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Our Vision of a National Health Platform

Strategies for a Trustworthy Information Architecture in Healthcare

- **Health literacy challenges:** Patients find it difficult to manage the vast amount of digitally available information
- **Emerging health market:** Tech giants have begun to enter the healthcare sector, a development that could lead to significant power shifts and data monopolies
- **Trust crisis:** Data misuse, opaque algorithms and misinformation necessitate the creation of safe online spaces
- **Pressure on healthcare systems:** A platform strategy is needed to address these challenges and maintain relevance in the industry
- **Harnessing potential:** Our vision involves bundling data and services from various providers to offer timely and trustworthy health information

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With breathtaking speed and disruptive force digital transformation is revolutionizing all areas of daily life, including healthcare. Digital platforms are the driving force behind this change.

Whether it is an appointment with a dentist, an overview of symptoms, the diagnosis and treatment of diseases, or finding a suitable practice in one's vicinity – the number of digital platforms offering patients access to healthcare services and information with just one click is growing steadily. Platforms include:

- › **Search engines** like Google or Bing using AI-powered language models to improve how individual health questions are answered
- › **Portals** for pharmacy services, online physician searches, appointment scheduling, and video consultations
- › **Websites and social media channels** managed by media houses, insurers, government agencies, or influencers, that provide health information
- › **Medical apps** ranging from healthy lifestyle apps to certified and sometimes prescription-eligible digital health applications (DHA) for the prevention and treatment of diseases
- › **Electronic health records (EHRs)** used to digitally store health data such as X-rays, diagnostic results or physicians' letters

However, in order to make well-informed decisions and receive the best possible healthcare, patients need to have a clear overview of the variety of digital platforms and offerings. They must be able to identify trustworthy information and services relevant to their needs.

Health literacy is crucial to ensuring that patients make the right decisions. In Germany, over half of the population struggles to find, understand, appraise, and apply health-related information.

The Power of the Platform Economy

Global tech companies are gaining ground in the healthcare sector with AI-supported platforms.

The risk: These tech giants have the potential to shift the balance of power within healthcare systems overall and in solidarity-based healthcare systems more specifically.

The challenge: How can healthcare systems harness the innovative power of digital platforms for the common good?

The potential: National healthcare systems are developing non-commercial, future-oriented, patient-centered, and continuously learning digital health platforms.

The National Health Platform of the Future

Imagine an online platform where patients could instantly access health information and services relevant to their specific needs, with no search required.

The Bertelsmann Stiftung, in cooperation with the Fraunhofer Institute for Experimental Software Engineering (IESE) and other experts in law, health economics, and health sciences, has taken on this question. Together, we have developed a vision of a public-good-oriented health platform that bundles and curates quality information and services. This vision also illustrates the potential benefits that can arise from collaborative efforts involving government, civil society and the private sector. With this concept, we would like to give impetus to the stakeholders and provide a pool of ideas for developing a national health platform.

58.8%

of the population in Germany report low levels of health literacy.*

82.6%

of the German population report struggling (considerably) with determining the trustworthiness of digital health information.*

*Source: Health Literacy Survey Germany (HLS-GER 2)

About

61%

of the population in Germany report difficulty in making health-related decisions due to media coverage.*

Agile Concept Development

Our concept for a national health platform, available in both German and English at www.trusted-health-ecosystems.org/en, is subject to ongoing development and updates. Plans include publishing contributions on the ownership model, platform financing, and its data model. The website also offers users the opportunity to provide feedback on our conceptual considerations.

(trustworthy). The user interface, which resembles a social network like LinkedIn, must meet these requirements.

LIV's centerpiece is a personal feed that provides timely, individualized posts filled with quality information and services tailored to patients' current health needs.

The personal feed represents a shift from the traditional pull method of search engines to a push approach: Through LIV, patients have convenient access to the information they need, without the hassle of lengthy unqualified often misleading searches.

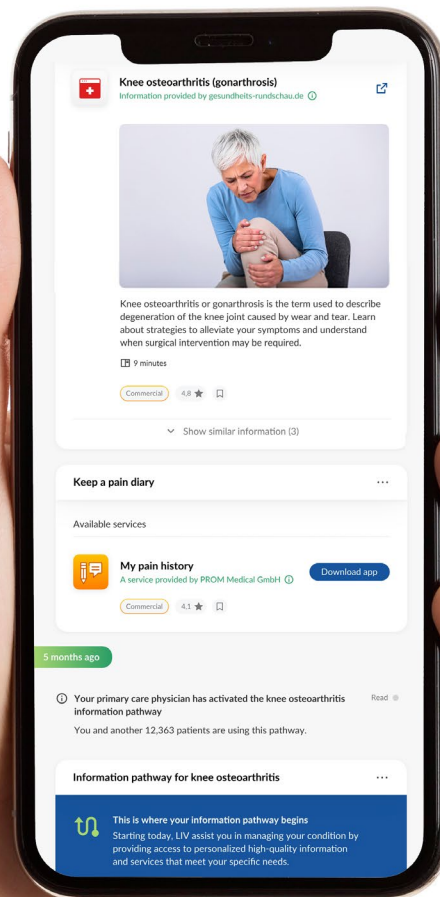
Patient Information Pathways: the Core of our Product Vision

A national health platform should focus on people and their needs. It should make sure that personalized information and services are easily accessible, and it should address both medical and legal social issues. These principles form the basis of patient information pathways, which are the core of our product vision.

To render patient information pathways more tangible, we developed a prototype called "LIV," the German acronym for "leicht" (easy), "individuell" (personal), and "vertrauenswürdig"

»The threat of misinformation and disinformation globally is no less than a threat to science and public health. We have seen how disinformation can kill people.«

Dr. Alain Labrique,
Director of Digital Health and Innovation at the
World Health Organization (WHO)



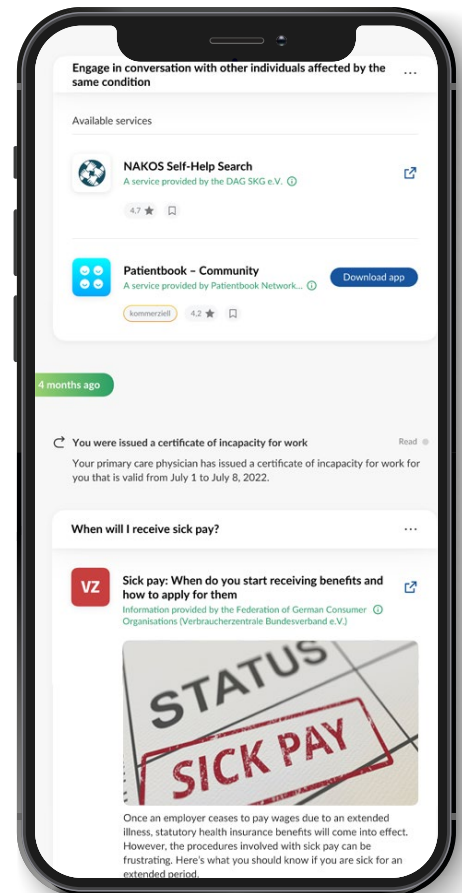
Once authorized by her physician, Katharina can use the information pathway for knee osteoarthritis. This can involve, for example, her maintaining a pain diary and reading up on her diagnosis.

Information Pathway for Knee Osteoarthritis

For illustrative purposes, consider fictional patient Katharina Funke, who has been suffering from severe knee pain for a long time. Suspecting knee osteoarthritis, her primary care physician recommends the information pathway for this condition and provides her a link.

On LIV, Katharina receives basic information about her condition and authorizes the use of data from external sources, such as her electronic health record.

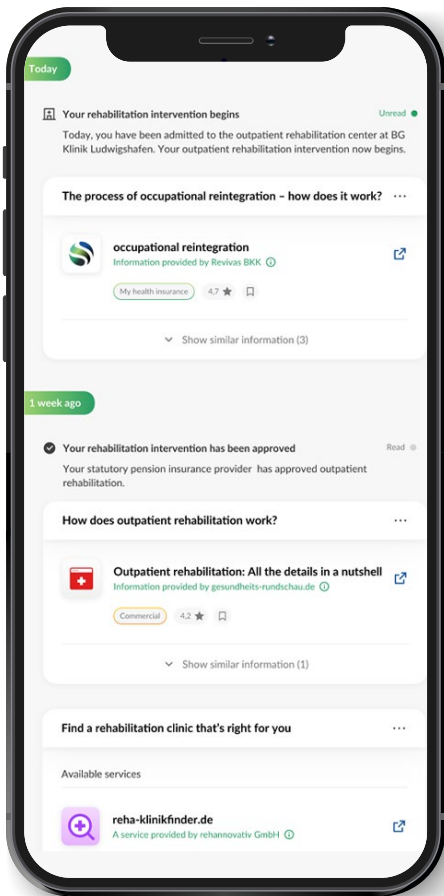
Afterwards, Katharina goes to see her orthopedist. Following thorough diagnostics and in consultation with her physician, she decides to undergo surgery, which will be followed by rehabilitation and vocational reintegration.



She can also find information about support groups or details regarding sick pay in the feed.

Throughout the process, LIV's personal feed continuously provides Katharina with individualized information and offers, ranging from treatment options and second opinion services to suitable clinical facilities, surgery scheduling, and answers about sick pay. If a new medication is prescribed, she automatically receives essential information about it and can have the prescription filled immediately.

This illustrates how a patient information pathway on a national health platform might operate and how it differs from the current state of digital offerings and platforms by bundling and personalizing information and services.



After her knee surgery, the patient is approved for rehabilitation. Through the feed, she finds information about the rehabilitation process and can conduct her own search for a suitable clinic.

Quality Information Facilitates Trust

Patients can trust that all information gathered on the platform is dependable and free of misinformation. This trust is endorsed by a transparent certification system: An independent body reviews these providers in a multistage process built on established quality criteria and standards. Only providers that hold a valid certificate can share their content and services on the platform.

We are currently working with national and international partners to establish such a certification process.

The Brokering Principle

To be sure: The platform operator is explicitly not responsible for creating content or developing its own functionalities and services. Instead, the operator must lay the foundation for an ecosystem into which partners can and want to integrate their services and applications.

The national health platform serves as a broker between the supply and demand for context-specific health information and services. It therefore provides the technical infrastructure and user-friendly interface needed to mediate between providers of health information and digital services and the patients. In this regard, it functions in ways similar to how Airbnb connects private accommodation providers with those seeking accommodations in a digital marketplace (see Figure 1).

Various Actors Form the Digital Ecosystem

Realizing a national health platform requires not only a technical infrastructure with algorithmic systems but also the constructive collaboration of numerous participants. Together, they form the digital ecosystem in which the national health platform operates and in which they take on essential roles (see Table 1).

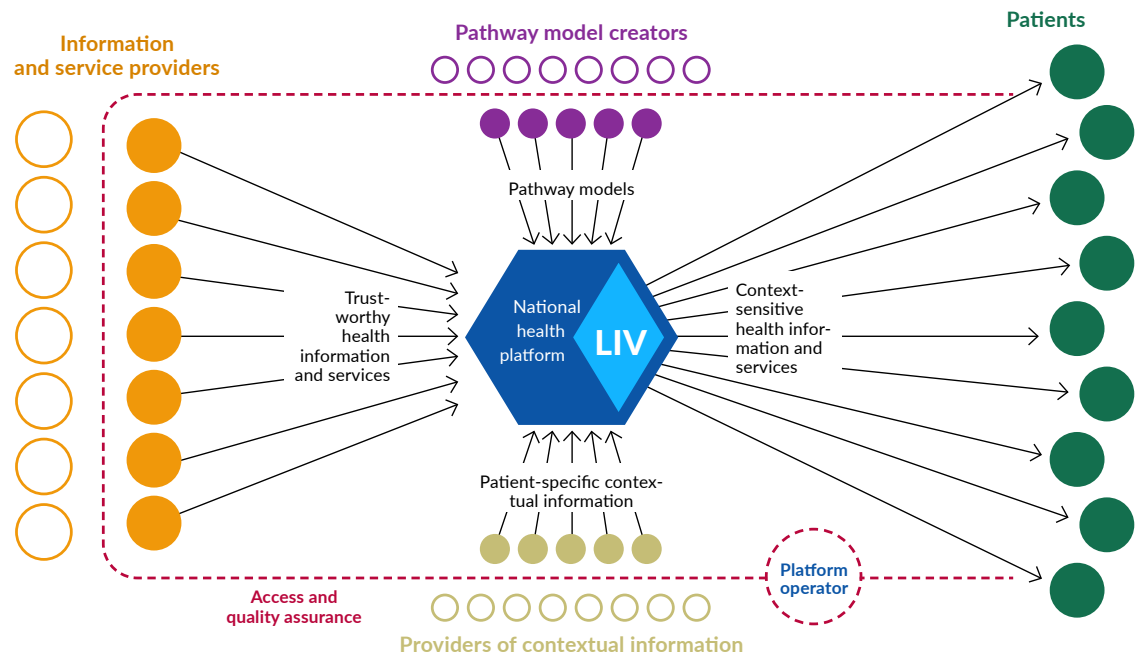
A Successful Ecosystem Creates Benefits for all Participants

One of the biggest challenges in designing a digital health ecosystem is balancing the interests of all actors involved. A national health platform not aimed at generating profits must create value and advantages for each participant if it is to succeed in a competitive health market.

»Successful ecosystems create sufficient incentives for as many people as possible to participate. The true appeal of an ecosystem lies in the extensive reach of its participant base.«

Dr. Marcus Trapp,
Co-Founder of Full Flamingo

FIGURE 1: An Overview of the Digital Ecosystem



Source: The authors

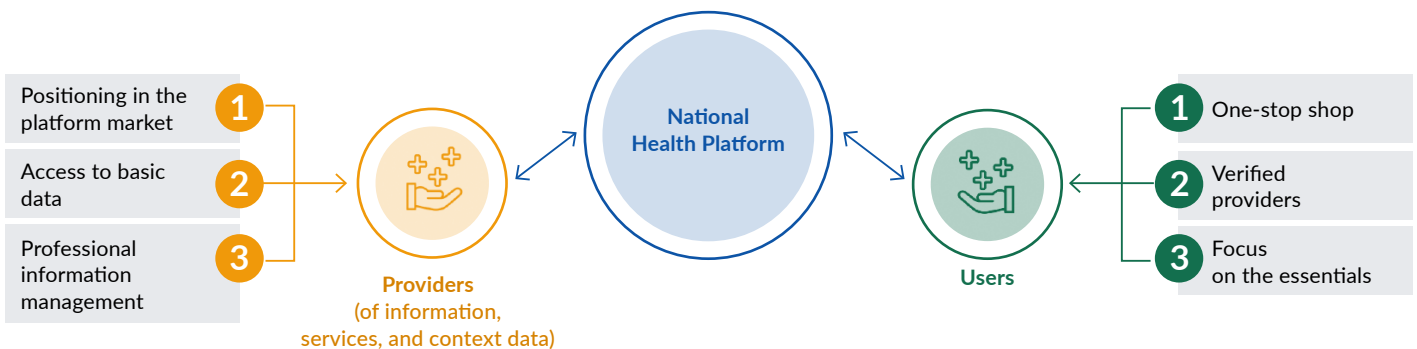
*Trusted Health Ecosystems | BertelsmannStiftung

TABLE 1: Tasks, Responsibilities and Potential Actors

Roles	Tasks and responsibilities	Potential actors (examples)
Platform operator	<ul style="list-style-type: none"> › Ensures the platform's operation › Provides infrastructure › Establishes platform rules › Connects participating actors › Facilitates scaling and growth 	<ul style="list-style-type: none"> › A non-governmental, civil society-based managing organization › A non-profit, independently funded holding organization › A cross-organizational entity
Information and service providers	<ul style="list-style-type: none"> Offer their own health services, such as: <ul style="list-style-type: none"> › Health information › Appointment booking with physicians › Search for healthcare service providers › Pharmacy services Requirement: Provider must have a valid certificate 	<ul style="list-style-type: none"> › Government agencies › Commercial providers (e.g., medical publishers, tech companies, medical startups) › Non-profit providers
Pathway model creators	<ul style="list-style-type: none"> › Define and model templates for information pathways › Provide information pathways 	<ul style="list-style-type: none"> › Qualified experts › Decentralized actors (e.g., professional societies or self-help groups)
Providers of contextual information	<ul style="list-style-type: none"> › Provide patient-specific contextual information › Enable the delivery of relevant information at the right time Requirement: Patients must consent to having their data integrated into the system 	<ul style="list-style-type: none"> › National Agency for Digital Medicine (Gematik GmbH) or health insurance companies as providers of electronic health records (EHR) › Social insurance providers (e.g., pension insurance, occupational accident insurance, etc.) › Employers › Providers of hospital and office management systems › Providers of digital health applications (DHA), fitness trackers, etc. › Patients

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FIGURE 2: Digital Health Platform Benefit Model



Source: The authors

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Committed to facilitating this goal, we developed a benefit model for the platform. Our digital health platform benefit model highlights the advantages for all stakeholder groups: It allows providers of information and services to position themselves in the new health platform market, gain access to a unique data repository, and establish a direct communication interface with their users (see Figure 2).

»Health literacy is important because those that have the knowledge and motivation and competencies to take care of themselves do well, live better lives, and use healthcare systems less.«

Dr. Kristine Sørensen,
President of the International Health Literacy
Association

It also shows specific benefits for each participant. For example, non-commercial providers benefit from increased reach, while private medical practitioners improve time management (see also www.trusted-health-ecosystems.org/en/benefits-catalog).

Patients benefit by receiving tailored, trustworthy information through one central platform (see Figure 2). Through personalized information

and services, the platform seeks to foster health literacy and empower patients to actively engage in their treatment journeys.

Healthcare professionals also stand to benefit as well-informed patients assume greater responsibility for their health, are more likely to adhere to treatment plans, navigate the healthcare system more confidently, and make healthier decisions. This concept of a national digital health platform thus serves as a blueprint for a cooperative healthcare model that prioritizes the needs of patients.

Recommended Actions

The Potential of National Health Platforms

Digital platforms have the power to shift dynamics in several sectors, including healthcare. We believe that national healthcare systems should therefore leverage this innovative and guiding force by positioning themselves with their own offerings in the new healthcare market.

Our vision for a national health platform is rooted in the idea of establishing a trustworthy information infrastructure within the healthcare sector. Here's what is needed to realize this vision:

- › **An accepted governing institution:** Sustainable financing and institutional integration are crucial to creating a digital ecosystem. The governing institution should be accepted by participants and committed to the interests of patients.
- › **Benefits for all:** A national health platform, with a non-profit governing body, must benefit all actors to achieve network and scaling effects.
- › **Trusted spaces:** Users who input their sensitive health data must be able to trust that the platform adheres to the highest data protection and security standards and that the use of algorithmic systems is transparent.
- › **Meaningful data use:** The platform should offer innovative and transparent consent solutions, allowing patients to share their data confidently – so healthcare can benefit from the potential of integrated data pools.
- › **Provider certification:** A transparent certification system should guarantee patients that only providers meeting the highest quality standards are allowed on the platform.
- › **Target group involvement:** To meet the diverse needs of the population, target groups should be involved in the platform's development. Involving young people is particularly important, as they are the users of the digital healthcare system of the future. Individuals with a limited digital skill set should have access to personal consultation services.

SPOTLIGHT HEALTHCARE is an initiative of the Bertelsmann Stiftung's Healthcare program. Published periodically throughout the year, SPOTLIGHT HEALTHCARE addresses topical issues and challenges in healthcare.

Innovation and a patient-centered approach are the keys to creating a sustainable healthcare system based on solidarity. We advocate for quality and safety, digitalization that is truly beneficial, regional models for providing integrated care, and the promotion of health literacy.

For more information, please visit:
www.bertelsmann-stiftung.de/en
www.bertelsmann-stiftung.de/en/our-projects/trusted-health-ecosystems,
www.trusted-health-ecosystems.org/en

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