Evaluation der Integrierten Versorgung
Gesundes Kinzigtal

EKIV Newsletter 1/2012

edited by
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In this issue:

Editorial

In early summer this year the annual EKIV evaluation report 2011 appeared. It contains summaries of all current (external) evaluation studies on *Gesundes Kinzigtal* Integrated Care (GKIC). On page 3 we present the link with which you may download the report.

In the last two issues of this newsletter (2/2011 and 3/2011) we presented selected results of the three providers' surveys (of the years 2008, 2009 and 2010). We continue this in today's issue on page 4–7: We report GKIC's partner providers' satisfaction with GKIC as well as providers' assessment of how cooperation and information exchange has developed since the start of GKIC.

On pages 8-11 we report selected results of the OUM study: This study – the acronym stands for „over-, under- and mis-utilisation of health services" – has already been a subject in former issues of this newsletter. The OUM study compares the quality of health services in the Kinzigtal region (2004-2011) with the quality of health services in the remaining parts of Baden-Württemberg. In this issue we present indicators of ambulatory health service quality concerning patients with osteoporosis in 2004-2008.

GKIC is evaluated not only by *external* evaluation studies, i.e. studies that are conducted by independent institutions. There is also an extensive *internal* evaluation, conducted by organisations which take part in GKIC's operative management. Thus, e.g., the effectiveness and efficiency of several health management programmes within the GKIC system is evaluated by researchers of the Optimedis AG, an organisation which is involved in GKIC's operative management. In the previous issue of this newsletter the Optimedis researchers Timo Schulte and Alexander Pimperl outlined the methodological foundations of Optimedis' evaluation studies. In today's issue – on pages 12-14 – Timo Schulte analyses some economic effects of the osteoporosis management programme „strong muscles – firm bones". This internal evaluation study relies on health insurers' administrative data from 2004 to 2010.

Your questions on our newsletter's topics, as well as any other feedback, are always welcome. We look forward to answering your email (to info@ekiv.org or ekiv@medsoz.uni-freiburg.de) soon.

With best regards,
Eva Zerpies, Achim Siegel & Ulrich Stoessel

Evaluation of *Gesundes Kinzigtal* Integrated Care (GKIC):

EKIV-evaluation report 2011 online now

Since early summer 2012 EKIV's current report on the evaluation of GKIC is online on our homepage. The report contains an overview of the current status and interim results of all GKIC evaluation studies as of December 2011. Furthermore, these interim results are summarised with respect to overall research questions.

You are welcome to download the report (40 pages, in German) from our homepage. Please use the following link:

http://www.ekiv.org/pdf/EKIV-Evaluationsbericht_2011_Kurzfassung_FINAL_2012-06-30.pdf

In the report the interim results of the following evaluation studies are summarised:

- **SDM study:** Investigation and identification of insurants' attitudes on quality of health care service, patient satisfaction and shared decision-making (SDM). The study is conducted by Prof. Dr. Dr. Martin Härter, University Medical Centre Hamburg-Eppendorf, and his former research group at Freiburg University Medical Centre.
- **OUM study:** Identification and reduction of over-, under- and mis-utilistation of health services and assessment of insurants' health status – evaluation of health services on basis of health insurers' administrative data (claims data). The study is conducetd by the PMV research group at Cologne University (head: Dr. Ingrid Schubert).
- **PeGL study:** Process evaluation from health care providers' perspective. This study is conducted by Dr. Matthias Nübling, Gesellschaft für empirische Beratung, Denzlingen.
- **AGil study:** Active health promotion among the elderly in the Kinzigtal region – process and outcome evaluation of an intervention programme within the integrated care of AOK-patients. The study is conducted by Prof. Dr. Olaf von dem Knesebeck, University Medical Centre Hamburg-Eppendorf.

Achim Siegel, Ulrich Stoessel

Evaluation of *Gesundes Kinzigtal* Integrated Care (GKIC):

Process evaluation from providers' perspective: results of the providers' surveys in 2008-10, part III

In the issues 2/2011 and 3/2011 of this newsletter we reported first results of the third providers' survey and compared the results with those of the two previous surveys. The issues of the hitherto analyses were the following

- overall and subpopulation-specific return rates in the third providers' survey,
- office-based physicians' and psychotherapists' attitudes towards shared decision-making (SDM) and therapy goal agreements with patients,
- rating of organisations taking part in GKIC's operative management (Gesundes Kinzigtal Ltd., Medical Advisory Board, AOK and LKK Baden-Württemberg) from providers' perspective as well as
- providers' knowledge of GKIC health management programmes, providers' promotion of patients into these programmes and providers' assessment of how attractive these programmes are to patients.

In today's issue we focus on further aspects: First, we report three indicators of providers' global satisfaction with GKIC. Second, we analyse providers' assessment of whether cooperation and information exchange with other surgeries or health service institutions have grown since the start of GKIC.

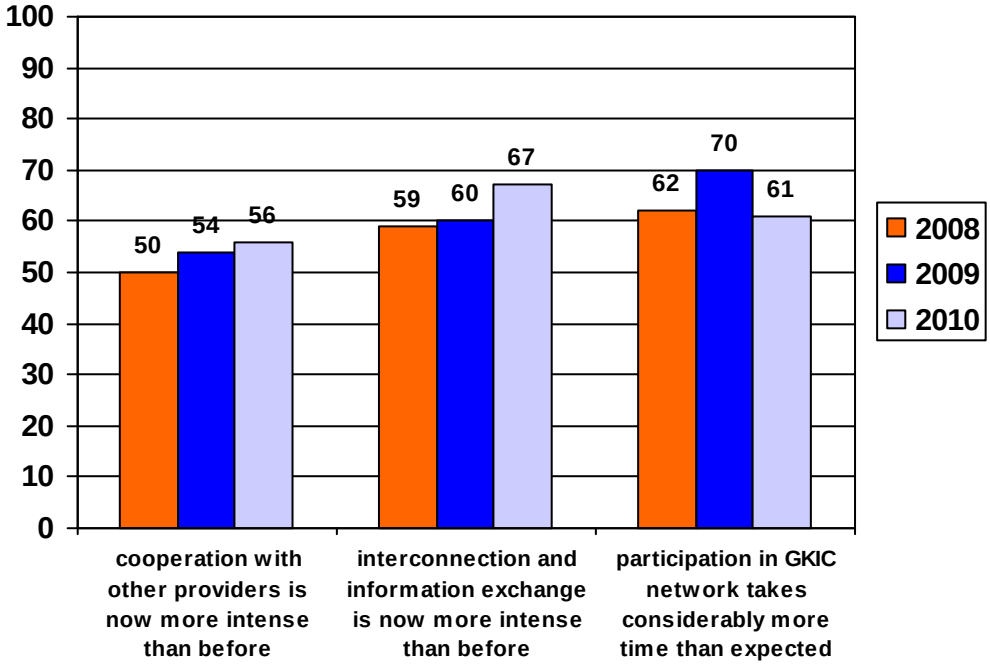
The evaluation study "process evaluation from providers' perspective" is conducted by Dr. Matthias Nübling (GEBmbH – Gesellschaft für empirische Beratung, Denzlingen). The following results are excerpted from Nübling's reports.[1]

Development of cooperation and information exchange with other providers

One essential goal of integrated care systems is effective information exchange and more intensive cooperation of different providers across disciplines and sectors. The most important results are illustrated in fig. 1 (next page).

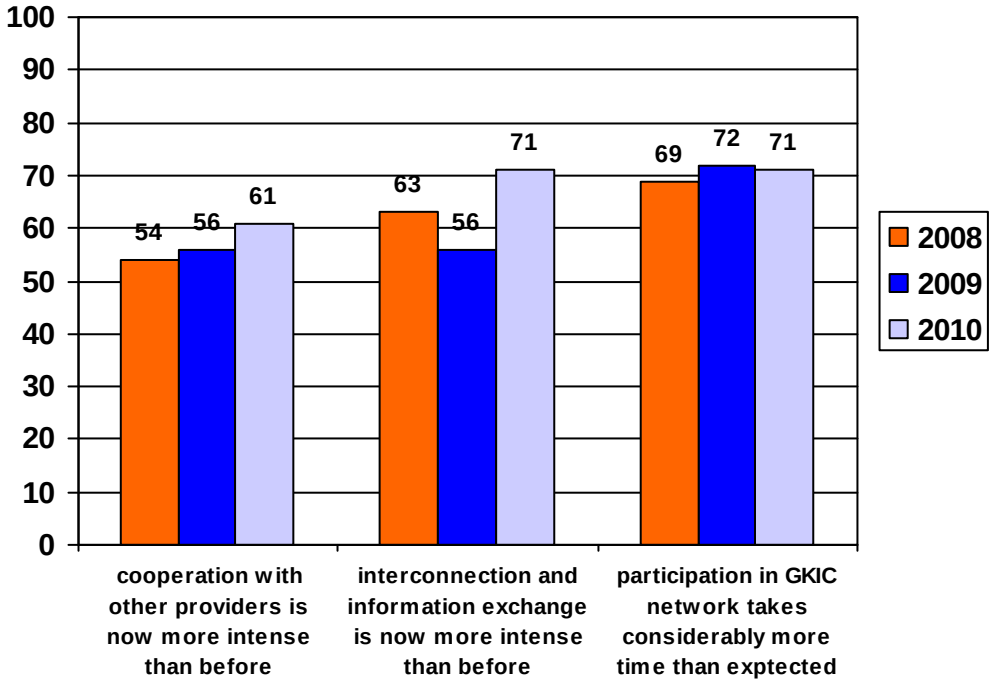
[1] Cf Nübling M (2008): Integrierte Versorgung Gesundes Kinzigtal, Evaluationsmodul IV, Teilprojekt 2: Prozessevaluation aus Sicht der Leistungserbringer. Bericht zur ersten Befragung der Leistungserbringer (Projektbericht, unpubl. ms., in German); Nübling M (2009): Integrierte Versorgung Gesundes Kinzigtal, Evaluationsmodul IV, Teilprojekt 2: Prozessevaluation aus Sicht der Leistungserbringer. Bericht zur zweiten Befragung der Leistungserbringer 2009 (Projektbericht, unpubl.. ms., in German); Nübling M (2010): Integrierte Versorgung Gesundes Kinzigtal, Evaluationsmodul IV, Teilprojekt 2: Prozessevaluation aus Sicht der Leistungserbringer. Bericht zur dritten Befragung der Leistungserbringer (Projektbericht, unpubl. ms., in German).

Fig. 1: Development of information exchange and cooperation from providers' perspective (range: 100 „fully applies"; 67 „rather applies"; 33 „does rather not apply"; 0 „does not apply")



The two statements on cooperation respectively networking and information exchange in fig. 1 show a moderate trend to more cooperation amongst providers. This, however, corresponds with most providers' assessment that the participation in the GKIC network took considerably more time than expected. These trends do as well apply when considering only the responses of those 20 providers who took part in all three surveys (fig. 2).

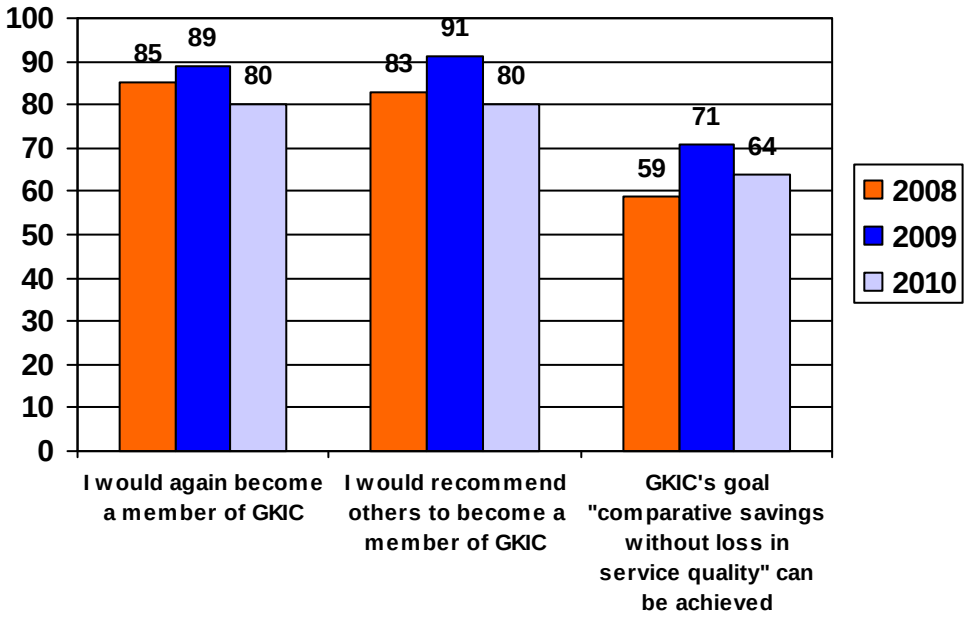
Fig. 2: Development of information exchange and cooperation from those providers' perspective (N=20) who took part in all three surveys (range: 100 „fully applies"; 67 „rather applies"; 33 „does rather not apply"; 0 „does not apply")



Indicators of providers‘ global satisfaction with GKIC: comparison of the results of all three surveys

Fig. 3 shows different aspects of global satsifaction with GKIC. Already in the 2008 survey the statements „If I had to choose once more, I would again become a member of GK“ (85 points) and „I would recommend others to become a member of GK“ (83 points) got outstanding approval. In the 2009 survey these results were even excelled with 89 resp. 91 points (fig. 3). In the 2010 survey the values decreased somewhat and were slightly under the 2008 level (80 points). This is still a very high level, because about 94% of the responding providers would “again become a member of GK” (responses “yes“ or „rather yes“). The same very high percentage rate - 94% - would „recommend others to become a member of GK“ (responses „yes“ or „rather yes“).

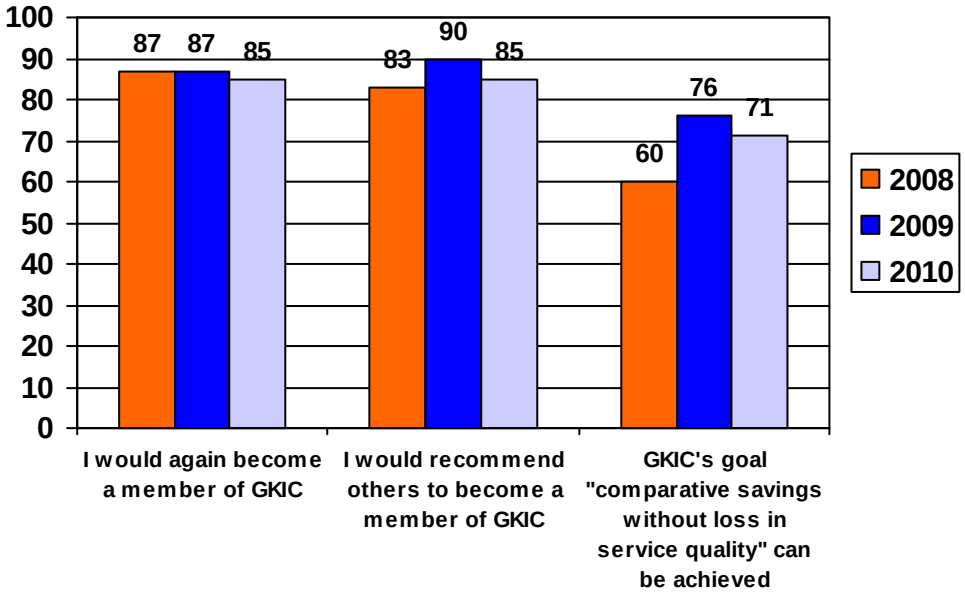
Fig. 3: Overall satisfaction with the GKIC project (range: 100 „yes“; 67 „rather yes“; 33 „rather not“; 0 „no“)



Respondents’ affirmation of the statement „GKIC’s goal ‚comparative savings without loss in service quality‘ can be achieved (as far as I can see)“ developed similarly. The restrained affirmation of this statement in 2008 (59 points) expressed a kind of „rest-scepticism“ of many GKIC providers towards GKIC’s main goal. In 2009 this „rest-scepticism“ decreased noticeably; in 2010 it returned somewhat (64 points) without however reaching the 2008 level (59 points).

The analogue results for those providers that took part in all previous surveys (fig. 4) show a slightly lower decline from 2009 to 2010 for all named indicators than in the total survey population. Furthermore the satisfaction level in this subpopulation 2010 is consistently slightly higher than in the total survey population (fig. 4).

Fig. 4: Overall satisfaction with the GKIC project in those respondents (N=20) who took part in all three surveys (range: 100 „yes“; 67 „rather yes“; 33 „rather not“; 0 „no“)



Summary and preliminary conclusion

In the third survey in 2010 the GKIC partner providers were again asked questions regarding their overall assessment of the GKIC system. Providers' satisfaction with GKIC remains relatively high so far: In 2010, 94 % of the inquired providers in 2010 would again join GKIC if they had to choose one more. The same percentage rate would recommend other colleagues to become a member of GKIC. A likewise positive conclusion can be drawn regarding the second proposed research question: An increasing part of the responding providers cooperates „more intensely with other providers“ (according to their own assessment) than before GKIC's establishment, and an increasing proportion of providers indicates that „networking and information exchange did improve“ since GKIC's establishment.

Eva Zerpies, Achim Siegel, Ulrich Stoessel

External evaluation of *Gesundes Kinzigtal* Integrated Care (GKIC):

Health services evaluation by relying on health insurers' administrative data 2004-08: Indicators of the quality of health care concerning patients with osteoporosis

PMV research group (Cologne University) evaluates the quality of health care in the GKIC system by relying on health insurers' administrative data (claims data), as we have reported in several newsletter issues[1]. The study is conducted by Dr. Ingrid Schubert. The latest interim report came out in fall 2011; it is based on data of 2004-08. In this issue we present some health care quality indicators regarding patients with osteoporosis.

Aims and research design of the study „Identification and reduction of over-, under- and mis-utilisation of health services – evaluation of health services by relying on health insurers' administrative data" (OUM study)

In previous issues of our newsletter we presented aims and research design of the OUM study in detail.[2] We therefore confine ourselves at this point to a summary.

By relying on health insurers' claims data, the OUM study is to find out

- administrative prevalences of selected diseases, and
- over-, under and mis-utilisation of health services, derived from health service quality indicators.

The OUM study relies on pseudonymised data of insurants of the two health insurers AOK Baden-Württemberg (AOK BW) and LKK Baden-Württemberg (LKK BW). The study is conducted as a quasi-experimental controlled study. Prevalence figures as well as quality indicators are calculated for insurants of the Kinzigtal region (intervention group) and are compared to a random sample of all remaining AOK BW resp. LKK BW insurants of full age (control group).

Prevalence figures and quality indicators of the control sample („sample BW") are always standardised for age and sex of the insurants living in the Kinzigtal region, unless otherwise noted. As a rule, 2004 is considered as the baseline year; the following years (2005ff) are considered as years with an increasingly intense intervention by *Gesundes Kinzigtal* Integrated Care (GKIC).

Selected service quality indicators[3] concerning patients with osteoporosis and fractures

Only those AOK resp. LKK insurants were included who were insured throughout a given year or who died during a given year. This means that insurants who changed their health insurer during the year were not taken into account for the year in question. As the numbers of LKK insurants are very small – in particular when indication-specific data are regarded –, we report only the results of AOK insurants.

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[1] Cf. EKIV-Newsletter 1/2010 (http://www.ekiv.org/pdf/EKIV-Newsletter_2010-1.pdf), p 3, and EKIV-Newsletter 3/2009 (http://www.ekiv.org/pdf/EKIV-Newsletter_3-2009.pdf), p 3f.

[2] Cf. ibid.

[3] Results are excerpted from the following study report: PMV forschungruppe (2011): Zwischenbericht 2004-2008 für Gesundes Kinzigtal GmbH, hier: AOK-Daten. Evaluationsmodul der IVGK „Identifizierung und Abbau von Über-, Unter- und Fehlversorgung". Zwischenbericht mit Status-Quo-Daten für 2004 sowie Analyse der Jahre 2005-08 (in German).

Administrative prevalence of osteoporosis

Table 1 shows the administrative prevalence of osteoporosis within AOK insurants in the Kinzigtal region and in the control sample representing the remaining parts of Baden-Württemberg.

Table 1: Proportion of AOK insurants with osteoporosis

	Patients with a validated case of osteoporosis								
	Kinzigtal region					age >= 18 years			
	IC insurants		Non-IC insurants		overall	Kinzigtal	stand.BW*	change (2004 = 100)	
year	number	%	number	%	%	%	%	Kinzigt.	stand.BW*
2004	275	7.3	943	3.9	4.4	5.3	5.0	100	100
2005	310	8.1	970	4.0	4.5	5.5	5.0	104	100
2006	334	8.5	955	3.9	4.5	5.5	5.1	104	102
2007	378	9.5	947	4.0	4.7	5.7	5.2	108	104
2008	419	10.7	953	4.1	5.1	6.1	5.5	115	110

*) „sample BW“ standardised for age and sex with respect to the population „Kinzigtal region“ in the year in question

Patients with an ICD-10 code M80 or M81 were included in the calculation only if their diagnosis could be „validated” by additional informations. A case was then considered as „epidemiologically validated“ if patients' claims data indicated at least one of the following three conditions:

- hospital stay during the year in question with M80 or M81 as main discharge diagnosis;
- M80 or M81 code in at least one quarter of the year and additionally at least one osteoporosis-related drug prescription[4], prescribed by the diagnosing physician in the quarter in which the diagnosis had been made;
- M80 or M81 diagnosis in at least two quarters of a given year.

Looking at the results illustrated in table 1, the prevalence of AOK insurants of full age in the Kinzigtal region is slightly higher than the prevalences of the standardised control sample (2008: 6.1 vs. 5.5 %). Within the Kinzigtal region the IC insurants'display a much higher prevalence (2008: 10.7 %) than non-IC insurants (2008: 4.1 %). This is a result of the different age and morbidity structure of the IC insurants: As stated in numerous other articles, GKIC obviously succeeded in motivating especially the older and rather ill insurants to join GKIC.

Prevalence of bone fractures in patients with osteoporosis

An important outcome criterion for the prevention and treatment of osteoporosis is the prevention of bone fractures in concerned patients. A precondition for a reasonable comparison of bone fracture prevalence among patients with osteoporosis in two populations is that the overall frequency of fractures in the two populations does not differ substantially. This is indeed the case here: The proportion of AOK insurants with a fracture diagnosis in 2008 was 5.6% in the Kinzigtal region and 6.1% in the (age- and sex-standardised) control sample (Schubert et al. 2011: 199).

[4] The following agents were included: vitamine D (ATC-Code A11CC), calcium (A12AA), calcium + vitamine D-combination (A12AX), climacteric therapeutic agents (G02CE), hormone substituted therapeutic agents (G03CA, G03CB, G03FA, G03FB), SERM (G03XC), bisphosphonate (M05BA) as well as bisphosphonate + calcium-combination (M05BB).

Table 2 shows the proportion of patients with fracture among all patients with an osteoporosis diagnosis that had been made in the preceding year[5].

Table 2: Proportion of patients with fractures (in %) among patients with osteoporosis, diagnosed in the preceding year

	Patients with a validated case of osteoporosis (identified in the preceeding year): thereof with fracture								
	Kinzigtal region					age >= 18 years		change (2004 = 100)	
	IC-insurants		not-IC-insurants		overall	Kinzigtal	stand.BW*		
year	number	%	number	%	%	%	%	Kinzigt.	stand.BW*
2005	45	17.7	191	23.3	22.0	22.0	27.1	100	100
2006	53	18.3	213	25.5	23.7	23.7	27.9	108	103
2007	66	20.2	196	23.6	22.7	22.7	28.9	103	107
2008	77	21.2	189	23.0	22.4	22.4	30.0	102	111

*) „sample BW“ standardised for age and sex with respect to the Kinzigtal population in the year in question.

The results presented in table 2 can be summarised as follows: In every single observation year the frequency of fractures among patients with osteoporosis in the Kinzigtal region was at least 10% below the corresponding prevalence in the control group. Moreover, in the Kinzigtal region the prevalence remained rather stable in the course of time (2005: 22.0 % vs. 2008: 22.4 %; increase: 2 %), whereas in the control group the prevalence increased by 11 %. (For 2008 the corresponding odds ratio is 0.68, with the 95 % confidence interval ranging from 0.59 – 0.78.) The result indicates that the prevention of fractures among patients with osteoporosis in the Kinzigtal region is somewhat more effective and did improve a little bit more during 2004-08 than in the remaining parts of Baden-Württemberg.

Proportion of patients with osteoporosis and fracture(s), thereof with a specific drug therapy recommed in guidelines

Clinical practice guidelines (CPGs) suggest a specific drug treatment of patients with an apparent osteoporosis. Here, the term “patients with apparent osteoporosis” has been operationalised as patients with a validated osteoporosis diagnosis *and* a bone fracture. A specific drug treatment relies on bisphosphonates, strontiumranelate (ATC M05B), SERM (G03XC), teripatide (H05AA02), or parathyroid hormone (H05AA03) – unless there are obvious contraindications.[6] Accordingly, the following table (table 3) shows the resulting prescription prevalence for every year. A comparatively small prevalence would indicate a comparative under-utilisation of this specific therapy.

[5] Compared to the previous interim report – cf. EKIV-newsletter 2/2010 – the denominator is made up by patients whose osteoporosis had been diagnosed in *the proceeding year.* Therefore the results in table 2 start only with the year 2005.

[6] Cf. DVO-CPG 2009 for prophylaxis, diagnostic and treatment of osteoporosis among adults. Long version, Dachverband Osteologie e.V., Version 15.12.2009. Last access: 14.09.2010. (http://www.dv-osteologie.org/dvo_leitlinien/dvo-leitlinie-2009).

Table 3: Proportion of patients with osteoporosis and fractures, receiving an osteoporosis-specific drug treatment

	Patients with (validated) osteoporosis and bone fracture, thereof with specific drug therapy								
	Kinzigtal					age >= 18 years		change (2004 = 100)	
	IC insurants		non-IC insurants		overall	Kinzigtal	stand.BW*		
year	number	%	number	%	%	%	%	Kinzigt.	stand.BW*
2004	29	65.9	86	36.0	40.6	40.6	37.9	100	100
2005	40	70.2	110	44.5	49.3	49.3	41.0	121	108
2006	46	70.8	96	38.9	45.5	45.5	41.8	112	110
2007	41	54.7	96	41.7	44.9	44.9	43.6	111	115
2008	59	66.3	99	43.6	50.0	50.0	44.1	123	116

*) „sample BW“ standardised for age and sex with respect to the „Kinzigtal population“ in the year in question

The results in table 3 show that the proportion of those patients with osteoporosis and fracture who received a specific drug therapy is slightly higher in Kinzigtal region than in the control sample: In 2008 the prescription prevalence in the Kinzigtal region was 50%, compared to 44.1% in the control sample.

Table 3 shows, furthermore, that both in Kinzigtal region and in the remaining parts of Baden-Württemberg the prescription prevalence increased from 2004 to 2008, in the Kinzigtal region by 23% and in the control sample by 16%. On closer examination the increase in both populations displays a remarkable difference: Whilst the proportion in the control sample increased *steadily* in 2004-08, the proportion in Kinzigtal region *fluctuated* much more. It remains indeterminate whether and how far the more steady progress in the control group results from the substantially higher number of cases (and therefore from less vulnerability to fluctuation).

Summary and preliminary conclusion

The indicator „proportion of patients with fractures among patients with a recognised osteoporosis“ (table 2) suggests evidence on the comparative effectiveness of secondary prevention (prevention of fractures) among patients with osteoporosis in 2004-08. Already in 2004, the Kinzigtal region’s fracture prevalence among patients with osteoporosis was about 10% lower than among the control group. In addition, the fracture prevalence remained rather stable in the Kinzigtal region in 2004-08 (2% increase), whereas the control group’s prevalence increased in the same period of time by 11 %. As a result, the Kinzigtal’s comparative effectiveness of fracture prevention among patients with osteoporosis is comparably high (OR of fracture in 2008: 0.68; 95% confidence interval 0.59-0.78).

Finally we referred results indicating a potential under-utilisation of an osteoporosis-specific drug treatment (table 3). The treatment prevalence was slightly higher in the Kinzigtal region than in the control group during the whole time period. Thus there is no indication of a comparative under-utilisation in the Kinzigtal region regarding this kind of treatment.

Eva Zerpies, Achim Siegel, Ulrich Stoessel

Health Services Research of OptiMedis AG researchers

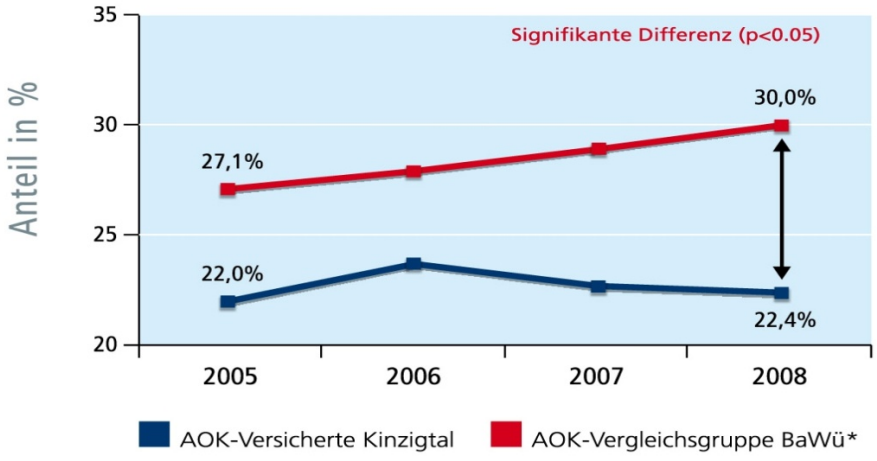
Evaluation of Gesundes Kinzigtal's programme *strong muscles – firm bones*: results of a controlled cohort study with matched pairs

„Strong muscles – firm bones" ("starke Muskeln – feste Knochen") is the name of a multi-modular prevention programme to avoid fractures and an associated loss in quality of life among patients with osteoporosis. Appropriate participants are identified by their general practitioner or orthopaedic specialist via survey and, if necessary, after a bone density measurement. Their informed consent provided, the concerning patients have to register as participants.

The intervention consists of several elements such as individual drug therapy, special consultations and assistance, or specific exercise programmes. To evaluate the effects of this intervention, possible confounders have to be ruled out as far as possible. This fundamental problem of evaluation studies has already been discussed in the preceding issue of this newsletter. From a medical perspective, the programme's effectiveness is indicated first of all by a lower fracture prevalence and, from an economic perspective, by lower costs, resulting from e.g. reduced hospital stays among participants.

The external evaluation of *Gesundes Kinzigtal* Integrated Care by the PMV research group has already indicated a lower fracture prevalence within the Kinzigtal region as compared with other regions in Baden-Württemberg (fig. 1). PMV's analysis revealed that fracture prevalence in patients with osteoporosis was significantly lower in the Kinzigtal region (in 2008: 22.4%) than in a control group which had been matched for age and sex (in 2008: 30.0%).[7]

Fig. 1: Development of the fracture prevalence amongst insurants with osteoporosis



To assess some efficiency parameters of *strong muscles – firm bones*, OptiMedis conducted a controlled prospective cohort study, relying on claims data of the concerned health insurers. The data contain the claims of about 50.000 insurants of AOK and LKK Baden-Württemberg from the Kinzigtal region in 2004-2010. To reduce a potential bias, the costs of the participants were compared with the costs of a control group made up of matched pairs. The matching ratio was 1:1, i.e. for every participant a „statistical twin" was selected from the group of non-participants.

[7] Köster, I., Ihle, P., Schubert, I. (2011): Identifizierung und Abbau von Über-, Unter- und Fehlversorgung – Versorgungs-evaluation auf Basis von GKV-Routinedaten: Zwischenbericht 2004-2008 für Gesundes Kinzigtal GmbH (AOK-Daten): 201.

In the analysis the following matching criteria were used:

- age, according to date of birth (+/- 365 days)
- sex
- comorbidity, according to Charlson comorbidity score in the preceding year (+/- 0,1)[8]
- ICD-10 code „osteoporosis“ (M80, M81, M82) during the year preceding the intervention

For the control group the following exclusion criteria were defined:

- treatment by a physician cooperating with *Gesundes Kinzigtal*
- incomplete data
- insurants whose pre-index costs deviated more than 20% from those of their matching partners

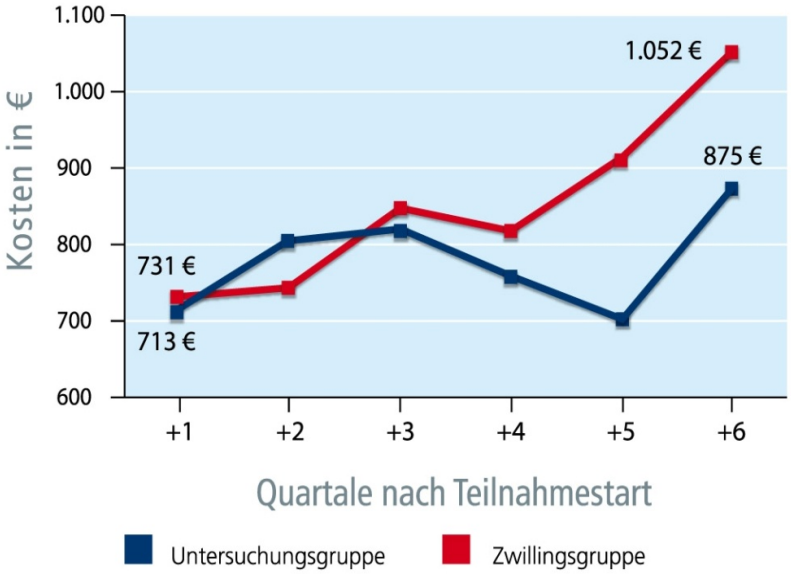
First of all the results of the matching process are presented so as to assess the goodness of the matching and the comparability of intervention and control group. It has to be mentioned that some potentially important factors cannot be accounted for in the matching process because these factors are not contained in health insurers' claims data nor can those factors be derived from claims data. This concerns information on the social state of insurants, their preferences, style of living or health behaviour, and the like. The matched pair study design, then, cannot reliably rule out a potential „self-selection“ bias which might be reflected, e.g., in a potentially higher proportion of rather „health-conscious“ and „adherent“ patients among the intervention group (and, correspondingly, in a lower proportion of health-conscious and non-adherent patients among the control group).

Notwithstanding these reservations, 604 participants of the intervention programme could be matched by an appropriate „statistical twin“. With respect to the above-mentioned criteria, both study groups were similar, as the following data indicate: The mean age in both intervention and control group after matching was 72 years (intervention group: 72.03 years; control group: 71.94 years). The proportion of females amounted to 94% in both groups, and the mean comorbidity score was 6.86 in the intervention group and 6.58 among the controls. As cost differences were considered as endpoints, they were not directly matched before the intervention started. In case that there were too wide differences in the so-called pre-index costs (+/- 20%), the concerning patients were excluded from the controls. Thus after matching there were only small differences in pre-index costs (in the six months before the intervention started): Average total costs in the intervention group amounted to 1.371 € and to 1.314 € among the controls. (Cost calculations referred in any case to insurance years, i.e. calculations are day-exact. This prevents a potential bias by deceased insurants or by insurants who changed their insurance company during the year.) Total cost calculation contains the costs of all relevant sectors such as ambulatory treatment costs, hospital costs, rehabilitation costs, costs of drugs, sickness compensations, and other cost components.

A comparison of the development of total costs per quarter (fig. 2) shows almost no differences between the groups during the first three quarters after the start of the intervention. This might be a consequence of the exclusion of controls whose pre-index costs were diverging too much (i.e. > 20%). However, from the fourth quarter there are markedly lower costs among the intervention group. In the sixth quarter after the start of the programme, e.g., the per-person average costs among the intervention group are about 178 € lower than among the controls (cf. fig. 2).

[8] Charlson M et al. (1987): A new method of classifying comorbidity in longitudinal studies: development and validation. In: Journal of Chronic Diseases 40 (5): 373-383.

Fig. 2: Total costs of participants vs. non-participants in the programme „strong muscles – firm bones“



N (t0) per group:	604
Ø age:	72
Proportion of females (%):	94
Ø Charlson score:	7

The lower total costs among the intervention group result first of all from lower hospital costs: The average total costs per person in the intervention group amount to 4.696 € in all six quarters taken together, compared to 5.082 € for the controls (difference: 386 €). If we take only the hospital costs, there are average costs of 1.894 € among the intervention group as compared to 2.420 € among the controls (difference: 526 €). This trend has also an impact on the contribution margin of those insurants who took part in the programme: In 2010 the average contribution margin of the participants amounted to +1.046 € compared to about +646 € for the (non-participating) controls.

The ongoing evaluation of health management programmes is to ascertain that programme effects are periodically controlled and reported to Gesundes Kinzigal's contractual partners (such as the concerned health insurers) as well as to the concerned partner providers, i.e. office-based physicians. Thus the internal evaluation is considered as a kind of monitoring evaluation. In case of the programme "strong muscles – firm bones", the monitoring evaluation has rendered positive results both in medical and economic respects.

Timo Schulte, OptiMedis AG

(translated into English by Achim Siegel and Eva Zerpies)

Current data on Gesundes Kinzigtal Integrated Care (GKIC) (as of October 09, 2012)

Number of actively enrolled insurants *	**8.983***
- thereof AOK Baden-Württemberg insurants / full members	8.184
- thereof AOK Baden-Württemberg insurants / basic members**	370
- thereof LKK Baden-Württemberg insurants / full members	419
- thereof LKK Baden-Württemberg insurants / basic members**	10

* Enrolled members who deceased, changed residence to outside the Kinzigtal region or resigned because of other reasons are not considered in this list.

** Basic members differ from full members in that their family doctor („doctor of confidence“) does not have a cooperation contract with GKIC.

Number of patients with higher morbidity risk	**5.251**
- thereof insurants of AOK Baden-Württemberg	4.948
- thereof insurants of LKK Baden-Württemberg	303

GKIC preventive programmes and national disease management programmes (DMPs)	**No. of participants**
Smoking cessation („Rauchfreies Kinzigtal“)	189
Prevention/treatment of congestive heart failure („Starkes Herz“)	79
Lifestyle intervention for patients with metabolic syndrome („Gesundes Gewicht“)	176
Prevention of osteoporosis and osteoporotic fractures („Starke Muskeln – feste Knochen”)	755
Early intervention by psychotherapists in cases of acute personal crises („Psychotherapie akut“)	304
Specific medical care for the elderly in nursing homes („Ärzte plus Pflege”)	118
Back pain prevention programme („Starker Rückhalt – Mein gesunder Rücken“)	29
Specific intervention for patients with depression („Besser gestimmt“)	20
Individually blistered drug packages („Medifalter-Markttest“) – closed	104
Wound management („Gut verbunden“) – in abeyance	4
AGil (Active health promotion in the elderly) – in abeyance	511
Ophtalmological check-up for children (amblyopia, U10 + U11)	689
Electronic health card – in abeyance	1300
DMP diabetes mellitus type II	923
DMP coronary heart disease	317
DMP breast cancer	15
DMP asthma	119
DMP COPD	173

(continued on the following page)

Other programmes offered in cooperation with AOK specialists or third parties	**No. of participants**
Social service (case management by social workers according to GP's recommendation)	193
Diet counselling by AOK BW specialists	71
Specific fall prophylaxis for the elderly	144
Aqua fitness	501
Sponsored membership in sports clubs	213
Lecture series on health issues (no. of participants since 2009)	2.589

Physicians and other providers contracting with GKIC	**90**
- GPs/family physicians	24
- specialists	24
- pediatricians	7
- psychotherapists	5
- hospitals	6
- physiotherapists	8
- nursing homes	11
- outpatient nursing services	4
- social-therapeutic services	1
Other partners cooperating with GKIC	**53**
- pharmacies	16
- sports clubs	30
- fitness centres	6