2018 GIR IT Medical School Survey Glossary of Terms

**Administration of IT Organization** – Administration of IT Organization includes financial planning and management for IT, campus planning, communication and publications, human resource management for IT, facilities management for IT and staff support for these functions.

**Administrative Data Warehouse** – A central repository of administrative data often created by integrating other data sources and used for reporting and analysis.

**Administrative Systems** – Administrative systems include legacy administrative systems or enterprise resource planning systems such as student administration (admissions, financial aid, registration, etc.), financial systems, procurement systems, human resource systems, payroll, and research administration. This includes development and implementation of these systems, maintenance, training, programming support, database/data administration, hardware, software, staff and other infrastructure needed to support these systems.

**Admissions System** – An admissions system is a computer system that interacts with data provided through AMCAS to track medical school applicants, admission office activity, applicant status, committee on admissions collaboration, interviewing, and correspondence with applicants.

**Analytics** – Analysis of data and information that clusters, segments, scores, and predicts various scenarios to help drive business decisions.

**Application Development** – A set of activities that translates a user’s needs into a software product or application.

**Audience Response System** – An Audience Response System (ARS) allows large groups of people to vote on a topic or answer a question. Each person has a remote control with which selections can be made. Typically, the results are instantly made available to the participants via a bar graph displayed on the projector.

**Audio/Video Casting** – The capture, storage and streaming of archived content, usually for teaching and learning. Content may in the form of podcast, videocast, or screencast.

**Audiovisual Services** – Audiovisual services manage the audio and visual technologies used for learning.

**Authentication for Network Access** – A formal method in place to verify the identity of those seeking access to a network. Examples of these methods include: Web Single Sign–On, LDAP, Microsoft Active Directory, Federated authentication.

**Billing System** – Manages patient billing and collections. Hospitals, clinics and doctors’ offices use these applications to centralize and automate essential business processes including: accounts receivable, payment processing, patient data sharing, document, management, electronic claims, collections and financial reporting.

**Biometric Authentication** – Biometric authentication is based on what a user is (physical characteristic like a fingerprint) instead of what a user knows (password) or what a user has (token or smartcard).

**Biosample Tracking Databases** – Databases to capture and store descriptive information about the biological samples investigated in research projects.
**Business Intelligence** – Business intelligence (BI) software allows organizations to perform flexible analysis of massive data volumes with the goal of improving effectiveness of institutional decision making. Often used to query a data warehouse.

**Central IT Organization** – Organization with one or more people who make school-wide decisions on IT matters and/or provide school-wide IT services.

**Clerkship System** – A software system that allows medical students to log information about the patients they encountered during a clerkship and sometimes provides evaluation and options.

**Clinical Credentialing** – The formal process of assessing a health care professional’s qualifications, training, experience and clinical competence in relation to their role in a health care setting.

**Clinical Data Warehouse** – A central repository of clinical data often created by integrating other data sources and used for reporting and analysis.

**Clinical Decision Support (CDS)** – Technology that provides clinicians, staff, patients or other individuals with knowledge and person-specific information, intelligently filtered or presented at appropriate times, to enhance health and health care. CDS encompasses a variety of tools to enhance decision-making in the clinical workflow. These tools may include computerized alerts and reminders to care providers and patients; clinical guidelines; condition-specific order sets; focused patient data reports and summaries; documentation templates; diagnostic support, and contextually relevant reference information, among other tools.

**Clinical Research Data Networks** – Systems that allow either distributed or central mechanism for querying and extraction of clinical data from the network partners.

**Clinical Skills/Simulation Management System** – Software for clinical skills training and Standardized Patient (SP) training and measurement. It allows for the development, control and scoring of SP cases, management of clinical skills training sessions and measurement and reporting on learner clinical skills. It often includes video capture and event scheduling modules.

**Clinical Systems** – Includes systems or software such as EMR, laboratory information systems, scheduling system, etc.

**Clinical Trials Management System** – Systems for clinical trials that maintain and manage planning, performing and reporting functions, along with participant contact information, tracking deadlines, and milestones.

**Cloud Computing** – Provides computing resources as an online service, not as a physical product. The user typically has little knowledge of the physical makeup or location of the supporting infrastructure.

**Cloud Storage** – A model of data storage where the digital data are stored in logical pools, the physical storage spans multiple servers (and often locations), and the physical environment is typically owned and managed by a hosting company.

**Collaboration Tools for Administrative Purposes** – Institutional online tools which foster collaboration among administrative staff.

**Collaboration Tools for Clinical Purposes** – Institutional online tools which foster collaboration among clinical staff.

**Collaboration Tools for Educational Purposes** – Institutional online tools which foster collaboration among education staff.
Collaboration Tools for Research Purposes – Institutional online tools which foster collaboration among research staff.

Collaboration Tools – Software (usually Web 2.0 applications) that facilitates collaboration among two or more individuals. Online conference software, wikis, blogs, data analysis tools, and web–based word processing and spreadsheet applications.

Community-Engaged Research – A framework or approach for conducting research that encourages recognition of the strengths of community institutions and individuals and encourages people and groups to build on those strengths. What characterizes community-engaged research is not the methods used, but the principles that guide the research and the relationships between researchers and the community. Community-engaged research requires partnership development, cooperation and negotiation, collaboration with community partners, and a commitment to addressing local health issues.

Computerized Provider Order Entry (CPOE) – Sometimes referred to as Computerized Physician Order Entry or Computerized Provider Order Management (CPOM). A process of electronic entry of medical practitioner instructions for the treatment of patients (particularly hospitalized patients) under his or her care. These orders are communicated over a computer network to the medical staff or to the departments (for example: pharmacy, laboratory, or radiology) responsible for fulfilling the order.

Conflict of Interest – An outside activity or relationship which conflicts with the duties of an employee. These activities are not inherently wrong, but may require management to ensure that the activity or relationship does not compromise or is not perceived to compromise basic values of openness, scientific integrity, independence and public trust.

Curriculum Management and Course Delivery – A computer system that provides a collaborative learning environment for students including such functions as threaded discussions, quizzes, exercises, assignment submission, and the provision of curriculum content.

Data Analysis and Reporting – Tools for the manipulation, monitoring, converting, and deployment of data.

Data Capture Services – Software for building and managing surveys for research studies.

Data Center Operations – Services and tools used to support a data center including servers, databases, mass storage including system administration, operation and backup.

Data Center Support – Support responsible for the operation of a data center including servers, databases, mass storage, hardware, and system administration.

Data Loss Prevention – Software designed to detect potential data breach / data ex-filtration transmissions and prevent them by monitoring, detecting and blocking sensitive data while in-use (endpoint actions), in-motion (network traffic), and at-rest (data storage).

Data Visualization – Use of computer graphics driven by computers accessing large databases to produce still and/or dynamic images that enable exploration, analysis, and understanding of data.

Departmental IT Organization – Organization with one or more people within a medical school department or functional area who make department-wide IT decisions or provide department-wide IT services.

Desktop Services and User Support Services/Help Desk – Services used to support faculty, staff, and student personal computers and use. Examples include help desk support, computer support, and desktop application support.
Digital Signature/Public Key Infrastructure (PKI) – Usually a combination of client and server hardware and software with legal contracts and operational procedures that allow parties without any prior contact to authenticate each other.

E-portfolios/Electronic Portfolio/Digital Portfolio – A digitized collection of artifacts used to document accomplishments of an individual or institution. The collection may contain text–based, graphic, or multimedia elements archived in a database or on other electronic media such as a CD–ROM or DVD. E–portfolios can be used as a tool in student advising, to document learning outcomes and institutional quality for accreditation, or to demonstrate individual accomplishments.

Educational Data Warehouse – A central repository of educational data often created by integrating other data sources and used for reporting and analysis.

Educational Technology – Services and tools that support the delivery of education, such as educational web portals, e–portfolios, collaborations tools (wiki, blogs), simulation tools, audio/video casting.

Educational Web Portals – A site that provides a single point of entry to educational content via a web page or site. These sites may or may not require authentication. Aside from basic educational content, the portal offers other services such as email, course registration and rosters, learning portfolio management and discussion forums.

Electronic Health Record (EHR) – An individual patient’s medical record in digital format. EHR systems coordinate the storage and retrieval of individual records with the aid of computers. EHRs are usually accessed on a computer, often over a network. They may be made up of electronic medical records (EMRs) from many locations and/or sources. A variety of types of healthcare–related information may be stored and accessed in this way.

Electronic Textbooks – The digital media equivalent of printed textbooks, read on personal computers, e-readers, or smart phones.

Email Encryption – Encryption of email messages to protect the content from being read by other entities than the intended recipients.

EMR-Integrated Research Modules – Technology added on and integrated into an EMR to increase its usability for clinical research purposes.

Encrypted Mobile Devices – A method of protecting sensitive data contained on mobile devices by using software that converts the data into a form that cannot be easily understood or interpreted by unauthorized users.

Enterprise Data Warehouse - A central repository of enterprise data often created by integrating other data sources and used for reporting and analysis.

Enterprise Services – Services and tools used to support the administrative mission of the medical school, such as financial management, procurement, grant processing, payroll, and HR systems.

ePrescribing – The use of online, computerized tools to create and sign prescriptions.

Faculty Development – Training faculty to use technology tools that empower them to excel as educators and to create vibrant academic communities that value teaching and learning.

Faculty Information System – Software systems that track academic appointment information and faculty research, clinical, and educational activities.
Financial System – A computer system that collects, stores, and manages financial transaction data relating to the general ledger, accounts payable, accounts receivable, budgeting, purchasing, billing, and cash management.

Flipped Classrooms – Models where teachers move away from the “sage on a stage” approach to teaching and become facilitators of learning and guide students in how to better use the resources, process information, and apply the core concepts to real life situations.

FTE(s) – Full–time equivalent personnel. This is not number of individuals employed.

GME Management System – Software used to manage graduate medical education (GME) processes, including the appointment of residents, management of Medicare reimbursement, IRIS Report Generation, affiliate billing, duty hour tracking, procedure logging.

Grants Management System – Computer systems that capture data relating to the submission of research proposals and tracking of research awards.

Green Computing – The practice of designing, manufacturing, using, and disposing of computers, servers, and associated subsystems (such as monitors, printers, storage devices, and networking and communications systems) efficiently and effectively with minimal or no impact on the environment.

High Performance Computation – Services to provide support for supercomputing such as that required by research faculty. Services include support for high performance servers and networks.

Human Resource System – A computer system that collects, stores, and manages information relating to employment, compensation, position management, payroll, and benefits.

Identity Management – Management of user credentials and the means by which users might log on to an online system.

Infrastructure – Network (wired and wireless), storage, backup, and server hardware.

Inpatient Electronic Medical Record (EMR) – A medical record in digital format used in the hospital. It may or may not be linked to or part of a larger electronic health record (EHR) for the patient.

Institutional Advancement System – A computer system that captures information relating to donors, potential donors, gifts, and commitments.

Instructional Design – The systematic development of instructional specifications using learning and instructional theory to ensure the quality of instruction. It is the entire process of analysis of learning needs and goals and the development of a delivery system to meet those needs.

Intrusion Detection and Prevention Systems – Network security appliances that monitor network and/or system activities for malicious activity. The main functions are to identify malicious activity, log information about said activity, attempt to block/stop activity, and report activity.

Inventory Tracking – Systems for tracking medical equipment and supplies, performing supply logistics, material management, and medical document management. Some systems may support barcode scanning and/or radio frequency identification (RFID) tagging.

IRB/IACUC Document Management – Research design, management, and oversight tools to support Institutional Review Board (IRB) and/or Institutional Animal Care and Use Committee (IACUC) process.
**IT Budget** – Funds allocated for new product or technology purchases, IT consulting or outsourcing, research and development, salaries and benefits, applications, services.

**Learning Analytics** – Formerly referred to as Learner Analytics. The measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs.

**Library Systems** – Resource discovery tools, electronic resource access, proxy.

**Lottery System** – A software system that allows medical students to indicate their preferences for clerkships, clerkship locations, and clerkship timing.

**Mannequin Simulators** – Full body models used to teach skills and procedures in health education. High fidelity electronic simulators are capable of demonstrating a wide range of physiological responses in reaction to stimuli or programming.

**Mass Storage** – The storage of large amounts of information in a persisting and machine-readable fashion.

**Massive Online Open Courses (MOOCs)** – A category of online courses where the participants are distributed and course materials are also dispersed across the web.

**Metadata Management** – Software to manage the structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage and information resource.

**Mobile Application Development** – The process by which application software is developed for low-power handheld devices, such as personal digital assistants, enterprise digital assistants or mobile phones.

**Mobile Content Authoring** – Also referred to as E-publishing Platform for Learning. A platform that provides electronic distribution of text, enabling students to access e-books/e-texts on mobile devices, and offering additional features such as annotation, search across texts and note sharing. Basic systems deliver existing packaged e-content; advanced systems enable collection, copyright clearance and bundling of content similar to e-texts and e-coursepacks.

**Mobile Devices** – A portable, wireless computing device that is small enough to be used while held in the hand.

**Mobile Device Management (MDM)** – Software that secures, monitors, manages and supports mobile devices deployed across mobile operators, service providers, and enterprises. MDM functionality typically includes over the air distribution of applications, data, and configuration settings for all types of mobile devices, including mobile phones, smartphones, tablet computers, ruggedized mobile computers, mobile printers, mobile POS devices, etc.

**Multifactor Solutions for Network Authentication** – Also referred to as Strong Authentication. An extension of two-factor authentication; while two-factor authentication only involves exactly two factors, multi-factor authentication involves two or more factors.

**Natural Language Processing for EMR Notes** – Software used for automated detection of clinical conditions described in narrative reports.

**Network Infrastructure Services** – Services to support the hardware and networks used by faculty, staff and students at the medical school. Examples include data networks, wireless networks, wire and cable structure, remote access, and video and voice networks.
Non–Faculty Informatics – IT staff members working in clinical or bioinformatics areas without faculty appointments.

Off-Premise – Hosted at an external location, managed either by the institution or a contracted third party.

Online/Distance Learning – A teaching method that delivers teaching, often on an individual basis, to students who are not physically present in a traditional educational setting such as a classroom. This could include online courses, videoconferencing, or other methods that deliver learning outside a formal classroom setting.

Online Evaluations – Software that schedules, manages collects and reports data used to evaluate content, learner or teacher performance.

Online Exams – Software used to measure certain aspects of information for a set purpose where the exam is delivered via a computer connected to a network.

On-Premise – Hosted at an institutionally operated location, which can range from a server closet to a data center.

Outpatient Electronic Medical Record (EMR) – A medical record in digital format which is used in the outpatient/clinic setting. It may or may not be linked to or part of a larger electronic health record (EHR) for the patient.

Part Task Simulator – Partial body models commonly used to teach a specific set of skills in health education, such as a pelvic examination. Most partial task simulators are low to medium fidelity and provide minimal feedback to the learner.

Penetration Testing – A process initiated by the institution owning the network and/or server equipment to attempt to gain access to resources without knowledge of usernames or passwords. The tester has permission from the owner and provides a report of vulnerabilities exploited. Typically the penetration testing includes attempts to crack passwords, attempts to subvert physical security controls, and attempts at social engineering to subvert security policies.

Public Student Computing – Computer labs, kiosks, information commons.

Registry Systems – An organized system that uses observational study methods to collect uniform data (clinical and other) to evaluate specified outcomes for a population defined by a particular disease, condition, or exposure, and that serves a predetermined scientific, clinical, or policy purpose(s).

Regulatory and Compliance Systems – An information system used to manage federal and state requirements such as IRB/ICUC document management, clinical trials management, etc.

Research Computing – Infrastructure to support activities of the research enterprise such as bioinformatics support, high performance computing, and grid computing.

Research Data Warehouse – A central repository of clinical data often created by integrating other data sources and used for reporting and analysis.

Research Imaging Databases – Databases for the storing of biomedical images.

Research Infrastructure Services – Services to support the research mission of the medical school. Services include video–conferencing, white boarding, mass storage, discipline specific applications not related to instruction, statistical support, IT consulting services, wikis/blogs/listservs used by research faculty and staff, and grant writing assistance.
**Research Protocol Design** – Protocol authoring and execution system for processing data, comprising one or all of the following: a tool development process, a protocol design process, a protocol execution process, a data analysis process, a protocol storage process, a protocol retrieval process, a data storage process, and a data retrieval process.

**Research Service Management Tools** – Tools used to support the administrative aspects of research projects.

**Secure Cloud Storage (Compliant for Sharing Sensitive Data)** – HIPAA/FERPA compliant data storage model in which data is maintained, managed, and backed up remotely and made available to users over a network (typically the internet).

**Security Awareness Training Programs** – Software used for the training of members of an organization regarding the protection of various information assets of that organization.

**Security Services** – Services to provide protection of resources including authentication and identity management systems and policies. Included are services to monitor and analyze access such as firewalls, virus protection, smartcards, token technology, services to prevent unauthorized access and detection of misuse of wireless networks.

**Security/Privacy Audits** – Systematic evaluation of the security of an organization’s information system(s) by measuring how well it conforms to a set of established criteria.

**Simulation Support** – Responsible for running the technical and logistic aspects of simulations.

**Simulators** – Computer software, mannequins, and models used to teach therapeutic and diagnostic procedures as well as medical concepts and decision making to personnel in the health professions.

**Social Media** – Forms of electronic communication through which users create online communities to share information, ideas, personal messages, and other content.

**Social Networking Tools** – Forms of electronic communication through which users create online communities to share information, ideas, personal messages, and other content.

**Software Licensing Programs (e.g. site licenses for research-specific tools)** – Programs that ensure that the legal agreements that come with procured software licenses are adhered to. Also sometimes referred to as ‘software asset management tools’.

**Space Management System** – A computer system that tracks information concerning physical facilities. Typically these systems record the size, description, use, assigned department, and occupant of physical facilities belonging to the medical school. Space planning and productivity management may also be built into these systems.

**Staff** – Refers to all staff employed by the central IT organization, including clerical, technical, and management staff and limited–term or temporary employees, who were employed for the most recent fiscal year.

**Student Patient/Procedure Log** – A system to record patient encounters by students and provides faculty with central oversight to ensure that the faculty define the types of patients and clinical conditions that medical students must encounter, the appropriate clinical setting for the educational experiences, and the expected level of medical student responsibility. The system allows faculty to monitor medical student experiences and modify them as necessary to ensure that the objectives of the medical education program are met.
**Student Performance Tracking and Assessment** – Records data to support the assessment of student progress toward identified learning objectives. Typically, these systems support interaction between the student, the Office of Medical Education, the residents and professors, and the medical community in general. One typical output of such systems is the Medical Student Performance Evaluation.

**Student Systems** – Software that manages information related to student demographics, course registration, grades, academic progress, and compliance with enrollment policy.

**Systems for Genotype/Phenotype Integration for Precision Medicine** – Technology tools that facilitate the use of genotype/phenotype information in a patient's clinical care by clinicians.

**Tech Transfer** – A system to manage the process of moving scientific discovery into practical applications.

**Telehealth** – The transmission of medical information via telephone, the internet, video streams, or other networks for the purpose of consulting, and sometimes the delivery of remote medical procedures or examinations.

**Telephony** – Includes wire and cable infrastructure for voice network, dial tone, voice mail, long-distance resale, cellular and paging services, telephony staff, hardware, software, etc.

**Telepresence** – A set of technologies which allow a person to feel as if they were present, to give the appearance of being present, or to have an effect, at a place other than their true location.

**Token or Smartcard Authentication** – Different approaches to two-factor authentication. These are both security devices that are kept in the user's possession. To log onto the network, the security "card" or "token" may be read directly by the card reader or it may display a changing number that is typed in as a password. Tokens may also plug directly into the computer via a USB port. Smartcards are about the same size as a credit card. The card is embedded with a memory chip that interacts with the computer to perform a pre-defined authentication operation.

**Videoconferencing** – Real-time digital video and voice connection between multiple users in different physical locations.

**Virtual Microscopy** – A method of posting microscope images on, and transmitting them over, computer networks. This allows independent viewing of images by large numbers of people in diverse locations and involves a synthesis of microscopy technologies and digital technologies.

**Virtual Patients** – Simulations or representations of individuals involved in one or more health care processes, typically (but not necessarily) patients. Virtual patients are used in medical training, and help expedite drug research, and drug development.

**Virtualization** – The creation of a virtual version of a computer, operating system, data storage device, etc. which is not itself an independent device but works and appears to the user as a single physical entity.

**Wearable Devices** – Body-worn accessories incorporating computer and advanced electronic technologies.

**Web Development (Hosting and Support)** – Services to support the development and hosting of web sites, including content design, management assistance, and application development.

**Wireless Security** – The prevention of unauthorized access or damage to computers using wireless networks by counteracting or preventing wireless network intrusion.