

## **Data-driven optimization of appointment scheduling in oncology day treatment centers**

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This research develops data-driven methods for oncology appointment scheduling using data from a case study in an outpatient oncology day treatment center. We address two interrelated decision levels. At the tactical level, we analyze historical data to design appointment templates that reflect observed demand patterns, treatment-duration heterogeneity, and limited resource capacity. At the operational level, we study online booking policies, ranging from simple assignment rules to optimization-based approaches, for assigning patients to available day-time slots as requests arrive over time. The objective is to investigate how data can support these decisions in an integrated way and to develop decision-support methods that improve access, resource utilization, and the overall effectiveness of chemotherapy scheduling in practice.