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ABSTRACT SPOTLIGHT

Clinical Practice Committee - Evidence Based Medicine Subcommittee

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Large Language Models

Schaye (PS3: 4238523) described the development of an artificial intelligence (AI)-based diagnostic feedback system for venous thromboembolic events (VTE). That was aimed at internal medicine residents. They analyzed discrepancies between initial admission notes and final diagnoses confirmed via imaging or ICD-10 codes in order to identify missed diagnostic opportunities (MODs). The AI model demonstrated a note prompt accuracy at 98% and imaging accuracy between 97–99.7%. In a retrospective dataset of over 10,000 admissions, 63 potential MDOs were identified, of which 17 were confirmed after expert review, while others were in-hospital complications or false positives.

Lee (PS2: 4258125) evaluated 201 generative artificial intelligence (GenAI) draft replies to real patient messages using two human raters. The GenAI drafts performed well in building rapport and enabling next steps, but frequently fell short in delivering accurate information, particularly by failing to address patients' informational needs, making incorrect assumptions, or providing wrong information. Usability assessments showed that 45% of clerical and 57% of general message drafts were usable, though most required substantial editing, especially for general messages. Ultimately, while GenAI shows promise but its limited performance in cognitively demanding communication tasks highlights the need for further refinement to truly benefit clinical practice.

Chae (PS4: 4270747) explored the benefits and concerns of artificial intelligence (AI) in the care of older adults by conducting semi-structured interviews with 49 stakeholders, including older adults, caregivers, clinicians, payers, investors, and technology developers. Overall, stakeholders expressed positive views on AI’s potential to enhance care by improving efficiency, reducing burden, preventing adverse events, and meeting unmet needs. However, they also voiced concerns such as the risk of increased social isolation, reinforcement of ageist biases, and the high cost of implementation.

Alpert (PS2: 4257999) evaluated the real-world impact of an artificial intelligence (AI) scribe on primary care physicians’ documentation burden, burnout, and EHR use. Ten physicians used the AI scribe for a median of 61 patient encounters. There was a significant reduction in characters typed but no significant changes in other outcomes like burnout or time spent in the EHR. Physicians who used the scribe more frequently reported reduced mental and physical demand. Interview feedback highlighted benefits such as improved focus on patients, increased ease with practice, and high transcription accuracy, while barriers included technological adaptation, workflow misalignment, and inefficiency with complex visits.

Rotenstein (PS2: 4271523) reported early findings from the Ambient Clinical Documentation Collaborative, which evaluated AI-powered scribes across nine U.S. healthcare organizations that used the Epic EHR systems. The AI scribes were primarily deployed in outpatient settings. The initial results

demonstrated modest reductions in clinicians' documentation time and small increases in same-day chart closures. Implementation strategies varied by site, vendor, and clinician setting, highlighting the diversity in deployment. Overall, early data indicate that AI scribes may help reduce EHR burden, but further analyses are underway to confirm broader impacts across clinician demographics and usage patterns.

The above summaries benefited from the assistance of ChatGPT 4o.

Glucagon-like Peptide-1 (GLP-1) and Sodium-Glucose Co-Transporter 2 Inhibitors (SGLT2-I)

Chen (PS2; 4224504), in an observational cohort designed to reduce clinical therapeutic inertia for veterans with diabetes mellitus type II (HBA1c >9%; N= 103), participants were assigned to receive care from a clinical pharmacist practitioner and endocrinologist appropriately prescribing GLP-1 and SGLT2 medications. Participants were monitored over a 12-month period and demonstrated improved HbA1c levels at baseline (HbA1c 10.78% +/- 1.53), 6 months (8.8% +/- 1.68) and 12 months (HbA1c 8.16% +/- 1.59) after initiating pharmacy and endocrinology care. SGLT-2 and GLP-1 inhibitor use increased significantly in patients with cardiovascular disease and in those with both cardiovascular disease and obesity, respectively.

Gasoyan (PS5; 4272115), in a cross-sectional cohort from the All of Us research program database, identified socioeconomic and clinical factors associated with the receipt of an anti-obesity medication in adults with BMI >27 and at least one obesity related comorbidity were identified. Use of naltrexone-bupropion, orlistat, phentermine-topiramate, liraglutide, and semaglutide within 1 year of a qualifying BMI measurement were included. Results demonstrated 1% of eligible patients with obesity or overweight had a prescription within 1 year of a qualifying BMI. Lower rates of anti-obesity medication prescribing were seen in specific subgroups: those with higher levels of disadvantage measured by the Area Deprivation Index (ADI) [ADI 4th quintile (vs. ADI 1st quintile, aOR 0.79, 95% CI, 0.64-0.97) and ADI 5th quintile (vs. ADI 1st quintile, aOR=0.67, 95% CI, 0.51-0.87)], insured by Medicaid [vs. private insurance, aOR=0.78, 95% CI, 0.61-0.99)], a BMI of 27-30 kg/m2 (vs. ≥40, aOR=0.20, 95% CI, 0.07-0.58), and no high school education (vs. college degree, aOR=0.53, 95% CI, 0.36-0.79).

Essien (PS3; 4273283), in a subset of a national sample of Medicare Advantage enrollees with diabetes mellitus type II (n= 595,296), adherence, measured in part D claims as the proportion of days covering >80% of prescription costs, for lower (metformin, insulin) and higher (GLP-1s, SGLT2-Is) was examined. Across all Medicare Advantage plans, there were a number of racial disparities seen among both lower and higher cost medications. These included prescriptions for metformin and insulin (9.4% difference between black and white race) and GLP-1s or SGLT- Is (9% difference between black and white race; 8.5% difference between Hispanic and non-Hispanic ethnicity, white race). Within Medicare Advantage plan differences between black and white race accounted for the majority of the difference seen for lower cost medications (95.5%; metformin and insulin) and higher cost medications (82%; SGLT2-Is and GLP-1s). Also, within Medicare Advantage plan differences between Hispanic and non-Hispanic ethnicity, white race accounted for the majority of the difference seen for lower cost medications (92%) and higher cost medications (71%).