

(100%) to recommend a friend to attend this type of event. When asked what they liked most about the event, they indicated that the programming was “insightful, and “inspiring” for seeing beyond their current trainee responsibilities. They valued the responsiveness to questions, sharing experiences, and mentoring for career advancement. They especially liked the tours at the HGCTF and the session with the front-line nurses. Changes for the future will include timing and length, information on graduate programs and more student interactions. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Overall, our first educational session was very well-received by both trainees and staff involved as stakeholders. Due to the success of this inaugural event, we intend to continue to draw on the expertise of this collaboration and use a similar blueprint for future events and scientific sessions.

## Evaluation

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### The impact of preoperative glucagon-like peptide-1 receptor agonists (GLP1) utilization on bariatric surgery outcomes

Tarik Yuce<sup>1</sup>, Qais AbuHasan<sup>2</sup>, Daniel E Kpormegbey<sup>3</sup>, Luke M Funk<sup>4</sup>, David B Allison<sup>3</sup>, Jane L Holl MD, MPH<sup>2,5</sup> and Dimitrios Stefanidis<sup>2</sup>

<sup>1</sup>Indiana University School of Medicine; <sup>2</sup>Department of Surgery, Indiana University School of Medicine, Indianapolis, IN; <sup>3</sup>School of Public Health, Indiana University, Bloomington, IN; <sup>4</sup>Department of Surgery, University of Wisconsin, Madison, WI and <sup>5</sup>Department of Neurology and Center for Healthcare Delivery and Science Innovation, University of Chicago, Chicago, IL

**OBJECTIVES/GOALS:** Glucagon-like peptide-1 (GLP1) use prior to bariatric surgery may represent a novel approach to treating obesity. The objectives of this study were to describe trends in pre-bariatric GLP1 use, investigate social and clinical factors associated with their use, and evaluate differences in clinical outcomes based on preoperative GLP1 use. **METHODS/STUDY POPULATION:** Patients who underwent bariatric surgery at three Indiana hospitals from 2018 to 2023 were identified. Patients who utilized GLP1 in the year preceding surgery were compared to those who did not. Social determinants of health included insurance, income, and unemployment. Outcomes included rates of GLP1 use, 30-day postoperative readmissions, ED visits, and percent total weight lost (%TWL) at one year. Associations between preoperative GLP1 use and outcomes of interest were evaluated using multivariable logistic and linear regressions. **RESULTS/ANTICIPATED RESULTS:** Of 2,169 patients who underwent surgery, 293 (13.5%) utilized GLP1 preoperatively. The rate of GLP1 utilization increased threefold from 2018 to 2023. Males were more likely to receive preoperative GLP1 (20.1% vs, 12.2%,  $p < 0.001$ ). There were no significant differences in social determinants of health or 30-day postoperative outcomes between patients who did and did not use GLP1 preoperatively. Similarly, there were no significant differences in %TWL at one year postoperatively between groups (median 25.5% vs. 27.3%, coefficient: -0.78, 95%CI: -2.26–0.70). **DISCUSSION/SIGNIFICANCE OF IMPACT:** Utilization of GLP1 in the year prior to bariatric surgery has significantly increased. Preoperative GLP1 use is not associated with worse 30-day outcomes or differences in %TWL at one year postoperatively. Further work is needed to evaluate whether GLP1 dosing and duration of treatment impact postoperative outcomes.

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### Retrospective comparative analysis of prostate cancer in-basket messages: Responses from closed-domain LLM vs. clinical teams

Yuxing Hao, Jason M. Holmes, Jared Hobson, Alexandra Bennett, Daniel K. Ebner, Mark R. Waddle and Wei Liu

Mayo Clinic

**OBJECTIVES/GOALS:** Our study's objective is to evaluate RadOnc-GPT, a GPT-4o powered LLM, in generating responses to in-basket messages related to prostate cancer treatment in the Radiation Oncology department. By integrating it with electronic health record (EHR) systems, the goal is to assess its impact on clinician workload, response quality, and efficiency in healthcare communication. **METHODS/STUDY POPULATION:** RadOnc-GPT was integrated with patient EHRs from both hospital-wide and radiation-oncology-specific databases. The study examined 158 pre-recorded in-basket message interactions from 90 non-metastatic prostate cancer patients. Quantitative natural language processing analysis and two randomized single-blinded grading studies, involving four clinicians and four nurses, were conducted to evaluate RadOnc-GPT's response quality in completeness, correctness, clarity, empathy, and estimated editing time. Response times were measured to estimate the time saved for clinicians and nurses. The study population included patient messages across all phases of care (pre-, during, and post-treatment) for those undergoing radiotherapy. **RESULTS/ANTICIPATED RESULTS:** In the single-blinded grader study, clinician graders evaluated 316 responses (158 from human care teams and 158 from RadOnc-GPT). Results showed RadOnc-GPT outperformed human responses in empathy and clarity, while humans excelled in completeness and correctness. Sentiment analyses using TextBlob and VADER revealed RadOnc-GPT responses had a positive mean score of 0.25, whereas human responses clustered around neutral. VADER analysis indicated a high median score for RadOnc-GPT, nearing 1.0, reflecting predominantly positive sentiment, while human responses displayed a broader sentiment range, indicating sensitivity to context. Clinicians averaged 3.60 minutes (SD 1.44) to respond, compared to 6.39 minutes (SD 4.05) for nurses, highlighting RadOnc-GPT's efficiency in generating timely responses. **DISCUSSION/SIGNIFICANCE OF IMPACT:** RadOnc-GPT effectively generated responses to individualized patient in-basket messages, comparable to those from radiation oncologists and nurses. While human oversight is still necessary to avoid errors, RadOnc-GPT can speed up response times and reduce pressure on care teams, shifting their role from drafting to reviewing responses.

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### Evaluating the implementation of a research best practices training for community health workers and promotoras

Alexandra Harper<sup>1</sup>, Analay Perez<sup>2</sup>, Gina M. Jay<sup>3</sup>, Linda B. Cottler<sup>4</sup>, Sergio Aguilar-Gaxiola<sup>5</sup>, Davis and Susan L. Murphy<sup>6</sup>

<sup>1</sup>University of Michigan, Michigan Institute for Clinical & Health Research; <sup>2</sup>Department of Family Medicine, University of Michigan; <sup>3</sup>Department of Physical Medicine and Rehabilitation, University of Michigan; <sup>4</sup>Department of Epidemiology, College of Public Health and Health Professions and College of Medicine, University of Florida; <sup>5</sup>Department of Internal Medicine, Center for Reducing Health Disparities and Clinical and Translational Science Center, University of California and <sup>6</sup>Michigan Institute for Clinical & Health