

Recommendations and Action Steps to Deploy AI in Medical Education: A Practical Guide for Responsible Integration Using the Josiah Macy Jr. Foundation Framework.

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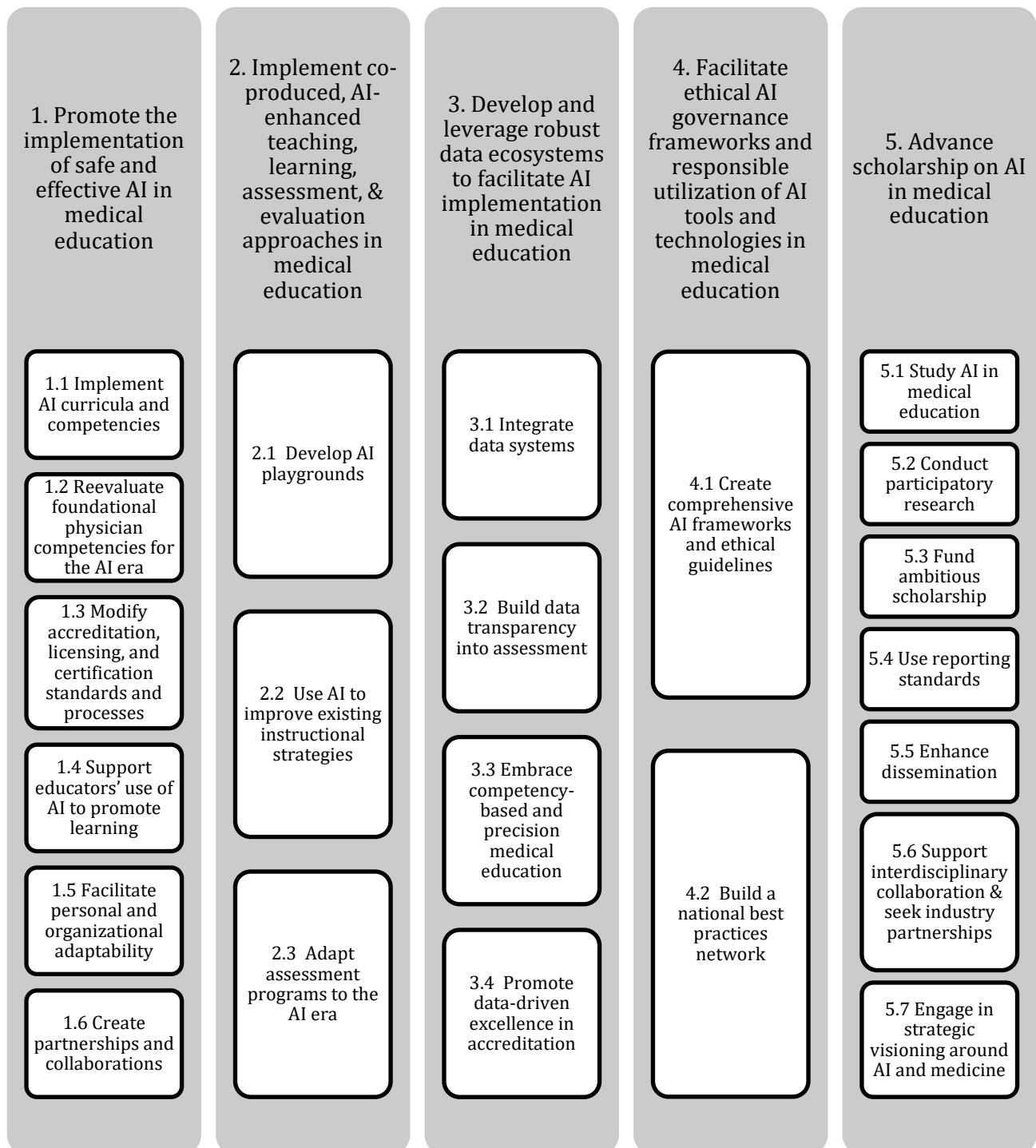
This resource outlines a practical, ethical, and strategic approach to deploying artificial intelligence (AI) in an educational setting, with a pilot focus on MD admissions based on the recommendations and action steps from the Josiah Macy Jr. Foundation. Drawing from the Geisinger College of Health Sciences (GCHS) data governance framework, analytics request process, and institutional priorities, it provides a roadmap for AI integration that supports educational excellence, operational efficiency, and responsible innovation.

Introduction

This resource outlines a practical, ethical, and strategic approach to deploying artificial intelligence (AI) in an educational setting, with a pilot focus on MD admissions using the recommendations and action steps from the Josiah Macy Jr. (Macy) Foundation. Drawing from the Geisinger College of Health Sciences (GCHS) data governance framework, analytics request process, and institutional priorities, it provides a roadmap for AI integration that supports educational excellence, operational efficiency, and responsible innovation.

The Macy Foundation released recommendations and action steps for the deployment of AI in medical education, as listed in [Figure 1](#). This guide explores a case study using a systems-based approach to our work at a medical school within a college of health sciences owned by an expansive health system. The Macy Foundation's recommendations and action steps for the deployment of AI in medical education were used as a model and resource. On our journey, pieces of the framework came together at different times, and in some areas we continue to actively strengthen our model. The Macy Foundation's framework allows for flexible implementation, enabling action steps to be pursued in any sequence that best suits the needs of the organization or initiative.

Figure 1: Josiah Macy Jr. Foundation Recommendations and Action Steps for Artificial Intelligence in Medical Education. Adapted from Josiah Macy Jr. Foundation & Association of American Medical Colleges (June 12, 2025).



Facilitate ethical AI governance frameworks and responsible utilization of AI tools and technologies in medical education (Recommendation 4)

The strategic foundation for deploying AI in any educational setting must be rooted in institutional alignment and a clear understanding of the educational mission. Our work focused on developing and leveraging robust data ecosystems to facilitate AI implementation in medical education. Our AI initiatives are designed to enhance educational quality and access, promote operational excellence, support data-driven decision-making, and uphold ethical standards and regulatory compliance.

Our first step was to launch a comprehensive data governance initiative in October 2023. As part of this initiative, a data governance steering committee was created, spearheaded by our Vice Provost for Education Administration and our Associate Dean for Educational Technology. The initiative was driven by the need for consistent, accurate, and reliable data reporting across the college, particularly as our data spans multiple systems and stakeholders. It was essential to consider the college's relationship with our health system and how we could leverage their support and expertise in this process, while also ensuring that our collective policies and procedures were aligned. The committee is comprised of representatives from all the administrative and academic departments in the college as well as representatives from the health system's data analytics teams.

As a second step, the committee established rules of operation as found in *Appendix A* based on the initial charge to oversee the creation and implementation of policies and procedures that ensure integrity, security, accessibility, and effective use of data across the college programs. By aligning with existing health system standards and promoting a data-driven culture, the committee supports effective data management, informed decision-making, and continuous improvement throughout the organization.

The committee is charged with defining roles and responsibilities for data management, improving data quality and consistency, enhancing data security and privacy, establishing a comprehensive governance framework, promoting data literacy, monitoring performance through key performance indicators, and integrating governance principles into IT systems and workflows. The committee also ensures that data governance efforts align with institutional goals and regulatory requirements.

The committee's work has emphasized the importance of standardizing data definitions and cataloging existing data assets. The health system's definitions for data stewards and data owners were reviewed and adopted, which support enterprise-level data practices. Review of existing health system data policies allowed for discussion and edits to fit our educational context. This included policies on data privacy, security, access control, retention, and AI.

As the committee evolves, we are moving toward step three, the review and prioritization of AI-related analytics requests (see Data Analytics Project Request Form in *Appendix B*) and ensuring alignment with data standards, privacy and compliance, while monitoring ethical implications and fairness in AI applications as a priority. An example of this is the AI project focused on medical school admissions. This project was initiated to address the increasing workload of

admissions committee members while maintaining a holistic review process. The project aligns with the broader strategic goals of improving operational efficiency and educational quality.

Promote the implementation of safe and effective AI in medical education (Recommendation 1)

The creation of a data governance committee has fostered a culture of collaboration, transparency, and strategic data use. The committee is continuing to build a robust infrastructure that supports compliance, analytics, and informed decision-making across the college. More than a policy initiative, this is a cultural shift empowering the GCHS community to use data not just as a tool, but as a trusted partner in advancing its mission.

The committee is working on various processes to promote the implementation of safe and effective AI, starting with a policy on AI that outlines the process for requesting, implementing, and monitoring an AI initiative. The data governance committee established a process for requesting and vetting AI and other college-related data projects, which allows college projects to move forward to a joint college and health system analytics team for review and implementation. Using this system the college can determine which projects are aligned with the mission and strategic plan and will effectively create a safe and effective use of data. The college controls and/or has input into the cadence of the projects from creation to implementation.

In the spring of 2025, the faculty of the school of medicine proposed a policy on the use of generative AI tools by medical students (see *Appendix C*). The policy encompasses best practices and scholarly guidance from the AAMC, AMA, AMEE, and UNSECO. The policy encourages the use of generative AI as a tool for assisting medical students in their educational pursuits, while also providing the students with a framework for using AI responsibly within the academic and clinical settings. This is another step in an ever-evolving process.

This brings us to data literacy, a foundational competency and the next step in building our framework for the safe and effective implementation of AI. Data literacy encompasses the ability to critically interpret, analyze, and communicate data, enabling educators and learners to understand how AI systems generate insights, identify patterns, and support clinical decision-making. In the context of education, data literacy empowers faculty and students to evaluate the quality and relevance of datasets, recognize potential biases, and apply ethical reasoning when using AI tools. As institutions adopt AI-driven technologies for teaching, assessment, and curriculum design, fostering data literacy ensures that these innovations are used responsibly, transparently, and in ways that enhance learning while safeguarding patient and learner trust.

Building our data glossary and data dictionary is included in every data project. These tools serve as the groundwork for increasing data literacy and promoting a data-driven culture as part of our evolving framework. The committee is working on various strategies for educating the college community about the available data and how data can be implemented using AI to make their daily tasks more efficient.

Develop and leverage robust data ecosystems to facilitate AI implementation in medical education (Recommendation 3)

As we worked through various projects, we realized that not everyone understood the basics of data storage and the tools needed to facilitate implementing AI projects. We introduced three foundational components of the data ecosystem: databases, data warehouses, and data lakes, each serving distinct purposes in the lifecycle of data. These components allow the college and health system to harness the power of AI for educational quality and access, promote operational excellence, support data-driven decision-making, and uphold ethical standards and regulatory compliance.

Databases are structured systems designed for efficient data storage, retrieval, and updates. These systems support transactional operations and are typically relational, using software like SQL, MySQL, MS Access, and Oracle. Databases are ideal for managing individual records and are commonly used in day-to-day operations.

Data warehouses centralize data from multiple sources—such as student information systems, financial platforms, and learning management systems. Unlike databases, warehouses are optimized for querying and reporting. They store historical data in structured formats, enabling trend analysis and forecasting. The process involves extracting data, transforming it into a consistent format, and loading it into the warehouse.

Data lakes offer a more flexible and scalable solution. Data lakes store raw data in their original format and support structured, semi-structured, and unstructured data types. They are cost-effective and use a schema-on-read approach, meaning the data structure is defined only when accessed. This makes them ideal for storing diverse data types like images, videos, and documents.

As part of our project, we've begun to identify the many ways and places for data storage, which are grouped into four categories:

1. Scannable Databases – Direct backend connections for tools like Tableau (e.g., AMP, Empower).
2. Hosted Databases – Require data downloads for external use (e.g., SmartPath, One45).
3. Wandering Databases – Informal storage like Excel or Google Sheets, often lacking integration.
4. Everything Else – Includes documents, PDFs, and media files that are important but scattered.

To harness the full potential of our planned data lake, it's essential to build the tools and interfaces that allow users and AI to access and interpret the data. Documentation and training are critical to ensure usability and understanding across the organization. While collecting data is vital, making it accessible, understandable, and actionable is what truly empowers decision-making and innovation.

Implement co-produced, AI-enhanced teaching, learning, assessment, & evaluation approaches in medical education (Recommendation 2)

Pilot Program: AI in Medical School Admissions

Realizing AI can provide numerous benefits to organizations, especially by creating efficiencies, many constituencies within the organization are vying for resources to develop and deploy AI projects. Organizations must make decisions regarding which projects get prioritized when the demand for support from data analytics teams surpasses the number of projects that can be worked on within a reasonable timeframe.

The pilot program at GCHS demonstrates a phased approach to AI integration in medical school admissions. Phase 1 focuses on screening applicants using machine learning models to reduce the uncompensated hours of MD Admissions Committee (AC) members and improve consistency in the screening decision. Phase 2 introduces executive summaries and AI chatbots to support the ranking decisions of the MD AC members. Phase 3 aims to extend AI tools to precision education in the educational enterprise. **Figure 2** details the phases of the pilot program, including the objectives.

Figure 2: Pilot Program for the Use of Artificial Intelligence in Medical School Admissions

Phase 1 Objectives	Phase 2 Objectives	Phase 3 Objectives
• Use AI for screening of MD applicants • Reduce the workload of Admission Committee members	• Develop and deploy MD applicant executive summaries • Create and implement an AI chatbot for Admission Committee members to use when ranking MD applicants	• Leverage Admissions AI work to deploy across GCHS for precision education initiatives

The data analytics team, members of the MD AC, and the Office of MD Admissions presented the pilot program for medical school admissions to senior leadership and the Board of Directors for endorsement. The pilot focuses on integrating AI into the MD admissions process to enhance applicant review efficiency, identify holistic patterns in applicant data, and reduce bias through standardized, data-driven insights. The team met weekly to address the following items needed to deploy the AI pilot program in Admissions.

1. Define the problem: Align with admissions on goals, pain points, and fairness needs
2. Assess data and requirements: Audit admissions information system (AMP) data, selection criteria, and compliance constraints
3. Build and evaluate models: Train and compare machine learning and regression models for accuracy and equity
4. Review with admissions team: Compare outputs to past decisions and gather feedback
5. Design the reviewer experience: Prioritize transparency, override options and summaries
6. Deploy, monitor and improve: Integrate with the admissions information system, track performance, audit fairness, refine models, and deploy continuous quality improvement

Phase 1

The growing number of applicants to medical schools is creating a significant workload for MD AC members, particularly when a holistic review is used, which includes a comprehensive assessment of academic metrics, experience, attributes and competencies. For some medical schools, serving on the AC is an uncompensated role, accounting for hundreds of hours annually. To address this, we assembled a team consisting of medical school admission staff and committee members, and representatives from the data analytics team, who have operationalized AI and machine learning to support MD AC members throughout the applicant review process. AI and machine learning can offer opportunities to increase efficiency in the applicant review process while maintaining the spirit of comprehensive, holistic reviews, provided they are created and implemented appropriately (Step 1).

Step 2 in Phase 1 of the pilot was to assess our admissions information system (we use Zap Solutions and their software, AMP) and determine the data elements within the system that could be used as selection criteria to build the model. The raw data in AMP is accessible through a direct backend connection available to our data analytics team, which allowed the process to move forward at a rapid pace. A Delphi process was used to identify and select criteria for the model, resulting in 44 data elements included in the final model aligned with the mission of the institution. Compliance constraints were identified and addressed. Ensuring that AMP was located in a central repository enabled data interaction and provided a direct backend connection to the raw data for other applications.

A machine learning model was trained to predict the probability of receiving an interview invitation. The model uses a gradient boosted decision tree and was trained on data from the three prior medical school classes. The most recent class was used as a test set to validate model performance. In addition, we controlled for bias related to the timing of application submission by adjusting each applicant's submission date during inference to the average submission date of the training data. This helps adjust for selection bias, as applicants who submit later in the application cycle are less likely to receive an invitation because there are fewer invitation spots as the application cycle progresses. The data was reviewed weekly by members of the team to ensure an accurate comparison of outputs to past decisions, address fairness and consistency items, and gather feedback for iterative improvement for the following week's presentation of the revised algorithm (step 4).

Step 5 focused on transparency, which includes explainable models and documentation, fairness encompassing auditing for bias, and compliance for FERPA and institutional policies. In addition, the step provides for an override option should the reviewers identify a concern with the algorithm. Finally, integration with the admissions software system occurred with oversight from admissions staff members who are tracking performance. Fairness audits continue, allowing models to be refined and enabling continuous quality improvement for the final step (6) in the AI in admissions deployment process.

The results of Phase 1 include the following goals:

1. Reduce the workload of the Admission Committee members
2. Increase consistency in interview offers to medical school applicants
3. Decrease uncompensated hours by an estimated 2,400 hours annually

4. Improve Admissions Committee member well-being and committee retention

Phase 2

While developing Phase 1, creative ideation meetings with the team members determined the objectives and goals for Phase 2 of the pilot program, including identifying data elements required for executive summaries for applicants who completed an interview and are scheduled to be assessed by the MD AC members. Currently in beta testing, members of the MD AC will provide final feedback on the executive summaries before implementation occurs.

In addition, a chatbot will be used so that MD AC members can query the chatbot to gain additional information in real time without having to search for it in the applicant's materials. This ability to access information immediately will exponentially decrease the time it takes to review the applicant's file again before the MD AC member evaluates the materials presented for a ranking decision for admission. This phase reduces the MD AC members' workload, improves consistency and effectiveness in applicant ranking, and is projected to increase retention of members who serve on the MD AC.

Phase 3

In Phase 3, we plan to expand our use of AI to support student success and faculty effectiveness directly. This phase focuses on leveraging AI technologies to improve advising, self-assessment, and educational interventions, to increase student retention and graduation rates. This phase represents a strategic shift from admissions-focused AI to a comprehensive, student-centered approach that supports academic success and professional development throughout medical education, also known as precision education.

This project originated from a need to reduce the workload for members of the MD AC and realize opportunities to enhance consistency and equity across processes. Although initial discussions spanned nearly two years, the project gained momentum quickly once the team was formed. Over the following six months, the team identified key data elements, developed algorithms, and refined the system through Phase 1 testing.

Advance scholarship on AI in medical education (Recommendation 5)

At the time of this submission, the team for the pilot program in medical school admissions submitted two conference sessions for presentation, with one accepted and the other in review. Additionally, a poster was submitted to a national medical conference and is being reviewed. When the final data is available, the screening and ranking of medical school candidates' proposals for conference sessions will be submitted along with a manuscript.

Below you will find conferences that might align with a session focused on AI in medical and health professions education.

1. Association of American Medical Colleges (AAMC) Learn Serve Lead national conference
2. International Association of Medical Science Educators (IAMSE) conference
3. Academy for Professional in Health Care's national and/or virtual conferences

4. MedBiquitous and the AAMC Affinity Groups on Information Resources (GIR), Educational Affairs (GEA), and Student Affairs (GSA) Emerging Technologies for Teaching and Learning: Digital Demonstrations Virtual Conference
5. Rush University AI Symposium

When considering possible journals to submit an AI manuscript to, the [Journal/Author Name Generator](#) can help identify the best fit based on a potential title, abstract or keyword. (See *Appendix D* for an example of a journal search using the title of this resource.)

While we identified some areas for scholarship dissemination, it is essential to consider your audience and identify opportunities that align with the work.

Conclusion

The integration of AI into medical education, particularly through the MD admissions pilot at GCHS, demonstrates a scalable and ethically grounded approach to innovation. By aligning with the Macy Foundation's recommendations, establishing robust data governance, and fostering a culture of data literacy, GCHS has laid the foundation for responsible AI deployment. As the pilot progresses into phases focused on executive summaries and precision education, the institution remains committed to transparency, fairness, and continuous improvement. Future efforts will expand scholarship, refine implementation strategies, and contribute to national conversations on AI in health professions education.

References

Josiah Macy Jr. Foundation & Association of American Medical Colleges. (June 12, 2025). AI and the Future of Med Ed: Recommendations from a Macy Foundation Conference.
<https://www.aamc.org/media/84381/download?attachment>

Acknowledgment

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Appendix A

Geisinger College of Health Sciences Data Governance Committee Rules of Operation



GCHS Data Governance Committee

Rules of Operation

Purpose:

The GCHS Data Governance Committee is responsible for developing and implementing data governance policies and procedures for the degree-granting programs at GCHS. The committee leads efforts to establish a comprehensive framework that ensures data quality, consistency, security, and accessibility across all departments and systems. By aligning with existing Geisinger standards and promoting a data-driven culture, the committee supports effective data management, informed decision-making, and continuous improvement throughout the organization.

Standards and Policies:

- [GEISINGER Data Manager Policy](#)
 - [Appendix A \(Data Manager Program Equivalent Titles List\)](#)
 - [Appendix B \(Data Manager Remediation Procedures\)](#)
- [Geisinger Artificial Intelligence \(AI\) Governance Policy](#)
- [Geisinger Copyright and Other Intellectual Property Policy](#)
- [GCHS Policy on Acceptable Use of Electronic Resources](#)
- [Policy on the Use of Generative AI Tools by Medical Students](#)
- [GCHS Policy on Surveying Students](#)

Membership and Responsibilities:

The membership of the committee is composed of representatives from various departments (academic and operational) across the degree-granting programs: schools of medicine, nursing and graduate education; enrollment management (financial aid, admissions, registrar); student affairs (learning excellence, wellness, career); education administration (assessment and evaluation, compliance and accreditation); faculty affairs; finance partnering. Membership also includes representatives from clinical systems departments: foundation, IT, human resources and data analytics. The representative members are appointed

by the President with recommendation from the Provost's Office for a 5-year term, with automatic renewal.

Co-Chairs: The co-chairs of the committee are appointed by the President for a 3-year term, with automatic renewal. The co-chairs are typically representatives of educational technology (GCHS IT) and the division of education administration.

Members: The committee members are expected to attend all meetings of the committee and are responsible for reviewing all materials that are provided to them prior to the meeting.

Members are expected to maintain confidentiality.

Members are expected to serve as presenters or facilitators for college-wide trainings of faculty, staff and students on data governance processes, policies and procedures as needed.

Quorum and Operation:

Quorum for the committee is 50% of the voting members plus one (1). The committee membership is confirmed annually in June, by the Vice Provost for Education Administration. The Co-Chairs reserve voting privileges to break a tie.

Records of the decisions made at meetings, should be recorded and stored on the committee's Teams site.

Duties:

The Data Governance Committee is tasked with overseeing the creation and implementation of policies and procedures that ensure the integrity, security, accessibility, and effective use of data across all degree-granting programs. Their duties include defining roles and responsibilities for data management, improving data quality and consistency, enhancing data security and privacy, establishing a comprehensive governance framework, promoting data literacy, monitoring performance through KPIs, and integrating governance principles into IT systems and workflows. The committee also ensures that data governance efforts align with institutional goals and regulatory requirements and fosters a culture of continuous improvement.

Annual Review:

The committee will review the rules of operation annually to make any needed recommendations to the President for consideration and approval.

Appendix B

Geisinger College of Health Sciences Data Analytics Project Request Form



Please complete this form for Data Analytics Project requests that pertain to the degree-granting schools of Geisinger College of Health Sciences. Once submitted, you will receive an email with a pdf attachment for your records.

The Compliance Department will submit your request to the Data Governance Executive Committee (DGEC) for evaluation. Considerations include:

- Need per regulatory requirements
- Supports Drive to THRIVE strategic priorities
- Operational excellence
- Added value

The DGEC will determine if the request will be handled by staff at GCHS or if the project will be routed to the Geisinger Analytics Team. Based on the above factors and the quantity/scope of projects already in the pipeline, the DGEC will work with the staff/team assigned to complete the project to determine priority level and timeline.

The DGEC will submit a Service Now Request for tracking and/or assignment to the Geisinger Analytics Team.

IMPORTANT NOTE: Throughout this form, if you wish to attach a document, please use links to documents that are stored on SharePoint and make sure that the link is set so that anyone in Geisinger can view.

Next page >

Requestor Information

Requestor Name

Email address

Department / Division

Project Name

Please describe the purpose of the project (what should it accomplish, how will it provide needed information):

Please provide information on the data needed to complete this request; where does it live?; who has access?

If this project must be completed by a specific deadline, please provide the details.

How often would the data/dashboard need to be updated? Monthly, quarterly, etc.?

Who will need to access the completed project / dashboard / data?

Please explain how this project will support operational excellence and/or add value.

If this project is needed to fulfill a regulatory or compliance requirement, please provide details. Include name of regulatory body, specific standard(s), language from the regulation, etc.

Please provide links (SharePoint or web) to any supporting documents.

Please select the applicable Drive to Thrive priorities that this project supports.

- ☐ Education / Provide a uniquely Geisinger education that prepares leaders of tomorrow across the health professions continuum / Fully integrate Health Systems Science into "Geisinger branded" curricula with directed experiential learning elements

- ☐ Education across the health professions continuum / Prepare leaders of tomorrow with differentiated and professional nursing and physician assistant education and professional e-based care for graduates

- ☐ Education / Provide a uniquely Geisinger education that prepares leaders of tomorrow across the health professions continuum / Complete implementation and dissemination of new medical school curriculum focused on delivering a truly differentiated education (both curriculum content and pedagogy). Ensure appreciation of both pathology and prevention, with particular emphasis on rural population health. Evaluate effectiveness in producing physicians ready to excel at Geisinger and elsewhere.

All Strategic Plan priorities are listed.

*Please indicate if your request is complete or if you wish to continue adding details.

Note: Adding details requires that we send you a link so that you can continue to access the form. This link can be shared with others as needed.

- ☐ I'm not done editing this request.
- ☐ This request is complete. Please process.

SUBMIT >

Appendix C

GCSOM Policy on the Use of Generative AI Tools by Medical Students

PURPOSE

This policy establishes guiding principles and standards for ethical and responsible use of and defines acceptable use of generative artificial intelligence (genAI) tools by medical students within the GCHS School of Medicine. The policy clarifies where educational use intersects with policies governing AI use in patient care and research. By adhering to this policy, medical students will ensure their genAI use upholds professionalism standards while respecting Geisinger Health System's AI governance framework in their education endeavors.

The core principles that guide the ethical and responsible use of genAI by students are listed below, adopting tenets of ethics in health care, academic integrity, in conjunction with Geisinger Health System's AI governance framework:

1. **Fairness and Equity:** Strive for fairness and equity in the access to and use of AI, recognizing and mitigating potential inaccuracy and biases in algorithms, data, and outputs where possible.
2. **Privacy and Security:** Protect the privacy and security of patient and other personal data, adhering to relevant regulations and guidelines.
3. **Human Oversight and Collaboration:** Recognize the importance of human oversight in the learning process and clinical practice, using AI to augment human capabilities and promote collaboration.
4. **Academic Integrity and Copyright:** Uphold academic integrity by avoiding plagiarism, properly citing sources, and respecting the copyright of others when using AI-generated content.
5. **Transparency and explainability:** Use and promote AI tools that are transparent and explainable, ready to explain how one arrives at decisions with the tool.

DEFINITIONS

Artificial intelligence (AI): Algorithms and computational systems that learn from data to produce outputs, including predictions, documentation, images and operational decision support. This includes Generative AI, Machine Learning and Logistic Regression algorithms. This does not include static, rules-based algorithms, which operate based on predefined rules rather than learning from data. For instance, a non-AI system process might classify a patient as high-risk if their blood pressure exceeds a certain threshold, but it does not adapt or improve with new data over time.

Generative Artificial Intelligence (genAI): A class of AI systems that generate novel content in the form of data, text, images, sounds, video, or other media which is created based on patterns learned from pre-existing data or content but is not a direct copy of that content.

Academic Work: Any assignment, examination, essay, research paper, patient case write-up, presentation, or other scholarly activity performed as part of the medical school curriculum.

Protected Health Information (PHI): Individually identifiable health information as defined by the Health Insurance Portability and Accountability Act (HIPAA) and relevant privacy regulations. Under no circumstances should PHI be disclosed or processed by non-approved AI systems.

POLICY

Scope

This policy governs the use of genAI for all coursework, clerkships, electives, and institutionally supported activities under the GCSOM MD educational program.

Students must also comply with all privacy, data security, and ethical standards outlined by Geisinger Health System's AI Governance Policy and other relevant policies and directives.

Alignment with Geisinger Health System AI Governance

This policy must be read and applied in conjunction with the Geisinger Artificial Intelligence (AI) Governance Policy. Any AI-related initiative involving clinical data, patient interactions, or broader organizational resources must follow the health system's procedures including, AI risk assessment, equity evaluations, and vendor accountability as outlined in the Governance policy. This includes obtaining approval from the AI Executive Steering Committee where relevant.

Alignment with Research Policies

This policy must also be read and applied in conjunction with relevant policies governing research. Any research activities in which medical students are involved using AI must follow the compliance requirement and research policies, including but not limited to review by an institutional review board.

Background

The integration of artificial intelligence (AI) into health care and medical education represents a transformative change that directly impacts both medical students' learning and their future practice. The School of Medicine recognizes both the potential benefits and inherent risks of generative AI (genAI) in medical education, acknowledging that its long-term impact, policies, and guidelines are likely to evolve.

Section 1. General Use Guideline

1. Course-Level Discretion

- Course directors and clerkship directors have the authority to set more specific guidelines in a syllabus, including the permissible use within the curricular activities specific to the course or clerkship.

2. Strict Prohibition on Entry of PHI and Other Private Information

- Consistent with Geisinger Artificial Intelligence (AI) Governance Policy and GCHS Code of Academic and Professional Integrity, students must never input PHI or other private information

into publicly accessible, web-based genAI tools. Violations of this requirement are considered a severe infraction and can lead to disciplinary action, up to and including dismissal from the institution, as outlined in GCSOM Policy on Academic and Professional Standards.

- Students should not use genAI to create or complete authentic clinical documents, such as history and physical exam notes or patient care documents of real patients, unless required with supervision of faculty in secure approved devices
- Students may use secure, institutionally approved AI platforms for de-identified patient case scenarios for educational purposes, subject to permissible use outlined for the course.

3. Integrity: Responsibility to Verify Output, Maintaining Original Work, Attribution

- All genAI usage must conform to the GCHS Code of Academic and Professional Integrity.
- Students can use genAI tools as a learning tool to clarify concepts, brainstorm ideas, or produce preliminary drafts or outlines for academic projects and not as a replacement for their own knowledge synthesis, reasoning, or self-reflection.
- Students must ensure that all submitted work demonstrates the development of skills and competency expected, such as clinical reasoning, and includes sufficient original content produced by the students as determined by the faculty responsible for the learning activities. Students should not rely exclusively on genAI to produce entire assignments or perform clinical reasoning intended to demonstrate individual competence.
- Students should be aware that genAI outputs can contain inaccuracies. Students are responsible for verifying the information obtained using genAI against credible sources.
- If genAI is used for a submitted assignment, it must be appropriately labeled and attributed clearly and transparently, as specified by the course syllabi.
- When submitting scholarly work for publication or presentation, students must adhere to genAI policies set forth by journals and organizations and disclose when and how the genAI tools have been used.

Section 2. Data Security, Copyright, Third-Party genAI tool

- Use of Geisinger copyrighted material is subject to Geisinger Copyright and other intellectual property policies.
- In general, students are encouraged to use genAI tools endorsed by Geisinger with additional data protection, such as Microsoft 365 Copilot Enterprise version, which does not train its model with user input and output.

- Students should not input copyrighted material such as system or course materials or library journals and resources under contract with the publisher into a third-party genAI platform that uses input and output for commercial use, including but not limited to training the genAI models.
- Students should not input confidential or proprietary information, such as proprietary research projects and confidential data, into third-party AI tools.

Section 3. Equity and Bias Considerations

- Students are responsible for verifying the information obtained using genAI against credible sources and critically evaluating outputs for inaccuracy and biases.
- Students who have concerns that a genAI tool used in official educational activities violates fairness or equity standards beyond known limitation are encouraged to report to the faculty who oversees the activities for appropriate corrective steps, including reporting it to the AI Executive Steering Committee per the Geisinger Artificial Intelligence (AI) Governance Policy.

Section 4. Oversight and Compliance

- The Medical Curriculum Committee will provide general guidance on acceptable genAI use by medical students in the educational program. It will also coordinate with Geisinger's AI Executive Steering Committee for guidance on AI use in patient care and other high-risk use that might require additional oversight.
- If a student's use of genAI extends beyond personal educational use and falls into higher-risk use, including patient care or research, it must conform to Geisinger Artificial Intelligence (AI) Governance Policy and the compliance requirement and research policies, following specified approval and oversight processes.
- Alleged violations of this policy or of course-specific guidelines on AI use will be adjudicated according to the GCHS Code of Academic and Professional Integrity and the GCSOM Policy on Academic and Professional Standards.
- Violations of this policy or the Geisinger Artificial Intelligence (AI) Governance Policy may result in academic consequences, remediation requirements, or disciplinary actions up to and including dismissal from the program.

Section 5. Communication and Review

- Policy Dissemination: This policy—and any subsequent amendments—will be communicated via the learning management system and PolicyManager and direct announcements to the student body, faculty and staff.

- Periodic Review: The Medical Curriculum Committee and its subcommittees, in collaboration with the Geisinger AI Executive Steering Committee, will review this policy regularly, acknowledging the rapidly evolving nature of genAI technology and standards. Revisions will be approved by relevant academic committees to maintain alignment with the Geisinger health system's policy.

Section 6. Resources

- [AAMC Artificial Intelligence and Academic Medicine Hub](#)
- [Principles for the Responsible Use of Artificial Intelligence in and for Medical Education | AAMC](#)
- [International Advisory Committee for AI: Vision and Integration Frameworks](#) (2024)
- [UNESCO Recommendation on the Ethics of Artificial Intelligence](#) (2024 update)
- [American Medical Association: Principles for Augmented Intelligence Development, Deployment, and Use](#) (2023)
- Ethical use of Artificial Intelligence in Health Professional Education: [AMEE Guide No. 158 Ken Masters](#) Mar 2023
- Generative artificial intelligence and ethical considerations in health care: a scoping review and ethics checklist. [Ning et al., Lancet Digital Health, 6\(110\), E848-E856 Nov 2024](#)
- ChatGPT and Generative Artificial Intelligence for Medical Education: Potential Impact and Opportunity. [Scholarly Perspectives. Boscardin et al, Academic Medicine 99\(1\):p 22-27 Jan 2024](#)

Appendix D

Journal/Author Name Generator Search Example

Confidence	Journal	Article Influence ?	Articles
	Academic medicine : journal of the Association of American Medical Colleges Medline-indexed	1.7	Show articles
	JMIR medical education High-quality open access Medline-indexed PMC		Show articles
	American journal of pharmaceutical education Medline-indexed PMC	0.2	Show articles
	BMC medical education High-quality open access Medline-indexed PMC	0.5	Show articles
	Medical education online High-quality open access Medline-indexed PMC	0.5	Show articles
	Medical teacher Medline-indexed	0.9	Show articles
	Therapeutic advances in gastroenterology High-quality open access PMC	1.8	Show articles
	MedEdPublish High-quality open access PMC		Show articles
	Population health management Medline-indexed PMC	0.6	Show articles
	Eur J Dent Educ Medline-indexed	0.3	Show articles
	Teaching and learning in medicine Medline-indexed	0.5	Show articles
	The bone & joint journal Medline-indexed	0.9	Show articles
	Critical care (London, England) High-quality open access Medline-indexed PMC	1.8	Show articles
	Journal of the American Medical Informatics Association : JAMIA Medline-indexed PMC	1.3	Show articles
	BMC palliative care High-quality open access Medline-indexed PMC	0.8	Show articles
	The Medical journal of Australia Medline-indexed	1.2	Show articles
	EClinicalMedicine High-quality open access PMC		Show articles
	The lancet. Diabetes & endocrinology Medline-indexed	7.2	Show articles
	Annals of medicine and surgery (2012) PMC		Show articles
	Farmacia hospitalaria : organo oficial de expresion cientifica de la Sociedad Espanola de Farmacia Hospitalaria High-quality open access		Show articles
	Japanese journal of radiology Medline-indexed	0.3	Show articles
	Cureus PMC		Show articles
	BMJ health & care informatics High-quality open access PMC		Show articles
	Frontiers in veterinary science High-quality open access PMC		Show articles
	Medical science educator PMC		Show articles
	Current opinion in psychology		Show articles
	International journal of environmental research and public health Medline-indexed PMC	0.7	Show articles
	Acta radiologica (Stockholm, Sweden : 1987) Medline-indexed	0.5	Show articles
	Journal of clinical medicine PMC		Show articles
	GMS journal for medical education High-quality open access Medline-indexed PMC		Show articles
	Journal of the College of Physicians and Surgeons--Pakistan : JCPSP Medline-indexed	0.1	Show articles

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