The Future Healthcare Ecosystem

NCHICA 22nd Annual Conference & Exhibition
August 29-31, 2016
Omni Grove Park Inn
Asheville, North Carolina
Agenda:

• A World Without Meaningful Use
  • Roy Wyman, Nelson Mullins Riley & Scarborough

• Next Generation ACO
  • Andrew Weniger, Firstview LLC

• Managing Complex Change: Ransomware
  • Cliff Kittle, SecureWorks

• Learning Health System
  • Holt Anderson, Learning Health Community & NCHICA
  • Ed Hammond, Duke Clinical Research Institute

• A View from the Top
  • Dana Alexander, HIMSS N.A. Board Chair

• Audience Q & A
A World Without Meaningful Use

Roy Wyman
Nelson Mullins Riley & Scarborough
A World Without Meaning(ful Use)

NCHICA 22nd Annual Conference & Exhibition
Meaningful Use Versus the World

- **MU (Pull)**
  - CEHRT
  - Count Percentages
  - Equipment
  - Access
  - Reward benchmarks

- **The "World" (Pull)**
  - Wearables
  - Big Data
  - APIs
  - PHR redux
  - Avoiding HIPAA
(The Old) Meaningful Use

Having Tools (and Money) ≠ Better Care
The Meaningful Use program as it has existed, will now be effectively over and replaced with something better.

~ Andy Slavitt, Jan. 11, 2016
1. Reward Providers' Outcomes, not Use of Technology.
2. User-centered IT with Customized Goals.
3. Open APIs.
4. Interoperability.
CMS' Actions

- ACOs
- MIPS
- APMs
- Bundled Payments
  - BPCI
  - Hip and Knee (and femur)
  - Cardiac
• IT = Connection + Computing Power
• New Models Require Connection + Power
What's Missing?

• Interoperability (Still)
• Quality by Design
• APIs
• LHS
• Regulatory Guidance
  – Stark, AKS, etc. Safe Harbors
  – Model Agreements and Relationships
• Clarity
  – Knot the Spaghetti
Next Generation ACO

Andrew Weniger
Firstview LLC
### Context

- CMS “Better, Smarter, Healthier”

<table>
<thead>
<tr>
<th>Year</th>
<th>% Quality or Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/2016</td>
<td>30 %</td>
</tr>
<tr>
<td>12/31/2018</td>
<td>50 %</td>
</tr>
</tbody>
</table>

This is NOT ....is it?
### Medicare Part B Baseline Payment Updates

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>+0.5%^A</td>
</tr>
<tr>
<td>2017</td>
<td>+0.5%</td>
</tr>
<tr>
<td>2018</td>
<td>+0.5%</td>
</tr>
<tr>
<td>2019</td>
<td>+0.5%</td>
</tr>
<tr>
<td>2020</td>
<td>+0.5%</td>
</tr>
<tr>
<td>2021</td>
<td>+0.0%</td>
</tr>
<tr>
<td>2022</td>
<td>+0.25%*</td>
</tr>
<tr>
<td>2023</td>
<td>+0.75%**</td>
</tr>
</tbody>
</table>

*Non-qualifying APM Conversion Factor  
**Qualifying APM Conversion Factor

### Merit-Based Incentive Payment System (MIPS)

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQRS, Value-based Modifier, and Meaningful Use</td>
<td>-6% -9% -9% +/-4% +/-5% +/-7% +/-9%</td>
</tr>
<tr>
<td>Quality, Resource Use, Meaningful Use, and Clinical Practice Improvement Activities</td>
<td></td>
</tr>
</tbody>
</table>

### Qualifying Alternative Payment Model (APM) Participant

- 5% Incentive payment
- APM Participants Exempt from MIPS

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^A The projected 0.5% update, established by MACRA, was negated due to other legislative provisions resulting in a 2016 conversion factor of $35.82 instead of $35.93.
^B Cumulative maximum penalty for a 10-provider clinic.
Next Generation ACOs...
## Types of Next Generation ACO Entities and Associated Functions

<table>
<thead>
<tr>
<th>Provider Type</th>
<th>Alignment</th>
<th>Quality Reporting Through ACO</th>
<th>Eligible for ACO Shared Savings</th>
<th>PBP</th>
<th>All-Inclusive PBP</th>
<th>Coordinated Care Reward</th>
<th>Telehealth</th>
<th>3-Day SNF Rule</th>
<th>Post-Discharge Home Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next Generation Participant</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Preferred Provider</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

1. This table is a simplified depiction of key design elements with respect to Next Generation Participant and Preferred Provider roles. It does not necessarily imply that this list of capabilities is exhaustive with regards to possible ACO relationships and activities.

2. More information on the benefit enhancement may be found in Section VI.C.2 of the Request for Applications.
The end of COMMISSION?

Investment Advisors no longer allowed to receive commission based compensation

<table>
<thead>
<tr>
<th>Year</th>
<th>End of commissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>UK</td>
</tr>
<tr>
<td>2013</td>
<td>Australia</td>
</tr>
<tr>
<td>2017</td>
<td>US?</td>
</tr>
</tbody>
</table>

Commissions were banned on new investments and super products from 1 July 2013. Some other commissions, for example, for selling life insurance, remain. However, if you bought a financial product before 1 July 2013 the adviser may continue to receive a commission each year for advising on that product. The commissions will continue to be deducted from the money you have invested until you leave that product or end your relationship with that adviser. AU Securities and Investment Commission 8/2016)

Is Healthcare next?
Managing Complex Change: Ransomware

Cliff Kittle
SecureWorks
Managing Complex Change: Ransomware

Cliff Kittle
Principal, Healthcare Information Security
ckittle@secureworks.com
Ransomware is a form of malware that targets organizations and individuals in an effort to deny the availability of critical data and systems. When the victim is no longer able to access their data, the cyber actor demands the payment of a ransom. The cyber actor then purportedly provides an avenue to access their encrypted data.
Changing the philosophical approach to information security in the healthcare industry

**COMPLIANCE APPROACH**

Since 1996, philosophy has been compliance to the HIPAA regulation

- Point in time
- Tactical approach
- Checklist driven

**STRATEGIC APPROACH**

A new philosophy is required to meet the business challenges of security

- Information security management system – mitigate risk and liability
- Strategic approach
- Continuous process

“The absence of a strategy means no strategic efforts will result from tactical actions. Strategic effort will be generated by the casual, if perhaps unguided and unwanted accumulation of tactical and operational outcomes.” Colin Gray, Modern Strategy
Philosophical Change is a Complex Organizational Change

- **Vision** enables focus and unity
- **Skills** required for complex change
- **Incentives** to ensure buy-in
- **Resources** needed to create change
- **Action plan** provides framework

Absence of any of these will lead to less desirable results
Proliferation Techniques

- Phishing
- SWC (Phishing Variant)
- Botnets
- APT (Advanced Persistent Threat)
- Locky (Phishing with malicious attachments)
- Angler / EK / Tesla Crypt4 (Links to exploit Kit landing pages)
- Samas (Dedicated Adversary)
Protecting from Ransomware

**People**
Trained experts that provide 24/7 monitoring and analysis of security events.

**Intelligence**
Contextual understanding of threats through security and network intelligence built into the fabric of the technology platform.

**Process**
Ability to identify threats and provide actionable remediation and quick remediation of threats.

**Technology**
A key component and first line of defense... Able to detect and block a wide variety of threats including malware.

Does your org have this process in place?
Protecting from Ransomware

Lack of visibility and actionable “intelligence” reduces your ability to address the big picture effectively.

<table>
<thead>
<tr>
<th>What?</th>
<th>Security event information can tell you:</th>
<th>Intelligence helps you go beyond to answer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the activity and is it a real threat?</td>
<td>Who may be behind it and what else should we look for?</td>
<td></td>
</tr>
<tr>
<td>What systems were involved?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How?</th>
<th>Security event information can tell you:</th>
<th>Intelligence helps you go beyond to answer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did they get in and carry out their mission?</td>
<td>Why were we targeted? What is the actor’s end game?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When?</th>
<th>Security event information can tell you:</th>
<th>Intelligence helps you go beyond to answer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>When did this happen and what’s gone on since then?</td>
<td>How should I respond to disrupt the threat, clear it from my environment and prevent this from happening again?</td>
<td></td>
</tr>
</tbody>
</table>
SUCCESS STORY

Healthcare | Real-world Ransomware Attack

Large Healthcare Organization: Email Phishing Attack

**Attack**

- In 2015 this organization engaged SecureWorks Incident Response team to work through Incident Response Planning and Testing
- Developed a Cybersecurity Incident Response Plan and a series Table Top exercises to hone the skills of each member of the organization’s response team.
- In February 2016, a facility of the organization was impacted by a Ransomware attack

**Resolution / Value**

- The readiness to respond to such a scenario, achieved through their preparation and Table Top rehearsals, prevented an interruption of patient services.
- The team preformed their duties flawlessly from IT teams, through communications, compliance, and legal teams.
- Experience allowed the Incident Response team to provide and after action report presenting lessons learned and improvement recommendations to their C-Suite.
Thank you

Cliff Kittle
Principal, Healthcare Information Security
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Learning Health System

Holt Anderson
Learning Health Community & NCHICA

Ed Hammond
Duke Clinical Research Institute
Learning Health System (LHS)

An Overview of the Emerging LHS Concept and Components Leading to an Operational Status by 2024

Holt Anderson
Learning Health Strategies
NCHICA
Emerging VISION of an Operational LHS Environment

Stakeholders who INDIRECTLY Interact with Individuals
- GOVERNMENT REGULATORS
- ACCREDITING ENTITIES
- PUBLIC HEALTH ENTITIES
- REGISTRIES
- RESEARCHERS
- SOFTWARE & SERVICES
- PHARMA
- MEDICAL DEVICE SUPPLIERS
- WELLNESS DEVICE SUPPLIERS
- HIEs

Stakeholders who DIRECTLY Interact with Individuals
- PROVIDERS & PUBLIC HEALTH
- PAYERS Government & Private
- LABS
- PHARMACIES
- EMPLOYERS
- PATIENT ADVOCATES
- SUPPORT GROUPS

Direct Interactions
- In-person at: Hospital, Office, Clinic, Retail Store, Home
- Remote by:

Stakeholders who INDIRECTLY Interact with Individuals
- DIRECTLY Interact with
- PROVIDERS & PUBLIC HEALTH
- PAYERS Government & Private
- LABS
- PHARMACIES
- EMPLOYERS
- PATIENT ADVOCATES
- SUPPORT GROUPS

Direct Interactions
- Acute Care
- Post Acute Care
- Long-Term Care

Remote by:

INDIVIDUALS

FAMILY & SUPPORT SYSTEM

CARE ENCOUNTER RECORDS
BEHAVIORAL HEALTH RECORDS
PERSONAL HEALTH RECORDS
SOCIO-ECONOMIC FACTORS

COMPREHENSIVE DATA: Symptoms, Diagnosis, Genetics, Treatments, Outcomes, Side Effects, Environmental Factors, etc.

LEARNING HEALTH SYSTEM (LHS)

Virtuous cycle of continuous study, learning, and improvement

Data Analysis Interpretation Feedback Change

IMPORTANT AND RELATED INITIATIVES INCLUDE:

ETC.
Current Initiatives Leading to an LHS Capability Include:

LHS = “Network of networks that connects islands of expertise”
The Core Values Underlying a National-Scale, Person-Centered, Continuous-Learning Health System (LHS)

1. Person-Focused
2. Privacy
3. Inclusiveness
4. Transparency
5. Accessibility
6. Adaptability
7. Governance
8. Cooperative and Participatory Leadership
9. Scientific Integrity
10. Value
105 Endorsements of the LHS Core Values*
(As of 6/7/2016)

*To be included on the www.LearningHealth.org website.
Contact:

Holt Anderson, FHIMSS
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http://www.learninghealth.org
Learning about Learning Health

W. Ed Hammond, PhD
Duke Center for Health Informatics
Duke Translational Medical Institute
Duke University
The compass is shifting!

- Sick care to health
- Provider focus to patient focus
- Proprietary to shared
- Competitive to collaborative
- Licensed for fee to free
- Site specific to mobile
- Give me my data to take my data
Learning Health depends on ...

- Data
  - Aggregated across all sources for each person
  - High Quality
    - Complete
    - Consistent
    - Understandable
  - Multiple Kinds of Data
    - Clinical
    - Behavioral
    - Social
    - Economic
    - Environmental
    - Genomic
Learning Health depends on …

• Big Data
  • Accessible across all of health care
  • Interoperable connectivity, usability, understandability
  • Same patient identifiable across all sources
  • Temporal integrity

• Analytics
  • Actionable
  • Predictive
Learning Health depends on ...

- Continual discovery of new knowledge through observation, pragmatic clinical trials, analytics, none-hypothesis (self defining) based research
- Immediate use of new knowledge in patient care
- Application of knowledge to data creates information
- Information
Learning Health depends on ...

• Performance
  • Identify errors and design system to prevent from reoccurring
  • Develop strategies to improve poor performance areas.
  • Accommodate change in all resources quickly and efficiently.
  • Perfect is not all that bad.

• Pride
Learning Health depends on ... 

• Comparison – who is best and why 
• Scoring systems – the Olympics of health 
• Awareness 
  • Publish on web significant performance factors 
    • Controlled diabetes 
    • Hospital acquired infection 
    • Readmission 
    • Access times 
    • Falls 
  • Learn who is best and why, then duplicate
Learning Health depends on ...

• Keeping up with technology
  • Recognizing change is continuous
  • Design to accommodate change
  • Define what is required and find appropriate technology to achieve
  • Culture disruptive innovation and vision
  • Never accept “We don’t do it that way.”
  • Never accept “You can’t do that because ...”
• Believe anything is possible. It just may take a little more time.
• Don’t be bound by the present.
Learning Health depends on ...

• New ways of thinking and learning
  • Data volume and knowledge exceeds the ability of humans to make decisions.
  • Computers are becoming able to learn from data and knowledge that is available on the internet and other sources. Computers are becoming self-aware. Create new knowledge.
  • Cognitive computing, neural networks, machine learning
  • mHealth, wearable sensors, patient reported outcomes
  • 3-D printing
Learning Health depends on ...

• Embracing tomorrow
A View from the Top

Dana Alexander
Immediate Past Board Chair, HIMSS North America
Audience Q & A
Thank You!