# **Abstract**

# **Background**

Primary care is becoming more complex and challenging due to factors such as a daily practice that is increasingly focused on treating patients with chronic conditions and multimorbidity. Particularly these patients demand more patient-centered care. From the patient's perspective not merely the disease, but rather the impact of disease and treatment on daily life is important. However, clinicians traditionally have a stronger focus on the diagnosis and symptoms, whereas patients focus more on the complete range of "health status". In this context, health status characterise the range of manifestation of diseases. The discrepancy between actual and desired functional capacity is described as health related quality of life (HRQoL). In the last years, HRQoL has gained increased attention as a patient-centered outcome. A strong patient-centered view on health care is also integral too of new concepts like the Chronic Care Model (CCM) or Guided Care, which offer frameworks for the advancement of primary care. To strengthen the role of general practitioners (GP) in coordination of care is a major goal of such concepts. Continuity is especially important e.g. in overseeing medication management for patients with chronic conditions.

At the time when my work in this habilitation project began, approaches like GP-coordinated health care contracts [Hausarztzentrierte Versorgung] (HZV), were yet to be established in Germany. However, elements of CCM are applied in the German disease management programs (DMP). Less formally structured, but equally important in chronic care, is secondary prevention. Primary care as a bridge between personal health care and community health care plays a crucial role in this context. A substantial part of prevention and chronic care is delivered in this sector. However, evidence about the importance of health services in primary care – like secondary prevention or disease management – about HRQoL in patients with (multiple) chronic conditions remains scarce. Therefore, the overall goal of this habilitation project is to describe and to analyse the relevance of chronic diseases on health-related quality of life.

#### **Methods and Measures**

The primary tool chosen to measure HRQoL was the EQ-5D, a validated generic instrument, which is available in more than 50 languages. The self-report questionnaire consists of a descriptive system, which defines health in terms of five dimensions. Further investigations have demonstrated the usefulness of EQ-5D in identifying determinants of health status. The analyses within the habilitation project were embedded in the ELSID-Study ("evaluation of a

large scale implementation of disease management programs for patients with type 2 diabetes") the EPA-Cardio project (European practice assessment of cardiovascular risk management) and PraCMan (primary care practice-based care management for chronically ill patients). Additionally, routine claims data were analysed within the evaluation of GP-coordinated health care (2005-2009).

#### Main results

The evaluation of GP-coordinated health care has shown that the program has an impact on the proportion of patients who contact a specialist with a referral from a GP. In the context of organisational aspects of primary care practices the analysis revealed a significant difference in resources for implementing change between clinicians and other practice staff. Importantly, in terms of patient-provider-concordance it became evident, that single handed practices and that the factor "frequently ask patients about the use of medication" are strong predicting factors for concordance in rating medication adherence.

As related to HRQoL in patients with chronic diseases, the analyses have shown that with an increasing number of other health conditions, HRQoL decreased continuously. On the other hand, the results suggest that the DMP for type 2 diabetes may help to counter-balance this effect. The analysis revealed that in terms of HRQoL the difference between DMP and routine care clearly increased as the number of medical conditions rose. However, in secondary prevention the strongest positive association with HRQoL was found for good medication adherence (Morisky scale) and a higher score in the EUROPEP dimension 'clinical behaviour' (indicating a good patient-doctor relationship). In contrast, patients with lower education had a higher number of other conditions, a higher number of uncontrolled risk factors and lower HRQoL. However, the higher the control of risk factors was, the higher the HRQoL, independent form educational level.

### Conclusion

The results show that improved organisation of chronic care —in the context of disease management programs or secondary prevention — can make a meaningful contribution in strengthening HRQoL in multimorbid patients. The individual patient-physician relationship plays a significant role. Nevertheless, there are many challenges, not the least in terms of social inequalities. Increasing access to care for patients with lower educational level requires more attention and is an important focus for further development of health care services.

In summary, this habilitation project provides additional evidence for health care services in terms of the following topics.

# **Primary care**

- In our analysis HZV has an impact on the proportion of patients who contact a specialist with a referral from a GP (1).
- The German version of the survey of organisational attributes for primary care (SOAPC) is a reliable and valid instrument for the assessment of the organisational attributes of practice teams. Compared to practice staff, clinicians appear to have higher resource levels for implementing change (2).
- Talking about medication on a regular basis and higher continuity of care may enhance patient-provider concordance in rating medication adherence as a prerequisite of shared decisions on medication in patients with multiple chronic conditions (3).

# Disease management

- The German DMP for type 2 diabetes has an positive impact on patient reported quality of care (PACIC), irrespective of the number of other conditions (4).
- Patients participating in the German DMP for type 2 diabetes mellitus show significantly higher ratings of their HRQoL in the dimensions mobility, self-care and performing usual activities compared to patients in routine care (RC). This difference can also be observed in patients with significant comorbidities (5).
- The findings suggest that the number of other conditions may have a negative impact on the HRQoL of patients with type 2 diabetes. The results demonstrate that the German DMP for type 2 diabetes may help counterbalance this effect (6).

# **Secondary prevention**

- The results of our study suggest that a better patient-physician relationship rather than organisation of coronary heart disease (CHD) care is associated with higher HRQoL in the primary care setting (7).
- Cardiovascular disease (CVD)-Patients with a lower educational level were more often females, singles, had a higher number of other conditions, a higher number of uncontrolled risk factors, and a lower HRQoL. However, the higher the control of risk factors was, the higher the HRQoL was overall as well as in both educational level groups (8).