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Conference Abstract

Measuring the Triple Aim dimension “population health” in integrated care systems (ICS) using claims data – the approach of the German ICS “Gesundes Kinzigtal”

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Abstract

Background: The population based integrated care system (ICS) “Gesundes Kinzigtal” in Germany has committed itself to the Triple Aim concept of the Institute of Healthcare Improvement (IHI). This means pursuing a balance of improving the health of populations, improving the individual experience of care; and reducing the per capita costs of care for populations and monitoring its progress. This study is focusing on the first dimension of the Triple Aim, mentioned above, – the health of populations – and sets out the evaluation approach used in Gesundes Kinzigtal based on claims data to measure the effects.

Theory/Methods: A quasi-experimental study design – control-group based approach via propensity score matching in combination with a small-scale exact matching approach– is proposed to eliminate a possible bias caused by the non-randomized group assignment. The IHI recommendations for measuring the Triple Aim dimension – health of populations – were examined, possibly feasible outcome measures selected and their evaluability on the basis of the Gesundes Kinzigtal data tested. Gesundes Kinzigtal has all individual claims data of approx. 50.000 insureds of the two participating health insurers AOK and LKK Baden-Württemberg since 2004.

Results and Discussions: The requested equalization between the ICS-intervention group and the control group could be achieved via the proposed matching approach in almost all variables.

As possible IHI health outcome measures that can be measured on the basis of claims data have been identified: mortality ratio, age at the time of death, survival time, years of potential life lost before age 75 (YPLL75), and an adapted individually age-adjusted years of potential life lost measure (= years of potential life lost and won - YPLLW). As the health status cannot be directly measured via claims data, indicators for the disease burden – the charlson comorbidity score and the grade of consumption of long-term care services – are proposed to get an indirect information about the health status.

Conclusions and Lessons learned: The presented evaluation approach of Gesundes Kinzigtal considers the complexity of evaluating the effects on the health of population through an ICS. Specific challenges faced by evaluating an intervention of this sort on the basis of claims data, and the responses made to conquer them, as well as the newest results of the study and lessons learned are illustrated. For instance a possible indirect immortal time bias may occur and therefore has to be controlled via an exclusion of the first half year after the intervention start from the outcome measurement.

Limitations: Even though the ICS intervention group and control group seem to be balanced on observable variables after matching and also an immortal time bias can be controlled. Unobservable risk factors still can lead to a bias. For instance, there may be a self-selection of health-conscious sick persons or health-conscious physicians. This information is not available in claims data and therefore cannot be included in the matched pair approach and must be discussed with the results.

Suggestions for future research: The evaluation approach discussed could also be relevant as a generic model for the evaluation of similar integrated care interventions. The transferability to other models and usability for comparative evaluations should be further explored.

Keywords

health outcome evaluation; performance measurement; health services research; propensity score matching; triple aim

PowerPoint presentation

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