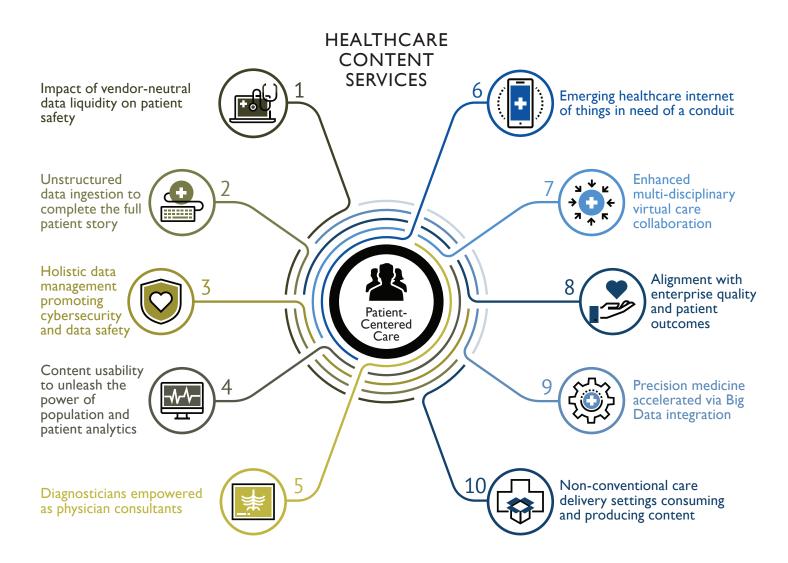
A solid healthcare content services (HCS) platform is essential for healthcare providers striving to deliver patient-centered care

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The stakes have never been higher for healthcare providers to improve patient care and produce quality outcomes. Their reputations and bottom lines depend on it. As such, most healthcare providers are adopting practices and systems that focus on delivering patient-centered care (i.e. care that is respective and responsive to individual patient preferences, needs and values; and ensuring these values guide all clinical decisions). Delivering this type of care is not as easy as it sounds. It depends on having the right information at hand

when and where you need it. These 10 industry benefits illustrate why a robust healthcare content services (HCS) system is absolutely necessary to delivering true patient-centered care.

DELIVERING PATIENT-CENTERED CARE DEPENDS ON **HAVING THE RIGHT INFORMATION** AT HAND WHEN AND WHERE YOU NEED IT





IMPACT OF VENDOR-NEUTRAL DATA LIQUIDITY ON PATIENT SAFETY

There is immense potential for an interoperable HCS platform to yield positive impacts on the quality of care and the safety of patients.

This potential is widely recognized today, notably in the Office of the National Coordinator's (ONC's) Nationwide Interoperability Roadmap which aims for a more effective flow of patient information free of data-blocking by IT vendors.

For example, providers that have adopted electronic medical image exchange with other providers, often as an extension of their HCS strategy, now experience major benefits from the ability to ingest outside patient images quickly and ensure the availability of priors consistently.

> Patient benefits include skimming off precious minutes in the trauma center, where incoming patients can be advanced more quickly through emergency clinical protocols, while reducing redundant imaging exams that unnecessarily expose patients to additional radiation and time delays. 2

UNSTRUCTURED DATA INGESTION TO COMPLETE THE FULL PATIENT STORY

> The implementation of the HITECH Act of 2009 has been successful at driving technology adoption. Owing to a large extent to the Meaningful Use program, today nearly 97% of hospitals and 75% of ambulatory providers use a certified EHR system according to recent data from HHS—a huge leap forward compared to the 2009 figures.

However, while EHRs are now ubiquitous within the U.S. healthcare system, they fall short of capturing, or even of being able to access, all the relevant information about a patient's journey through the care continuum. This impedes their potential to actually improve care.

Content capture tools, especially the capture of unstructured data produced across myriad clinical, financial, operational or consumer settings, become crucial to complement this EHR shortcoming of providing a holistic HCS capability.

Tied closely to this ability to capture all content is the ability to visualize any type of content, and to do so in an efficient way for the multiple use cases of the various stakeholders providing care.

SKIM OFF **PRECIOUS MINUTES IN THE TRAUMA CENTER** BY REDUCING REDUNDANCY AND MOVING QUICKLY THROUGH PROTOCOLS



HOLISTIC DATA MANAGEMENT PROMOTING CYBERSECURITY AND DATA SAFETY

> While providers are ramping up efforts to meet their responsibility of safeguarding the privacy of patients' protected health information (PHI), a growing incidence in cybersecurity risk is facing IT departments across the globe.

As Frost & Sullivan's 2016 study on the U.S. Hospital Cybersecurity Market points out: "Hospitals are transitioning from a reactive, piecemeal, fragmented approach to protecting privacy and security that is highly dependent on HIPAA compliance to an approach that is proactive, holistic, and coordinated, anchored by integrated solutions designed to protect multiple endpoints (computers and connected medical devices)."

> Indeed, an integrated approach to HCS can contribute in a significant way to improving data protection and reducing the vulnerability of providers to data breaches, hackers, and cybercrime.

> In this context, it is becoming clear that a tightly integrated data management platform can be made more secure and immune to outside breaches, compared to loosely-interconnected storage silos where each interface can constitute a cybersecurity weak-spot.



CONTENT USABILITY TO UNLEASH THE POWER OF POPULATION AND PATIENT ANALYTICS

With digital patient records now well in place at the majority of health provider facilities, the focus can turn to the next big phase for the U.S. healthcare system—data analytics.

> It is already obvious that the next phase will be characterized by higher capitalization on available data, notably by providers and payers, through various applications of descriptive, comparative, predictive and even prescriptive analytics.

Through its embedded features of data normalization and standardization, a state-of-theart HCS platform makes content more usable for analytic purposes.

> Effectively, HCS unlocks otherwise inaccessible unstructured data, adding much needed elements to the pool of minable health data.

> Frost & Sullivan believes that data analytics can improve health management in many ways; whether at the patient level, by educating clinical decisions or predicting treatment outcomes, or at the population level, by measuring the effectiveness of new care pathways or the impact of new preventative care measures.

DATA ANALYTICS CAN **IMPROVE HEALTH MANAGEMENT** AT BOTH PATIENT AND POPULATION LEVELS



DIAGNOSTICIANS EMPOWERED AS PHYSICIAN CONSULTANTS

> In the value-based environment that is progressing in the U.S. healthcare system, diagnostic functions such as radiology or pathology are becoming perceived as cost centers that contribute to the escalating cost of care, and no longer simply as revenue and profit centers for the healthcare enterprise.

> As part of providing cost justification for their diagnostic services, diagnosticians will increasingly be incentivized, via new merit-based and pay-forperformance payment structures, to demonstrate and quantify the value-for-money that they provide to the care team.

Nuch of this value resides in transforming their services from merely generating study reports, to becoming proactive consultants to their internal customers—the physician referral base. With its Imaging 3.0 initiative, which is geared at allowing "all radiologists to take a leadership role in shaping America's future health care system," the American College of Radiology makes this a clear best practice to adopt.

> A HCS ecosystem that captures the longitudinal history of patient care can significantly empower diagnosticians in this endeavor by giving both them and their physician partners the means to communicate around a comprehensive view of a patient's evolving condition and the effectiveness of previous care episodes.



EMERGING HEALTHCARE INTERNET OF THINGS IN NEED OF A CONDUIT

> The Internet of Things (IoT) has decisively set foot into healthcare over the past two years and has extremely high transformational potential.

The healthcare IoT is stemming both from patient engagement and consumerism. It includes the plethora of networked wearable devices that monitor our lifestyle and health patterns, as well as a new generation of connected medical devices that can stream vital patient data to caregivers in real-time.

> Frost & Sullivan firmly believes that these rapid developments stress the need for a flexible HCS platform that can operate as a data bus to channel live IoT data to the appropriate point of care and make it actionable in clinical decision-making, from preventative and anticipatory care to emergency treatment and acute care.

RAPID IOT DEVELOPMENTS STRESS THE **NEED FOR A FLEXIBLE** HEALTHCARE CONTENT SERVICES PLATFORM



ENHANCED MULTI-DISCIPLINARY VIRTUAL CARE COLLABORATION

The recent report from the Centers for Disease Control and Prevention (CDC), where medical error has been ranked as the third leading cause of death in the United States, adds to a long list of wake-up calls begging for tighter care integration and coordination amongst the multiple caregivers involved in a patient care pathway.

An enterprise-wide HCS strategy is needed that captures all the relevant clinical information about patients, across every "ology" where different specialists are contributing their expertise, and across the multiple sites of care that constitute today's growing and consolidating health systems and integrated delivery networks.

> Indeed, by providing a gateway to all information produced along the care continuum, a modern HCS platform can serve as a foundation to allow for virtual, yet efficient, coordination and collaboration among the various stakeholders in patient care including patients themselves.

A MODERN HEALTHCARE CONTENT SERVICES PLATFORM CAN ALLOW VIRTUAL COORDINATION AND COLLABORATION BETWEEN STAKEHOLDERS IN PATIENT CARE



ALIGNMENT WITH ENTERPRISE QUALITY AND PATIENT OUTCOMES

> Under the value-based care paradigm, every care episode and every contributor to patient care pathways needs to align its outcomes metrics with those of the healthcare enterprise that they are part of.

The satisfaction of patients with their healthcare experience, as captured by the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores, is one such outcome that every care pathway constituent should adhere to and prioritize.

> Frost & Sullivan considers that innovative HCS can contribute positively to higher patient satisfaction outcomes. For example, it can help make the patient journey through the care continuum smoother and clearer by providing more transparent and data-rich communication between patients and caregivers. Furthermore, it helps give patients a better understanding of their own health data.



PRECISION MEDICINE ACCELERATED VIA BIG DATA INTEGRATION

The sheer size of certain types of clinical datasets, such as those from advanced medical imaging, and their accumulation over years, has decisively moved healthcare into the realm of Big Data.

With pathology expected to be the emerging discipline to undergo digitization over the next few years, and given that the size of digital pathology slides dwarfs those of radiology images, it is becoming obvious that any future-proof HCS platform will need to provide unlimited scalability and strict adherence to industry standards.

Similarly, with genomics and similar datasets joining in the patient data pool in the foreseeable future, leveraging the value of Big Data will hinge on the integration of disparate datasets around the individual patient, leading to very exciting new convergences such as radiogenomics.

As part of a growing body of research literature on this subject, this thought-leading RSNA paper by Robert J. Gillies et. al. makes this specific recommendation: "To be of maximal value, the various kinds of high-quality data that are obtained during the work-up and monitoring of individual patients must interface with each other."

This patient-centric integration of data, and the ensuing integration of the clinical workflows surrounding these data, will act as a major enabler of personalized patient care, which is itself a major pillar of precision medicine.



NON-CONVENTIONAL CARE DELIVERY SETTINGS CONSUMING AND PRODUCING CONTENT

Many healthcare systems realized long ago that keeping patients out of expensive acute care settings is key to bending the healthcare cost curve.

▶ In 2001, the implementation of a then "new" program of integrated home care for the elderly helped reduce the number of patient hospitalizations from 44% to 26%. That was even without the plethora of remote monitoring and telemedicine technology tools that are readily available today.

Several different locations—patients' homes, long-term care facilities, etc.—are essentially becoming care settings today and are expanding health systems.

As such, a HCS platform that allows content to be exchanged with these extended care settings is vital to ensuring optimal patient outcomes.

A HEALTHCARE CONTENT SERVICES PLATFORM THAT **EXCHANGES INFORMATION** WITH EXTENDED CARE SETTINGS IS VITAL



ABOUT HYLAND

By combining information management and enterprise medical imaging with business process and case management capabilities, Hyland Healthcare delivers a suite of unparalleled content and image management solutions to address the clinical, financial and operational needs of healthcare organizations around the world. Every day, more than 2,000 healthcare organizations use Hyland Healthcare's world-class solutions to become more agile, efficient and effective. The Hyland Healthcare suite of products—comprised of Acuo by Hyland, PACSgear, NilRead, Brainware by Hyland, OnBase by Hyland and ShareBase by Hyland—are leveraged to complete patient records, eliminate reimbursement delays and enhance business processes.

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