Background
• Swiss health system bases on fee-for-service reimbursement
• At a lower monthly rate insurance companies offer gate-keeper contracts
• Most of the physicians in gate-keeper contracts have financial incentives for performing a cost-efficient medicine
• If the capitation fees paid to a physician network are not based on morbidity of insured population, there will be risk selection
• Different tools have been developed to calculate morbidity correctly for in-patient as well as ambulatory settings

Morbidity Indicators (outpatient care)
• WONCA – DUSOI Score
• Duke Score
• Selection of Diagnostic categories of ICPC Classification
• ACG – Case Mix System
• TMI (Thurgauer Morbidity Index)
→ For chronically ill patients cost of the past year are a precise predictor, but don’t work in case of capitation system

Research question
• Correlation of TMI and cost prediction (was validated only for rural environment)
• Is predictive value improved by adding variables like socioeconomic status?
• Comparison between TMI, DUSOI and ICPC-2
• What number of cases is needed to eliminate variability of median especially for cases with high cost?

Method
• Design: Prospective cohort study over a period of eight months
• Study centers: 30 GP practices in the city of Zurich
• Tool: Physician- and patient questionnaire
→ Complete datasets of 1903 patients, 2880 physician datasets

Variables
• Physician questionnaire
• Social variables
• Compliance
• TMI
• 51 Diagnostic groups ICPC
• DUSOI Score
• Cost prediction

DUSOI
Eventual symptoms during last week
• Complications during last Week
• Prognosis if not treated
• Needs Therapy / Expected success.

Thurgauer Morbidity Index: Architecture

![Thurgauer Morbidity Index: Architecture](image)

Realization
• All patients of the cooperating Insurance company were consecutively invited to participate
• Questionnaires were handed out to patients in the practice, but sent from them directly to the study center
• Before start and during study course, we hold Workshops to evaluate and improve coding quality among study centers

Results

![Table 1: Distribution of Morbidity](image)

![Table 2: Annual cost per patient per practice (green: after logarithmic correction for morbidity)](image)

Conclusions
• To avoid risk selection by caregivers, morbidity should be used to calculate capitation fees
• Tools like TMI can still be improved: new grading with preclinic and light in one category, better definition of medium and severe, combine with ICPC, special categories..