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“Thinking versus Doing: Cognitive capacity, decision making and medical diagnosis”

Abstract: We study how situational fluctuations in cognitive capacity shape behavior in high-stakes, real-time decision-making. Drawing on recent advances in behavioral economics that revolve around inattention, cognition and complexity, we show that cognitive load influences how physicians in emergency departments allocate mental effort, attention, and make diagnostic and treatment decisions. We use quasi-random variation in patient-physician pairings, along with granular electronic medical record and audit-log data from many clinical interactions, to show that, under higher cognitive load, physicians substitute mental deliberation with more numerous but less precise diagnostic actions. Specifically, we document that higher load (i) increases the total number of orders of diagnostic tests (ii) reduces the use of more precise and less common tests (iii) increases the use of common tests and (iv) reduces the use of uncommon tests and (v) increases uncertainty in diagnostic beliefs. We show that cognitive load impacts downstream inpatient admission from the emergency department: a physician in the highest cognitive load decile increases admissions by 28% relative to the same physician in the lowest cognitive load decile, for the exact same kind of patient. We also explore implications for policy, including how patient-physician matching might be improved by accounting for cognitive load profiles. These results offer novel field-based evidence on the dynamics of attention and belief formation, and shed light on how cognitive constraints shape diagnostic behavior in complex, real-world environments.