

# MEDTECH RADAR

Innovations in medical technology | Media service  
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Start-ups  
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MedTech Radar Live 2019

## How does innovation reach hospitals?

A cooperation with

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## INNOVATION IN HOSPITALS

# Start-ups need to play a long game

**The need is there, as are the ideas – but a host of challenges must be overcome before new approaches can become a reality in the everyday life of hospitals. Above all, entrepreneurs require the right partners on the ground.**

**A** correct diagnosis and the best therapy – promptly available and based on reliable data – doctors dream of such things when they think about useful innovations in everyday clinical life. “Until recently, new technology has focused mainly on information, documentation and management processes,” reports Kai Wehkamp, senior executive physician at the University Hospital of Schleswig-Holstein (UKSH) in Kiel. As a result, patient files at UKSH generally only contain a couple of pages.

More recently, all the key patient information can be found in the electronic hospital information system (KIS). The UKSH has implemented this and is therefore ahead of much of Germany when it comes to paperless hospitals. Wehkamp comments that today “any clinical data such as charts or blood test results are saved digitally, including the notes recorded by doctors and other healthcare professionals.” Young

physicians such as Wehkamp believe that this is only the beginning of the digital age in hospitals. “There is huge potential when it comes to supporting doctors with complex decision-making tasks for each individual patient,” says Wehkamp. “And in that regard, there have been very few viable solutions up until now.” Such processes could alleviate pressures in internal medicine in particular. “We have many patients with ‘multimorbidity’ and complex pathologies for which a wide range of diagnostic and treatment options exists,” states Wehkamp. That makes it challenging for doctors to always come to the same, correct, beneficial decision.

### Digital aids help doctors to make decisions

At the same time, underlying scientific evidence for the various types of treatments is developing rapidly. In clinical practice, “who is being treated and how is a question we would like to answer as quickly as pos-

Photo: BVMed/ Aesculap

sible and in a valid and standardised manner. Based on the latest scientific findings, but also tailored to a patient's individual preferences." Together with Hamburg-based start-up Kumi Health, a digital workflow has been developed within Internal Medicine I at the University Hospital in Kiel. Since mid 2017 there has been an online-based modular system that contains pre-defined elements for a broad range of indicators oriented around applicable guidelines and internal hospital standards. "A quality, digital treatment pathway is thus available to us that simultaneously provides individualised and standardised options," says Wehkamp.

The knowledge gained from that process can in turn be shared with colleagues in the team in real time. This saves considerable time when senior physicians and assistant physicians have to make decisions together or with nursing staff. "This workflow is unique because it allows us all to draw on extensive knowledge that would otherwise be available only from each person's individual experiences. In that way, we are all updated very quickly," adds Wehkamp enthusiastically. According to him, it is only a matter of time until this workflow has been integrated into the KIS. "These workflows represent a first step towards increasingly digitised treatment. It would be a dream come true if we could use artificial intelligence to search through the huge masses of data systematically for decision making," says Wehkamp thinking of the future.

### How do changes reach a hospital setting?

Jared Sebhatu, Head of Business Development at smart Helios GmbH, is also convinced of the potential offered by such approaches for an efficient health-care system. It is generally easier to develop solutions for in-patient care than for out-patient treatment. At the same time, he is also aware of the practical challenges that accompany clinical innovations. "One of the central aspects of such innovation is to organise change processes: How does the hospital as a whole feel about change? Are innovations promoted from above and implemented by staff? What are the current pressures on doctors and healthcare professionals and how much time is dedicated to the introduction of new technologies," Sebhatu hints at only

**MedTech Radar Live 2019**  
**5th June 2019, Berlin**

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**Target group:** established medical technology companies, investors and & medtech founders

**Conditions for participation:** free entry after registration until 29th May at BVMed [www.bvmed.de/radar-live](http://www.bvmed.de/radar-live)

**Moer information:** [www.medtechradar.live](http://www.medtechradar.live)

some of the matters discussed in this context within the hospital. Thus, start-ups with new ideas but also innovative medical professionals need to play the long term game. "In my experience until now, the long-term potential of a solution is recognised, but if the budgets aren't available in the short-term, their adoption or implementation becomes difficult," says Sebhatu. This results in hospitals focusing on short-

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**„It would be a dream to use artificial intelligence to search through the masses of hospital data systematically for decision making.“**

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term goals, rather than long-term objectives. "One thing is clear: generally speaking, hospitals aren't structured to help young entrepreneurs to develop business ideas in the long run." At the MedTech Radar Live Conference on 5th June in Berlin, Sebhatu will talk about how the current structure of hospital settings in Germany is changing. Sebhatu assumes that many new perspectives are also neglected in the longer term, for instance in view of the growing challenges due to the care crisis. For anyone who wants to introduce new solutions to a hospital, it is especially important to have clinical champions on board. That would allow them to work specifically to-



*Kai Wehkamp, Senior Executive physician at UKSH in Kiel, sees a huge potential in digital solutions.*

wards generating data for a new solution. "You must be able to prove that the idea works in reality and that it offers added value to the hospital, staff and patients," stresses Sebhatu. The current trend is towards more involvement in procedures for patients and their families in particular. "There is a lot happening in this area now. Medical technology companies also want to gain a better understanding of how their medical products are used and applied by patients in real-life settings and what improvements are possible in that regard," says Sebhatu. Wehkamp can also confirm that development. He believes that

his direct work with patients could be much more effective with the help of digital solutions. And a trial is already under way at UKSH, where the "Share to Care" project tests doctor-patient communication based on digital aids to help decision-making. Wehkamp goes on to explain the objectives of the initiative, which has been supported by organisations such as the Techniker Krankenkasse, "The goal here is for doctors and patients to discuss diagnoses and possible treatment options as equals."

### **Clear communication with patients**

Digital tools aiming to improve communication with patients such as "Share to Care" offer real added value when making medical decisions: whether an operation should really take place, if they can expect certain side-effects, or if realistic alternatives exist. "Share to Care" focuses on informing patients about their treatment by providing them with easily understandable information based on scientific research. UKSH is the first university hospital in Germany to participate in the project. A total of 90 aids are currently being developed to support the decision-making process. "We want to test the extent to which shared decision-making can support patient-centred care throughout a hospital," reveals Wehkamp. There is one thing of which he is certain: it is easier to work with an informed patient. "It builds their trust in the medical system and our treatment options, and we also learn when the patient needs our help or when they would like to be able to decide for themselves." ⊙

### **? Where is the largest clinical unmet need and which challenges exist with regard to the implementation of innovation in this space?**

**!** "The demand in the hospital sector is very broad: It ranges from process management and logistics to the specific need for care, such as at the wards, in the patient admissions and in the operating theatres. The actual implementation on site is often dependent on the hospital's change management: How is change perceived and supported? Anyone who has long-term potential as a start-up needs first and foremost realistic data from everyday clinical work."



**Jared Sebhatu, Director Business Development, smart Helios GmbH, & Speaker at MedTech Radar Live 2019**

## START-UP FOCUS

# Digital care: Recording the position

**Changing demographics mean greater challenges for nursing or care staff. At the same time, the sector is plagued by staff shortages. Automated, sensor-assisted systems such as those developed by start-up LAROMED may help alleviate such problems in hospitals and nursing homes.**

**F**ounder of Laromed GmbH Günter Nieuwenhuis is convinced that smart innovation is in demand in the care sector. A glimpse into official care statistics is more than enough to satisfy him of that. Today, more than 3 million people already rely on carers and nurses. Experts anticipate that numbers will rise greatly over the coming years. Nieuwenhuis would like to increase the efficiency of care systems to help tackle the issue. His goal: to introduce a digitally assisted smart care bed that will relieve the work of carers, giving them considerably more time for human contact.

## Smart sensor-assisted mattresses

Working together with the mattress and bed manufacturer Laroma, over the past two years he has developed a smart mattress. Cutting-edge sensors are spread over the surface of the mattress and gather information digitally while the patient sleeps. "In light of the current care crisis, this is particularly crucial for wound patients and those in nursing homes," says Nieuwenhuis. "Our digital sensor solution enables us to provide carers with detailed data quickly, allowing them to recognise right there at the patient's bedside if the patient's position needs to be changed or not."

The developer knows that for routine use in a care setting it is essential that the system be operated easily. To that end, he opts for a cloud-based IoT and AI system, which stores data that can be accessed using the internet. Further developments make it possible for the bed to enable different movement elements at the touch of a button so that a patient's position can be changed automatically. It also offers them the opportunity to assume a genuine standing position. The

initial costs for that kind of bed are relatively high, but rehabilitation centres and nursing and residential homes are taking a keen interest in the technology. "Our greatest challenge is that we can't simply sell all the beds and our software to customers, as has been the case to date with manufacturers of hospital beds," explains Nieuwenhuis. Rather, he envisions a digital business model – which would offer further services depending on need and at a fixed monthly rate. That

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would not only ensure proper care, but also allow for hard- and software updates. "Against the backdrop of technological development, it's a future-oriented solution that guarantees high quality. It is also more cost-efficient for users in the long term," Nieuwenhuis is certain of that.

In Germany's reimbursement-based system, money has yet to be provided for such care-assistant systems, but initial discussions with insurers and politicians have proven positive. They have already found their first partner. The alsterarbeit GmbH charity, an employment organisation run by the Evangelische Stiftung Alsterdorf in Hamburg, is to be responsible for production and sales. 

# MEDTECH RADAR

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The MedTech Radar is a joint information service of HTGF, Earlybird, BVMed and medtech zwo. It offers insights into current trends of medical technology sector. The publication is published twice a year in spring and autumn.

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High-Tech Gründerfonds

The High-Tech Gründerfonds, an initiative of the Federal Ministry for Economic Affairs and Energy, the KfW and 32 companies, supports young technology companies with seed financing to advance research projects at least until a prototype status or until market entry.

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## :::: BVMed

Gesundheit gestaltet.

The German Medical Technology Association (BVMed) is an industry association that represents over 230 industrial and commercial companies in the medical technology sector. Among its members are 20 of the largest medical device manufacturers worldwide in the field of consumer goods.

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