Tracking symptoms: New tool helps providers identify underlying causes

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An easy to use, brief, inexpensive new tool developed and validated by researchers at the Regenstrief Institute and Indiana University will help healthcare providers track and potentially identify early onset of more complex, serious underlying issues that could otherwise go undetected.

The tool tracks symptoms such as pain, fatigue, sleep disturbance, memory problems, anxiety and depression in older adults enabling clinicians to provide better care for the diseases potentially causing the symptoms. "Pain, fatigue, sleep disturbance, anxiety and depression are not specific to any one disease and account for more than half of all primary care visits", says co-author Kurt Kroenke, M.D., a research scientist at the Regenstrief Institute, and a professor of medicine at the Indiana University School of Medicine. In older adults, these symptoms, as well as memory problems, often appear in clusters as a result of multiple chronic conditions and can gravely impact quality of life.

The novel tool, called SymTrak, is designed to take stock of these symptoms. Patrick O. Monahan, Ph.D., the principal investigator on the SymTrak study, is a Regenstrief Institute affiliated scientist, and a professor of biostatistics at the Indiana University School of Medicine. He created SymTrak with a team of experts in symptoms and chronic conditions, to be a fast, easily-scored means to assess patient symptoms—and to be reliable both when completed by the patient or by an accompanying caregiver.

"There was no existing tool in primary care for tracking symptoms

relevant for multiple [chronic conditions](link) that satisfied several clinical needs, which our tool does," says Dr. Monahan. "It is clinically practical, covers multiple domains, isn't specific to one disease, and focuses on clinically actionable symptoms."

In creating the SymTrak questionnaire, Dr. Monahan and his team conducted several separate focus groups of patients, caregivers and providers to determine questions, domains and response options to be included in the tool. Clinical care assistants, patients and caregivers also participated in personal interviews, which allowed researchers to improve the tool's language and clarity.

To validate the tool, Dr. Monahan and team recruited 600 individuals—200 patient/caregiver pairs and 200 patients without identified caregivers—and conducted assessments during a baseline period and again three months later. The SymTrak tool drew upon strengths of existing questionnaires such as the PHQ-9, GAD-7, and PHQ-15, as well as PROMIS and the HABC-Monitor.

The PHQ-9, GAD-7, and PHQ-15 were developed and validated by different teams led by Dr. Kroenke and serve to assess depression, anxiety, and somatic symptoms, respectively.

Dr. Monahan and team believe the SymTrak tool shows promise for use both in clinical and research settings. Its sensitivity to change in quality of life can be a good barometer for the efficacy of treatments, and its brevity is promising for integration into clinical workflows.

"The SymTrak's multifunctional and practical ability to monitor the burden of symptoms among [patients](link) with multiple comorbidities is the building block for developing next generation population health management," says co-author Malaz Boustani, M.D., MPH of the Regenstrief Institute. Dr. Boustani is also the Richard M. Fairbanks

professor in aging aesearch at the Indiana University School of Medicine.

"Development and Feasibility of SymTrak, a Multi-domain Tool for Monitoring Symptoms of Older Adults in Primary Care" and "Reliability and Validity of SymTrak, a Multi-Domain Tool for Monitoring Symptoms of Older Adults with Multiple Chronic Conditions" have been published in the *Journal of General Internal Medicine*.

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