

Case Study

Gesundes Kinzigtal Germany

Partner Authors

Alexander Pimperl, PhD
Helmut Hildebrandt, PhD
Oliver Groene, MA, MSc, PhD

Duke Authors

Krishna Udayakumar, MD, MBA
Jonathan Gonzalez-Smith, MPAFF
Kushal Kadakia
Andrea Thoumi, MSc, MPP

Series Editor

Mark McClellan, MD, PhD, Director, Duke-Margolis Center for Health Policy

This case study is part of the **Accountable Care in Practice: Global Perspectives** series produced by Duke University’s Robert J. Margolis, MD, Center for Health Policy and supported by the Commonwealth Fund. The series explores how organizations across the world have taken steps to improve health outcomes by adopting accountable care policy reforms within diverse organizational and environmental contexts. The aim is to assist US stakeholders to apply the results of these reforms. We consider the critical success factors with each organization’s implementation process that could be translated in the US. Additional resources, including an explanation of the accountable care framework, can be found at the Duke-Margolis website.

OVERVIEW

Gesundes Kinzigtal Ltd (GK) is a privately run health management company that operates an integrated care system in rural southwest Germany and serves a lower-income population with a high proportion of non-communicable diseases (NCDs, commonly referred to as chronic diseases in the United States).

Table 1: Overview of Gesundes Kinzigtal

Model	Health System	Innovations in Care	Key Outcomes
<ul style="list-style-type: none"> Health management company that coordinates between providers and two insurance funds 11 years 10,000 patients enrolled 	<ul style="list-style-type: none"> National health insurance with private options Primary care delivered through private sector Shared risk through sickness funds, which negotiate with providers Reimbursement system is combination of capitation and FFS 	<ul style="list-style-type: none"> Shared savings contract for geographically-defined population Pay for performance is one element of physician pay Comprehensive EHR system with predictive modelling 	<ul style="list-style-type: none"> €5.5 Million (€170 per insuree) 10 percent reduction in fractures among patients with osteoporosis Mean age of death 1.4 years above control group

Program goals: To strengthen early detection and prevention of NCDs, reduce hospital admissions, and improve follow-up care to support vulnerable patient groups.

How this is achieved: Providers in the Gesundes Kinzigtal organization developed a shared savings contract with insurers to provide population-based care for a region with varying care needs. The model includes strong stakeholder engagement, electronic integration across providers, patient involvement and self-management, and data-driven management. The model focuses on patients with high needs and high costs, as the German health system does not manage the care for this population group well.

Results: Improvements in health outcomes, including lower hospitalization rates, higher life expectancy and higher mean age at the time of death than a control group, 92.1 percent patient satisfaction rate, and cost reduction of 7.4 percent per insured person in year eight of the project (€5.5 million total).

Factors that supported reforms:

- National policy environment facilitated structural changes and upfront investment
- Regional nature of the model incorporates accountability and “peer” control
- Physicians developed the model, increasing buy-in. Physicians are also shareholders, balancing provider and physician interests
- Patient advisory board embeds patient voice

Relevance for US context:

- The Gesundes Kinzigtal case study provides insights for how physician-owned or rural accountable care organizations (ACOs), or patient-centered medical homes (PCMH) in the United States (US) can further implement healthcare reforms to better manage NCDs, especially for high-need, high-cost populations.

Figure 1: Translation Opportunities

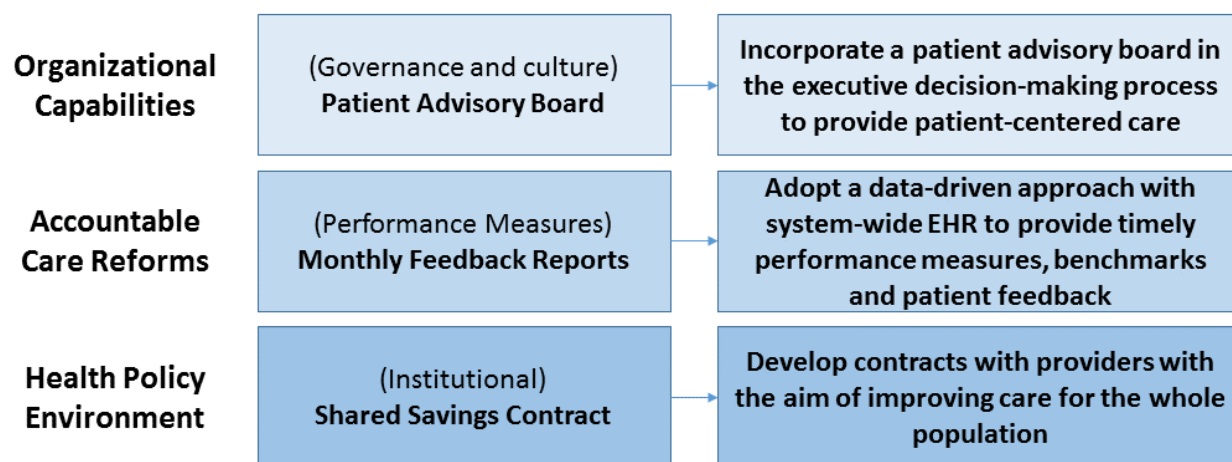


Figure 1 illustrates components of GK’s accountable care implementation process that are relevant for US stakeholders. These include environmental factors (bottom tier) and organizational capabilities (top tier) that influence the success of GK’s accountable care reforms (middle tier). The last column translates these lessons to a US context. Table 3 in Part IV provides additional translation opportunities.

Part 1 provides an overview of the German health system context; Part II discusses GK’s care plan using the Accountable Care Framework; Part III discusses the results of GK’s reforms; Part IV analyzes the internal and organizational factors (in addition to those in Figure 1) that supported or hindered these reforms.

PART I: HEALTH SYSTEM CONTEXT

NATIONAL CONTEXT

Germany provides universal health care that is funded through payroll taxes. The German system is decentralized, with regional and state governments having administrative and political responsibility for providing healthcare services. Regional non-profit patient organizations, known as sickness funds, manage healthcare benefits. Sickness funds negotiate with physician and hospital associations to determine reimbursement rates and the types of benefits provided, including preventative services, physician services, mental health care, and prescription drugs.¹ Local providers operate independently of one another depending on the local market, and Germans can freely choose between new sickness funds after an 18-month waiting period.

Germany provides universal health coverage for all legal residents and spends 11.3 percent of its gross domestic product (GDP) on health care. Like many industrialized countries, Germany faces the challenge of delivering high quality care at a low cost for a population with a high burden of NCDs. More than 90 percent of deaths per year are due to NCDs, exceeding the Organisation for Economic Co-operation and Development (OECD) country average.^{2,3} One problem is Germany's fragmented care, which emphasizes acute care rather than preventative and outcome-based approaches, which has led to higher hospital admission rates and prolonged inpatient stays.⁴

In 2004, the German government passed the Statutory Health Insurance Modernization Act to begin to address these challenges. The Act enabled sickness funds to allocate one percent of expenditures to integrated care programs by allowing them to reduce remuneration to all their providers by one percent.⁵ Although the law is no longer in effect due to a sunset clause, it enabled sickness funds to allocate one percent of expenditures to integrated care programs.⁵ As a result, sickness funds had the option to provide accountable care organizations with additional resources to implement care innovations.

GESUNDES KINZIGTAL BACKGROUND

GK was formed as a pilot project between two regional organizations—MQNK, a local physicians network encompassing more than third of the local independent primary care physicians, specialists, and hospitalists, and OptiMedis AG, a health management company specializing in strategic management consulting and integrated care (see Figure 1)—to create a population-based health model. MQNK and OptiMedis AG developed a 10-year shared savings contract and later leveraged the 2004 national law to negotiate with two sickness funds—Allgemeine Ortskrankenkassen Baden-Württemberg (AOK) and Landwirtschaftliche Krankenkasse Baden-Württemberg (LKK)—that covered 46 percent of the residents in Kinzigtal.

The contract provided GK with initial funding of approximately €4 million, and GK received an annual prepayment based on predicted savings to coordinate care across contracted providers and manage health services for individuals enrolled in the program. GK focuses on attracting patients who can benefit the most from their programs. However, any member of either sickness fund in the Kinzigtal region can enroll without an increase in premiums or loss of freedom to choose a provider. The enrollment process can be initiated by the general practitioner, who becomes a “doctor of trust” to coordinate care, or by the patients themselves through a specialist, online, or directly at the GK office. As of 2014, one-third of the eligible population had enrolled in the program, more than 10,000 individuals.

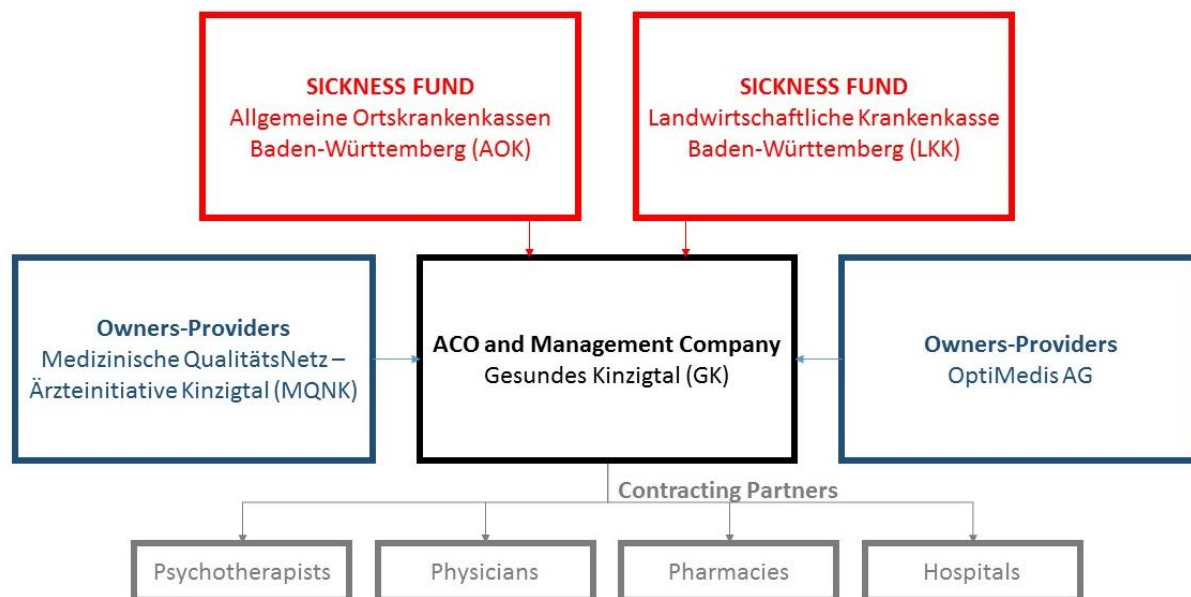
GESUNDES KINZIGTAL STRUCTURE

GK currently works with more than 160 providers who, in turn, compete with each other for patients.⁶ Providers are reimbursed under a traditional fee-for-service (FFS) system, which comprises 80-90 percent of their income.⁷ GK also provides additional reimbursements for providers that provide long-term care or services that stimulate value, such as time spent with a patient to set goals. Additionally, because MQNK owns two-thirds of GK, providers also receive a share of the company's profit through a shareholder arrangement and have an impact on the decision-making process.

GK also has a unique revenue structure. Instead of a fee for service model, the organization keeps a portion of the realized savings—the difference between cost of services before GK started and the cost of service after GK was established. This measure is risk adjusted for demographic and market factors.⁵ Physicians are also shareholders and are remunerated based on the performance of the whole system.

GK's decision-making process includes input by four advisory councils, a patient board that meets biannually, a patient ombudsman, a physician's board, and a provider's board.⁸ Enrolled patients elect five members to the patient board; MQNK elects physicians to the physician board; other providers elect a provider's board that is comprised of a hospitalist, nurse, physiotherapist and two additional physician representatives. All business-critical decisions require the consensus of the Physician's Board and the CEO, who is appointed by OptiMedis AG.

Figure 2: Organizational Structure of Gesundes Kinzigal



PART II: ACCOUNTABLE CARE REFORMS

This case study uses the accountable care framework to assess GK's reforms. The framework consists of five accountable care policy pillars: identifying and **stratifying target populations**, implementing **performance measures** related to quality and experience of care, providing data and other mechanisms to help providers identify opportunities to **continuously improve**, restructure **financial and non-financial incentives** to align payments with target outcomes, and **coordinating and transforming care** to improve delivery.

STRATIFICATION OF PATIENT POPULATION

The Kinzigtal population is characterized by lower-socioeconomic status, elderly (17.8 percent of the female population and 11.5 percent of the male enrolled population are older than 75), and have an elevated risk for NCDs.^{8,9} Although enrollment is voluntary, GK providers are encouraged to identify patients who are at risk for certain diseases and enroll them to the appropriate GK health programs—an “inverted risk selection.”⁵ For example, providers identify patients at risk for osteoporosis through an intensive medical examination. The exam involves a health questionnaire and, where appropriate, a bone density assessment in order to stratify patients into three risk groups: slightly elevated, elevated, or highly elevated risk of fracture due to osteoporosis.

GK also identifies high-risk patients using predictive modelling and other data analysis techniques like logistic regression.⁵

MEASURING HEALTH SYSTEM PERFORMANCE

GK has implemented a variety of performance measures that are designed to assess outcomes that matter to patients, providers and payers. Measures include the total cost per patient, patient and provider satisfaction, percent of patients with avoidable negative health outcomes, percent of patients adhering to clinical guidelines, quality of life, and percent of patients in integrated care. A range of stakeholders, including the patient advisory board and physicians, have been involved in the measure development process. The data source includes claims, patient satisfaction surveys and other structured documentation.

MECHANISMS FOR CONTINUOUS IMPROVEMENT

Providers in GK have access to timely, actionable data that are tracked and publicized through external and internal evaluations. Patients provide consent for providers to have electronic access to all relevant diagnoses and treatment information.

Internal evaluations

GK tracks metrics using a comprehensive electronic health records (EHR) database, patient survey data, and a business intelligence (BI) system developed by OptiMedis. The two sickness funds provide data for the BI system. Data include: basic claims data (age, sex, residence), data on diagnoses and services in ambulatory care, prescribing data for office-based physicians, hospital data (admission/discharge diagnoses, length of stay, surgeries and procedures, diagnosis-related groups), sick leave data, and data on nursing care/long-term care.¹⁰ GK also publically shares its achieved savings (the difference between expected costs and actual costs).

GK uses the metrics to assess system-wide performance and identify opportunities to improve access, quality, efficiency, and patient experience. For example, general physicians (GP) receive performance feedback reports every quarter, known as “Health Services Cockpit” (HSC), which is similar to a quality dashboard in the US (Figure 2). These interactive web-based reports include detailed data about provider performance in comparison to other providers within and outside of the GK network.¹⁰ The HSC also provides detailed information at the case, patient, or service level for each indicator. The information is provided in newsletters, physician-led quality review meetings known as “quality circles,” clinical visits, and annual meetings with the CEO of GK.¹¹ These metrics serve as a non-financial motivation for physicians to improve their medical practice.

External evaluations

GK introduced a quality management system that is certified by the International Organization for Standardization (ISO). An external quality institution (DQS) audits GK annually and GK implements changes every two to three years based on audit results. GK also developed an independent scientific review agency, Evaluations-Koordinierungsstelle Integrierte Versorgung (EKIV), in conjunction with the University of Freiburg and the two sickness funds. EKIV solicits and oversees proposals by research institutions to evaluate GK’s program outcomes. For example, since 2006, Cologne University has worked with EKIV to compare the quality of service at GK to those in other regions of the AOK and LKK sickness funds with normal practices. The study is updated annually. Results are released publicly for transparency and accountability and used internally for continuous improvement.

EHR Data

EHR data is used to coordinate care, track patient histories, monitor and improve care, identify groups of high-risk patients, design targeted early interventions, and better understand regional variances of disease prevalence and treatment utilization. GK encourages providers to adopt the EHR system by linking some financial reimbursements to EHR participation, independent of metrics.

FINANCIAL AND NON-FINANCIAL SUPPORTS

GK developed a four-tiered payment model. Providers are largely paid on a FFS model by the sickness funds to avoid provider shortages. However, GK includes add-on payments to encourage coordination between patient goals and physician actions. These payments also reward value-based activities, such as goal-setting agreements between doctors and patients, adding extra services for clients, such as nursing homes that offer physical training to prevent falls, and participating in the EHR.⁷ Physicians are also reimbursed at an hourly rate for work conducted with project groups or quality circles. The payment is the same amount for all experts within the group and has been agreed upon by GK and the Physician’s board. In addition, the HSC digital report provides non-financial motivation for providers to improve their medical practice.

Currently, GK is developing a payment model to replace part of the traditional FFS model for physicians for all GK enrolled patients. This new model will provide a per-patient per-quarter payment (based on historic FFS values plus a 10 percent increase). The aim of the new model is to simplify payment and unburden physicians from administrative tasks involved in FFS tracking. The new model is trust-based, but physicians are, in turn, committed to in-depth data and performance management analysis.

Figure 3: Health Services Cockpit for the GP Practice

Quality indicators and key figures		Your practice (practice 8)	Ø-LP- GP's	Ø-NLP- GP's	Min/ Max GP		
3. Outcomes: Which impacts have interventions on medical and financial outcomes and patient satisfaction?							
3.1 Economical outcomes	Allocation (Morbi-RSA) per patient		1.021,11 →	914,19	834,46	1.115,86	
	- Total costs per patient		826,54	917,89	841,14	668,74	
	= Contribution margin per patient		194,56	-3,70	-6,68	215,30	
3.2 Health outcomes	Hospital cases per 1.000 patients (risk-adj.)		68,01	91,39	93,99	59,41	
	Decedents % (risk-adj. mortality)		0,00 %	0,43 %	0,32 %	0,00 %	
	Patients with osteoporosis & fracture %		1,8 %	1,3 %	1,3 %	0,0 %	
3.3 Patient satisfaction	Impression of practice very good - exc. %		66,7%	61,0%		83,3%	
	Med. treatment very good - exc. %		52,8%	53,0%		79,2%	
	Recommendation likely - certain %		85,2%	84,6%		95,6%	
↑ ↑							
2. Process - What must we excel at?							
2.1 Diagnostic quality	Unspecified diagnoses %		26,3 % →	27,7 %	34,3 %	17,0 %	
	Suspected diagnoses %		1,8 %	1,4 %	1,6 %	0,8 %	
2.2 Utilization	Patients >= 35 with health-check-up %		9,1 %	8,0 %	7,8 %	12,8 %	
	Patients incapable of working %		27,2 %	25,3 %	26,8 %	18,1 %	
	Length of incapacity for work		2,71	2,48	2,74	1,76	
2.3 Improvement of Medication	Generic quota		92,2 %	88,5 %	87,0 %	92,2 %	
	Pat. with heart-fail. & guideline prescr. %		72,7 %	71,5 %	68,8 %	84,6 %	
	Patients >= 65 with pot. inad. med. (PRISCUS) %		14,4 % →	11,6 %	11,2 %	5,6 %	
	Patients >= 65 with inad. med. (FORTA D) %		10,2 %	9,0 %	9,9 %	5,5 %	
↑ ↑							
1. Structur - What is the target population? Where can we							
1.1 Patient structure	1.1.1 Age, gender, etc.	Ø-Number of patients		481,0	480,9	326,1	934,0
		Ø-Age		57,88	55,31	52,96	54,2
		Female %		57,6 %	56,3 %	55,7 %	67,8 %
		Patients capable of work %		53,6 %	58,1 %	59,2 %	75,7 %
		Patients dependent on care %		8,7 % →	8,3 %	7,7 %	4,2 %
1.1.2 Morbidity	Ø-Charlson-comorbidity-score		2,15 →	1,37	1,26	0,75	
	Regional GP-risk-score (Ø = 1,00)		1,16	1,04	0,95	0,81	
1.1.3 Enrollment	Participants Integrated Care %		86,5 %	58,5 %	10,7 %	86,5 %	
	Participants Disease Management Programs %		71,0 %	54,9 %	34,4 %	80,1 %	
1.2 Learning & innovation	Participation in quality circles (Ø = 1,00)		1,50	1,00	-	4,00	

Note. Ø = mean, GP = general physician, LP = GK physician colleague, NLP = GP in the region not contracted to GK, respectively not participating in the ACO, Min/Max= minimum/maximum value for a measure. Bar graphs: every indicator has sparklines (small inline charts) showing the development over time as well as trend arrows indicating significant increases or decreases. The colors blue, red and grey are used to indicate that a value of an indicator should be kept high (=blue), low (=red) or if the measure has just a general information character (=grey), for instance.

COORDINATED CARE

GK has implemented multidisciplinary care teams that include general practitioners, specialists, psychotherapists, hospitals, nursing homes, ambulatory agencies, physiotherapists, and social workers. GK also uses non-medical services to improve health. For example, GK has agreements with pharmacies, gyms, private companies that provide workplace health promotion, and adult education centers.⁵ Through these arrangements GK has been able to shift care, where appropriate, from high-cost providers to more cost-efficient environments. For example, to prevent avoidable and costly hospital admissions, patients choose a “doctor of trust”—any physician, specialist, or psychotherapist within the GK network—who is responsible for health assessment, helping the patient navigate the healthcare system, coordinating care, and managing all follow-up care.⁹ In turn, case managers and trained physician assistants are used to unburden doctors from tasks that lower-skilled workers can perform.

Shared decision-making between patients and providers and self-management initiatives also support care coordination. Patients actively participate in treatment decisions, working together with providers to develop individual treatment plans and goals.⁹ Self-care programs include free gym memberships and nutritional programs for patients with high blood sugar levels. GK offers a smartphone app that patients can use to track their health with rewards such as rebates for sports equipment and groceries. Other efforts to promote better patient engagement include a chronic-disease self-management program focused on improving coping skills and an online communication tool to reduce unnecessary wait time.

GK has leveraged technology to provide improve care coordination. GK utilizes a system-wide EHR that allows providers electronic access to comprehensive patient and treatment information and electronic pathways for the GK health programs.^{10,12} GK is currently implementing an “Open Notes” project in order to give patients direct access to the central EHR. Additionally, GK is piloting online doctor-patient communication tools to reduce unnecessary travel and waiting periods and mobile rehabilitation teams to support geriatric patients in their homes.

PART III: RESULTS OF ACCOUNTABLE CARE INNOVATIONS

Independent research by EKIV shows GK has impacted health outcomes positively for its members.^{4,7,13,14} Figure 4 details several of these results. An ongoing study in conjunction with Cologne University showed that GK has led to reduction in costs, better allocation of services, and health outcome improvements. During the study, the prevalence of fractures among patients diagnosed with osteoporosis was at least 10 percent lower in the GK group than with the age-adjusted control group receiving standard care (Table 2).^{15,16} Results from a quasi-experimental study on the mortality of patients with heart failure demonstrated that mortality rates were 10 percent lower for patients enrolled in the GK health program than the control group.¹⁷ Another recent quasi-experimental study covering 2006-2009 revealed that 635 fewer potential life years have been lost by insurees enrolled at GK in comparison to a control group.¹⁰

Patient satisfaction is consistently high, with 92.1 percent of patients agreeing to recommend GK to friends or relatives (according to GK surveys in 2013 and 2015).¹⁸

Table 2: Examples of Reductions in Cost and Improvements in Care

Dimension	Measure	Results	Source
Health Outcomes	Patients with osteoporosis with fractures % (index: 2005)	7.4% less than control group	Köster et al. 15,16
	Years of Potential Life Lost and Gained (YPLLG)	635 less potential life years have been lost in intervention group than control group	Pimperl et al. 13
Patient Experience	Mean age at the time of death	The mean age at the time of death is about 1.4 year higher in the intervention group	Pimperl et al. 13
	Experienced health improvement	24 percent of those questioned stated that they would now live "more healthy" than before enrolment in GK	GEKIM survey ¹⁸
	Patient satisfaction	92.1 % would recommend GK	GEKIM survey ¹⁸
Cost-effectiveness	Cost savings relative to the costs normally expected for the GK population concerned	€5.5 Million (€170 per insuree)	Optometrist AG

Note: Intervention and control groups vary by study.

In 2013 alone (eight years after the start of the intervention), GK saved €5.5 million relative to the general population, or €170 in savings per insuree (7.4 percent). The net cost savings of AOK BW have been about €700,000 per year since 2007 (the beginning of shared savings contract after approximately €4 million in start-up funding). LKK BW saved roughly €327 per insuree in comparison to another sickness fund in the region—a 16.9 percent difference in costs.⁷ Part of this was driven by a reduction in hospitalization—from 2005-2010, the number of hospitalizations for LKK BW members increased by 10.2 percent while hospitalization rates for the comparative group increased by 33.1 percent, a difference of 22.9 percent.⁷

PART IV: IMPLEMENTATION CHALLENGES

This section identifies key components of GK’s reforms, including internal and external factors that facilitated GK’s implementation of their model, and offers translation opportunities that could support further reforms in the US (provided in Table 3). This section also discusses some of the challenges that GK faced.

Table 3: Translation Opportunities

	Component	Success Factor	Translation Opportunity
Organizational Competencies (from provider perspective)	Patient engagement	Patient Advisory Board	Incorporate a patient advisory board in the executive decision-making process to provide patient-centered care.
	Governance and culture	<ul style="list-style-type: none"> Physician Ownership Long-standing history of collaboration across physicians in the area Close working environment facilitated a culture of trust between providers, payers and general population. 	<ul style="list-style-type: none"> Develop impactful incentives, such as including physicians as shareholders, to attract physicians to enter accountable care organizations To foster a close working environment, create centralized units (at the payer or organizational level) that are responsible for overarching tasks that are interregional or intra-provider.
Accountable Care Policies (from payer perspective)	Population	Uses clinical data and patient characteristics to group patients by disease severity	Leverage clinical records, biomedical, and demographic records to identify and stratify patients based on care needs
	Performance Measures	Patients and physicians are involved in developing evaluation metrics	Adopt a data-driven approach with system-wide EHR to provide timely performance measures, benchmarks and patient feedback
	Continuous Improvements	Provides quarterly performance report using EHR	Provide timely feedback reports drawing from patient surveys and clinical and cost data
	Financial & Non-Financial Incentives	<ul style="list-style-type: none"> Supplementary payments to providers for additional services (e.g. using EHR) 	Capitated payments can be implemented incrementally. Longer-term shared savings

		<ul style="list-style-type: none"> Developing payment model to replace traditional FFS 	contracts can reduce risk and finance short-term transitions.
	Care Coordination and Transformation	Shared-decision making between patients and providers through self-management initiatives	Empower patients through self-care programs
Health Policy Environment (from policymaker perspective)	Regulatory	SHI Modernization ACT enabled shared-savings programs to finance the transition and help new models become self-sustaining	Recognize incremental pace of change and use shared savings to build a financial foundation for value-based payments
	Political	Shared savings contract enabled long-term financial plans for risk-sharing and reimbursement negotiated prior to delivery reform	Address conflicting financial incentive systems early on to secure buy-in from physicians, payers, and patients

CHALLENGES

Resistance to experiment with accountable care

Insurers have been slow to pilot care groups. Impediments include:

- A free rider dilemma. From GK’s perspective, insurers seek to benefit from care innovations without sharing the risk
- A lack of incentives to invest in accountable care projects after the 2007 law expired.
- A lack of consensus about the economic evaluation method for the calculation of the shared-savings

Furthermore, providers have been hesitant to implement ACO reform because of a cultural aversion to risk and a lack of financial incentives to compensate for the risk. GK undertook multiple measures to address these challenges:

- Engaged providers through frequent educational meetings to explain cultural and technical changes required to implement accountable care
- Shifted tasks from physicians to assistants to disburden physicians
- Implemented a system-wide EHR, a BI system including a data warehouse, and standardized reports

Administrative and technological burden to reorganizing care – Transitioning to accountable care can be difficult and may overburden health providers. In GK, physicians faced steep learning curves from new technologies, resources, processes and internal guidelines and the organization also found it difficult to recruit local staff, given the rural location. To overcome this GK hired additional

non-regional staff and shifted tasks from physicians to assistants, where appropriate, to disburden physicians. GK also provided educational seminars and regularly sent staff to providers to facilitate implementation of guidelines and processes.

Implementation Barrier: Resistance to adopting electronic health records system – It took GK more than five years to implement their electronic networking system. GK first developed an integrated EHR at a time when the use of claims data and shared electronic data was not prevalent in Germany. Additionally, the GK EHR was used as a supplement to each practice’s own EHR system and GK lacked protocols to combine clinical data across providers. As a result, initial uptake by clinical and non-clinical staff was slow.¹² In response, GK created a second, centralized interoperable EHR that has been adopted by about 85 percent of ambulatory physician offices.⁸

References

1. Germany. World Health Organization;2015.
2. Blümel M, Busse R. *The German Healthcare System*. The Commonwealth Fund;2015.
3. Ridic G, Gleason S, Ridic O. Comparisons of Health Care Systems in the United States, Germany and Canada. *Materia Socio-Medica*. 2012;24(2):112-120.
4. Busse R, Stahl J. Integrated Care Experiences and Outcomes in Germany, The Netherlands, and England. *Health Aff (Millwood)*. 2014;33(9):1549-1558.
5. Hildebrandt H, Hermann C, Knittel R, Richter-Reichhelm M, Siegel A, Witzentrath W. Gesundes Kinzigtal Integrated Care: improving population health by a shared health gain approach and a shared savings contract. *International Journal of Integrated Care*. 2010;10(23).
6. *Die Zukunft Sichern: Jahresbericht Gesundes Kinzigtal 2014*. Haslach: Gesundes Kinzigtal GmbH. Gesundes Kinzigtal GmbH;2015.
7. Hildebrandt H, Schulte T, Stunder B. Triple Aim in Kinzigtal, Germany Improving population health, integrating health care and reducing costs of care – lessons for the UK? *Journal of Integrated Care*. 2012;20(4):205-222.
8. Lupiañez-Villanueva F, Theben A. *Gesundes Kinzigtal (Germany) Case Study Report*. European Commission;2014. EUR 27057.
9. Struckmann V, Boerma W, Ginneken Ev. *The Gesundes Kinzigtal programme, Germany*. ICARE4EU;2015.
10. Pimperl A, Schulte T, Hildebrandt H. Business intelligence in the context of integrated care systems (ICS): experiences from the ICS Gesundes Kinzigtal in Germany. In: Bock H, Gaul W, Vichi M, Weihs C, eds. *Studies in Classification, Data Analysis, and Knowledge Organization*. Berlin, Germany: Springer; 2016 (forthcoming).
11. Nolte E, Frølich A, Hildebrandt H, Pimperl A, Schulpen GJ, Vrijhoef HJ. Implementing integrated care: A synthesis of experiences in three European countries. *International Journal of Care Coordination*. 2016;0(0):1-15.
12. Reime B, Kardel U, Melle C, Roth C, Auel M, Hildebrand H. From Agreement to Realization: Six Years of Investment in Integrated eCare in Kinzigtal. In: Meyer I, Müller S, Kubitschke L, eds. *Achieving Effective Integrated E-Care Beyond the Silos*. Hershey, PA: IGI Global; 2014:266-283.
13. Pimperl A, Schulte T, Mühlbacher A, et al. Evaluating the Impact of an Accountable Care Organization on Population Health – the Quasi-Experimental Design of the German “Gesundes Kinzigtal”. *Population Health Management*. 2016 (Forthcoming).
14. Koster I, Ihle P, Schubert I. Evaluationsbericht 2004-2011 für Gesundes Kinzigtal GmbH: hier: AOK-Daten. *PMV -Forschungsgruppe* 2014; www.ekiv.org. Accessed August 14, 2014.
15. Köster I, Ihle P, Schubert I. *Evaluationsbericht 2004-2011 für Gesundes Kinzigtal GmbH: hier: LKK-Daten*. Köln: Universität Köln, PMV -Forschungsgruppe;2014.
16. Köster I, Ihle P, Schubert L. *Evaluationsbericht 2004-2011 für Gesundes Kinzigtal GmbH: hier: AOK-Daten*. Universität Köln, PMV -Forschungsgruppe;2014.
17. Schmidt G, Hildebrandt H, Roth M, Auel M, Deschler T, Witzentrath W. Starkes Herz/Strong Heart: integrated health care for patient with history hearth failure in the Kinzigtal region, a rural area in South of Germany. *International Journal of Integrated Care*. 2011;11.
18. Siegel A, Stöbel U, Zerpies E. *GEKIM – Gesundes Kinzigtal Mitgliederbefragung: Bericht Zur Ersten Mitgliederbefragung 2012/13*. Freiburg im Breisgau: Universität Freiburg;2013.