

Webinar Part I -KHZG – Hospital Future Act

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Agenda (1/2)

• KHZG

- Background KHZG
- Requirements (general)
- Overview of funding topics
- Example for MUST & CAN criteria
- Application process and project start
- Implementation process
- KHZG Application status (01.02.2022)
 - Number of applications submitted
 - Number of applications made differentiated to the subject of the application





Agenda (2/2)

- Supplier overview for the KHZG
 - EHR-/KIS- ("Krankenhausinformationssystem") supplier
 - Topic-specific suppliers according to the funding status
- Expert-Interview KHZG, Prof. Dr. Sylvia Thun / Dr. Sebastian Krolop
- Outlook / Conclusion





KHZG - Background

#SmartHealthSystems: Digital-Health-Index



<u>Status quo in</u> <u>Germany</u>:

Digital innovations are not sufficiently popular with patients

Source: Bertelsmann Stiftung 2018





KHZG - Background

To support the digital Transformation in German Healthcare the German government supports with various laws:

DiGa – Digitale Gesundheitsanwendungen (DVG)

The user is the patient. The app is prescribed by the doctor.

Reimbursement by Health Insurance Companies.

DiGA supports the detection, monitoring, treatment or alleviation of diseases or the detection, treatment, alleviation or compensation of injuries or disabilities. KHZG – Krankenhauszukunftsgesetz

The user is the hospital.

Total funding of 4.3 billion €

..... more information following slides

DVPMG – Digitale Versorgung und Pflege Modernisierungs Gesetz

Coming mid of 2021

The user is the patient.





- Fund volume totaling 4.3 billion euro, of which 70% are federal funds and 30% state funds and / or funds from the hospital authorities (option within this scope of the aplication)
- Funding objects are necessary investments in:
 - > modern emergency capacities, both in terms of space and investment,
 - digital infrastructure for internal and cross-sector care (in particular process organization, documentation, communication, telemedicine, robotics and high-tech medicine)
 - ➤ information security and
 - the targeted development and strengthening of regional supply structures in order to conceptually coordinate structures for both normal operations and times of crisis.
- the application process and the distribution of funds are two-stage: 1. State reviews application from KH and reports requirements to the federal government 2. Federal government reviews applications and allocates funds







Who is being supported? Hospital carriers (university clinics only in particular.)

What is being promoted?

- ✓ Investment costs for procurement, construction, development, expansion are necessary. technical and information technology measures
- Costs for commissioning and initial operation (up to 3 years during the project period)
- ✓ Cost of **software**, **infrastructure** and **services**
- ✓ Personnel costs, including training costs
- ✓ (tw.) Costs of spatial measures (10%), costs of financing (complementary loan programme)
- ✓ Important: At least 15% of the total cost per project must be accounted for by IT security
- ✓ What is the funding rate? Funding rate 70-100% (70% federal government, plus 30% by the state if necessary)



$KHZG-Overview \ of \ funding \ topics$



Nr.		Funding topic	Excerpt of legal text
1		Emergency department	Adaptation of emergency rooms of a hospital to the state of the art technology
2		Patient portal	the establishment of patient portals for digital reception and discharge management, which enable a digital exchange of information between service providers and recipients before, during and after hospital treatment;
3	Z	Digital care documentation	continuous electronic documentation of care and treatment services as well as support systems for automated and language-based documentation of treatment services,
4	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Decision support systems	semi-automated or fully automated clinical decision support systems with the aim of improving the quality of care;
5		Medication management	a continuous digital medication management to increase drug therapy safety, with all drug-related treatment information available throughout the hospital treatment process, including robotics-based medication systems,
6	•	KH-intern Communication (performance requirement)	an in-hospital digital performance requirement process that enables both performance requirements and electronic feedback with the aim of accelerating hospital communication processes
7		Interklinische Telemedicine (cloud computing)	Concepts needed to align the services offered by multiple hospitals with the goal of a balanced, coverage-ensuring, and specialization-enhancing supply structure, including the provision of secure systems that provide IT infrastructures over a server network without them being installed on the on-premises server (cloud computing systems),
8		Bed supply verification system	the introduction or further development of an online-based proof of care (bed) system to improve cooperation between hospitals and between hospitals and between hospitals and other care sectors;
9	×	Telemedical networks	the procurement, construction, extension or development of information technology, communication and robotics-based systems, systems or procedures or spatial measures necessary to create telemedical network structures and use cases between hospitals or between hospitals and outpatient facilities;
10		Information / Data security	development of information technology systems, systems to determine the availability, integrity and confidentiality of their information technology systems, components or processes that are essential for the functioning of the hospital and the safety of the patient information processed,
11	°₽°	Pandemic patient room	Projects to adapt patient rooms to the specific treatment needs in the event of an epidemic, in particular by converting rooms with more than two beds into single or twin rooms, provided that the project leads to a corresponding reduction in the number of hospital-planned beds.



KHZG Example for MUST & CAN criteria





KHZG Application process and project start







KHZG Implementation process







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Number of applications submitted (Status 01.02.2022)

State	Number of applications	Number of applications for transnational projects	Source:
Baden-Württemberg	663	0	Bundesamt für Soziale Sicherung
Bayern	1467	0	
Berlin	173	6	•
Brandenburg	227	0	
Bremen	40	0	
Hamburg	100	0	
Hessen	512	0	
Mecklenburg-Vorpommern	94	0	
Niedersachsen	723	0	
Nordrhein-Westfalen	1159	0	
Rheinland-Pfalz	271	0	
Saarland	77	0	
Sachsen	77	0	
Sachsen-Anhalt	127	0	
Schleswig-Holstein	244	0	DUCTNECC
Thüringen	116	0	ROZINEZZ
Gesamt	6070	6	FINLAND



Number of applications made differentiated to the subject of the application (Status 01.02.2022)

Funding topics Number of applications FTB 1 Notaufnahme (emergency department) 395 1130 FTB 2 Patientenportale (patient portal) FTB 3 Digitale Dokumentation (digital documentation) 1533 FTB 4 Entscheidungsunterstützungssysteme (decision support systems) 3550 937 FTB 5 Medikationsmanagement (medication management) FTB 6 Leistungsanforderung (performance requirement) 553 151 FTB 7 Cloud-Computing FTB 8 Bettenversorgungsnachweissystem (bed supply verification system) 26 FTB 9 Telemedizinische Netzwerke (telemedical networks) 270 776 FTB 10 Informationssicherheit (information / data security) FTB 11 Patientenzimmer Pandemie (pandemic patient room) 9 6330* Gesamt

* The difference to the number of applications made result from the fact that one application can concern several subjects

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Source:





Number of applications submitted according to the subject of application and federal states (Status 01.02.2022)



State	FTB 1	FTB 2	FTB 3	FTB 4	FTB 5	FTB 6	FTB 7	FTB 8	FTB 9	FTB 10	FTB 12
Baden-Württemberg	38	116	147	55	104	75	16	3	21	91	0
Bayern	80	234	311	99	209	140	22	1	58	314	0
Berlin	11	39	46	21	25	8	3	1	13	7	0
Brandenburg	18	45	52	22	34	17	2	0	11	26	0
Bremen	1	7	11	2	9	8	0	0	0	2	0
Hamburg	5	18	27	10	17	9	2	0	2	10	0
Hessen	27	104	120	48	88	52	15	2	13	42	4
Mecklenburg-Vorpommern	16	3	35	0	0	0	0	3	19	18	0
Niedersachsen	46	137	177	64	110	46	36	3	41	63	0
Nordrhein-Westfalen	101	195	308	98	164	89	31	3	61	92	4
Rheinland-Pfalz	15	48	59	18	39	37	1	3	12	38	0
Saarland	2	14	16	7	12	10	1	1	5	9	0
Sachsen	17	61	74	36	63	35	10	1	4	22	0
Sachsen-Anhalt	0	40	55	42	2	1	0	0	0	0	0
Schleswig-Holstein	18	46	57	16	41	17	10	5	9	25	1
Thüringen	0	22	37	11	19	8	2	0	1	16	0
Gesamt	395	1129	1532	549	936	552	151	26	270	775	9

Amount of the requested funding (Status 01.02.2022)

State	Funding applied for	Funding provided by the federal states	Sou
Baden-Württemberg	384.124.112,32 €	166.889.546,22 €	
Bayern	498.132.658,86 €	213.369.296,69 €	
Berlin	147.739.133,41 €	63.200.162,66 €	
Brandenburg	88.304.774,24 €	37.844.906,29 €	
Bremen	28.379.494,31 €	12.162.683,44 €	
Hamburg	75.498.300,24 €	16.178.207,38 €	
Hessen	219.959.917,42 €	52.439.244,69 €	
Mecklenburg-Vorpommern	62.165.612,51	26.645.405,36 €	
Niedersachsen	296.536.207,74	122.000.666,46 €	
Nordrhein-Westfalen	635.107.525,85 €	275.465.452,25 €	
Rheinland-Pfalz	152.074.050,64 €	65.174.393,18 €	
Saarland	35.483.355,89 €	15.207.153,30 €	
Sachsen	148.590.246,62 €	63.681.534,46 €	
Sachsen-Anhalt	85.277.347,04 €	36.547.436,18 €	
Schleswig-Holstein	100.877.067,77 €	43.233.029,06 €	
Thüringen	78.091.218,97 €	33.467.664,97 €	
Gesamt	3.036.341.023,83 €	1.243.506.782,59	



ource:

Bundesamt für Soziale Sicherung

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Budget planning process as part of the application

As part of the application for the funding, the hospitals had to provide detailed cost overviews and budgets. In the course of ascertaining the necessary figures, offers of indications were requested from various manufacturers.

In many cases, also due to lack of market overview, many hospitals have turned to their EHR providers. That does not mean that these are already set as a future supplier, but the strategy of the EHR providers in recent years has been based very heavily on them.

EHR Provider	German EHR solution	Weblink	further informaton	Excerpt
CGM	CGM Clinical	https://www.cgm.com		
CGM	CGM Medico	https://www.cgm.com		
Cerner	i.sh. med	https://www.cerner.com		
Nexus	Nexus / Kis NG	https://www.nexus-ag.de		
Telekom	iMedOne	https://www.telekom-healthcare.com		
Dedalus HealthCare	Orbis	https://dedalusgroup.de	former Agfa Orbis	
Meierhofer	M-KIS	https://www.meierhofer.com		BUSINE
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Provider of services and partial services at the FTB 2 -Patient Portal (Example of KH Reinbek (1/2)

In additon to the classic HIS manufacturers, who may have a slight sales advantage as they are already integrated in the hospital, there are many independent "best-of-breed" providers who offer innovative and, to a large extent, more efficient solutions for the individual funding issues.

Digital Health

Excerpt

Port

The following example is KH Reinbek <u>https://www.krankenhaus-reinbek.de</u>, which tries to meet the MUST criteria for the patient portal by using innovative best-of-breed solutions.

(Source: Interview with Mrs. Laila Wahle, Hospital Manager IT / CIO, Krankenhaus Reinbek, 07.12.2021)

Provider in the field of FTB 2	Best-of-Breed"-	Weblink
e samedi	Software as a service with a highly secure ,,patient journey" for medical practices, hospitals, patients and health insurance companies	https://samedi.com
Thieme	With the use of tablets, E-ConsentPro mobile enables completely digital patient information from the anamnesis to the archiving of the information sheet	https://thieme-compliance.de
СЛИСОМ	Wayfinding for Public Building	https://corporate- communications.cancom.de

Provider of services and partial services at the FTB 3 – Digital Documentation(Example of KH Reinbek (2/2)



Excerpt

The following example is KH Reinbek <u>https://www.krankenhaus-reinbek.de</u>, which tries to meet the MUST criteria for the digital care documentation by using innovative best-of-breed solutions. (Source: Interview with Mrs. Laila Wahle, Hospital Manager IT / CIO, Krankenhaus Reinbek, 07.12.2021)

Provider in the field of FTB 3	Best-of-Breed"-	Weblink
MARIS HEALTHCARE	MARIS speech processing, consisting of digital dictation and speech recognition (stationary and mobile), digitizes the process in hospitals and is therefore part of the eligible projects.	https://www.maris-healthcare.com
MEDICAL MINFORMATION ANALYTICS	Coding doesn't have to be complicated. MIA already supports you with powerful algorithms and artificial intelligence for coding in hospitals. With our products, you can make full use of your data, secure revenues at a high level of quality and save valuable time in the process.	https://www.mia.rhenus.com
PHILIPS	The IntelliSpace Critical Care and Anesthesia (ICCA) information system improves the entire spectrum of patient care. By communicating with clinical IT systems and devices, meaningful information is precisely available.	https://www.philips.de/healthcare/in novation- wissen/krankenhauszukunftsgesetz
synedra [1 information technologies	synedra offers solutions for data management in healthcare. With our health content management platform synedra AIM, we help our customers to organize their workflows for the treatment of patients in an efficient and high-quality manner.	https://www.synedra.com



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Expert-Interview KHZG



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Sylvia Thun:

Prof. Dr.Sylvia Thun is licensed doctor, engineer for biomedical technology and, since 2011, professor for information and communication technology in health care at the Niederrhein University of Applied Sciences. Since 2018 she has also been visiting professor at the Charite and dirctor for e-health and interoperability at the Berlin Institute for Health Research of the Charite Foundation. As an expert for national and international IT standards in the healthcare sector, she mainly conducts research on topics such as the eGA and e-prescription.

Sebastian Krolop:

Dr. Sebastian Krolop is the director of the HIMSS. As a doctor of medicine, Krolpo started his career at the Heidelberg University Hospital in the Clinic for Anaesthesiology. He worked as a consultant at the Boston Consulting Group in Frankfurt bevor becoming managing partner of ADMED. At Accenture he was "Partner Strategy Consulting Healthcare" for Germany, Austria and Switzerland, at Philips he was "Vice President and Partner Healthcare Transformation Services" for Europe, the Middle East and Africa. Before becoming a board member at HIMMS, he was Partner and Industry Lead Life Science and Health Care at Deloitte.

Interview Sylvia Thun / Sebastian Krolop (1/5)



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What do you think will change as a result of the Hospital Future Act (KHZG)?

Sylvia Thun:

The KHZG can certainly give a boost to digitization in hospitals. But even with the planned 4.3 billion euros, not all problems can yet be solved. In order to get away from the underfunding of digitization, like other industrialized countries we have to get 5 percent, if not 10 percent of the hospital budget. Investments are currently significantly lower. The software systems suffer from this. The demands there are high: the systems must communicate with one another, be interoperable, fit into the processes and not only purchased but also installed. These are all things that are required in the maturity level measurement provided by the KHZG. Based on this, a hospital can position itself in international competition. A national maturity level scheme also makes it possible to compare oneself with other hospitals in the country.

Sebastian Krolop:

I would have hoped for more courage in two places. For example, when it comes to the question of whether the federal states are really the right choice for financing investment costs. You rarely manage to pay for the total investment costs. As a result, some hospitals have to make new investments from operating results. More courage would also help to question the current processes and structures. Instead of digitizing a complex process one-to-one, it would sometimes make more sense to change the process in general, to make it leaner and more efficient.

Interview Sylvia Thun / Sebastian Krolop (2/5)



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As we know, there are different types of funding and a hospital consists of very different areas. Where do you see the greatest need?

Sylvia Thun:

I see the greatest need in two areas: within the hospirals and in external communication. Internally, service center management should be expanded and improved, internal processes analyzed and better medical documentation possible. This can be implemented through specifications for structured findings reports. The aim is to relieve the medical professionals and to make the information available interoperably as data and not as documents. In addition, the hospital ecosystem should open up more communicatively to the outside world. Doctor's letters could be sent sooner so that patients can make appointments or fill out their medical history form before they go to the clinic.

Sebastian Krolop:

Apart from that, I don't think there is an area that needs special support. When it comes to digitization, we shouldn't lose sight of the big picture. It is about the question of how the healthcare system will generally reposition itself. Most recently, the healthcare system has stagnated technologically for 15 years. But now we are already seeing new business models that use health data differently than before. The added value must be recognized here instead of not allowing the flow of data in several sectors as was previously the case. I have the feeling that so far the hospitals have not looked at the problem from the patient's perspective on a needs-oriented basis.

Interview Sylvia Thun / Sebastian Krolop (3/5)



It is not easy to quantitatively prove success here. What key performance indicators (KPIs) or metrics do you think there will be to measure interoperability or progress in digitization at the KHZG?

Sylvia Thun:

Interoperability can be measured per se with KPIs. But it won't be that we should just measure technology. It is not important to ask how many messages the communication server can pass through daily, but which processes are behind them and can be better mapped using new technologies. For example, is it possible to see the laboratory values interated into the main hospital information systemm(HIS) in real time? How is the telematics infrastructure (TI) integrated that is not yet fully available (e-prescription, electronic medication plans, digital vaccination card), and how is the electronic patient record (ePA)?

Sebastian Krolop:

That's right.We want to look at the benefits of digitization and what can be achieved with it. For example, we ask what is needed to reduce certain prevalence rates, which factors influence these values, how they can be measured and how can we ensure that the various drivers are understood over the long term? It's an approach that we find exiting.



Interview Sylvia Thun / Sebastian Krolop (4/5)



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There are also big tasks. What can Germany learn from abroad when it comes to digitizing hospitals?

Sylvia Thun:

Successful countries have a clear strategy towards standards and coordination bodies, such as the Office of the National Coordinator for Health Information Technology in the USA. This forms a community with the stakeholders of the health system. We learned from the electronic health record (ELGA) in Austria that software has to be implemented. In Germany we always want to be very precise and shy away from making mistakes. Instead, we should establish a culture of mistakes, get things moving and learn from mistakes. However, this is easier said than done, because here in Germany hangs the Daocles sword of data protection. This is partly used to prevent changes.

Sebastian Krolop:

There are international examples of what works and what doesn't when digitizing hospitals. We can develop the useful elements further. We have a good foundation for a clear strategy towards standards and the money to implement these concepts. We have to do that now, however, because otherwise private companies will come and take over the field, which in case of doubt tend to pay less attention to data protection than the stakeholders of our health system. So I'm totally honest about taking a better, smarter, and consolidated approach to privacy.

Interview Sylvia Thun / Sebastian Krolop (5/5)



Are there aspects that, in your opinion, are often neglected in this debate?

Sylvia Thun:

It is also important to me that industry is not seen as an enemy, but as an enabler who is helping to pave the way for the future. Unfortunately, this is not often seen in Germany. This is of course also due to the fact that the HIS are highly complex and so far not very user-friendly. In order to cure the bad reputation of the industry, we have to adjust what users need and what is currently possible. That requires more competition. Possibly the switch to SNOMED in Germany will benefit this.

Sebastian Krolop:

The health system must be understood as a digital ecosystem with various players and not just a topic for hospitals. That is why digitization is not a technology issue, but a management issue. But not all board members have understood yet that they have to take care of it themselves and recruit the right talent. Because the focus must be on your own solutions. This is time-consuming and ressource-intensive, but there is no alternative. Those who haven't understood this are already sitting halfway on his or her chair.





Agenda (2/2)

- Expert-Interview KHZG, Prof. Dr. Sylvia Thun / Dr. Sebastian Krolop
- Outlook / Conclusion





Outlook / Conclusion (1/2)

- Since there are market opportunities for innovative best-of-breed solutions in Germany, companies from Finland should also consider a possible market entry. As part of the strategic considerations and decisions as to whether such an entry is sensible and promising, certain questions should be asked and answered in advance:
 - > How big is the market potential in Germany for my product / my solution?
 - What is a possible competitive situation with domestic companies and which competitors from abroad are also already active in the German market?
 - > Does my product fall under one of the KHZG funding criteria?
 - > Does my product have medium and long-term potential in the German market regardless of the KHZG?
 - Can it make sense to cooperate with already established market participants in Germany, since my product complements their established solution and if so, which cooperation partners are possible and available?





Outlook / Conclusion (2/2)

- Where are my target customers, how do I identify the decision-makers in the target company and what sales and communication concept do I use to adress them?
- Can my product / my solution be transfereed 1:1 to the German market (and thus possible eligible for funding under the KHZG) and at which points do I have to change or start my product / solution in order to be competitive in the German market?
- Is my company ready for a short-term market entry in Germany? These include, for example: Website is available in German and online. Marketing material such as product broshures and sales flyers as well as company and product presentations are available in German. There is a German press distribution list and regular press releases are sent to increase brand awareness at short notice.
- Are there German-speaking sales resources (direct sales or indirect sales via distributors) to address the identified target customers and target persons as well as potential cooperation partners on a large scale?



Contact for further questions





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