

Identification of diagnoses-related procedure bundles in outpatient care using statistical methods

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BACKGROUND / OBJECTIVES

Currently, two major topics, namely financial flows and cost containment, dominate a lot of on-going political discussions in Austria. The focus of discussion lies on developing new types of health care providers and new reimbursement systems. Therefore, research that is necessary for a possible change of the reimbursement system in the outpatient sector has to be done. By conducting this research project we try to determine the feasibility of diagnosis- and patient-oriented methods of payment for episodes of care in the Austrian outpatient sector.

DATA

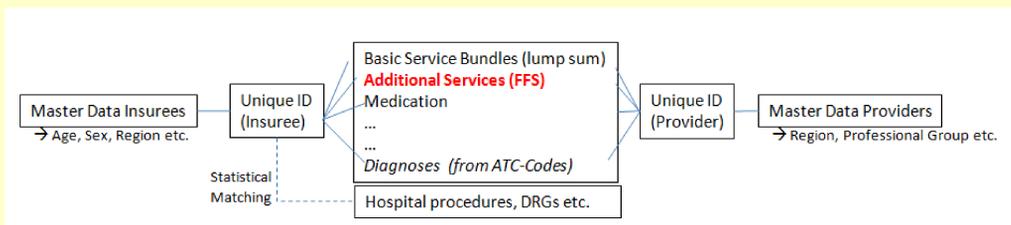


Figure 1

We use a data base of pseudonymized claims data for the years 2006-2007, where we can analyze health care provision in outpatient care from a patient's, provider's and insurance's perspective. Currently, no diagnoses for outpatient care are being coded by doctors. To overcome this obstacle, we use the results of another project, where diagnoses were derived from ATC-Codes – this information will be attached to the unique ID of the insured using a separated algorithm. Moreover, we matched the hospital data (procedures, DRGs etc.) from the MBDS data set, using statistical methods.

METHODS

Expected RESULTS

1	<p>Analysis of the ratio basic service bundle versus FFS-Services for each health insurance fund.</p>	<p>Description of the fraction of outpatient care, which is currently paid on a non-diagnosis-related lump sum basis.</p>
2	<p>Identification of frequent and/or expensive services (fee x frequency) – $L_x = \{L_1, L_2, \dots, L_n\}$.</p> <p>Grouping of other relevant services, which are statistically significantly related to each L_x, for each specialty.</p>	<p>Provider Profiles – Service spectrum for each specialty.</p> <p>Service Bundles related to expensive/frequent services for each specialty.</p> <p>Fraction of L_x provided by each specialty.</p> <p>Number of doctors per specialty who provided L_x (relevance of L_x for a specialty).</p>
3	<p>Identification of diagnoses (D_x) statistically related to expensive/frequent services (L_x) for each patient:</p> $D_x = f(L_x).$ <p>Calculation of the distribution of diagnoses for each L_x. Since the diagnoses were statistically derived using ATC-Codes, each L_x is related to several diagnoses with different probabilities.</p>	<p>List of statistically related (D_x) for each patient with L_x.</p> <p>Overall frequency and probability of (D_x) related to L_x.</p> <p>Overall frequency of (D_x) – Prevalence, Incidence.</p>
4	<p>Identification of services (L') related to the most frequent diagnosis per patient (D'), as derived in step 3:</p> $L' = g(f(L_x)),$ <p>where L_x is included in L'.</p>	<p>Statistically significant service bundles for diagnoses, which are related to expensive and frequent services.</p>
5	<p>Integration of costs per service (fees).</p>	<p>Cost for service bundles for those diagnoses, which are related to expensive and frequent services.</p>
6	<p>Integration of split criteria (e.g. age, sex, procedures). Recalculation of steps (3) to (5).</p>	<p>Grouping method</p>

CONCLUSIONS

By conducting this project we test the feasibility of calculating outpatient-costs for particular diseases using the reimbursement data of the Austrian Social Health Insurance. The lessons learnt will give us the required knowledge for potential improvement. Results concerning procedure bundles will provide the necessary basis for discussion of directions of a potential case based lump sum payment mechanism for outpatient care in Austria.

REFERENCES

1) Pfeffer N., Weisser A., Endel G: Casemix in the Austrian outpatient sector, Poster contribution, PCSI 2009, Fukuoka, Japan

2) Weisser A., Endel F., Endel G.: Results of the ATC-ICD project, Poster contribution, PCSI 2010, Munich, Germany