

# Analysis shows stress on clinicians can be effectively measured

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It's no surprise that being a physician is a very stressful job and carries a lot of responsibility with it.

But two new studies from researchers at the University of Cincinnati (UC) indicate that the stressors arising from work in the clinic, where physicians are seeing patients one-on-one, can effectively be measured with hopes of improving patient care and physician job satisfaction.

Ronnie Horner, PhD, and C. Jeff Jacobson, PhD, both researchers in the department of public health sciences, say their studies, published in online editions of the journal *Medical Care* on Oct. 29 and Nov. 9, showed that certain known measurement tools for assessing non-clinical work intensity can also be used to determine physician work intensity in clinical settings.

"Work intensity for physicians during office-based patient care affects quality of care and patient safety as well as [job satisfaction](#) and reimbursement," says Horner. "There are existing intensity measures that have been used in previous studies of the work environment, but their validity in a clinical office setting hasn't been established."

Horner, Jerzy Szaflarski, MD, PhD, a researcher in the department of neurology and co-author on Horner's study, and Jacobson studied two main instruments: the NASA-Task Load Index (NASA-TLX) and the Subjective Workload Assessment Technique (SWAT).

For Jacobson's study, researchers used interviews and direct observations to obtain data.

"We wanted to document and describe subjective and observable work intensity dimensions for physicians in office-based clinical settings and examine them in relation to the measurement procedures and dimensions of the SWAT and NASA-TLX intensity measures," he says.

The study included 19 doctors—five family physicians, five general internists, five neurologists and four surgeons. Each physician was asked to describe low- and high-intensity work responsibilities, patients and events.

To document time, physicians were observed during a routine workday. Notes and transcript data were analyzed to identify and classify different aspects of work intensity.

"We found that work intensity factors identified by physicians matched dimensions assessed by standard instruments of work intensity. Physicians also reported work intensity factors outside of the direct patient encounter," Jacobson says, adding that across specialties, physician time spent in direct contact with patients averaged 61 percent for office-based services.

"Therefore, brief work intensity measures such as the SWAT and NASA-TLX can be used to assess work intensity in the office-based clinical setting," he says. "However, because these measures define the physician work 'task' in terms of effort in the presence of the patient, substantial physician effort dedicated to pre- and post-service activities is not included in these findings."

For Horner's and Szaflarski's study, the researchers used the NASA-TLX, SWAT and the Multiple Resources Questionnaire (MRQ) to

measure perceived clinical work intensity associated with a given patient visit and for an entire half-day clinic; stress was measured by using the Dundee Stress State Questionnaire (DSSQ). Validity in the measurements was assessed by the correlation of the tools.

Fourteen providers from the same specialties—family medicine, internal medicine, neurology and surgery—were observed and assessed.

Researchers found that for the last patient encounter, there was a moderate to high correlation between the work intensity instruments' scores and low to moderate correlation with the distress subscale of the DSSQ.

"Provider personality was associated with reported levels of work intensity and stress," Horner says. "Similar results were obtained when the entire clinic session was our reference.

"Therefore, existing measures of work intensity and stress appear to be valid for use in the clinical setting to generate evidence on perceived intensity and stress experienced by providers in the performance of medical services."

Both Jacobson and Horner say more studies are needed to see if these measurements produce the same results or if the definition of measured tasks needs to be adapted to include the wider effort associated with complete patient care.

"If confirmed in larger studies, these instruments will provide a way of generating comparable information regarding the level of work intensity and stress associated with the performance of various medical services," says Horner. "In turn, such information could help improve health care delivery, such as improved efficiency in practice organization and management.

"Improved delivery is anticipated to yield higher quality of care and greater patient safety. The new information may also guide the establishment of [physician](#) incentives that will be proportional to actual work performed."

Provided by University of Cincinnati Academic Health Center

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