

# Medical consultation via mobile app lowers costs and delays for arthritis patients

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Researchers in China have developed a new online consultation tool for rheumatic disease patients, which may strengthen the interaction between doctors and patients and lead to more efficient management of chronic illness, according to new research findings presented this week at the 2017 ACR/ARHP Annual Meeting in San Diego.

In China, patients may choose any hospital or doctor they like for medical care, but people with [rheumatic diseases](#) often seek care in large cities where the majority of rheumatologists are located. To improve care management among these patients, researchers at multiple institutions in China collaborated to develop the Smart System of Disease Management (SSDM), a series of applications based on clinical data, and a system that includes online consultation via a mobile app.

"In China, there are over 100 million people suffering from rheumatic disease. These patients seek medical services in a hospital regularly. However, only 5,000 rheumatologists are available across the country, and most of them only practice in the top-tier hospitals in major cities," said Fei Xiao, MD, Chief Executive Officer of Cinkate Corporation and a lead author of the study. "Most arthritis patients in China must travel long distances to seek rheumatologic care at a hospital, and must stay in nearby hotels and endure long waits for a visit with the clinician," he added. "It is not uncommon for most Chinese rheumatologists to have to see up to 60 to 100 patients daily. Because of the large volume of patients who go to major hospitals for regular clinical care, physicians may only spend three minutes on average with each patient. This limits

the time to do objective disease activity evaluations."

Previous research indicates that rheumatoid arthritis (RA) patients trained to use SSDM were able to perform self-management afterward, including disease activity scoring of 28 joints (DAS28) and health assessment questionnaire (HAQ) evaluations and medication and lab test data entry. The aim of this study was to evaluate the economic feasibility and medical benefits of using SSDM for online consultation with a [rheumatologist](#).

From February 2015 to June 2017, 403 rheumatologists supplied 4,002 patients with RA, lupus, ankylosing spondylitis, gout, osteoarthritis, Sjögren's syndrome and other rheumatic diseases with 293 free and 3,709 paid consultations. Consulting fees ranged from RMB 10 to 500 yuan, which matched those found in hospitals in the region.

The rheumatologists implemented the education and training programs on these patients using SSDM and assisted the patients in downloading the mobile application. SSDM includes a doctor/patient interface. The patient's terminal system includes self-assessment with DAS28 and HAQ, medication management, adverse events management and laboratory records. After data entry is complete, patients may submit the data to their authorized doctor. On the basis of the data, rheumatologists may accept the request from their follow-up patients, and consult via text or voice through SSDM.

The total fees collected for consultations in the study was 477,960 yuan RMB, and 35.3 percent of patients who received online consultations lived in a different city from the rheumatologists. If these patients sought care at a hospital, in addition to registration fees and medical expenses, the average cost of transportation, accommodations, meals and lost wages was 200 to 2,800 yuan. The total cost for all the patients would have been 3,157,220 yuan RMB, which is 6.61 times higher than

the cost of the online consultation and a savings of 84.86 percent for the patients.

The researchers also surveyed the patients to determine their satisfaction with SSDM, and found that 66.35 percent reported their experience with online consultation as "very satisfying."

"SSDM inspires a paradigm shift in medical care for chronic disease through empowering the patient. Through a one-time training, [patients](#) can input data regularly to effectively follow their progress," said Dr. Xiao. "Access to this online program also helps physicians to mine and analyze data for scientific research and publication. Based on the trajectory and real-time data, such as [disease activity](#) score, lab results, medication and patient's symptoms, physicians are able to take proactive interventions, and turn passive practice into outcome-driven care. This model can be replicated into the other disciplines and fields of chronic disease."

Provided by American College of Rheumatology

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