Use and Operational Excellence

Noon to Noon
Format

Included in
Membership

Peer Networking

Full Content of Brand New
IT-Focused Research

2018 Session Dates and Locations

Chicago, IL
July 25-26

Washington, DC
May 16-17
August 14-15

Marina del Rey, CA
June 27-28

Dallas, TX
June 13-14

2017 National Meeting Agenda

State of the Health Care and IT Union

Interoperability: Can You Hear Me Now?

Clinical Decision Support

Digital Health Systems

Security and the C-Suite

Registration Now Open

Source: Health Care IT Advisor research and analysis.

Catch the highlights from our 2017 series on-demand.
1. About Health Care IT Advisor

2. The 2018 Health Care IT Top Ten

3. Q&A
Topic Poll Drives Annual HCITA Top Ten

Welcome to the Health Care IT Advisor’s 2018 Topic Poll

Each year we ask our members to weigh in on the Health Care IT Advisor’s upcoming research agenda. If you’ve been following our research in 2017, you know that we’ve focused on major topics including interoperability, information security, clinical decision support, digital health systems, and more. Now, we’d like your input on your top IT-related priorities for 2018.

Please take 10-15 minutes to complete our survey about your top priorities—both major topics and subtopics for the major topics. Your responses will guide our research and help you make the most of your Advisory board membership in 2018.

Which best describes your organization? *
- Single hospital
- Multi-hospital system
- Vendor
- Other [ ]

Which best describes your title? *
- C-suite
- CIO, SVP/VP
- Director
- Other [ ]

Assessing Potential Research Topics

Our team is eager to receive your guidance on the areas of research that would prove most valuable to you across the next year. Several potential research topics are listed below. Please grade each on your level of interest. To note, if you indicate interest in a specific topic, we would appreciate your guidance on the particular resources and focus areas that will appear.

Use the following scale to rate:
- A: Extremely interested
- B: Somewhat interested
- C: Not interested
- N/A: Topic is not relevant to me

Topic Poll

- Annual online survey conducted each fall/winter
- Respondents primarily health care IT leaders (i.e., CIOs, SVP/VPs)
- Sample reflects 39% of organizations in membership

Source: Health Care IT Advisor research and analysis.
Beyond Meaningful Use and Operational Excellence

- **Quality Reporting**: Regulatory Forces Drive the “Quality” of Electronic Data
  Our research will focus on quality reporting regulatory updates, provider engagement in documentation and quality performance improvement, and successful practices of HCOs that have operationalized strong data quality initiatives as part of their organizational strategy.

- **EHR Optimization and Value Realization**: The Long View
  Our research will focus on case studies of how to organize, staff, and manage a successful EHR enhancement and optimization effort.

- **Analytics and Artificial Intelligence**: The Age of Intelligent Machines
  Our research will focus on the rapidly advancing application of machine learning and incorporation of novel data sources to improve financial, clinical, and patient satisfaction outcomes.

- **Mobility and IoT**: Capture Value from Increasingly Connected Patients and Providers
  Our research will focus on measuring the benefits of mobile investments, the evolving relationship between enterprise platforms and best-of-breed mobile solutions, and strategies to secure both new mobile technologies and existing biomedical devices.

- **Population Health Management (PHM)**: New Opportunities and Challenges
  Our research will focus on new types of analytics in population health management.

- **Consumer-Focused Health Care**: Giving Consumers What They Really Want
  Our research will focus on analyses of how to deliver several IT-enabled capabilities, including cost accounting, simplified billing and payment, and more.

- **Telemedicine**: An Evolving Landscape
  Our research will focus on telemedicine support for new, integrated models of care delivery.

- **Digital Health Systems**: Foundation for Transformation and Innovation
  Our research will continue to explore the foundational role that digital health systems (DHSs) play in health care transformation, digital disruption, and innovation. We will also continue to refine our DHS maturity model and give examples of successful practices for key dimensions of that model.

- **Precise, Personalized Medicine**: A New Precision in Clinical Decision Making
  Our research will focus on use of person-generated health data (PGHD), social determinants of health (SDH), and genomics for patient care.

- **Information Security**: Build Toward a More Advanced, Adaptive Security Posture
  Our research will focus on moving toward an advanced security posture. We will provide reports, tools, and case studies that address common challenges related to third-party risk management, medical devices, the IoT, and other critical security capabilities.

Source: Health Care IT Advisor research and analysis.

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1) HCO = Health care organization.
2) IoT = Internet of things.
Quality Reporting: Regulatory Forces Drive the “Quality” of Electronic Data

Data Accuracy Critical to Compliance and Performance Improvement

Inpatient Quality Reporting (IQR)
• eCQM data validation begins in 2018
• eCQM performance may be tied to payments in future years

Meaningful Use (MU)
• Ongoing audits from multiple sources
• Incorporation of external data into certified EHR technology

Quality Payment Program (QPP)
• Primary sources (e.g., medical records) used to validate quality performance

Regulatory Forces

- Data Governance
  Define focused set of data and process management policies and ensure compliance

- Data Mapping
  Specify unique data elements based on specifications

- Data Validation
  Confirm data accuracy and data completeness

IT Imperatives

- Performance
  Improvement in quality of care, accurately reflected in eCQM performance

- Payment
  Medicare reimbursements tied to quality performance over volume

- Transparency
  Accurate quality performance data accessible to consumers to empower their decision making

Source: Health Care IT Advisor research and analysis.

1) Stage 3 requires bidirectional immunization data exchange, patient-generated data, and request/accept summary of care record.
EHR Benefits Require Long-Term Focus on Outcomes

Based on actual results, hospitals using a benefits-driven implementation and optimization approach can achieve ROI\(^1\) earlier than budgeted, while hospitals that just focus on the initial technology implementation may never achieve substantial EHR benefits.

Six Steps to Successful EHR Enhancement and Optimization

1. Begin with the End in Mind
2. Organize Two Phases of Work
3. Staff Appropriately
4. Move Rapidly Through Enhancement
5. Govern Accountably
6. Structure Innovation

1) ROI = Return on investment.
Analytics and Artificial Intelligence: The Age of Intelligent Machines

Distill the Flood of New Data into Actionable Insights

Traditional clinical, administrative, and operational data

New sources:
- Wearables
- Patient-reported outcomes
- Socioeconomic
- Environmental
- Unstructured text
- Imaging
- Microbiome
- Genomics

Drowning in data, frustration, limited clinical or operational benefit

Targeted insights, predictive scores, intelligent decision support, automation

AI-enriched decision support

The Advisory Board’s Business Intelligence Maturity Model

Fragmented Analytics  →  Enterprise Perspective  →  Advanced Analytics  →  Intelligent Process Automation

New applications:
- Precision medicine
- Precision engagement
- Predictive operations
- Process automation

Source: Health Care IT Advisor research and analysis.
Mobility and IoT: Capture Value from Increasingly Connected Patients and Providers

An Ever-Growing and Complicated Volume of Connectivity to Manage

Intelligent Computing
- Machine and deep learning
- Precision engagement

Location-Based Engagement
- HYP3R for social media
- RTLS¹ (beacons)
- Wayfinding

Internet of Things
- Environmental sensors
- Internet of nanothings
- Microelectromechanical systems (MEMS)

Medical Devices
- Miniaturization
- Ingestibles
- DNA sequencers

Virtual Assistsants and Bots
- Google Assistant
- Amazon Alexa
- Microsoft Cortana
- Facebook M
- X.ai

Language Translation and NLP
- Automated language recognition
- More fluid conversation
- Ambient computing

Virtual and Augmented Reality
- More portable
- Supports simulations
- Distance learning and interaction
- Gesture control
- Treatment tolerance and anxiety reduction

Virtual Mobile Integration (VMI)
- Leverages cloud
- Reduces device cost
- Addresses security and management

¹ RTLS = Real-time location systems.

Source: Health Care IT Advisor research and analysis.
Population Health Management: New Opportunities and Challenges

Leverage New Data Sources and AI\(^1\) to Enhance Basic PHM\(^2\) Processes

**New Data**
- Patient-generated data
- Social determinants of health data
- Patient preferences and feedback

**Foundational Elements**

- **Consumer Focus**
  Respond to consumer expectations around communication and data usage

- **Interoperability**
  Leverage extra-EMR\(^3\) data types and growth of third-party platforms

- **Data Governance**
  Define SDH\(^3\) data types and align your analytics and overall organizational strategies

**Maturing AI Methods**
- Implications of AI for analytics and patient care design

1) AI = Artificial intelligence.
2) PHM = Population health management.
3) SDH = Social determinants of health.
4) EMR = Electronic medical record

Source: Health Care IT Advisor research and analysis.
Consumer-Focused Health Care: Giving Consumers What They Really Want

First, Understand What Local Consumers Want and Need

Sample IT Tools to Help Identify Consumer Needs

<table>
<thead>
<tr>
<th>Email Campaigns</th>
<th>Social Media Monitoring</th>
<th>Consumer Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>http: Online Surveys</td>
<td>CRM¹ Systems</td>
<td></td>
</tr>
</tbody>
</table>

Then, Pilot IT-Enabled Capabilities to Meet Consumer Wants and Needs

1. **ACCESSIBILITY**
   Make It Easy to Buy
   - Externally-embedded provider search
   - Automated out-of-pocket cost estimation
   - Integrated digital scheduling
   - Virtual care
   - Hospital way-finding
   - IT-enabled care navigation

2. **RELIABILITY**
   Deliver Consistent Quality, Experience
   - Standardized electronic ordering
   - Standardized electronic care pathways
   - Drug decision support
   - Workflow automation
   - Consumer-driven quality reporting

3. **AFFORDABILITY**
   Give the Best Value
   - Transparent costs and pricing
   - Simplified billing and payment

4. **LOYALTY**
   Make It Attractive to Stay, Not Go
   - Real-time patient feedback
   - Integrated patient portals and apps
   - Rewards programs

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1) CRM = Customer relationship management..

Source: Health Care IT Advisor research and analysis.
## Telemedicine: An Evolving Landscape

### Capture Value from Telemedicine Advancements

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>FUTURE</th>
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<tbody>
<tr>
<td>![Signal Icon] 1</td>
<td>Increased multimodal and sensor technology offerings</td>
</tr>
<tr>
<td>![Refresh Icon] 2</td>
<td>Increasing overlap between technologies and use cases</td>
</tr>
<tr>
<td>![Money Icon] 3</td>
<td>Broader Medicare reimbursement policies for telemedicine</td>
</tr>
</tbody>
</table>

### Telemedicine Considerations

- **Vendors vs. Internal Resources**
- **Customer Service Capabilities**
- **Telehealth Platforms**
- **Referrals Management**
- **Care Delivery and Care Management Integration**
- **Real Time vs. Asynchronous**

Source: Health Care IT Advisor research and analysis.
Digital Health Systems: Foundation for Transformation and Innovation

Health Care Is Undergoing Transformation and Being Disrupted

Business Models

Volumes → Value and Affordability

Patients and Consumers

Passive Recipients → Active Participants

Care Delivery

“Find It, Fix It” → Predictive, Proactive, and Preventive

Excerpt from Digital Health System Maturity Model

<table>
<thead>
<tr>
<th>Sample Dimensions</th>
<th>IT Efficiencies</th>
<th>IT-Enabled Strategies</th>
<th>Digital Transformation</th>
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<tbody>
<tr>
<td>Focus of and Value from IT-Related</td>
<td><strong>Automation</strong> for localized ROI</td>
<td>Business / IT alignment, strategy enablement, operational excellence</td>
<td>Digitization, sustaining, or disruptive innovations that</td>
</tr>
<tr>
<td>Investments</td>
<td></td>
<td>and improvement</td>
<td>scale and change the basis for competition</td>
</tr>
<tr>
<td>CIO Skills</td>
<td>Infrastructure technologies, project</td>
<td>Business/clinical acumen, digitization (fundamental rethink), all</td>
<td>Practical IT-powered innovation</td>
</tr>
<tr>
<td></td>
<td>management, applications</td>
<td>things data</td>
<td></td>
</tr>
<tr>
<td>Infrastructure and Operations</td>
<td><strong>Localized</strong> (by facility or department)</td>
<td>Reduce “keep the lights on” expenses, <strong>centralization</strong>, standardization,</td>
<td>Two-speed IT, agile, virtualization, cloud, analytics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reliability, scalability</td>
<td>platform, mobility platform, interoperability, innovation</td>
</tr>
</tbody>
</table>

Source: Health Care IT Advisor research and analysis.
Precise, Personalized Medicine: A New Precision in Clinical Decision Making

New Data Streams and Analytic Techniques Enable Improved Decision Making

Key Considerations

- Pharmacogenomic Decision Support
- PGHD Management
- Data Science Investments
- New Forms of AI-Driven Analytics
- Imaging Diagnostic Decision Support
- Change Management Strategy

Source: Health Care IT Advisor research and analysis.
Information Security: Build Toward a More Advanced, Adaptive Security Posture

Develop Cyber Resiliency Via Layers of Effort That Extend Beyond Technology

Governance and Policy
- C-Suite and Board Engagement
- Dashboards
- Governance
- Standards
- Strategy
- Digital Trading Partners
- Staffing

Process and Education
- Training
- Testing
- Incident Response Planning
- Audits
- Business Continuity Planning + Back-ups + Disaster Recovery
- Risk Assessments

Technology and Services
- Cyber Intelligence
- IT-Enabled Capabilities
- Cyber Insurance
- Information Sharing

Key Information Security Challenges for 2018

Develop Robust Third-Party Risk Management
Secure Medical Devices and the Internet of Things
Mature Security Processes, Policies, and Capabilities
Foster Continued C-Suite and Board Commitment

Source: Health Care IT Advisor research and analysis.
1. About Health Care IT Advisor

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3. Q&A
5 Tips to Derive Value From Health Care IT Advisor

View Us As An Extension of Your Team

1. Plan to use us
   Develop a service plan with your relationship manager and keep a regular call with them to identify ways we can help—interact often.

2. Cascade utilization to your team
   Don’t be a bottleneck—everyone in your organization has access so empower your team to take advantage.

3. Attend an IT National Meeting
   It’s more than presentations—it’s access to all experts, peer networking, full content, and dedicated time immersed in content.

4. Bring us in
   Leverage material in on-sites and private web conferences to educate staff, facilitate conversations, inform leadership.

5. Engage our experts regularly
   Whether for guidance on current priorities or to stay updated while you focus attention elsewhere—ask early, ask often.
Download the 2018 Top Ten Booklet

See the Top 10 slides and booklet, visit advisory.com
Ask a Question

To ask a question, please type it into the “Questions” box on the GoTo panel and press send.
IT Leadership at the Advisory Board

World-Class Thought Leadership and Support for IT Leaders

Jim Adams
Executive Director
- Leads the Advisory Board’s health care IT research
- More than 30 years of IT experience, including 20+ in health care
- Previously, Executive Director of IBM Center for Health Care Management, focused on global health care thought leadership
- Formerly held executive positions at Healthlink, Gartner, and two integrated health systems

Naomi Levinthal
Practice Manager
- Specializes in medical informatics, health IT policy, and telemedicine
- Previously, Certification Manager for the Certification Commission for Health Information Technology

Ernie Hood
Senior Research Director
- Former VP and CIO at Group Health Cooperative
- 20+ years of IT and health care experience
- Successful deployment of EHRs, Patient Portals, CRM, and BI tools
- Former HIMSS Washington Board Member and Chapter President

Peter Kilbridge, MD
Senior Research Director
- Nationally-recognized expert in the use of IT to improve patient safety
- 25 years of experience as a physician executive and informatics researcher
- Most recently served as CMIO at NYU Medical Center
- Prior IT leadership roles at St. Louis Children’s & Duke University Health System

Greg Kuhnen
Senior Research Director
- Former CTO of Care Team Connect, Chief Architect for Optum HIE, formerly Axolotl, and several engineering leadership roles for Truven.
- 15+ years in designing, building, and deploying health care IT systems for leading provider organizations across the country.
- Areas of expertise include interoperability, HIEs, BI, Cloud Computing, and IT Infrastructure.

Doug Thompson
Senior Research Director
- Internationally recognized expert in translating health care IT into operational and outcome improvements for hospitals and other providers
- Has consulted on EMR benefits realization with over 300 leading hospitals, including several Davies Award winners
- Has consulted with numerous vendor clients, including Microsoft, Cardinal Health, McKesson, and GE Health Care
IT Leadership at the Advisory Board

World-Class Thought Leadership and Support for IT Leaders

Anantachai (Tony) Panjamapirom, Senior Consultant
- A subject matter expert in the EHR Incentive Programs (i.e., Meaningful Use)
- Expert in Medicare quality reporting programs (e.g., Inpatient Quality Reporting and Physician Quality Reporting System), and their alignment opportunity and strategy
- Research on IT implications in accountable care environment

Ye Hoffman, Consultant
- Specializes in medical informatics and IT project management
- Experience as an IT Project Manager and Business Data Analyst at the Fred Hutchinson Cancer Research Center
- Areas of expertise include Meaningful Use, project management, clinical trials

Allyson Vicars, Consultant
- Areas of focus include cybersecurity, telemedicine, mobility, and emerging technologies
- Previously worked at Novant Health as an analyst supporting commercial managed care reimbursement contracting, strategic planning, and strategic pricing initiatives
- MBA in Healthcare Administration from The University of North Carolina at Charlotte, Belk College of Business

Andrew Rebhan, Senior Analyst
- Areas of expertise include enterprise imaging, advanced analytics, revenue cycle management, and consumerism
- Previously worked as an analyst for IHS Markit and IBISWorld covering medical technology and indirect procurement research
- MBA from California State University, Long Beach

Sophie Ranen, Analyst
- Supports research across health IT subject areas including population health management, information security, mobility and the IoT, and consumerism
- Prior experience evaluating health policy implications for Medicaid managed care at AmeriHealth Caritas
Webconference Survey

Please take a minute to provide your thoughts on today’s presentation.

Thank You!

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