

correlation coefficients showed significant positive relationship between factors like obesity and diabetes, median age and access to health care, and negative relationship between obesity and foreign born. Income, healthcare access, and white population were found to be significantly different SVIs from ANOVA. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This research study found that some SDoH affect diabetes and obesity in the same direction. The association is positive for median age and negative for income, SVI, percentage of white population, and foreign born. The associations were found between actionable and non-actionable factors like percentage of white population with access to health care.

378

### **Leveraging large language models to communicate translational science benefits at Weill Cornell Medicine Clinical and Translational Science Center**

Michael Bales<sup>1</sup>, EA Wood<sup>2</sup>, Sigaras A<sup>3</sup>, E Campion Sholle<sup>4</sup>, TR Jr<sup>2</sup> and J Imperato-McGinley<sup>2</sup>

<sup>1</sup>Weill Cornell Medicine; <sup>2</sup>Weill Cornell Clinical and Translational Science Center, New York, NY, USA; <sup>3</sup>AI-XR Lab, Weill Cornell Medicine, New York, NY, USA; Institute for Computational Biomedicine, Weill Cornell Medicine, New York, NY, USA; Caryl and Israel Englander Institute for Precision Medicine, Weill Cornell Medicine, New York, NY, USA and <sup>4</sup>Department of Information Technologies & Services, Weill Cornell Medical College, New York, New York; Division of Health Informatics, Department of Population Health Sciences, Weill Cornell Medical College, New York, New York

**OBJECTIVES/GOALS:** This Weill Cornell Clinical and Translational Science Collaborative (CTSC) project evaluates whether large language models (LLMs) can generate accurate summaries of translational science benefits using the Translational Science Benefits Model (TSBM) framework, aiming to identify optimal LLMs and prompting strategies via expert review. **METHODS/STUDY POPULATION:** We are using prompt engineering to train multiple LLMs to generate one-page impact profiles based on the TSBM framework. LLMs will be selected via benchmarks, focusing on models excelling in information extraction. Leading LLMs (e.g., Llama 3.2, ChatGPT 4.0, Gemini 1.5 Pro, and Claude) and other high-performing models will be considered. Initial work has utilized Gemini 1.5 Pro. Models use data from CTSC-supported projects in WebCAMP, our local instantiation of a translational research activity tracking system used by >20 CTSA hubs, and manuscripts from the Overton database cited in policy documents. Human experts will evaluate the quality and accuracy of LLM-generated profiles. **RESULTS/ANTICIPATED RESULTS:** Preliminary results using Gemini 1.5 Pro indicate that LLMs can generate coherent and informative impact profiles encompassing diverse areas within the TSBM. Face validity appears satisfactory, suggesting the outputs align with expectations. We anticipate that further exploration with other LLMs and expert validation will reveal strengths and weaknesses of the LLM approach, including the potential for hallucinations, informing further refinement of models and prompting strategies. Analysis of manuscripts cited in policy will provide valuable insights into communicating policy-relevant benefits effectively, and benchmark comparisons will identify optimal LLMs for this use case. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This project demonstrates LLMs' potential for

streamlining and enhancing impact reporting in translational science, enabling broader dissemination of research outcomes and promoting better understanding among stakeholders. Future work will integrate LLM-based reporting into research infrastructure.

379

### **Using the Delphi method to strategize about health AI**

Whitney Welsh and Shelley Rusincovitch

Duke University

**OBJECTIVES/GOALS:** Our goal was to determine whether a consensus exists around 1) what the main barriers to innovation in Health artificial intelligence (AI) are 2) where there are gaps in education and training in Health AI and 3) where in their workflows organizations should implement AI to see the most immediate impact on productivity. **METHODS/STUDY POPULATION:** We employed a three-round Delphi method survey to stakeholders with health and/or engineering expertise. The first round was open-ended to generate responses to the three research questions. The second round asked participants to rank the responses and provide feedback as to their reasoning. The third round provided aggregated results and feedback and asked participants to re-rank the responses. Participants were attendees at a conference that brought people with health and/or engineering backgrounds together to discuss innovation in Health AI. 55 people in total participated across the three rounds. **RESULTS/ANTICIPATED RESULTS:** Consensus emerged on all three questions: lack of trust was seen as the single greatest barrier to innovation, experience with implementation as the greatest gap in training, and automating health documentation as the point of most immediate impact. Consensus also emerged as to which of the 10–15 responses to each question were top priorities, which were somewhat significant, and which were not that important. Some of the rankings (such as implementation) seemed to reflect hot topics of discussion at the conference, but others (such as documentation) only emerged as significant in the surveys. **DISCUSSION/SIGNIFICANCE OF IMPACT:** We successfully employed the Delphi method to discover what stakeholders think about three important questions in Health AI. Interestingly, although we polled experts from both health and engineering backgrounds, their answers converged on all three questions.

380

### **National trends in interventional clinical trial participation by race, gender, and age: Insights from EHR data on over 130 million patients**

Sarah Fry<sup>1</sup>, Sarah E. Fry<sup>2</sup>, Pauline Terebuh<sup>2</sup>, Pamela B. Davis<sup>2</sup>, Lara Jehi<sup>3</sup>, Yasir Tarabichi<sup>4</sup> and David C. Kaelber<sup>4</sup>

<sup>1</sup>Case Western Reserve University School of Medicine; <sup>2</sup>Case Western Reserve University School of Medicine, Cleveland, OH;

<sup>3</sup>Cleveland Clinic Foundation, Cleveland, OH and <sup>4</sup>Metrohealth Medical Center Cleveland, OH

**OBJECTIVES/GOALS:** To investigate interventional clinical trial participation overall and by race, gender, and age. **METHODS/STUDY POPULATION:** We used Epic Cosmos, an aggregated, de-identified EHR platform including over 270 million patients, to examine overall clinical trial participation and the race, gender,