AI Ethics and Acceptance

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Ethical concerns related to the use and acceptance of AI have emerged under the umbrella of responsible AI development, including development in the biomedical domain. Several issues should be considered when working with AI in the biomedical domain: 1) ethical use of the data using appropriate privacy and security measures; 2) minimizing the risk of bias by adopting best practices on all aspects of data collection and model design; 3) evaluating and enabling trust and acceptance by patients and users of AI through transparent and responsible design. The provision of training and consultancy services is aimed at addressing these challenges.

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Overview, Status, and Key Results: The team reviewed existing ethics training materials and selected the World Health Organization (WHO) training for Ethics and Governance of Artificial Intelligence for Health (https://openwho.org/courses/ethics-ai). The training takes between three and four hours to complete. The team disseminated information on the importance of completing the training, accessing the training, and instructions for submitting the completion certificates. To date, 47 participants have completed the ethics training. The team will ensure that new members of the ADAPT in SC team complete the training during the first month after joining the project.

The AI Ethics and Acceptance team was successful in hiring a graduate student at Clemson and a postdoctoral fellow at MUSC. The team is currently working on a scoping review of the literature on AI in the biomedical domain to help inform the development of surveys.

The AI Ethics and Acceptance team is currently developing a consultancy service to guide ADAPT in SC researchers on responsible and ethical design of AI tools. A form has been developed and is being evaluated to ensure easy access to the service and promote utilization by the research community. The consultancy will address 1) Ethical use of biomedical data, 2) Minimizing bias through ensuring adequate representation during data collection and careful assessment of model outcomes, 3) Enabling responsible and transparent design through adequate interpretability, explainability and documentation of models and their output, and 4) Assistance in the evaluation of acceptance of AI in the biomedical domain. Preliminary work has begun in developing a biomedical AI ethics framework, as shown in Figure 2.

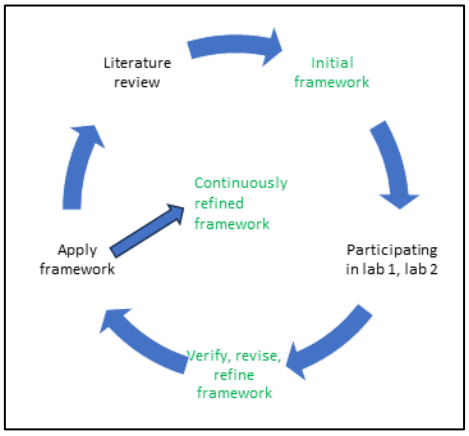

Figure 2. Biomedical AI ethics framework development workflow

Relevance/Significance of work: Given the impact of biomedical AI on healthcare, the resolution of ethical issues and acceptance of AI have emerged as major issues in the trustworthiness of AI. Our activities will enable increased understanding of ethical issues in biomedical AI product development and an increased understanding of (1) clinicians' and patients' perceptions of ethical issues in AI biomedical use, (2) factors that relate to

these perceptions, and (3) major challenges to enhancing biomedical AI trustworthiness, acceptability, and adoption.