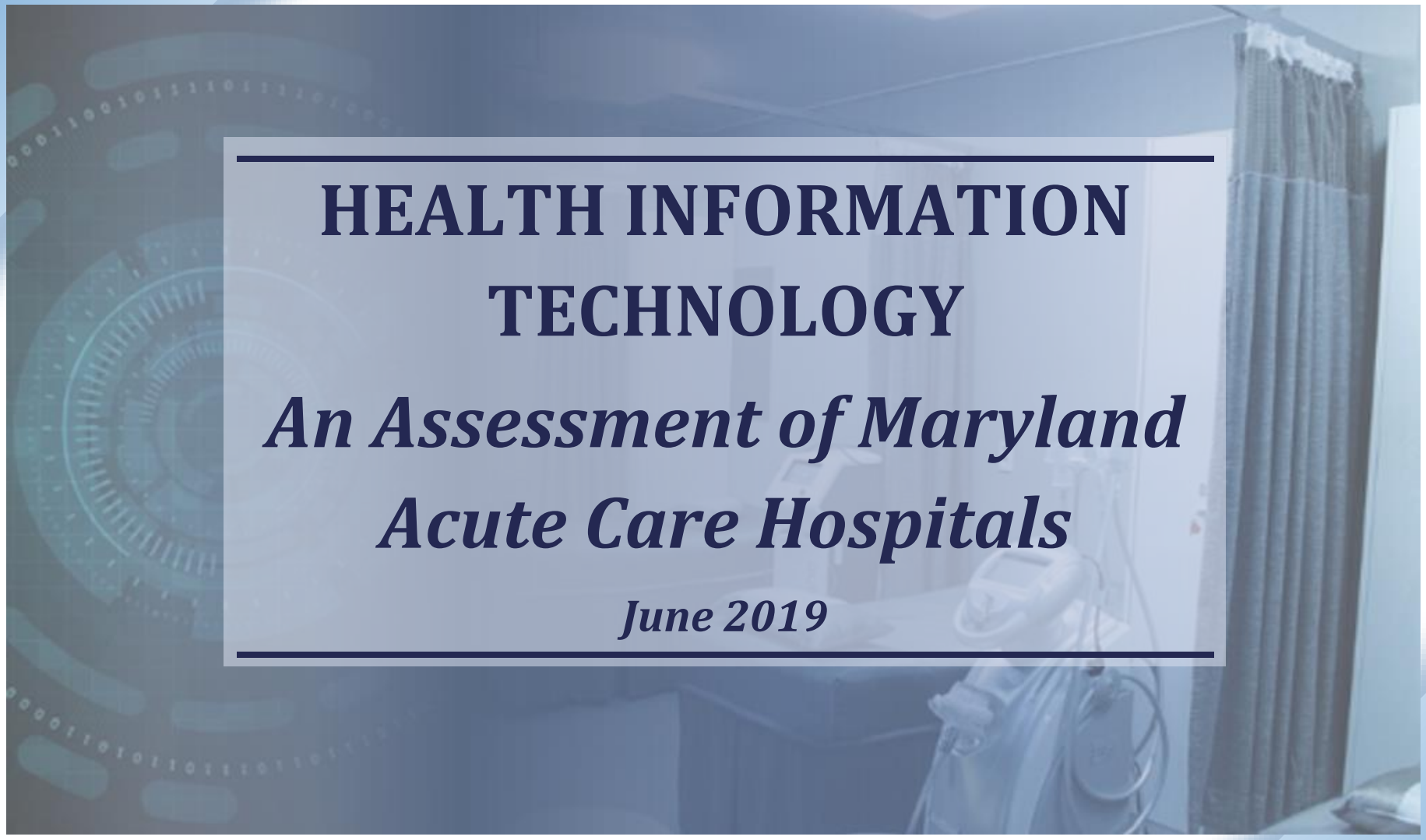

HEALTH INFORMATION TECHNOLOGY

An Assessment of Maryland Acute Care Hospitals

June 2019

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CHAIRMAN

Ben Steffen
EXECUTIVE DIRECTOR

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INTRODUCTION

Legislation, policy, and technology over the last decade have been key drivers in transforming the way hospitals operate and deliver care. Hospitals that once used health information technology (health IT) primarily for administrative purposes are advancing its use to support clinical processes. New care delivery models reimburse value over volume of care and rely on vast amounts of data from electronic health records (EHR) to inform decision making.[1] Increased use of health IT makes hospitals more vulnerable to a well targeted attack. Access to electronic health information is appealing to cybercriminals since it has broader utility that can support a range of nefarious activities.[2]

The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009[3] spurred digitization in health care through Meaningful Use[4] of EHRs. Since 2011, the federal government has generated EHR financial incentives to Maryland hospitals in the amount of roughly $330 million out of a nearly combined total of $22 billion earned by hospitals nationally.[5] By 2014, use of certified EHRs[6] among hospitals was practically universal (Maryland: 100%; Nation: 96%), a significant increase from basic EHR[7] technology in 2009 (Maryland: 16%; Nation: 9%).[8] EHRs are critical infrastructure necessary to support health information exchange (HIE); however, information silos still exist post-HITECH as technology and policy barriers surrounding interoperability have not been resolved.

Lack of interoperability between EHRs impacts care coordination and analytics. HIE is a key component in solving these barriers. HIE organizations range from regional, public entities (including State-Designated entities) to enterprise-wide (large health systems) and vendor-mediated networks (EHRs).[9] HIEs, particularly those that rely on public funds, continue to struggle in developing a sustainable business model. On April 19, 2019, the Office of the National Coordinator for Health Information Technology (ONC) released (draft 2) the Trusted Exchange Framework and Common Agreement (TEFCA) for public comment. TEFCA aims to advance nationwide interoperability through a set of principles designed to facilitate trust among authorized participants, and complement emerging national frameworks (e.g., CommonWell Health Alliance)[10] that support exchange across multiple networks.[11]

Telehealth is considered as an important component of a health IT framework. Supported by EHRs and HIE, telehealth is enabling hospitals to provide clinical care and health information to patients at a distance through applications, such as live (synchronous) video conferencing and remote patient monitoring.[12] Hospitals are increasingly viewing the promise of telehealth as innovative way to curb utilization and address access issues.

Investments in health IT by providers and policy makers have resulted in mixed views regarding its impact on quality and cost. Assessing perceived value of health IT is an important activity to improve its use. Valuing health IT investments are largely subjective; however, it does provide perspective on its ability to facilitate better health outcomes, enhance operating efficiencies, and reduce costs. This is especially important since Maryland has become the first state fully at risk for the total cost of care (TCOC) of Medicare beneficiaries.[13]

ABOUT THE ASSESSMENT

Since 2008, the Maryland Health Care Commission (MHCC) has conducted an assessment of health IT adoption among all acute care hospitals ("hospitals") in the State. This is the first year that hospitals were asked to respond to survey questions about perceived value of health IT (EHRs, HIE, and telehealth) post-HITECH. Survey questions pertaining to key areas of hospital population health and cybersecurity were also included. The information is intended to inform stakeholders about hospital health IT accomplishments and foster conversations focused on enhancing its use to transform care delivery. Key findings are presented in aggregate; certain data is broken down by health systems and community-based hospitals.[14] Input from hospital Chief Information Officers (CIOs) on a working draft of this report was used to finalize the assessment.

LIMITATIONS

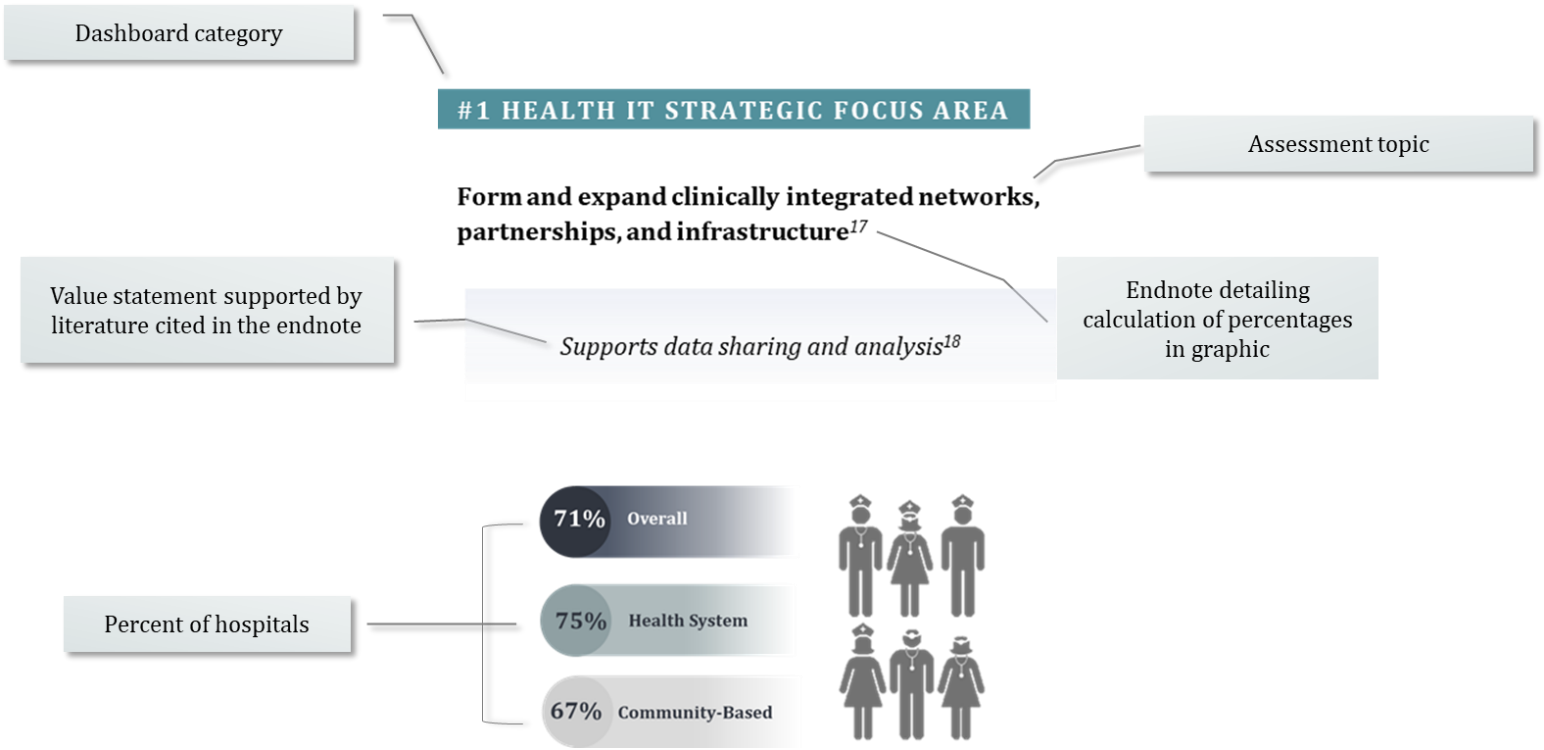
Data was self-reported by hospital CIOs and other senior leadership using an online survey. The majority of survey questions were structured using a Likert scale approach.[15] Likert scales can have an "anchor effect" where respondents gravitate towards more central answers.[16] Survey questions were pre-tested with a small number of hospital respondents; their ability to identify potential challenges with the questions may have varied. The assessment does not track changes in perceived value over time, and not all survey findings are included in the report. National benchmarking data is limited; variation in survey methods may impact gauging Maryland to the nation.

REPORT APPROACH – AT A GLANCE

This report presents findings from the assessment using infographic dashboards. A total of 15 dashboards are organized under five key categories: population health, EHRs, HIE, telehealth, and cybersecurity. A snapshot from an infographic dashboard and the accompanying descriptions below provide guidance on how to understand the layout and information presented.

HOW TO READ THIS REPORT

A Snapshot from an Infographic Dashboard



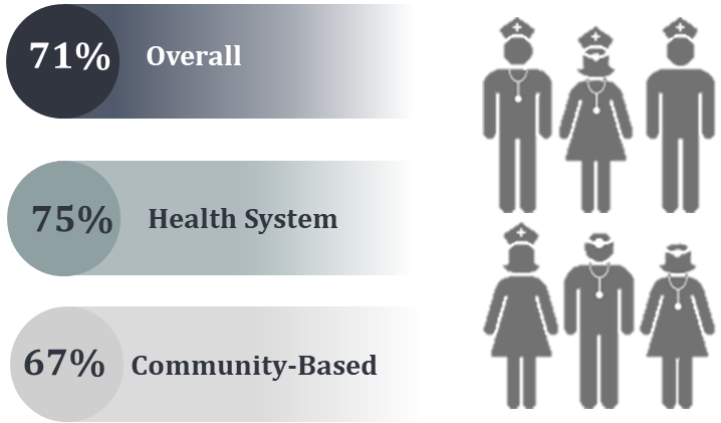
FINDINGS

POPULATION HEALTH

#1 HEALTH IT STRATEGIC FOCUS AREA

Form and expand clinically integrated networks, partnerships, and infrastructure[17]

Supports data sharing and analysis[18]



#2 HEALTH IT STRATEGIC FOCUS AREAS

Improve physician and hospital alignment[19]

Enables continuous collaboration to support value-based care[20]

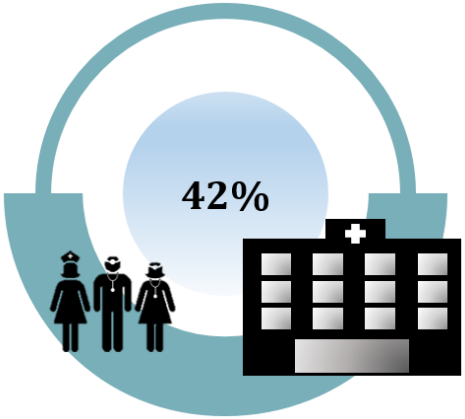
Advance predictive analytics capabilities[21]

Identifies high risk patients[22]

Adapt to changing consumer demands and expectations[23]

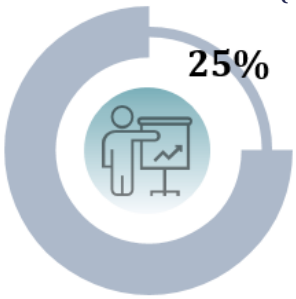
Addresses the rise of health care consumerism[24]

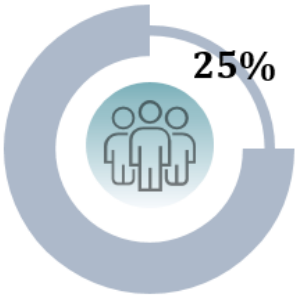
Health System



Community-Based

(Equally Ranked)

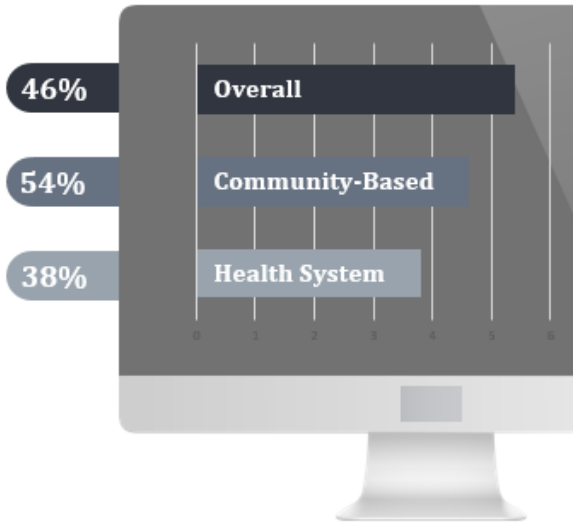




#3 HEALTH IT STRATEGIC FOCUS AREA

Expand existing telehealth services[25]

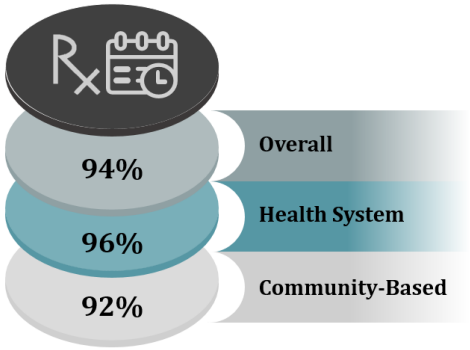
Reduces avoidable hospital utilization[26]

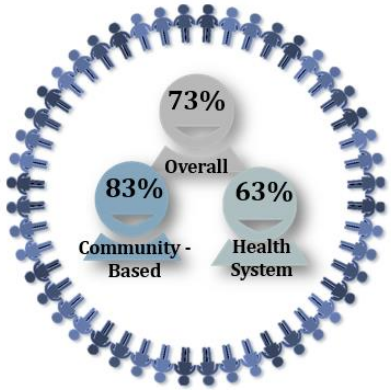


VIEWS ON NON-TRADITIONAL DATA TO ENHANCE ANALTYICS

Patient medication history viewed highly[27]

Identifies prescribing discrepancies and reduces errors[28]



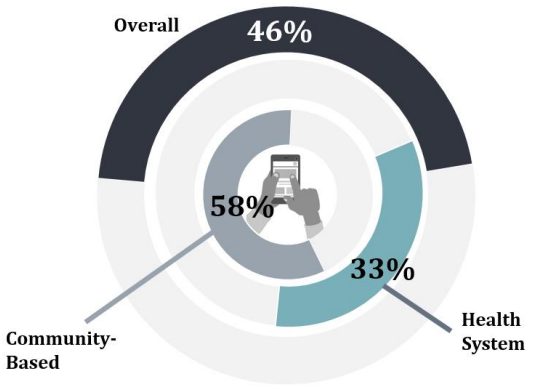


Interest in socioeconomic information[29]

Informs treatment interventions and referrals[30]

Mixed views on patient generated health information[31]

Supplements available clinical data[32]

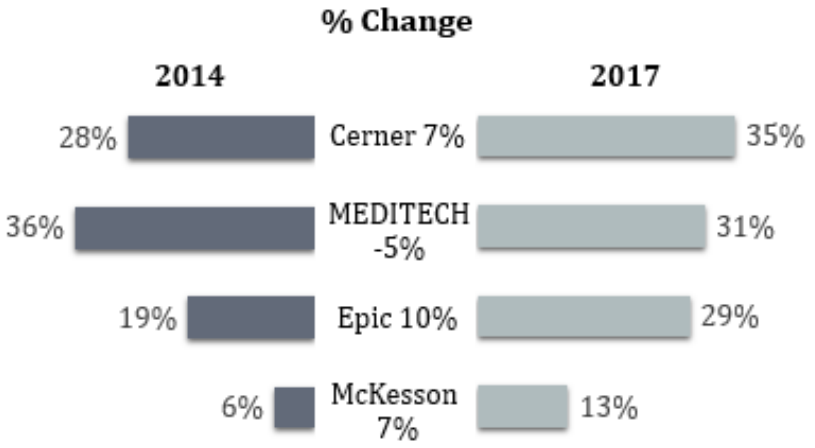


ELECTRONIC HEALTH RECORDS

CERTIFIED EHR TECHNOLOGY

Shifts in vendor diffusion[33]

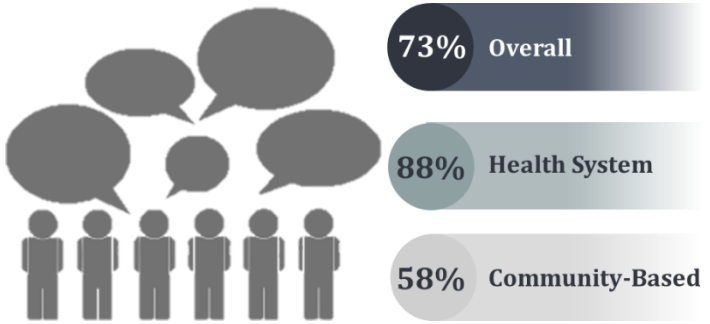
Driving factors include system functionalities and cost[34]

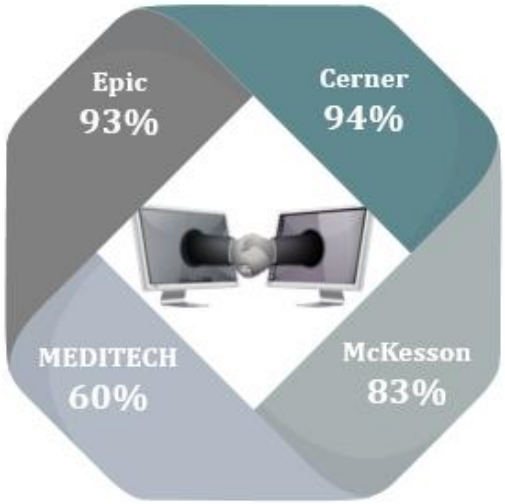


CERTIFIED EHR TECHNOLOGY

Uses vendor HIE functionality[35]

Facilitates information sharing outside the enterprise[36]





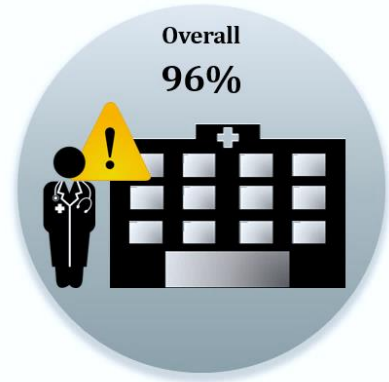
Contributes significantly to interdisciplinary communication across patient care teams[37]

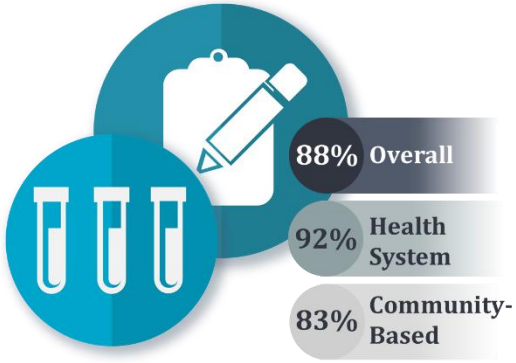
Improves care coordination[38]

VIEWS ON PATIENT SAFETY AND UTILIZATION

Reduces adverse medical events[39]

Avoidable outcomes that affect patient safety and quality of care[40]





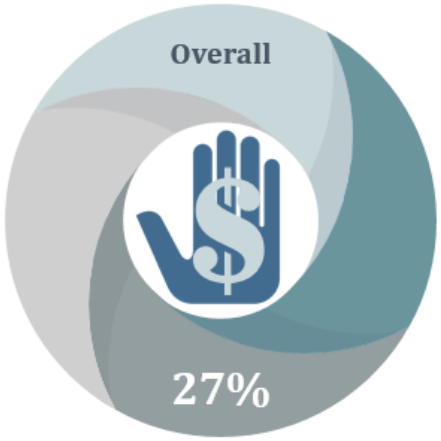
Contributes to reductions in unnecessary utilization of services[41]

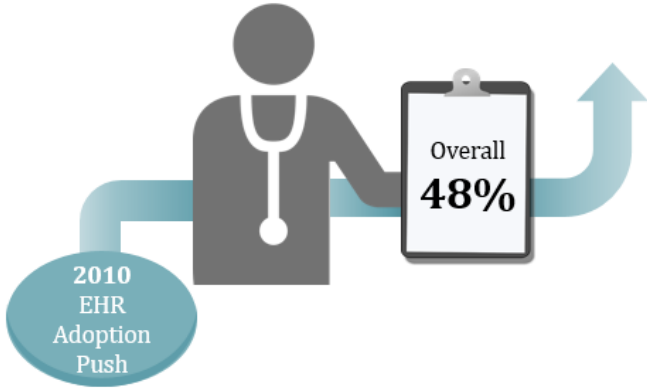
Enables access to patients' complete health record for more coordinated and efficient care[42]

VIEWS ON LOWERING COSTS AND USER SATISFACTION

Cost-controlling capability not widely evident[43]

Substantiating financial and staff investments are difficult and imprecise[44]





Partially contributes to physician satisfaction[45]

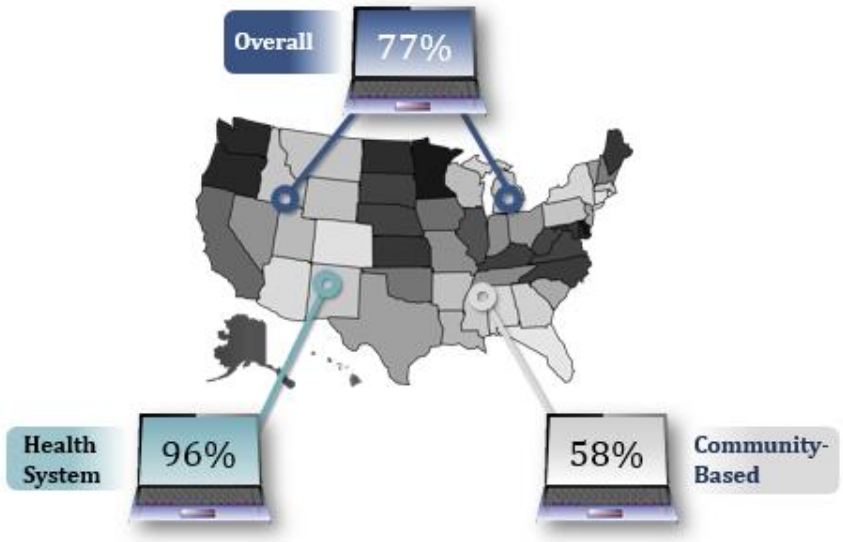
Accessing information can be obscured by system design and documentation requirements, which contribute to burnout[46]

HEALTH INFORMATION EXCHANGE

INTERSTATE EXCHANGE

Information sharing across State lines deemed important[47]

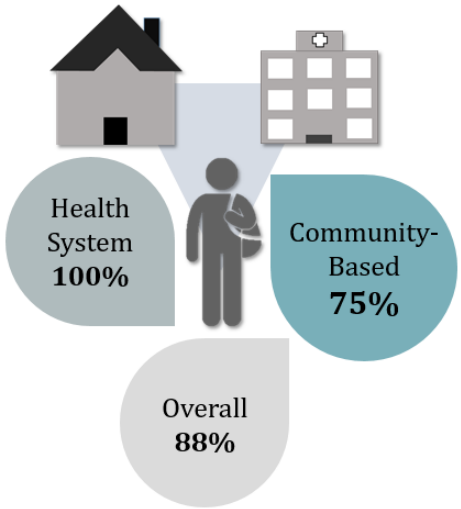
Care delivery is more efficient with accurate, available, and current information[48]

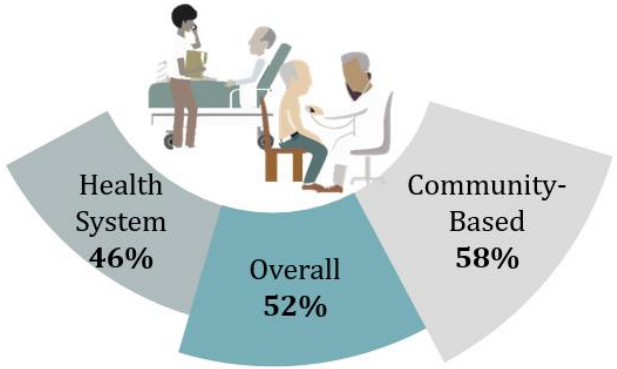


VIEWS ON INFORMATION SHARING

Improves care coordination and transitions of care[49]

Facilitates comprehensive care management and evaluation of patients[50]





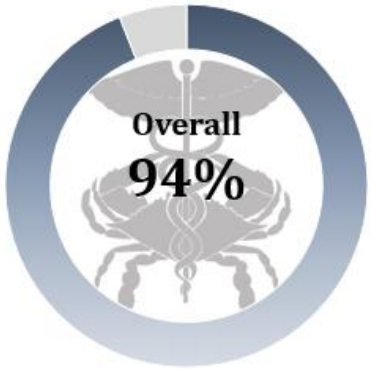
Increases awareness of primary care services[51]

Enabling early intervention and appropriate treatment[52]

THE STATE-DESIGNATED HIE

Satisfied with CRISP HIE services[53]

Reduces information gaps and facilitates improvement in quality[54]

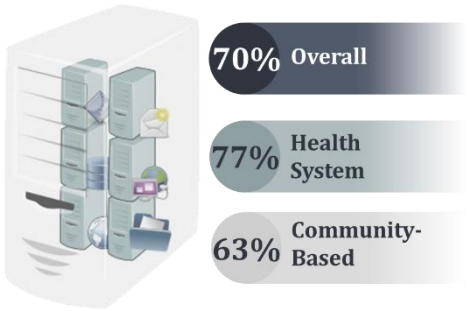


Emergency departments rely on CRISP[55, 56]

Provides access to missing or incomplete information[57]

CRISP reporting services central to improving quality of care[58, 59]

Increases access to information from multiple sources, supported by advanced analytic tools[60]

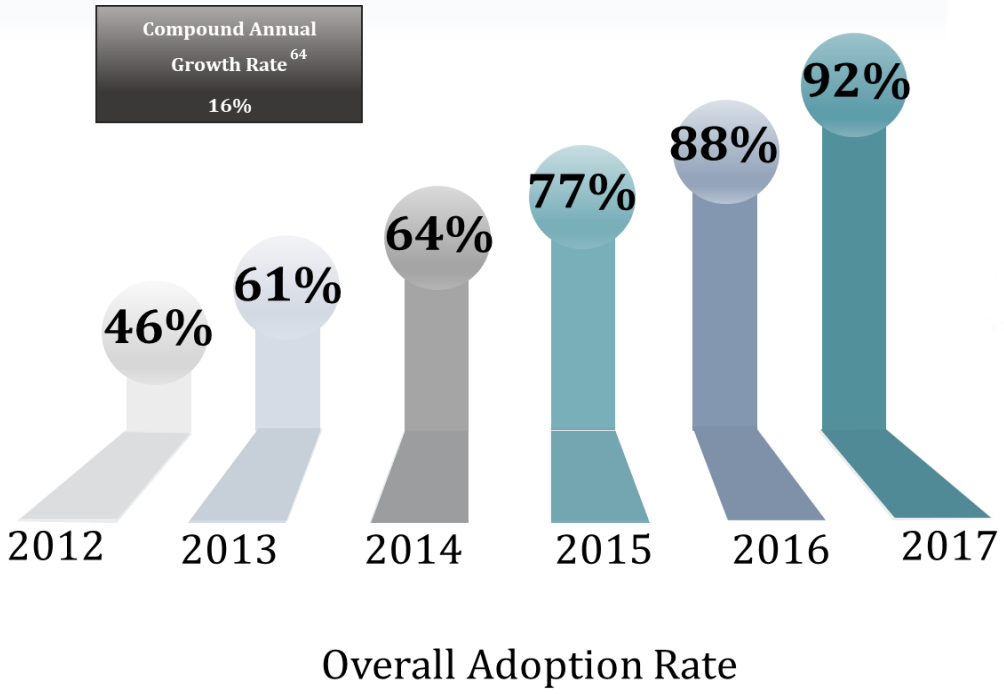


TELEHEALTH

DIFFUSION

Increasing adoption of telehealth[61, 62]

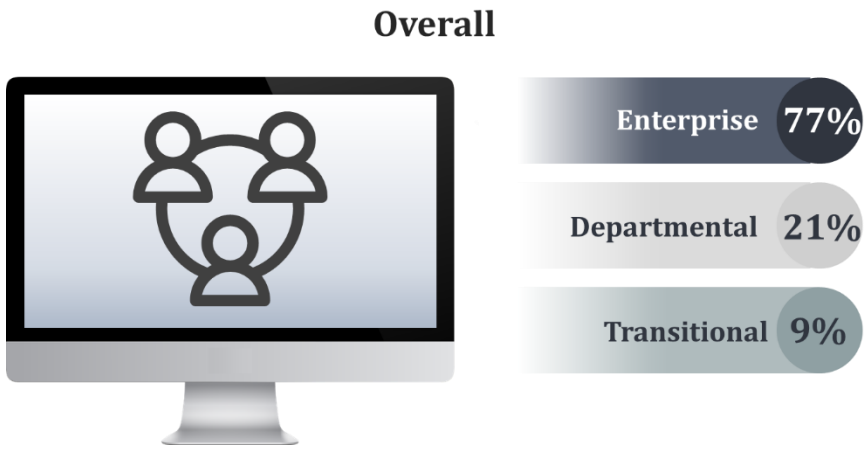
Favorably impacts care delivery and reduces readmissions[63]



A WIDELY EMBRACED ALTERNATIVE TO IN-PERSON CARE

Implementing telehealth largely an enterprise-wide approach[65]

Improves access to specialty services and enables cost-effective implementation of technology[66]

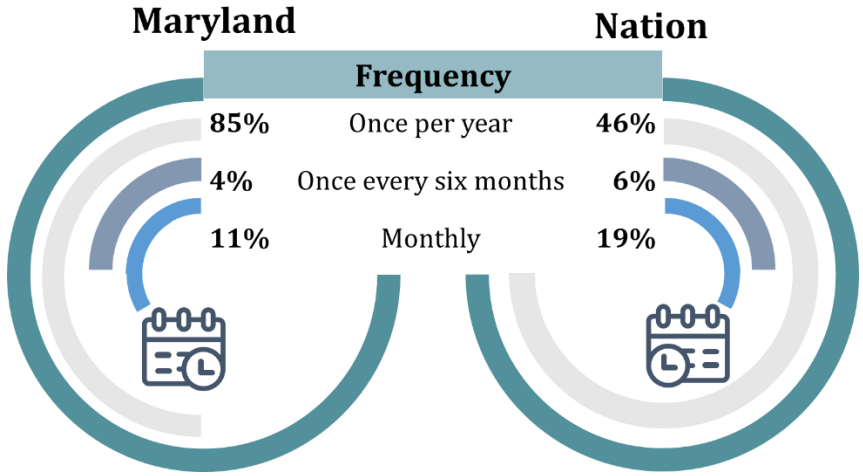


CYBERSECURITY

SECURITY RISK ASSESSMENT FREQUENCY

Conducting security risk assessments at least annually to guide risk management activities[67,68]

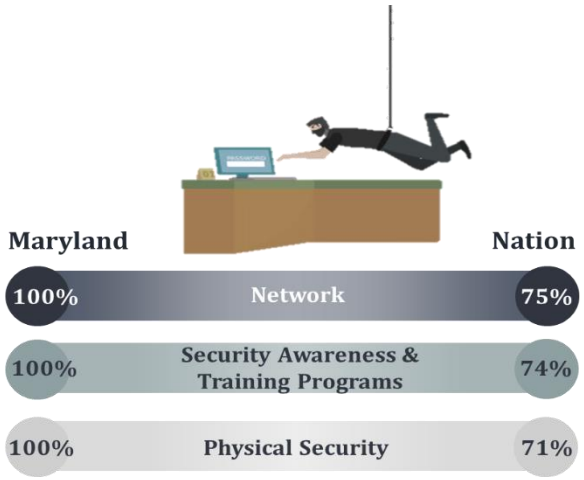
Varies widely from hospital to hospital and influenced by technical infrastructure complexity, probability and criticality of potential risks, and cost[69, 70]



SECURITY RISK ASSESSMENT COMPONENTS

Commonality among security risk assessments[71]

Critical elements of an information security risk management program[72]



Consistency with including medical devices in security risk assessments[73]

Unsecured and poorly secured medical devices jeopardize patient safety[74]

CONCLUSION

The effort by hospitals over the last decade to implement a robust health IT infrastructure is commendable. Work continues to advance use of more innovative health care applications and significant volumes of data, which are key in supporting the shift to quality of care over quantity of services. Federal agencies have ramped up efforts to address technical and policy barriers that limit interoperability (and have been considered outside the scope of HITECH legislation and programs). TEFCA will establish critical policies, procedures, and guidance to bridge information gaps bolstering the work of national frameworks in solving interoperability challenges. Addressing the proliferation of cybersecurity risk remains a top priority for everyone involved in the health IT ecosystem.

Acknowledgments

The Maryland Health Care Commission thanks hospitals for their contributions to this report.

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[1] Gray Matter Analytics. *Analytics: The Keys to Achieving Healthcare Value*, 2017. Available at: www.graymatteranalytics.com/wp-content/uploads/2018/02/analytics-keys-to-achieving-healthcare-value.pdf.

[2] Large repositories of medical records are valuable to cybercriminals as medical records can include Social Security and credit card numbers, patient demographics, addresses, insurance identification numbers, and other medical information, and can sell on the black market for as much as 20 times the cost of a stolen credit card number. Criminals use medical records to fraudulently bill insurance, receive free medical services, or obtain prescription medications.

[3] HITECH was enacted as part of the American Recovery and Reinvestment Act of 2009. Pub.L. 111-5.

[4] Meaningful Use outlines objectives an eligible hospital must meet to earn financial incentives. Hospitals demonstrate Meaningful Use by successfully attesting through either the Centers for Medicare & Medicaid Services Medicare Attestation System or through a state's Medicaid Attestation System.

[5] Centers for Medicare and Medicaid Services. *Data and Program Reports*. Available at: www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/dataandreports.html.

[6] A certified EHR meets the technological capability, functionality, and security requirements adopted by the Office of the National Coordinator for Health Information Technology (ONC). The ONC Health IT Certification Program consists of health IT standards, implementation specifications, and certification criteria required to participate in Meaningful Use and most alternative payment models under the purview of federal, state and private entities. For more information, visit: www.healthit.gov/topic/certification-ehrs/about-onc-health-it-certification-program.

[7] A basic EHR is classified as minimum use of at least 10 core functions: recording patient demographic information, physician notes, nursing assessments, problem lists, medication lists, discharge summaries, ordering medications and viewing laboratory reports, radiology reports, and diagnostic test results.

[8] ONC Data Brief 35, *Adoption of Electronic Health Record Systems among U.S. Non-Federal Acute Care Hospitals: 2008-2015*, May 2016. Available at: www.healthit.gov/sites/default/files/briefs/2015_hospital_adoption_db_v17.pdf.

[9] As of May 2019, nine HIEs are registered in Maryland as required by COMAR 10.25.18.09 *Registration and Enforcement*. More information available at: mhcc.maryland.gov/mhcc/Pages/hit/hit_hie/hit_hie_registration.aspx.

[10] National health information networks allow participants to exchange information through integration with an EHR or HIE vendor. In 2017, 70 percent of hospitals nationally participated in a national network. More information available at: www.healthit.gov/sites/default/files/page/2018-12/Methods-Used-to-Enable-Interoperability-among-U.S.-NonFederal-Acute-Care-Hospitals-in-2017_0.pdf.

[11] HIMSS, *Interoperability Initiatives Environmental Scan*, accessed April 2019. Available at: www.himss.org/library/interoperability-health-information-exchange/environmental-scan/.

[12] Other applications include store-and-forward (asynchronous) and mobile health.

[13] The Total Cost of Care Model builds upon the All-Payer Model by expanding beyond hospitals to other care settings and is expected to run from January 1, 2019 through December 31, 2028.

[14] For purposes of this assessment, a health system is four or more hospitals connected through common ownership or joint management, with the exception of Levindale Hebrew Geriatric Center and Hospital. See Appendix A for more information, including number of licensed acute beds by hospital.

[15] A Likert scale is an ordered scale from which respondents choose one option that best aligns with their view. It is often used to measure respondents' attitudes by asking the extent to which they agree or disagree with a question or statement.

[16] International Journal of Exercise Science. *Use and Misuse of Likert Item Responses and Other Ordinal Measures*, 2015. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC4833473/.

[17] Hospitals were asked to rank their top three strategic areas of focus supported by health IT. Percentages represent hospitals that ranked "Forming or expanding clinically integrated networks, partnerships, and/or infrastructure" as their number one strategic area of focus.

[18] Continuum. *What is a Clinically Integrated Network, and why do they matter?* Available at: www.carecloud.com/continuum/what-is-a-clinically-integrated-network/.

[19] Hospitals were asked to rank their top three strategic areas of focus supported by health IT. Percentages represent health systems that ranked "Improving physician-hospital alignment" as their number two strategic area of focus.

[20] National Institute of Diabetes and Digestive and Kidney Diseases. *Changing Landscape: From Fee-for-Service to Value-Based Reimbursement*. Available at: www.niddk.nih.gov/health-information/communication-programs/ndep/health-professionals/practice-transformation-physicians-health-care-teams/why-transform/changing-landscape-fee-service-value-based-reimbursement.
[21] Hospitals were asked to rank their top three strategic areas of focus supported by health IT. Percentages represent the community-based hospitals that ranked "Advancing predictive analytics capabilities (i.e., using descriptive data to forecast what might happen in the future)" as their number two strategic area of focus.
[22] Health IT Analytics. *Predictive Analytics with Claims Data Can Identify High-Cost Patients*, October 2018. Available at: healthitanalytics.com/news/predictive-analytics-with-claims-data-can-identify-high-cost-patients.
[23] Hospitals were asked to rank their top three strategic areas of focus supported by health IT. Percentages represent the community-based hospitals that ranked "Adapting to changing consumer demands and expectations" as their number two strategic area of focus.
[24] Deloitte. *Growth of consumerism in health care: Rethinking patient engagement strategies*. Available at: www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/consumerism-in-health-care-and-patient-experience.html.
[25] Hospitals were asked to rank their top three strategic areas of focus supported by health IT. Percentages represent hospitals that ranked "Implementing telehealth/mHealth" as their number three strategic area of focus.
[26] AHRQ Patient Safety Network. *Telemedicine and Patient Safety*, September 2016. Available at: psnet.ahrq.gov/perspectives/perspective/206/telemedicine-and-patient-safety.
[27] Responses were on a five point Likert scale. Percentages reflect the hospitals that indicated "Complete data on patient prescription medication history" is "extremely important" or "moderately important" for enhancing analysis and reporting; hospitals that selected "neutral," "low importance," or "not at all important" are not included.
[28] Journal of Pharmacy Practice and Research. *Value of Medication Reconciliation in Reducing Medication Errors on Admission to Hospital*, April 2015. Available at: onlinelibrary.wiley.com/doi/abs/10.1002/j.2055-2335.2008.tb00837.x.
[29] Responses were on a five point Likert scale. Percentages reflect the hospitals that indicated "Socioeconomic data (social determinants of health)" is "extremely important" or "moderately important" for enhancing analysis and reporting; hospitals that selected "neutral," "low importance," or "not at all important" are not included.
[30] Patient Engagement HIT. *Using Social Determinants of Health in Patient-Centered Care*, June 2017. Available at: patientengagementhit.com/news/using-social-determinants-of-health-in-patient-centered-care.
[31] Responses were on a five point Likert scale. Percentages reflect the hospitals that indicated "Patient-generated health data (personal health records)" is "extremely important" or "moderately important" for enhancing analysis and reporting; hospitals that selected "neutral," "low importance," or "not at all important" are not included.
[32] ONC. *Patient-Generated Health Data*, October 2018. Available at: www.healthit.gov/topic/scientific-initiatives/pcor/patient-generated-health-data-pghd.
[33] Ten hospitals selected more than one vendor. Four hospitals reported using two of the top four vendors.
[34] Beckers Health IT & CEO Report. *The top 3 reasons hospitals switch EHR vendors*, April 2018. Available at: www.beckershospitalreview.com/ehrs/the-top-3-reasons-hospitals-switch-ehr-vendors.html.
[35] Responses were on a five point Likert scale. Percentages reflect hospitals that reported using their EHR "almost always (75%+)," "often (50-74%)," or "sometimes (25-49%)" to share data with providers external to the organization; hospitals that selected "rarely (<24%)," "never (0%)," or "N/A" were not included.
[36] ONC. *Why is health information exchange important?* March 2018. Available at: www.healthit.gov/faq/why-health-information-exchange-important.
[37] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "extremely" or "very" that the hospital's EHR contributed to interdisciplinary communication; those that selected "moderately," "slightly," "not at all," or "unknown" are not included.
[38] Healthy People.gov. *Health Communication and Health Information Technology*. Available at: www.healthypeople.gov/2020/topics-objectives/topic/health-communication-and-health-information-technology.
[39] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "strongly agree" or "agree" that EHRs reduced adverse medical events; hospitals that selected "neutral," "disagree," "strongly disagree," or "unknown" were not included.
[40] Journal of patient Safety. *Electronic Health Record Adoption and Rates of In-hospital Adverse Events*, February 2016. Available at: www.ncbi.nlm.nih.gov/pubmed/26854418.

[41] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "almost always (75%+)," "often (50-74%)," or "sometimes (25-49%)," that EHRs contribute to reductions unnecessary utilization of hospital services; hospitals that selected "rarely (<24%)," "never (0%)," or "unknown" were not included.
[42] ONC. *What are the advantages of electronic health records?* November 2018. Available at: www.healthit.gov/faq/what-are-advantages-electronic-health-records.
[43] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "neutral," "disagree," or "strongly disagree," that EHRs have not delivered on the promise of lower costs; hospitals that selected "strongly agree," "agree," or "unknown" were not included.
[44] HITECH Answers. *ROI in Healthcare*, December 2018. Available at: www.hitechanswers.net/roi-in-healthcare/.
[45] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "neutral," "disagree," or "strongly disagree," that EHRs have not delivered on the promise of better physician satisfaction; hospitals that selected "strongly agree," "agree," or "unknown" were not included.
[46] Harvard Business Review. *To Combat Physician Burnout and Improve Care, Fix the Electronic Health Record*, March 2018. Available at: hbr.org/2018/03/to-combat-physician-burnout-and-improve-care-fix-the-electronic-health-record.
[47] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "extremely important" or "moderately important" of exchanging information with providers in other states; hospitals that selected "neutral," "low importance," or "not at all important" were not included.
[48] Health IT Analytics. *New Approach Helps Health Information Exchanges Cross State Lines*, May 2017. Available at: healthitanalytics.com/news/new-approach-helps-health-information-exchanges-cross-state-lines.
[49] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "strongly agree" or "agree" that HIE improves transitions of care by accessing patient information vital to care management and in guiding treatment; hospitals that selected "neutral," "disagree," "strongly disagree," or "unknown" were not included.
[50] ONC. *Health IT Playbook*. Available at: www.healthit.gov/playbook/health-information-exchange/#section-3-3.
[51] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "strongly agree" or "agree" that HIE enhances awareness of primary care services by ensuring relevant patient information is available to the care team at the point of care; hospitals that selected "neutral," "disagree," "strongly disagree," or "unknown" were not included.
[52] EHR Intelligence. *Transition to Value-Based Care Requires Health Data Exchange,* September 2015. Available at: ehrintelligence.com/news/transition-to-value-based-care-requires-health-data-exchange.
[53] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "very true" or "somewhat true" to the question "Overall, our hospital is satisfied with CRISP HIE services"; hospitals that answered "neutral," "slightly true," "not true," or "unknown" were not included.
[54] Health Affairs. *Does Health Information Exchange Improve Patient Outcomes? Empirical Evidence from Florida Hospitals*, February 2019. Available at: https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05447.
[55] Responses were on a five point Likert scale. Percentages include hospitals that selected "almost always (75%+)," "often (50-74%)," or "sometimes (25-49%)," that their hospital's emergency department relies on CRISP services to obtain patient information and inform care delivery; hospitals that selected "rarely (<24%)," "never (0%)," or "unknown" were not included.
[56] Two hospitals do not have an emergency department: Levindale and University of Maryland Orthopaedic and Rehabilitation (n=46).
[57] JAMIA. *Health information exchange associated with improved emergency department care through faster accessing of patient information from outside organizations*, August 2016. Available at: academic.oup.com/jamia/article/24/e1/e103/2631503.
[58] Responses were on a five point Likert scale. Percentages reflect hospitals that selected "strongly agree" or "agree" that CRISP Reporting Services (CRS) is essential to improving quality of care; hospitals that selected "neutral," "disagree," "strongly disagree," or "unknown" were not included.
[59] Two hospitals reported not using CRS and were not included (n=46).
[60] HealthCatalyst. *Pairing HIE Data with an Analytics Platform: Four Key Improvement Categories*, March 2019. Available at: https://www.healthcatalyst.com/insights/HIE-data-analytics-platform-key-phm-goals.
[61] For 2017, hospitals that reported using telehealth in a program "almost always (75%+)", "often (50-74%)", "sometimes (25-49%)", or "rarely (<24%)" were categorized as adopters; those that reported "never (0%)" were categorized as non-adopters.
[62] Telehealth adoption for hospitals nationally is at 76 percent for 2017. More information is available at: www.aha.org/system/files/2019-02/fact-sheet-telehealth-2-4-19.pdf.
[63] American Hospital Association. *Fact Sheet: Telehealth*, February 2019. Available at: www.aha.org/system/files/2019-02/fact-sheet-telehealth-2-4-19.pdf.

[64] Compound annual growth rate (CAGR) determined using a beginning value of the number of adopters in 2012 (n=21) and an ending value of number of adopters in 2017 (n=44) over 5 periods.
[65] Includes the adopters of telehealth only (n=44).
[66] Health Leaders. *5 Need-To-Know Leaps in Telehealth*, September 2018. Available at: www.healthleadersmedia.com/innovation/5-need-know-leaps-telehealth.
[67] Percentages reflect hospitals that selected the associated frequency for conducting a risk assessment. Monthly includes those that selected "Once per month" and "Daily." National data from the *2018 HIMSS Cybersecurity Survey*, which includes more information on other frequency intervals. More information is available at: www.himss.org/sites/himssorg/files/u132196/2018_HIMSS_Cybersecurity_Survey_Final_Report.pdf.
[68] Select CIO reviewers stated that while security risk assessments are conducted over multiple stages, the accuracy of responses indicating frequency of monthly security risk assessments is questionable.
[69] HIPAA requires covered entities to conduct periodic risk analysis and ongoing reviews of measures taken to ensure they are still appropriately protecting health information, and make updates to measures to address identified risks, as needed. The standards allows each individual organization to implement these standards in line with their specific needs, risks, and environments. More information is available at: www.cms.gov/Regulations-and-Guidance/Regulations-and-Policies/QuarterlyProviderUpdates/downloads/cms0049f.pdf.
[70] AHIMA. *Security Risk Analysis and Management: An Overview (2013 update),* November 2013. Available at: library.ahima.org/PB/SecurityRiskAnalysis#.XJpNsphKiUk.
[71] Percentages reflect hospitals that reported the component is included in their security risk assessment.
[72] Health IT Security. *The Role of Risk Assessments in Healthcare*. Available at: healthitsecurity.com/features/the-role-of-risk-assessments-in-healthcare.
[73] Percentages reflect the hospitals that reported medical devices in are included in their security risk assessment.
[74] Williams, P.A.H. and Woodward, A. J. Medical Devices: Evidence and Research: *Cybersecurity vulnerabilities in medical devices: a complex environment and multifaceted problem*, July 2015. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC4516335/.

APPENDIX A: LICENSED ACUTE CARE BEDS BY HOSPITAL

Total Licensed Acute Care Beds N=9,395						
#	Health System N=24	Licensed Beds		Community-Based N=24	Licensed Beds	
		#	%		#	%
1	Howard County General Hospital	245	2.61	Adventist Healthcare Shady Grove Medical Center	248	2.64
2	Johns Hopkins Bayview Medical Center	335	3.67	Adventist Healthcare Washington Adventist Hospital	191	2.03
3	The Johns Hopkins Hospital	1,114	11.86	Anne Arundel Medical Center	349	3.71
4	Suburban Hospital	233	2.48	Atlantic General Hospital	44	0.47
5	MedStar Franklin Square Medical Center	347	3.69	Bon Secours Hospital	68	0.72
6	MedStar Good Samaritan Hospital	132	1.41	Calvert Health Medical Center	71	0.76
7	MedStar Harbor Hospital	129	1.37	Carroll Hospital Center	153	1.63
8	MedStar Montgomery Medical Center	117	1.25	Doctors Community Hospital	190	2.02
9	MedStar Southern Maryland Hospital Center	176	1.87	Edward W. McCready Memorial Hospital	3	0.03
10	MedStar St. Mary's Hospital	96	1.02	Fort Washington Medical Center	27	0.29
11	MedStar Union Memorial Hospital	185	1.97	Frederick Memorial Hospital	266	2.83
12	University of Maryland Baltimore-Washington Medical Center	272	2.90	Garrett Regional Medical Center	27	0.29
13	University of Maryland Charles Regional Medical Center	98	1.04	Greater Baltimore Medical Center	239	2.54
14	University of Maryland Harford Memorial Hospital	82	0.87	Holy Cross Germantown Hospital	65	0.69
15	University of Maryland Laurel Regional Hospital	55	0.59	Holy Cross Hospital of Silver Spring	395	4.20
16	University of Maryland Medical Center	789	8.40	Levindale Hebrew Geriatric Center and Hospital*	40	0.43
17	University of Maryland Medical Center Midtown Campus	97	1.03	Mercy Medical Center	174	1.85
18	University of Maryland Prince George's Hospital Center	238	2.53	Meritus Medical Center	236	2.51
19	University of Maryland Rehabilitation & Orthopaedic Institute	3	0.03	Northwest Hospital Center	189	2.01
20	University of Maryland Saint Joseph Medical Center	218	2.32	Peninsula Regional Medical Center	288	3.07
21	University of Maryland Shore Medical Center at Chestertown	21	0.22	Saint Agnes Hospital	243	2.59
22	University of Maryland Shore Medical Center at Dorchester	42	0.45	Sinai Hospital	340	3.62
23	University of Maryland Shore Medical Center at Easton	104	1.11	Union Hospital of Cecil County	72	0.77
24	University of Maryland Upper Chesapeake Medical Center	149	1.59	Western Maryland Regional Medical Center	200	2.13
Total		**5,277**	**56.17**	**Total**	**4,118**	**43.83**

Notes/Sources:

Data represents number and percent of licensed acute care beds by hospital; includes Levindale Hebrew Geriatric Center and Hospital* since it was an eligible hospital for Meaningful Use and received incentive payments. Figures represent the proportion of total licensed beds (N=9,395) for all hospitals included in MHCC's assessment. Data is publically available at: mhcc.maryland.gov/mhcc/pages/hcfs/hcfs_hospital/documents/FY2019_Tables_Bed_Designation.pdf and www.lifebridgehealth.org/Main/AcuteRehab.aspx.

For purposes of this report, a health system is defined as four or more hospitals connected through common ownership or joint management, with the exception of Levindale Hebrew Geriatric Center and Hospital.

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