

General Information

Please provide the following information:

Organization name

Name of parent organization (if applicable)

Website (URL)

Street address

City, State, Zip

Highest Ranking IT Executive/CIO Information:

Name

Title

Phone

Email

If the CIO did not complete the survey, who completed the survey?

Name

Title

Phone number

Email address

Results and Benchmarking reports will be sent to both email addresses

Please identify which best describes the organization represented in this survey:

Independently owned hospital

Hospital owned by health system

Integrated health network/multihospital system

Urban

Rural

Critical Access (fewer than 25 inpatient beds)

Teaching

Non-teaching

Number of hospitals represented in this survey _____**

If this survey is for more than one hospital, your answers should reflect the **average for all hospitals represented.

Number of beds regularly available (those set up and staffed for use) represented in this survey _____

How many physicians do you have at your organization?

Total Number of Organization Employees

Number of FTEs on the IT staff (IT staff includes employees whose primary role is creating or supporting systems or information technologies.)

On the payroll Outsourced

What percentage of your hospital budget is IT expense?

What is the estimated dollar amount associated with IT expense

Infrastructure

(2019 – 001) What tools do your hospital or health system use to monitor your IT systems? (Check all that apply.)

- a. Use tools to monitor the end-user experience (network and system performance)
- b. Use automated tools to escalate problems to highly skilled technicians (Level 2 or 3) based on category and type
- c. Analyze issues to determine root cause analysis as a means to put fixes in place to avoid reoccurrences
- d. Use dashboard to manage infrastructure by exceptions/ anomalies
- e. Log collection automation
- f. Utilize pattern detection against automated login attempts
- g. Gather and trend data to mitigate potential issues before they occur
- h. Perform and escalate on system log exceptions/ errors
- i. Utilize tools such as User Behavior Analytics or User/Entity Behavior Analytics (UBA/UEBA)
- j. SIEM that discover and analyze/resolve data security threats
- k. None of these tools are used

(2019 – 002) How does your hospital or health system support its wireless communications? (Select the one that best describes your situation.)

- a. Multiple discrete wireless networks for different purposes (clinical/biomedical/physicians/public)
- b. A unified enterprise-wide wireless infrastructure that runs at least 75% of the applications
- c. A single, unified enterprise-wide wireless infrastructure enabling reliable access to all on-line applications
- d. No wireless infrastructure

(2019 – 003) Which of the following **wireless** applications and/or technologies does your hospital or health system support? (Check all that apply.)

- a. Cellular connectivity throughout premises
- b. Nurse call/paging systems
- c. RFID/RTLS locator systems
- d. Patient telemetry
- e. Two-way radio/security systems
- f. Video monitoring
- g. Wireless VoIP
- h. Patient monitoring equipment
- i. EHR/Clinical information systems
- j. Wireless bar-code medication administration
- k. Wireless infusion pumps
- l. Wireless bar-code scanners for supplies
- m. Clinician alarm notification correlated for events
- n. 3D Printing
- o. Connected implants that deliver alerts regarding changes in medical conditions to smart device
- p. None

(2019 – 004) Which of the following resource functions can physicians and other clinicians access remotely (from outside hospital network)? (Check all that apply.)

- a. Full access to EHR (Complete/sign medical record, place orders, see other facilities' results, exchange patient data and orders with other facilities, etc)
- b. Full access to PACS/Image
- c. Communicate with patients (email, alerts)
- d. Secure texting
- e. Support virtual patient visits
- f. Secure messaging via HISP (Health Information Service Provider)
- g. Secure messaging using other non-HISP vehicle
- h. Monitor chronic patients through alerts/notifications.
- i. Data received on smart devices from connected implants, RFID/RLTS
- j. None

(2019 – 005) Which of the following technologies does your organization utilize to integrate clinical applications at the desktop to improve caregiver workflow? (Check all that apply.)

- a. HL7 CCOW standard for patient context management between applications
- b. Integrated clinical application suites
- c. Single sign-on—biometrics
- d. Single sign-on—keystrokes
- e. Single sign-on—proximity systems (tap-n-go)
- f. Roaming virtual desktop sessions (VDI)
- g. Traveling profiles
- h. Mobile voice recognition for clinician notes
- i. Remote published applications (terminal services)
- j. None

Infrastructure Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes ____
- Patient outcomes ____
- Clinician outcomes ____
- Operational outcomes ____

Security

(2019 – 006) Please indicate below which information security framework your organization has adopted and follows as part of your information security program. (Check all that apply):

- a. NIST Cybersecurity Framework
- b. COBIT
- c. ISO 2700 Series
- d. HITRUST
- f. Self-Developed
- g. SANS Top 20/CIS Critical Controls
- h. No framework adopted

(2019 – 007) Who is responsible for leading Information Security in your organization?

- a. Dedicated security leader in your executive suite (CISO, Director of Security)
- b. CIO who doubles as a security leader
- c. An external security leader
- d. No dedicated security leader

(2019 – 008) Please indicate how often your Board of Directors/Trustees, or Board Committee receives a report on your information security program? (Check one.) **NEW QUESTION**

- a. Information security program update is provided Monthly (or more often)
- b. Information security program update is provided Quarterly
- c. Information security program update is provided Semi-Annually
- d. Information security program update is provided Annually
- e. On a regular schedule but less frequently than annually
- f. Not on a regular schedule but as requested by the Board
- g. Never

(2019 – 009) Has your hospital or health system formally chartered a cybersecurity governance, risk and compliance committee comprising executive team members. (Check one.)

- Yes (please explain the composition of the committee)
- No
- Unsure

(2019 – 010) Which of the following security measures does your hospital or health system currently use to authenticate/manage authorized users? (Check all that apply.)

- a. Smartcard Access control (biometrics, key cards, proximity, magnetic)
- c. Identity management/governance (creation of unique identities which are tied to user accounts)
- d. Single-sign-on
- f. Multi-factor authentication (soft tokens, hard tokens, SMS, biometrics, etc.)
- h. PKI/digital signature systems
- i. Adaptive/risk-based authentication for network access
- j. Federated access management (example; SAML)
- k. Privileged access management
- l. None

(2019 – 011) Which of the following security measures does your hospital or health system currently use to authenticate/manage devices? (Check all that apply.)

- a. Inventory of authorized devices (tie to asset management systems, network access control, or other factors)
- a. Inventory of authorized medical devices (tie to asset management systems, network access control, or other factors)
- b. Network Access Control, monitoring of devices joining network
- c. Network Access Control, enforcement of devices joining network
- d. Bring-Your-Own-Device (BYOD) Management (please briefly describe your BYOD management process)
- e. MDM- Mobile Device Management for hospital owned devices
- g. None

(2019 – 012) Which of the following security technologies, services, tools or measures has your hospital or health system implemented and used as part of security processes? (Check all that apply.) **Additional options added**

- a. Database monitoring
- b. Data loss prevention (DLP)
- c. Intrusion detection systems (IDS)
- d. Intrusion prevention systems (IPD)
- e. Log management
- g. Privacy audit systems
- h. Automated User Access Provisioning Systems
- h. Security incident event management (SIEM)
- k. Next Generation Endpoint Protection Systems (EDR, Signatureless/Machine Learning agents, etc)
- l. Deception Technology
- m. Endpoint encryption (laptops and desktops)
- n. Basic Spam/Phishing protection (signatures, digests, spam blacklists, etc)
- o. Anomalous Network Monitoring and Analytics (full packet capture analytics tools to find threats)
- p. Medical device security tools
- q. Micro-segmentation /Virtualization
- s. Governance, risk and compliance (GRC) systems
- u. Cloud Access Security Broker (CASB)
- v. Firewalls
- w. Email filtering and encryption
- w. None

(2019 – 013) Which of the following security processes does your hospital or health system currently use to safeguard information? (Check all that apply.)

- a. Proper disposal of ePHI hardware or electronic media
- b. Remote mobile device data wiping capabilities
- c. Endpoint passcode/password
- d. Encryption of backups
- e. Encryption for wireless LANs
- f. Encryption for laptops and/or workstations (virtual desktop)
- g. Medical device password/access controls
- h. Formal incident response plan
- i. Consumption of threat intelligence information from other organizations (ISAC, DHS, etc)
- j. Procurement/Contracting with security terms
- k. Segmentation of medical devices on specialized network segments
- l. 24x7x365 Security Operations Center (insourced, outsourced, hybrid)
- m. Training and Education of Workforce
- n. Data Classification
- p. Secure system baseline images
- q. Encryption key management
- w. None

(2019 – 014) How often does your hospital or health system conduct each of the following activities? If unannounced, select unannounced as well (i.e. quarterly phishing exercises that are unannounced).

| Activities | Unannounced | Quarterly | Annually | Once every 2 years or less | Never |
|---|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|
| a. Risk Assessment to identify compliance gaps and security vulnerabilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Penetration testing to identify security vulnerabilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Wireless penetration testing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. HIPAA compliance audits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Testing recovery plan (All-Tiers) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Testing recovery plan (Some-Tiers/Key Systems only) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Simulated Phishing exercises | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Web application security assessments | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Social engineering risk assessment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Application security assessment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l. Third-party security audit | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m. Vulnerability scanning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| n. Medical device security audits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| o. Security Awareness Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| p. Vendor Security (or risk) assessments | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| q. System/data access audits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 015) How often are the results of security assessments, audits, analysis, exercises or testing reported to leadership: (Check one per row.)

| Activities | Monthly | Quarterly | Annually | Once every 2 years or less | Never |
|---|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|
| a. Progress on security is tracked and reported to leadership | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Gaps or continuing deficiencies reported to leadership | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Business units are involved helping to prepare remediation plans after the work (above) is performed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 016) Does your hospital have any of the following insurance coverages related to cybersecurity? (Check all that apply.)

- a. Cyber liability
- b. Data Breach
- c. Crime insurance coverage
- d. Business loss
- e. Network security and privacy
- f. Media liability
- g. None

(2019 – 017) Which of the following Information Sharing and Analysis Organizations is your hospital or health system participating with to identify cybersecurity threats and vulnerabilities? (Check all that apply.)

- a. Commercial Service Providers (CSPs)
- b. Cyber Information Sharing and Collaboration Program(CISCP): DHS’s program for public-private information sharing.
- c. Health Information Trust Alliance (HITRUST)
- d. HIE partners
- e. Informal sharing in HIT user groups
- f. Informal sharing in professional society
- g. Health Information Sharing and Analysis Center (H-ISAC)
- h. State hospital associations
- i. National Cybersecurity & Communication Integration Center (NCCIC)
- j. Health Cybersecurity & Communication Integration Center (HCCIC)
- k. None of the above

(2019 – 018) If you have a documented Risk Management program what’s the highest level the results reported to? (check one)

- a. IT Leadership
- b. Executive Leadership / Executive Governance
- c. Board of Trustees, or Committee of the Board
- e. Results are not reported in a formal way
- f. We do not have a documented Risk Management program

Security Impact Questions: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes _____
- Patient outcomes _____
- Clinician outcomes _____
- Operational outcomes _____
- Overall Security Outcomes _____
- Protect against outside threats _____
- Protects against internal threats _____
- Protecting PHI _____

From last year to this year has the overall amount of security-related incidents at your organization:

- Increased
- Stayed the same
- Decreased
- Not tracked

Business Continuity/Disaster Recovery

(2019 – 019) What backup systems and data repository models does your hospital or health system use? (Check all that apply.)

- a. Cloud services (for clinical systems – please identify or describe the service)
- b. Cloud services (for other systems – please specify systems, and identify or describe the service)
- c. Data as a Service (DaaS)
- d. Infrastructure as a Service
- e. Storage virtualization
- f. Off-site redundant data center (please describe fail-over configuration: active, passive, etc.)

(2019 – 020) Do you have a Comprehensive Incident Response Plan with these components? (Check all that apply.)

- a. Documented Tier 1 outage procedures
- b. Security/Privacy breach notification procedures
- e. Planning and Exercises include HR team
- f. Planning and Exercises include Legal team
- g. Planning and Exercises include Resource Management (Materials Management/Supply Chain) team
- h. Planning and Exercises include Marketing & Communications team
- i. Planning and Exercises include Other members of the organization (please identify the other member involved)
- j. Tabletop Exercise at least annually
- k. Enterprise-wide Exercise at least annually
- l. Disaster Recovery Plan tied to organizational Business Continuity Plan
- m. Documented Incident Response Team Roster and Responsibilities
- n. Post Incident Review, Remediation and Accountability Process Documented

(2019 – 021) Please estimate how quickly your hospital or health system can restore operations (applications that are considered “mission critical”) if a disaster causes the complete loss of your primary data center? (Check one per operation.) **If response to 2 or more categories is 0-4 hours please send a screen shot that demonstrates that capability to mostwired@chimecentral.org**

a. Clinical information systems (EHR, lab, radiology)

- 0-4 hours 5-8 hours 9-24 hours 25-72 hours 73 hours - 7 days
- 8 days-1 month 1 month+ Don't know

b. Financial systems (payroll, patient accounting)

- 0-4 hours 5-8 hours 9-24 hours 25-72 hours 73 hours - 7 days
- 8 days-1 month 1 month+ Don't know

c. Human resources and staffing systems

- 0-4 hours 5-8 hours 9-24 hours 25-72 hours 73 hours - 7 days
- 8 days-1 month 1 month+ Don't know

d. Supply chain management systems

- 0-4 hours 5-8 hours 9-24 hours 25-72 hours 73 hours - 7 days
- 8 days-1 month 1 month+ Don't know

(2019 – 022) In an event of an emergency, what communication equipment and services does your staff use?
(Check all that apply.)

- a. Fixed
- b. Mobile
- c. Satellite phone, VSAT, MSAT and other satellite communications
- d. Government Emergency Telephone Service (GETS) cards
- e. Wireless Priority Service (WPS) service
- f. Telecommunication Service Priority (TSP)
- g. Crisis communications platform
- h. None

Infrastructure Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes _____
- Patient outcomes _____
- Clinician outcomes _____
- Operational outcomes _____

Administrative Supply Chain

(2019 – 023) Which of the following activities are included in your Business Associate or Third-Party Risk Management Program? (Check all that apply)

- An inventory of all Business Associates (updated at least annually)
- List of Business Associates is prioritized based on the risk to your organization
- All Business Associate Agreements have been updated since the 2013 Final Omnibus Rule
- You have a plan to evaluate high risk vendors
- Your Business Associates have completed their sub-contractor related assessments.

(2019 – 024) Select the primary method your organization uses to complete the majority of these **pharmacy supply activities**. (Select the one that best describes your situation.)

- **Manual: More than 50% of activities are handled by telephone or fax**
- **Semi-Automated: More than 50% of activities are handled via electronic transaction (data keyed in), electronic tracking systems, and electronic usage reports**
- **Automated: More than 50% of the activities are handled via electronic interfaces with appropriate internal controls (e.g., EDI, API Integration, Web)**

| Activities | Manual by phone/fax | Semi-Automated | Automated |
|---------------------------------------|----------------------------|--------------------------|--------------------------|
| a. Check product price/contract price | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Check product availability | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Process purchase requisition | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Process purchase order | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Check order status/routing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Receive order/check-in | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Receive invoice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Pay invoice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 025) For what percentage of **pharmaceutical supplies** is an electronic order generated when they reach a predetermined par level? (Check one.)

- None
- 1-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%

(2019 – 026) Select the primary method your organization uses to complete the majority of these **medical-surgical supply activities**. (Select the one that best describes your situation.)

- **Manual:** More than 50% of activities are handled by telephone or fax
- **Semi-Automated:** More than 50% of activities are handled via electronic transaction (data keyed in), electronic tracking systems, and electronic usage reports
- **Automated:** More than 50% of the activities are automated via electronic interfaces with appropriate internal controls (e.g., EDI, API Integration, Web)

| Activities | Manual by phone/fax | Semi-Automated | Automated |
|---------------------------------------|--------------------------|--------------------------|--------------------------|
| a. Check product price/contract price | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Check product availability | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Process purchase requisition | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Process purchase order | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Check order status/routing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Receive order/check-in | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Receive invoice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Pay invoice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 027) For what percentage of **medical-surgical supplies** is an electronic order generated when they reach a predetermined par level? (Check one.)

- None
- 1-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%

(2019 – 028) Please estimate the percentage of use of auto-ID technology (bar code, RFID) for tracking/identifying each use case listed below. (Check one per row.)

| Tracking/Identifying of: | 0% | <50% | 51-95% | >95% | N/A |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Movable equipment (include IV pumps, beds, IV poles, wheelchairs, portable X-ray units, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Patient ID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Staff ID | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Blood supply | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Surgical supplies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Medical supplies (nonsurgical) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Medication (bulk) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Medication (unit dose) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Human milk | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Patient Tracking | | | | | |
| l. Staff tracking | | | | | |
| m. Hand Hygiene | | | | | |

(2019 – 029) Does your hospital/health system have a revenue-cycle and contracts-management application that: (Check all that apply.)

- a. Aggregates and measures cost of care across settings
- b. Aggregates charges to form bundles and episodes, with the aggregation logic enabling different groupings for different payers
- c. Manages the distribution of payment for a bundle to the physicians, hospitals and non-acute facilities that delivered the care
- d. Provides tools for retrospective analysis of clinical and administrative data to identify areas for improving the quality of care and reducing the cost of care delivered.
- e. Reconciles charges and patient accounts to a monthly premium payment, billing co-payments and noncovered charges according to insurance agreements.
- f. Supports real-time patient identification and tracking for value-based care conditions, e.g., COPD
- g. None

(2019 – 030) How do you monitor and collect information needed to manage supply/equipment recall and expiration dates (i.e., product integrity) of the following products? (Check all that apply.)

Manual: More than 50% of monitoring activities are handled via manual process (pen/paper, electronic document, spreadsheet, etc.) logs
- Semi-Automated: More than 50-89% of activities are handled automated systems as appropriate to the item (electronic supply cabinet tracking, bar-coding, RFID, unique identifier tracked be database)
- Automated: More than 90% of activities are handled automated systems as appropriate to the item (electronic supply cabinet tracking, bar-coding, RFID, unique identifier tracked be database)

| Products | Manual | Semi-Automated | Automated |
|--------------|--------------------------|--------------------------|--------------------------|
| a. Drugs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Blood | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Implants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 031) For each of the following **payer-related transactions**, estimate the percentage of activities conducted using HIPAA compliant transactions.) (Check one per row.)

| Activities | None | <50% | 51-95% | >95% |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Claims status inquiry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Claims submission | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Electronic funds transfer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Eligibility inquiry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Pre-certification | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Referral and authorization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Remittance advice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 032) What percentage of the following validation activities is accomplished electronically using automated routines and/or software? (Check one per row.)

Definitions:

- a. Charge and order matching: Are you keeping your charge master up-to-date as annual HCPCS codes are released and as prices of stocked items changes?
- b. Charge capture reconciliation: Are you recording the service and charge to the patient at the point of care through automated systems entry that includes a system application that validates appropriate entry?
- c. Contract management refers to payer contracts and may include the following: (1) Does your hospital or health system have an automated system capable of validating whether contracted pricing is properly paid according to the negotiated rate? (2) Are payer-negotiated rates based on specific patient volumes? If negotiated rates are based on specific patient volume, does your system adjust payments when volume thresholds change?
- d. Denial management: Identify, quantify, correct and resubmit denied claims.
- e. Medical necessity criteria checks: Validating proposed services against local and national policies. Does your hospital or health system track the causes for medical necessity denials? Do you monitor performance of physicians, coders and others on compliance with documentation policies?
- f. Physician performance comparisons include both quality and cost-efficiency measures that provide comparisons of individual physician performance against their peers with the goal of improving clinical outcome and appropriate utilization of services.

| Activities | None | <50% | 51-95% | >95% |
|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Charge and order matching | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Charge capture reconciliation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Contract management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Denial management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Medical necessity criteria checks | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Physician-performance comparisons | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 033) Are you using bed tracking or patient-flow software as described below (Bed tracking/patient-logistics management may be functionality included within your electronic health record)? (Check one per row.)

| System | Yes | No |
|---|--------------------------|--------------------------|
| a. Bed tracking system for the emergency department | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Bed tracking system for observation beds | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Bed tracking system for in-patient units | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Integrated patient logistics system that includes patient status, pending orders, critical lab results and room availability for the entire enterprise | <input type="checkbox"/> | <input type="checkbox"/> |
| e. RFID/RTLS patient location system integrated into the bed-tracking system to automate patient movement. | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 034) Which of these employee management tools are available electronically/online throughout more than 50% of the organization? (Check all that apply.)

- a. Self-scheduling of shifts
- b. Enterprise HR management system or online HR manager portal
- c. Performance-improvement scorecards
- d. Real-time, Web-based operational budget versus expense monitoring, financial modeling and budget forecasting
- e. Talent management tools (recruiting, hiring, on-boarding; compensation; performance; learning; succession; compliance and diversity)
- f. Learning management system
- g. Workforce management tool (productivity and cost trends)
- h. None

(2019 – 035) What types of computer-based education below do you provide to clinicians? (Check all that apply.)

| | Physicians | Nurses | Other licensed providers | Rate the impact on clinician efficiency (1 low -9 high) |
|--|--------------------------|--------------------------|--------------------------|---|
| a. Privacy training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b. Information security training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| c. EHR training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| d. CPOE training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| e. Data analytic tools training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| f. Voice recognition software training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| g. Sharing best practices for patient safety | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Administrative Supply Chain Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes ____
- Patient outcomes ____
- Clinician outcomes ____
- Operational outcomes ____

Analytics/Data Management

(2019 – 036) How is data delivered to clinical and operational leaders? (check all that apply)

-Data Visualization Tools offer the ability to re-structure queries to “drill-down” into the data and filter information by a

variety of parameters (date/time, patient, provider, disease, payer, etc.) on the fly.

-Self-Service Data Visualization Tools offer the same functionality as Data Visualization Tools, but add the ability of end-users to reconfigure the data views to meet the needs of clinical and operational areas.

| | None | Static Paper / pdf reports | Spread sheets / Graphs /Pivot Tables | Data Visualization Tools | Self-Service Data Visualization Tools |
|--|--------------------------|----------------------------|--------------------------------------|--------------------------|---------------------------------------|
| a. Clinical Quality Metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Productivity Metrics | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Patient Volume Metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. EHR utilization/performance data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Population health metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Patient engagement/satisfaction metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 037) How is data delivered to individual clinicians (nurses, doctors, pharmacists, etc.)? (check all that apply)

-Data Visualization Tools offer the ability to re-structure queries to “drill-down” into the data and filter information by a

variety of parameters (date/time, patient, provider, disease, payer, etc.) on the fly.

-Self-Service Data Visualization Tools offer the same functionality as Data Visualization Tools, but add the ability of end-users to reconfigure the data views to meet the needs of clinical and operational areas.

| | None | Static Paper / pdf reports | Spreadsheets / Graphs /Pivot Tables | Data Visualization Tools | Self-Service Data Visualization Tools |
|-------------------------------------|--------------------------|----------------------------|-------------------------------------|--------------------------|---------------------------------------|
| a. Clinical Quality Metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Productivity Metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Patient Volume Metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. EHR utilization/performance data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Population health metrics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Patient engagement/satisfaction | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 038) Do you use an automated review of CMS key indicators integrated with the EHR that signals caregivers with compliance alerts? (If you answer that you have an alert system, we will require a screenshot of this system. Screenshots should be e-mailed to mostwired@chimecentral.org (Check all that apply.)

- a. No, system is not capable of providing
- b. On med-surg floor
- c. In critical care area
- d. In emergency department
- e. At discharge
- f. Organization wide
- g. Not applicable to this type of organization

Analytics/ Data Management Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes _____
- Patient outcomes _____
- Clinician outcomes _____
- Operational outcomes _____

Interoperability; Population Health; CIN/ACO

(2019 – 039) In what percentage of your **employed** physician practices are the following **Ambulatory** EHR functionalities in use? (Check one per row.)

| Functions | Does not apply | <50% | 50—95% | >95% |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Electronic clinical documentation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Computerized provider order entry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Decision support | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Secure messaging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Electronic referrals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Electronic Prescribing of Controlled Substances | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Integration of discreet lab results | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 040) In what percentage of your **independent, affiliated and/or community** physician practices are the following **Ambulatory** EHR functionalities in use? (Check one per row.)

| Functions | Does not apply | 1-<50% | 50-95% | >95% |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Electronic clinical documentation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Computerized provider order entry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Decision support | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Secure messaging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Electronic referrals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Electronic Prescribing of Controlled | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Integration of discreet lab results | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 041) Does your hospital/health system incorporate a continuity of care document (CCD) or continuity of care record (CCR)

prepared/received from a physician-office/ other external entity EHR? (Check one.)

- a. Yes; we pull data from CCD into our EHR as discrete data elements.
- b. Yes, we incorporate the CCD into our EHR as a text-blob or PDF
- c. No; Cannot accept a CCD from a physician-office EHR

(2019 – 042) Can your hospital contribute a CCD to a physician office EHR, or other post-acute care provider with an EHR (e.g. Home Health, LTC, Rehabilitation Facility)?

- Yes
- No

(2019 – 043) Which of the following external entities can your organization consume discrete data from? (Check all that apply.)

- a. External hospital / hospital system
- b. External physician practice
- c. Home Health agency
- d. Skilled Nursing Facility, Extended/Chronic Care Facility
- e. Retail pharmacy
- f. Government agency such as immunizations, death records, syndromic surveillance
- g. External Laboratories
- h. Health Information Exchange (HIE)
- i. Insurance Companies/payors
- j. Cannot consume any discrete data into the EHR

(2019 – 044) Which of the following e-prescribing functions do you provide and to which physician practices? (Check all that apply.)

| Functions | Employed physicians | Independent practicing physicians | Do not provide | Does not apply |
|---|--------------------------|-----------------------------------|--------------------------|--------------------------|
| a. Generate paper prescriptions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Capture pharmacy dispense history | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Check payer-based formulary | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Check allergies, drug-drug interactions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Prescription automatically faxed to retail pharmacy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Prescription sent electronically to retail pharmacy (do not include fax) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Prescription discontinued transmitted electronically to retail pharmacy (do not include fax) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Renewal request received by fax from retail pharmacy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Renewal request received electronically from retail pharmacy (do not include fax) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Electronic Prescribing of Controlled substances | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Connection to Prescription Drug Monitoring Program integrated within EHR | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 045) Does your hospital have an electronic disease registry to identify and manage gaps in care across a population? **NEW QUESTION**

- Yes
- No

(2019 – 046) If yes, which data sources contribute to your registry (checkbox for each) and can this data be accessed at the point of care (Y/N, off to the right of the checkboxes)? **NEW QUESTION**

| Check all that apply | | Can this data be accessed at the point of care? (Yes) | Can this data be accessed at the point of care? (No) | Does not contribute to registry |
|--------------------------|-----------------------------------|---|--|---------------------------------|
| <input type="checkbox"/> | Ambulatory EHR and billing system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Acute EHR and billing system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | ADT Feeds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Payer/claims data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | HIE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Post-acute (continuum of care) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 047) What types of risk/value-based care contracts is your organization participating in? Estimate percentage of total revenue. (check all that apply) **NEW QUESTION**

- Fee-for-service ____
- Pay for performance ____
- Shared savings (upside risk only) ____
- Shared saving (upside and downside risk) ____
- Bundled payments ____
- Capitation ____

(2019 – 048) What technologies are you using to perform the following population health activities? (check all that apply) **NEW QUESTION**

| | EMR | 3 rd party | Manual |
|-----------------------------|-----|-----------------------|--------|
| Data Aggregation | | | |
| Data Analysis | | | |
| Care Management | | | |
| Admin & Financial Reporting | | | |
| Patient Engagement | | | |
| Clinician Engagement | | | |

(2019 – 049) Which of the following activities does your hospital/health system use from population health management tools: (Check all that apply.) **Reformatted Question**

Data aggregation

- Compilation of a longitudinal record that includes clinical, claims, and care-management interventions
- Reliable master patient index including duplicate record merging/deletion
- Aggregation of other data sources (social determinants of health, genomics, imaging data, etc.)

Data analysis

- Stratify patients according to risk
- Tailored advanced predictive/prescriptive analytics (i.e. AI, machine learning)
- Ability to identify and tag patient groups to develop internal registries

Care management

- Identify gaps in care
- Empower care management workflow with data-driven intelligence
- Chronic disease management

Admin and Financial Reporting

- Financial performance tracking under risk-based contracts
- Total cost of care analytics
- Network utilization tracking and network optimization analysis (i.e. leakage and steering)

Patient engagement

- Target patients for outreach
- Secure messaging between patient, care-providers and care-managers
- Full CRM that includes integrated patient portal, outreach, education, and satisfaction

Clinician engagement

- Ability to track clinician usage of population health tools and activities
- Quality measures and analytics at the physician level (including MIPS, MACRA, etc.)
- Prioritized guidance on patient care-gaps and statuses

- None of the above

(2019 – 050) Do you electronically coordinate care with clinical partners to perform the following activities? (Check all that apply.)

- a. Manage care transitions
- b. Build linkages to community-based resources
- c. Coordinate and monitor exchanges of information with specialists and other facilities
- d. Use call center to support care coordination
- e. Secure messaging with patients and health professionals
- f. Electronic medication and diagnostic ordering/management
- g. Consult/referral management and follow-up communications with electronic authorizations
- h. None

(2019 – 051) Which chronic disease management services do you provide to **patients at home**? Include only fully-implemented programs (not pilots) for relevant patient population. (Check all that apply.) **Moved from a Different Section**

| Condition | Self-test results entered manually online | Self-test results submitted using Internet-enabled monitoring device | Medication management/ compliance using secure e-mail | Real-time care management | Integrated with EHR |
|---|---|--|---|---------------------------|--------------------------|
| a. Asthma | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Behavioral health | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Cancer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Chronic obstructive pulmonary disease | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Congestive heart failure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Diabetes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Heart disease | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Hypertension | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Obesity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Sickle cell anemia | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. End Stage Renal Disease (ESRD) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m. No services are offered to patients at home. | | | | | |

Interoperability Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes _____
- Patient outcomes _____
- Clinician outcomes _____
- Operational outcomes _____

Patient Engagement

(2019 – 052) What patient convenience or clinical communication capabilities are being used by patients through your patient portal? Do not include pilots; all services should be fully deployed. (Check all that apply.) Patients can:

| | |
|--|--------------------------|
| a. Test results | <input type="checkbox"/> |
| b. Visit summary | <input type="checkbox"/> |
| c. Discharge instructions | <input type="checkbox"/> |
| d. OpenNotes (Progress Notes, H&P, Discharge Summary, Operative Notes) | <input type="checkbox"/> |
| e. Self-management tools for chronic conditions | <input type="checkbox"/> |
| f. Immunization records | <input type="checkbox"/> |
| g. Secure messaging with provider/care team | <input type="checkbox"/> |
| h. Provide medical history elements that can be directly included in EHR | <input type="checkbox"/> |
| i. Asynchronous provider visits for a defined list of problems (e- visit) | <input type="checkbox"/> |
| j. Complete questionnaires that can be directly included into EHR | <input type="checkbox"/> |
| k. Transmission of information about a hospital admission to another care provider | <input type="checkbox"/> |
| l. Access patient specific education | <input type="checkbox"/> |
| m. Access patient specific education in non-English language(s) | <input type="checkbox"/> |
| n. Access family (or care team) education | <input type="checkbox"/> |
| o. Access family (or care team) education in non-English language(s) | <input type="checkbox"/> |
| p. Appointment self-scheduling tool and reminders | <input type="checkbox"/> |
| q. Prescription renewal request tool | <input type="checkbox"/> |
| r. Bill payment / bill status check | <input type="checkbox"/> |
| s. Ability to update insurance information | <input type="checkbox"/> |
| t. Access to electronic copy of medical record | <input type="checkbox"/> |
| u. No Patient Portal capabilities are available or being used | <input type="checkbox"/> |

(2019 – 053) How many unique patients have accessed your patient portal within the last 12 months? **NEW QUESTION**

Unique Patients Accessed _____ (Not scored)

- Does not apply (we do not have a patient portal)

(2019 – 054) How is your organization engaging patients and their families online outside of the hospital setting? Please do not include pilots. All services/capabilities should be fully deployed HIT based products and services. (Check all that apply.)

- a. Introduce the patient and family to the care environment
- b. Introduce the patient and family to the services which will be delivered
- c. Review the education and other materials provided to the patient and family during a visit
- d. Where applicable, exchange secure e-mails with their care team members
- e. Continue the care pathway that was initiated prior to or during the clinical encounter
- f. Use videos to educate patient and family about procedures
- g. Use videos to educate patient and family about medications
- h. Use videos to educate patient and family about lab tests and when available, the results
- i. Participate in Virtual Patient Visits.
- j. Email appointment reminders
- k. No online capabilities are available.

(2019 – 055) In what ways does your hospital/health system allow for patients and families to engage in the inpatient setting through the intranet or internet? Please do not include pilots. All services/capabilities should be fully deployed HIT based products and services. (Check all that apply.)

Patient and family functions:

- a. Control the environment, e.g. report problems that are not clinical in nature such as room temperature
- b. Order meals and snacks subject to dietary restrictions
- c. Perform all the functions on the traditional “white board” (staffing identification, schedule, patient goals, family goals, contact information)
- d. Participate in the discharge planning process
- e. Submit patient satisfaction responses
- f. Recognize staff who have performed above satisfaction
- g. Perform e-mail, browsing, and entertainment
- h. None of these services/Capabilities are available

(2019 – 056) In which of the below listed ways do your hospital/ health system staff members help to promote patient and family engagement in an inpatient setting through the intranet or internet? Please do not include pilots. All services/capabilities should be fully deployed HIT based products and services.

Staff functions:

- a. Initiate a patient pathway which will use HIT to follow a care plan specific set of processes
- b. Monitor patient and family engagement in real-time so that adjustments can be made during the clinical activities
- c. Perform data analysis that will assess efficacy and facilitate
- d. None of these services/Capabilities are available

(2019 – 057) Does your organization provide mobile apps for patients? (These should be apps created for a mobile handheld device and should NOT include responsive designed websites) (Check all that apply.)

- a. Alerts/notifications from mHealth devices
- b. Click-to-call contact directory
- c. Electronic insurance card
- d. ER wait times
- e. E-visit/ Virtual assistant
- f. Health library
- g. Patient portal
- h. Personal health record
- i. Personal health tracker (tools to help you track, organize, and analyze all aspects of your health, e.g., blood glucose, diet, exercise, stress, medications and other vital health data)
- j. Real-time news and blog feed
- k. Renew prescription
- l. Schedule visit
- m. Secure messaging (one way/two way)
- n. Wayfinding with floor plans and maps
- o. Price list for different services
- p. Text appointment reminders
- q. No mobile app is available

(2019 – 058) Do you provide the ability for a patient to create a personal health record (electronic patient medical information stored for subsequent direct access by the patient; content may be entered by the patient or transferred from an existing electronic health record, or a combination of both) via a patient portal on your website and/or in partnership with a third-party PHR vendor? (Check one.)

- Yes, fully rolled out
How many unique patients have used this tool? ____
- Yes, pilot program
- No

(2019 – 059) Which of the following price transparency/price comparison capabilities do you provide to patients or prospective patients via the health portal, app, website etc.? Do not include pilots; all services should be fully deployed. (Please check all that apply.) **NEW QUESTION**

- List of procedures/services and associated price
- List of clinicians and associate price
- Comparison of prices based on insurance network
- Comparison of prices based on insurance plan/types
- Comparison of prices based on region
- Filter and compare price information based on types of procedures/services
- Filter and compare price information based on clinician
- Filter and compare price information based on hospitals/health systems
- Provide definitions of key terms related to pricing, insurance, and/or service types
- Ability to estimate patients cost burden based on insurance type
- Provide access to education regarding services listed, price estimates, patient estimates, co-pays etc
- Access to patient gifting/fundraising tools that integrates patient bills with social media to help with healthcare
- Fundraising efforts and transparency
- No price transparency capabilities are available

(2019 – 060) Specifically with regard to patient medication management, what technologies are you using to increase compliance or ensure patient medication compliance? Include pilot programs. (Check all that apply.)

- a. Pill box opening notification
- b. Pill removed from pill box notification
- c. Pull in that patient has filled prescription and contact them after 48 hours if they haven't filled
- d. Interactive features – live video visits
- e. Wireless home monitoring equipment (e.g. scales, glucometers)
- g. None of the options listed are being used

(2019 – 061) Which of the following telemedicine services does your hospital/health system use to conduct diagnostic and therapeutic medical exchange between patient and provider, and at which sites do you provide these services? (Check all that apply.)

| Telemedicine services | Physician offices | Hospital | Post-acute facilities (SNF, LTC, etc.) | Patient's home |
|--|--------------------------|--------------------------|--|--------------------------|
| a. Consultations and office visits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Pharmacologic management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Psychiatric examination/Psychotherapy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Rehabilitation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Stroke care | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. e-ICU | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Inpatient management | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| . Genetic Counseling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Addiction treatment and counseling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. No telemedicine services available in this area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 062) Please describe how your organization is using patient's wearable personal health tracking data" **NEW QUESTION**

- Patient's wearable data is integrated with patient portal (Never, Sometimes, Always)
- Patient's wearable data is integrated with HER (Never, Sometimes, Always)
- Patient's wearable data is used in a meaningful way by clinicians (Never, Sometimes, Always)

(2019 – 063) What percent of unique patients treated by your hospital/healthcare organization have used telemedicine technology? **NEW QUESTION not scored**

Patient Engagement Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes ____
- Patient outcomes ____
- Clinician outcomes ____
- Operational outcomes ____

Clinical Quality and Safety (Hospital Inpatient/Outpatient)

(2019 – 064) Please report the percentage of all orders for patients admitted to hospital **inpatient** or **emergency department**:

ANSWERS MUST ADD UP TO 100%

| | | |
|--------------|--------------------------|-------------|
| | CPOE | |
| | Verbal Orders | |
| | Written Orders | |
| | Protocol/Standing Orders | |
| TOTAL | | 100% |

(2019 – 065) Do you do Closed-Loop Bar Code (or RFID) Medication Administration matching patient, drug (formulation, dose, route, time) at 95% or more? **Reformatted Question**

- Yes
- No

(2019 – 066) What percent of clinicians can view the following clinical documents directly from an EHR? If none put 0%. **NEW QUESTION**

(Slide percent bar next to each option)

- Medical history (H&P, Consultation, Progress Notes, Discharge Summary)
- Nurses' notes (Flowsheets, nursing & respiratory documentation)
- Orders, Order sets, Care Plans d. Diagnostic study results
- Operative Reports, OR documentation, Anesthesia documentation
- Medication reconciliation l. Discharge instructions (if generated in EHR and printed for patient, count as HER)
- Clinical summaries available from prior encounters
- Clinical summaries available from encounters outside your system

(2019 – 067) What percent of radiology orders are being supported by imaging decision support? If none put 0%.
(Slide percent bar)

(2019 – 068) Which of the following resource functions can physicians access electronically from the following locations? (Check all that apply.)

| Functions | Hospital | Physician offices | Remote access via Mobile apps or other |
|---|--------------------------|--------------------------|--|
| a. Clinical guidelines/pathways or evidence-based order sets with links to reference literature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Medical image review | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. EHR / CPOE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Evidence/references | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 069) Which of the following nurse activities are electronic for your organization? (Check all that apply.)

- a. Discharge checklist sends alerts for unmet criteria
- b. Discharge risk assessment
- c. Embedded links to relevant research and quality measures
- d. Evidence-based plan of care with links to reference literature
- e. Post-discharge follow-up
- f. Standardized care transition process
- g. Capture patient education assignments and status
- h. None

(2019 – 070) Which of the following patient monitoring equipment in your facility sends information directly to the EHR? (Check one per row.)

| Equipment | None | Fully deployed | Does not apply |
|-----------------------------------|--------------------------|--------------------------|--------------------------|
| a. Bedside blood pressure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Bedside lab tests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Bedside pulse oximetry | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Bedside temperature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Blood glucose | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Cardiovascular catheter output | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. EKG | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Fetal monitor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Intracranial monitor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. IV pump | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Ventilator | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l. In-bed scale | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 071) What percent of your clinicians are using the following real-time quality reporting resources? If none, put 0% **Reformatted Question**

(Slide percent bar next to each option)

- Clinical decision support rule for high-priority hospital/health condition
- Critical values
- Dose checking (max/min)
- Dose suggesting (e.g., renal failure)
- Drug allergy alerts
- Drug formulary check
- Drug-diet checking
- Drug-drug interaction alerts
- Duplicate order alerts
- Predictive analytics

(2019 – 072) Do you use a surveillance system integrated with the EHR that monitors patient vital signs, lab test results and other clinical information capable of sending an electronic alert notifying caregivers of a deterioration in a patient’s condition or a possible adverse event?

(If you answer that you have an alert system, we will require a screenshot of this system. Screenshots should be e-mailed to mostwired@chimecentral.org) (Check all that apply.)

- a. No surveillance system
- b. Surveillance system to critical care units
- c. Surveillance system to step-down units
- d. Surveillance system to general medical-surgical units
- e. Surveillance system tied to “present on admission” reporting

(2019 – 073) Does your organization have an **electronic** system to perform the following medication reconciliation activities for patients admitted to hospital **inpatient** or **emergency department**? (Check all that apply.)

- a. **Compare** patient’s inpatient and preadmission medication lists
- b. Provide **updated medication** list to patient at time of discharge
- c. Provide **updated medication** list to appropriate caregivers when patient is transferred to other care setting (SNF, home health)
- d. Information not available electronically

(2019 – 074) Please estimate the percentage of hospital discharge medication orders (for new or changed prescriptions) transmitted as an electronic prescription. (Check one.)

- None
- <50%
- 51-95%
- >95%

(2019 – 075) By what method does your organization track Hospital-Acquired Infections? (Check one.)

- Manual only
- Electronically stored (e.g., departmental system)
- Integrated with EHR

(2019 – 076) For what percentage of transitions of care or referrals does your hospital/health system provide a summary care record: (Check one.)

| Functions | None | <50% | 50-95% | >95% |
|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Directly via a certified EHR | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Via a Health Information Exchange | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 077) Which of the following solutions are part of your enterprise imaging strategy? (Check all that apply)

- PACS
- VNA
- Universal viewer
- Image exchange
- None

(2019 – 078) What diagnostic images can be accessed via your enterprise imaging strategy?

- a. Radiology (“plain films,” CT, MRI, Ultrasound)
- b. Interventional Radiology static and video images
- c. Cardiac Catheterization static and video images
- d. Echocardiography static and video images
- e. Endoscopy static and video images
- f. Bronchoscopy static and video images
- g. Intraoperative static and video images
- h. Ophthalmology images
- i. Microscopic pathology images
- j. Photography (dermatology, trauma, other)
- k. 3-D Reconstruction images (CT, MRI, angiography)

(2019 – 079) How is your health system engaged in an opioid use reduction program, supported with information technology? (Check all that apply)

- Limiting doses/pills per prescription
- Use of non-narcotics in order-sets
- Electronic Physician education programs
- Electronic Patient education programs
- Electronic Prescribing of Controlled Substances (EPCS)
- ePrescribing module connected to state/regional PDMP (prescription drug monitoring program) data base

Clinical Quality and Safety Engagement Impact Question: (Not scored)

Rate the impact of the technologies you report using in this section on:

(1 low – 9 high scale)

- Financial outcomes ____
- Patient outcomes ____
- Clinician outcomes ____
- Operational outcomes ____

Innovation and Emerging Technologies

This section is not scored but will be used as a gauge on industry progress and research for future surveys

(2019 – 001 IET) How successful has your organization been in overcoming the following barriers to AI adoption?

| | Not at all Successful | Somewhat Successful | Very Successful | Not Applicable |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Clinician education/knowledge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Workflow Integration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Lack of transparency, explainability or trust | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Unproven Value/ROI | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Complexity of data sources for curation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Internal Resources and Talents | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Organizational timing (other priorities/investments) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2019 – 002 IET) Where are you in adopting the following AI solutions?

| | Not Using | Looking To Buy | Implementing or Starting to use | Fully Deployed and Achieving the desired Outcome |
|--|--------------------------|--------------------------|---------------------------------|--|
| a. Purpose Built AI Vendors | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Analytics Platform Vendors with AI Capabilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. EMR Vendors' embedded AI capabilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. HIT Application Vendors with embedded AI capabilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Purpose built AI vendors: Vendors primarily focused on analytics and AI, offering and commercially supporting a dedicated and standalone product (or products) designed specifically for AI. Purpose built / focused AI vendors often will include some level of prebuilt models, content, and uses cases that are specific to healthcare.

Analytics Platform Vendors: Analytics vendors with AI infrastructure and/or platforms, typically used as a foundation for enabling customers to do AI on a “do-it-yourself” approach, i.e. ability to build your own models or use cases. The technology that infrastructure/platform AI vendors have is often used as the AI foundation for other vendor products (i.e. embedded) that are industry specific - healthcare and other industries.

HIT Application Vendors: Vendors with healthcare information technology (HIT) applications that are primarily purposed to fulfill a role for one or more HIT areas, but which are not seen as a as a purpose built /standalone AI product. HIT application vendors that have some level of AI, whether in one or more products, typically have it embedded within a specific application, such as a radiology system (PACS) that is supported/enhanced by AI but is not commercially sold as a AI product.

(2019 – 003 IET) What is your organizations strategic timeline of the below emerging technologies?

| Technology | In progress | 1-2 year strategy | 3-5 year strategy | Not currently part of our future strategy |
|---------------------------------------|-------------|-------------------|-------------------|---|
| 5G | | | | |
| NLP (Natural Language processing) | | | | |
| Predictive Analytics | | | | |
| Drones | | | | |
| Virtual Reality | | | | |
| Internet of Medical Things (IOMT) | | | | |
| Block Chain | | | | |
| 3D Printing | | | | |
| Cognitive Computing, Machine Learning | | | | |
| Neural Networking | | | | |
| Other- please specify: | | | | |

(2019 – 004 IET) Where does innovation fall within the organization?

- a. Under the CIO
- b. Outside of IT
- c. Unsure

(2019 – 005 IET) How many FTE's are assigned to innovation in your organization?

(2019 – 006 IET) What % of your organizations overall budget is invested in innovation?