

## **Use of simulation in solving outpatient clinic problems: a review of the literature**

### **Abstract**

The increasing demand for outpatient services has led to overcrowded clinics, long waiting times for patients, and extended staff working hours in outpatient clinics. Simulation tools have been used to ameliorate deficiencies in the appointment system, resource allocation, and patient flow management that are the root causes of these problems. Integrated studies that considered these three factors together produced better results than attempts to resolve individual causes. While simulation has proved to be an effective problem-solving tool for outpatient clinic management, there is still room for improvement. This paper reviews studies over the past 50 years that have applied management simulation to resolve outpatient clinic problems.

**Keyword:** Simulation; Outpatient clinic; Scheduling; Resources allocation; Review