

The Healthcare Organization of the Future will be Data-Driven



Moving to a value-driven model demands agility from people, processes, and technology. Organizations that succeed in this transformation will be those that leverage data to:

- 1) Establish analytics as a core competency
- 2) Deliver best practice care
- 3) Engage patients and collaborate across the ecosystem to foster strong, actionable relationships

80% of health data is unstructured and stored in hundreds of forms such as lab results, images, and medical transcripts.¹



50 petabytes There is an estimated 50 petabytes of data in the healthcare realm?²

Improvements in care and operational efficiencies will be realized when healthcare data, from every source, is leveraged.

90%+

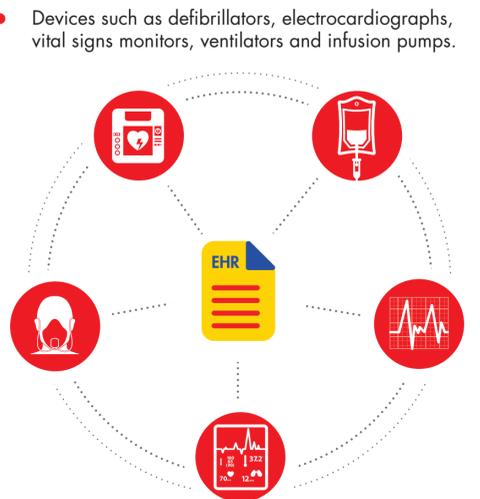


of hospitals use 6 or more types of devices that could be integrated with EHRs.³

33.3%



Yet only a third of hospitals integrate any medical devices with EHRs, and those that do, usually integrate only 3 types of devices.³



• Devices such as defibrillators, electrocardiographs, vital signs monitors, ventilators and infusion pumps.

1000



On average, patient monitoring equipment pumps out 1000 readings per second, or 86400 readings per day.⁴

4.9M



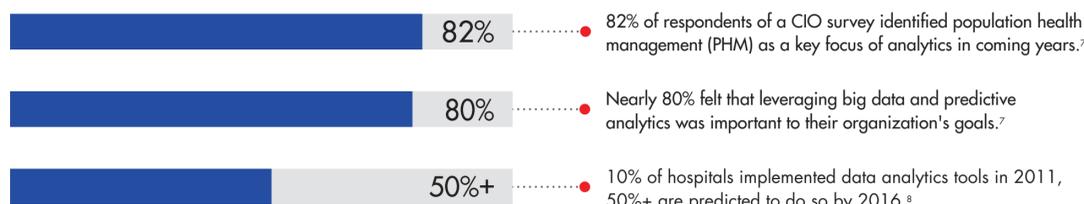
4.9 million patients worldwide will use remote monitoring devices by 2016.⁵

\$30B



Improving interoperability between medical devices and EHRs in hospitals could save more than \$30 billion a year while improving patient care and safety.⁶

Analytics will reveal insights. However, the quality of the decisions you make will mirror the quality of the data fed into the analytics. Clean, safe and connected data is required for confident decision making.



Data needs to be clean and connected.

Healthcare data quality is concerning for 2 reasons:

1 Human Error: Manual entry introduces intentional and unintentional systematic errors.⁹

2 Data Fragmentation: Even if we achieve perfect data accuracy; data fragmentation remains.⁹

Incomplete data, like inaccurate data, can also lead to missed or spurious associations that can be wasteful or even harmful to patient care. These issues need to be addressed in order to ensure that insights from electronic clinical data are valid.⁹

Data needs to be safe.

21.7M patients have had records exposed in healthcare data breaches.¹⁰



874,667 total records exposed in data breaches in Quarter 1 2013.¹⁰



94% of hospitals exposed by a breach in the past 2 years.¹⁰

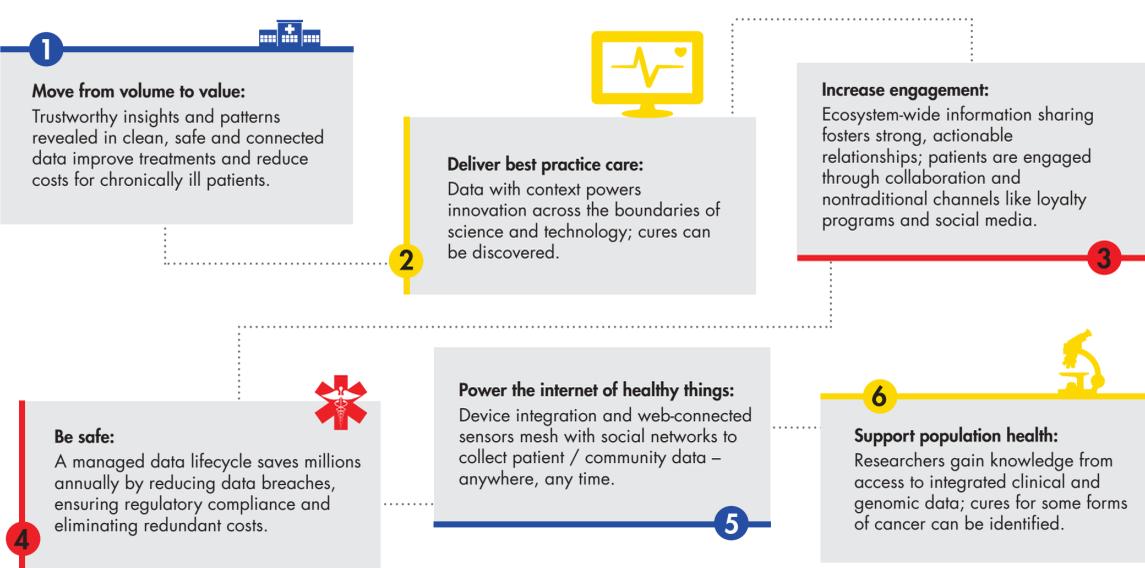


69% of medical devices are vulnerable to hackers because they are not secure.¹⁰



This is where data infrastructure comes in

Transformed Healthcare organizations rely on data to:



For example:



The largest children's hospital in the US retained access to historical clinical data for care delivery and regulatory compliance while achieving resource agility by eliminating maintenance costs of the legacy EHR - saving \$2.8M annually.



For the first time ever, with foundational architecture and the new enterprise data warehouse in place, UPMC researchers were able to electronically integrate clinical and genomic information on 140 patients previously treated for breast cancer.



BCBS Michigan complied with ICD10 regulatory requirements creating a easy to use crosswalk between ICD9 and ICD10 codes.



¹ <http://www.zdnet.com/within-two-years-80-percent-of-medical-data-will-be-unstructured-7000013707/>
² <http://www.scribd.com/doc/107279699/Big-Data-in-Healthcare-Hype-and-Hope>
³ [http://www.informationweek.com/interoperability/medical-device-ehr-integration-could-save-\\$30b-study/d/did/1109208#](http://www.informationweek.com/interoperability/medical-device-ehr-integration-could-save-$30b-study/d/did/1109208#)
⁴ <http://info.healthdirections.com/blog/bid/330034/Infographic-Big-Data-is-Healthcare-s-Biggest-Threat-And-Likely-Savior>
⁵ <http://mobihealthnews.com/15487/berg-2-2m-patients-remotely-monitored-globally/>
⁶ [http://www.informationweek.com/interoperability/medical-device-ehr-integration-could-save-\\$30b-study/d/did/1109208](http://www.informationweek.com/interoperability/medical-device-ehr-integration-could-save-$30b-study/d/did/1109208)
⁷ http://www.informationweek.com/healthcare/clinical-information-systems/healthcare-analytics-sought-for-population-health-management/d/did/1111071?page_number=1
⁸ <http://www.informationweek.com/healthcare/clinical-information-systems/hospitals-look-for-population-health-management/d/did/1105906#>
⁹ <http://www.ajmc.com/publications/issue/2013/2013-1-vol19-n7/Healthcares-Big-Data-Challenge>
¹⁰ <http://www.experian.com/blogs/data-breach/2013/05/01/medical-data-breaches-a-source-of-chronic-pain/>