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Incorporating discrete event simulation into quality improvement efforts in health care systems.

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ABSTRACT: Quality improvement (QI) efforts are an indispensable aspect of health care delivery, particularly in an environment of increasing financial and regulatory pressures. The ability to test predictions of proposed changes to flow, policy, staffing, and other process-level changes using discrete event simulation (DES) has shown significant promise and is well reported in the literature. This article describes how to incorporate DES into QI departments and programs in order to support QI efforts, develop high-fidelity simulation models, conduct experiments, make recommendations, and support adoption of results. The authors describe how DES-enabled QI teams can partner with clinical services and administration to plan, conduct, and sustain QI investigations.

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