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## Improving type 2 diabetes care at network level: Can differences in health service structures and processes explain differences in outcomes

**Mahdi Mahdavi**

Erasmus University, Netherland

**Background & Aim:** While health service provisioning for type 2 diabetes (T2D) often involves a network of organizations and professionals, most evidence on the relationships between the structures and processes of service provisioning and the outcomes considers single organizations or solo practitioners. Extending the Donabedian's Structure-Process-Outcome (SPO) model, we designed a framework for a systematic operational modeling and analysis of healthcare provider networks. Using the frame work we illustrate how differences in quality of life, effective coverage of diabetes and service satisfaction can be explained with differences in the structures, processes and context of T2D regional provider networks.

**Methods:** The design of present study built on the systematic modeling of provider network's structures and processes and a cross-sectional survey of patient reported outcomes. Using analysis approaches we examined the joint effects of structure and process on outcomes (i.e. quality of life and service satisfaction) and mediating effects of structure on the relationships between processes and outcomes. We furthermore estimated independent cumulative proportion of variance in outcomes that can be related to differences in context, structure and process.

**Results & Conclusion:** While the selected structure and process variables explain much of the variance in service satisfaction, this is less the case for quality of life. Moreover, it appears that the effect of the clinical outcome A1c control on processes is stronger than the other way around, as poorer control seems to relate to more service use and higher cost. The standardized operational models used in this research prove to form a basis for expanding the network level evidence base for effective T2D service provisioning.

mahdavi@eshpm.eur.nl