Preparatory Action on

Smart Rural Areas in the 21st Century

Guide to focusing the
Smart Village strategy in Sollstedt

empirica society for communication and technology research mbH

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contents

1 Introduction

As part of the Smart Rural 21 project, the idea was developed in Sollstedt to set up a telemedical network in order to be able to counteract a foreseeable lack of general practitioners in private practice and to make the joint municipality more attractive for young doctors. In order to support a further specification of this idea, empirica first drew up a short key issues paper which, among other things, proposes a three-stage specification process.

In a next step, the original initial idea is to be further specified with the involvement of all relevant local actors. This document is intended as a guide to assist the Sollstedt team in identifying the original
to further specify the envisaged concept of a telemedical network in cooperation with relevant actors. In terms of content, this guide consists of three parts:

- In the following Chapter 2, a series of fundamental questions
  proposed and explained, which was discussed with relevant local actors to further specify the initial idea of a telemedical network
  can become.

- In addition, Appendix I provides a brief overview of telemedicine applications
  provided, which could possibly be used within the scope of the envisaged telemedical network.

- A chapter structure is proposed in Annex II, which can be used to summarize the results of the discussion process with relevant stakeholders can be documented
  in writing. If possible, the positions of all actors involved should be included. As a result, the aim should be to document a vision for a jointly implemented project that can be supported in terms of content by all those involved. Such a document can be used as a basis for further exchange with relevant actors in Sollstedt and possibly beyond.

If possible, the involvement of relevant local actors should take place in a workshop format. In view of the high burden in the healthcare system due to the current Covid-19 pandemic and the associated restrictions on availability
relevant actors, however, it is also possible to discuss the individual issues in
individual talks, if necessary.

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2. Possible questions to concretise the initial idea

2.1 What is the starting point for a telemedicine network in Sollstedt?

2.1.1 Which criteria can be used to describe the population that could be cared for in Sollstedt with the help of telemedicine applications?

Under the keyword "telemedicine", various options for using telecommunications technology in health care have been tested for years. The main focus is on possibilities to offer technically supported health care despite physical separation, for example for diagnostics, for medical consultations or for medical emergency assistance. Last but not least, telemedicine is seen as a possible component of general medical care for rural areas. Depending on the objective, telemedicine applications can also be aimed at specific population or patient groups, such as people with illnesses

certain chronic   or to people with

mobility restrictions.

Against this background, this section aims to describe the population that could be cared for with the help of telemedicine applications in Sollstedt as detailed as possible on the basis of the current state of knowledge.

Different characteristics can be used for this, which may be important to a greater or lesser extent from the point of view of different actors (e.g. doctors, health authorities, citizens, etc.). Therefore, at this point it is deliberately avoided to prescribe certain descriptive criteria. Depending on the point of view, medical, geographic, statistical, social or other criteria can be important from the point of view of individual actuaries. Nevertheless, efforts should be made to ensure that the actors involved achieve the envisaged

Describe the target group(s) as specifically as possible at this point in time.

2.1.2 By which healthcare actors are the targeted

Patients or population groups have received medical and, if necessary, nursing care?

Depending on the targeted target group(s), different healthcare stakeholders may be affected by the introduction of telemedicine applications. For example, people who live in an inpatient facility can be cared for by a resident doctor. In such a case, not only the doctor and his patients but also the inpatient facility could be affected by the introduction of telemedical applications, for example through the

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Provision of a suitable room for participation in doctor's teleconsultation hours. In a similar way, in the case of people who are cared for at home by a nursing service, not only the doctor but also employees of the nursing service could be affected if they assist the person being cared for in measuring and/or electronically transmitting vital data (e.g. blood pressure values) to the attending doctor meant to be.

Against this background, this section aims to describe as comprehensively as possible which actors have so far provided health care to the targeted target groups for telemedicine applications and what their respective roles in any supply chains are. In addition to professional acute patients from health and care, the role of relatives should also be taken into account if this makes sense with regard to the target group(s) that need to be provided with telemedicine.

2.1.3 How can the currently available technical infrastructure describe that could be used?

For the use of telemedical care, there may be certain requirements for the available technical infrastructure
to consider. For example, taking part in a teleconference from your own home without a broadband Internet connection can be quite tedious. In contrast, the electronic transmission of vital data (eg blood pressure values) from home to a doctor can work quite well even without such a connection. In addition to a suitable telecommunications connection, suitable access devices may also be required, such as a PC and an Internet-enabled camera (webcam) for participating in a doctor's teleconsultation.

Against this background, this section aims to assess as comprehensively as possible on the basis of the current state of knowledge, including which technical ones infrastructure that the target group(s) to be supplied can access at this point in time. If no "hard" information such as statistical data on broadband coverage or the technical equipment of the household is available in this context, personal assessments and experiences of any knowledgeable persons could be used for this purpose, provided they dare such a "soft" assessment (e.g Doctors, care facilities, clubs, etc.).

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2.2 How could telemedical care be implemented in Sollstedt?

2.2.1 Is it conceivable that telemedicine applications within the framework of delegation of medical services in Sollstedt?

As explained in Appendix 1, the basic idea underlying the concept of delegation in general practitioner and specialist care is that tasks that were previously only performed by resident physicians can be delegated to non-physician assistants who are specially trained for this purpose.

The cooperation of these specialists with the attending doctor can be carried out

digital aids are supported, for example through the digital measurement, storage and transmission of the patient's vital data or through the case-by-case consultation of the doctor on site via a video connection. The delegation procedure is intended to relieve the burden on the treating doctor so that a larger number of patients can be cared for by the respective doctor or the geographical range of medical care by assistants can be expanded over a wide area.

Against this background, this section aims to reflect with the actors involved whether, from their point of view, it would be at least fundamentally conceivable that telemedical applications could be used in a meaningful way within the framework of the delegation procedure in Sollstedt. In doing so, it should be considered which telemedical applications could basically be useful in this context, even if it may not seem immediately clear to the actors involved how such applications could be implemented in detail (e.g. transmission of vital data or consultation of a doctor via video connection). by a non-medical professional). In addition, an attempt should be made to reflect on which organizational model would be conceivable, at least in theory, in order to put a delegation procedure into practice in Sollstedt. For example, a non-medical professional could be employed by a single doctor's office or work for several doctors. Here, too, it is a matter of reflecting on which organizational models seem fundamentally conceivable from the point of view of the actors involved, even if detailed questions of practical implementation cannot yet be fully answered at this point in time. If possible, it should also be considered at this point under which circumstances or conditions a delegation of medical tasks to non-medical specialists in Sollstedt could possibly be used.

2.2.2 Is it conceivable to offer teleconsultation hours for health care in Sollstedt to use?

As explained in Appendix I, the video consultation is about direct remote care of the patient by the doctor or psychotherapist, for example to save long journeys or in the case of basic immobility (e.g. after an operation). In this way it is possible, for example, to carry out the treatment on

to explain the screen, to assess the healing process of an operation
wound or to have a psychotherapeutic conversation.

This section aims to reflect with the actors involved whether, from their point of view,
it would be at least fundamentally conceivable for doctors in Sollstedt or the
surrounding area to offer teleconsultation hours in order to take care of patients
at least partially more location-independent (possibly also only for certain patient
groups). On the one hand, this involves the possible use of corresponding technical
service providers, such as a certified video service provider (see Appendix I). On the
other hand, it is also a question of reflecting on the extent to which the offer of a
teleconsultation hour could be integrated into the processes of the respective practice
and which patient groups could be (partially) cared for in this way. Here, too, an
attempt should be made to reflect on the extent to which teleconsultation would be
conceivable in principle from a technical and organizational point of view, even if, for
example, questions of billing the cost bearers still have to be clarified in detail (see
Appendix 1). If possible, it should also be reflected at this point under which
circumstances or conditions teleconsultation could be used for health care in Sollstedt.

2.2.3 Is it conceivable to use the "app on prescription" for health care in Sollstedt to use?

As explained in Annex I, the Digital Health Care Act (DVG) of 2019 created the
possibility of including so-called digital health applications (DiGA) in health care. As
an "app on prescription", they are intended to support the patient as digital helpers
in the detection, monitoring, treatment, alleviation or compensation of illnesses,
injuries or disabilities. Such a DiGA must therefore have at least one medical
indication
to have. i.e. it must be clear for which disease/diagnosis it is to be used. In this
sense, the basic idea behind the reimbursable DiGA is to provide the patient
with low-risk digital medical devices for their own use. However, such a DiGA
can also be used jointly by doctor and patient. It can also happen that a specific
DIGA is used in combination with other devices such as heart rate monitors or
software. Basically, the DiGA is intended as a useful supplement and support for
"classic" treatment by the doctor.

This section aims to reflect with the actors involved whether, from their point of
view, it would be at least fundamentally conceivable that doctors in Sollstedt or
from the surrounding area would use DiGAs in order to make patient care more
location-independent (possibly only for certain patient groups).). In addition to the
availability of certified DiGAs (Appendix I), it is also a matter of reflecting to what
extent the use of a DiGA could be integrated into the processes of the respective
practice and which patient groups

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could be (partially) supplied in this way. Here, too, an attempt should be made to reflect to what extent the use of a DiGA would be conceivable in principle from a technical and organizational point of view, even if, for example, questions of billability for the cost bearers may not appear clear in detail (see Annex I). If possible, it should also be reflected at this point, under which circumstances or conditions DiGAs could be used for healthcare in Sollstedt.

2.3 What specific benefits could the use of telemedicine

Have healthcare applications in Sollstedt?

2.3.1 What concrete benefits could telemedicine applications have for the Healthcare stakeholders have?

Digital applications have been tested in the health and care sector for a long time. With regard to health care in rural areas, this is generally associated with different opportunities:

• Bridging spatial distances: The use of digital applications makes it possible to design care offers that are more location-independent and more flexible in terms of time.

• Strengthening of networking and cooperation between caregivers: Under certain circumstances, the use of telemedicine applications also enables greater networking and cooperation between caregivers, for example through the joint use of electronic patient files.

• Delegation of tasks for more efficient use of medical expertise: As already mentioned, the concept of delegation aims at more efficient use of medical expertise as a resource for health care. In this context, digital applications can support timely communication between medical specialists and doctors, for example through video telephony or messenger services.

• Strengthening the attractiveness of rural health care as a career field: Technological innovations could contribute to the attractiveness of rural jobs in the sense of a "soft" factor. Career starters in particular could see it as an attractive opportunity to try out and help shape innovative care concepts.

Against this background, this section aims to reflect on the specific benefits of telemedicine users for the different actors of health care in Sollstedt could have. Depending on the situation on site, the broadest possible range of actors and possible effects should be taken into account (e.g. general medical practices, specialist practices, hospitals, inpatient care facilities, etc.). As far as this with

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is possible given the current state of knowledge, possible effects from the point of view of relevant actors should be reflected as concretely as possible. Would it be conceivable, for example, that doctors in private practice in the region could take care of a larger number of patients than before in their day-to-day operations, possibly also from outside the region? Would it be conceivable that the quality of care could be improved across the board? Would positive follow-up effects be conceivable, eg a reduction in the number of acute emergencies due to better-quality care in the area? Would it be conceivable that young doctors would perceive the location as sufficiently attractive through the use of digital solutions and/or cooperation models, possibly in combination with other possible incentives? Based on the current state of knowledge, would it also be conceivable that the use of telemedical applications would have negative effects on the part of the respective actors
could be connected?

2.3.2 What concrete benefits could telemedicine applications have for the population to be cared for

In addition to the effects already mentioned for rural smoke, there are also
other effects on patients discussed. In the course of the corona pandemic, for example, the desire of some patients to avoid contact in the practice for reasons of infection protection has increased. Telemedicine applications such as teleconsultation could be particularly useful for risk groups such as people with chronic illnesses or elderly patients. In addition, the use of messenger services on the computer or smartphone, for example to make appointments or request prescriptions even if the practice is closed, can give patients more flexibility in terms of time when it comes to healthcare.

This section aims to reflect on the potential impact of telemedicine applications on the population being served. Individual telemedical applications and population or patient groups should be considered as specifically as possible. Could, for example, different telemedical applications (e.g. technically supported delegation of medical services, teleconsultation hours, DiGA, etc.) be associated with certain advantages from the point of view of the population to be cared for and/or individual groups? Could possibly

different benefits for different groups, such as the chronically ill with regular care needs, or citizens who live particularly far from the nearest doctor's office and/or have some form of mobility limitation (e.g. due to frailty or lack of a driver's license)?

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Appendix I: Overview of telemedicine applications

In a recent publication, Bach et al. (2021)   [1] under the
Keyword "eHealth" brings together different digital applications with regard to their possible contribution to strengthening rural areas. There are three main areas of application, namely:

   a) the exchange of data (e.g. through electronic files, doctor's letters and prescriptions),

   b) personal communication (e.g. through video and voice telephony) and

   c) support for the direct provision of services (e.g. through
       remote diagnostics and telemedicine applications).

In this sense, the concept of a telemedical network for patient care is primarily to be assigned to the last category. It must be taken into account that the use of telemedical solutions for health care usually includes a combination of technological and organizational innovations.[2] In addition, the possibility of reimbursement also plays a role in the economic use of telemedical solutions in standard care, ie beyond publicly funded pilot applications telemedical services by the payers, i.e. usually the health insurance companies, play a role. For this purpose, the legislature has created appropriate framework conditions since 2015.[3] Against this background, different solutions seem to emerge in regular operation within the framework of contract medical care, which are briefly outlined in the following sections.

Delegation of medical specialist tasks to non-medical assistants

The basic idea underlying the concept of delegation in general practitioner and specialist care assumes that tasks that were previously only performed by resident physicians can be transferred to non-physician assistants who are specially trained for this purpose. The cooperation of these specialists with the doctor in charge can be supported by digital aids, for example by digital measurement, storage and transmission of the patient's vital data or by the doctor being consulted on site on a case-by-case basis via a video connection. The delegation procedure is intended to relieve the burden on the attending physician, so that a

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[1]   Bach, M.; Meyer, I.; Müller, S. (2021) 'EHealth as an integration engine in rural health care: requirements, challenges and opportunities', in: Weidmann, C.; Rhymes, B. (Ed.)
      'Health promotion and health-related care in rural areas', Bern: Hogrefe, p. 262-276

[2]   See, for example, L. Kubitschke, S. Müller and I. Meyer (2017): Can e-health contribute to greater integration of health services and improved cooperation between the actors involved? Experiences from European pilot projects. In A. Brandhorst, H. Hildebrndt and EWLuthe (eds.): Cooperation and integration - the unfinished project of the health system. Springer, 2017., pp. 515-532.

3 The law for secure digital communication and applications in the healthcare sector of 2015, also known as the e-health law, is intended to promote, among other things, telemedical services (online video consultation hours, teleconsiliary assessment of x-ray findings). See https:// www.bundesgesundheitsministerium.de/service/bedingungen-von-az/e/e-health-gesetz.html
     [last access: 04/21/2021]

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a larger number of patients can be cared for by the respective doctor or the geographic reach of medical care by assistants can be expanded over a wide area. At the same time, no compromises should be made in the quality of medical care. This basic concept has been tested for the first time since 2005 in a nationwide model project4 and has since been varied several times, including in Thuringia.5 Depending on the model, trained assistants can either work with a single doctor or with several doctors who have joined together in a doctor network. There are also different approaches to the qualification or further training of assistants. Last but not least, different solutions can be used when it comes to digital support for the collaboration between assistants and doctors. For example, vitaphone GmbH offers a package solution consisting of hardware and software components to support delegation processes under the product name TELEARZT.

[6] On the company's website

refers to participating health insurance companies in Bavaria, Hesse and Thuringia, which offer remuneration for the care of patients with the TELEARZT in the form of a fee per patient, whereby the patients looked after must meet certain enrollment conditions.7 In general, the National Association of Statutory Health Insurance Physicians also provides information on their website Information on the employment of non-physician practice assistants within the framework of the delegation.8 This concerns, for example, criteria that general practitioners and specialists must meet, the regulation of remuneration and the requirements for the training of practice assistants.

The video consultation

The video consultation enables direct remote care of the patient by the doctor or psychotherapist, for example to save long journeys or in the event of basic immobility (e.g. after an operation). In this way it is possible, for example, to explain the treatment on the screen, to assess the healing process of an operation wound or to have a psychotherapeutic conversation. According to the Association of Statutory Health Insurance Physicians, medical practices have apparently increasingly offered this form of remote care, especially during the corona pandemic.9 Experience to date indicates that video consultations can be a useful addition to classic consultations in the practice.10 Especially when it comes to diagnostics However, it will probably not be able to completely replace a personal visit to the doctor in every case, since a comprehensive assessment of the patient via a screen cannot be guaranteed. In principle, doctors of certain specialist groups can under exactly

[4] See https://cdn.aerzteblatt.de/pdf/106/1/m3.pdf?ts=25.08.2009+14%3A15%3A17 [last access: 04/21/2021]

[5] See https://www.aerzteblatt.de/nachrichten/76198/KV-Thueringen-kuendigt-drei-Telemedizinprojekte-an and https://www.aerzteblatt.de/nachrichten/56295/Arztentlastung-Bitte-mehr-EVA-AGnES-VERAH-und-Co [last access: 04/21/2021]

6 https://www.tele-arzt.com/#product [last access: 04/21/2021]

7 https://www.tele-arzt.com/honorarArrangements/ [last access: 04/21/2021]

8 https://kbv.de/html/12491.php [last access: 04/21/2021]

[9] See https://www.kbv.de/html/videosprechstunden.php [last accessed: May 27, 2021]

[10] https://www.kbv.de/html/52109.php [last access: 05/27/2021]

have been offering video consultations at the expense of statutory health insurance since 2017.11 For this purpose, the doctor or psychotherapist selects a certified video service provider who ensures that the video consultation runs safely and technically. The providers must provide proof of IT security and data protection according to defined rules. The National Association of Statutory Health Insurance Physicians offers a list of certified video service providers who are allowed to offer the technical implementation of video consultations.12 On the part of the practices and the patient, a screen with a camera, microphone and loudspeaker as well as an Internet connection are essentially required. Additional software is not required.

Digital Health Applications (DiGA)

With the entry into force of the Digital Care Act (DVG) on December 19, 2019, digital health applications (DiGA) were introduced into health care (§§ 33a and 139e SGB V).13 They are intended to be digital helpers in the hands of the patient the detection, monitoring, treatment, mitigation or compensation of support illness, injury or disability. 14 Such a DiGA must therefore have at least one medical indication. i.e. it must be clear for which disease/diagnosis it is to be used. In this sense, the basic idea behind the reimbursable DiGA is to provide the patient with low-risk digital medical devices for their own use. In this context, the concept of the DiGA has also become known as the "app on prescription". Depending on the clinical picture and structure of a specific DiGA, it can be used by the patient alone, but also by doctor and patient together. In addition, it can also happen that a certain DIGA in combination with other devices such as e.g

Heart rate monitors or software is used. However, it should be noted that the DiGA is not intended to replace a visit to the doctor or taking a drug. She is as one useful supplement and support of a "classic" treatment by the doctor. In principle, it should be noted that only those DiGA can be prescribed at the expense of the statutory health insurance that have successfully passed a test procedure that is carried out by the Federal Institute for Drugs and Medical Devices (BfArM).

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11 The Association of Statutory Health Insurance Physicians in Thuringia, for example, offers a notice board and a corresponding application form. See https://www.kvthueringen.de/fileadmin/media2/KAEV/3200/KI/3200_KI_Video_2019_00_0001.pdf and https://www.kvthueringen.de/fileadmin/media2/KAEV/3200/AF/3200_AF_Video_2019_01_0001.pdf

[last accessed: May 27, 2021]

12 https://www.kbv.de/media/sp/Liste_zertisierte-Videodienstlieferer.pdf [last access: 05/03/2021]

13 See https://www.bfarm.de/DE/Medizinprodukte/DVG/_node.html https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&start=//*[@attr_id= %27bgbl119s2562.pdf%27]#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl119s2562.pdf%27%5D__1622219658194 [last access: 05/03/2021]

14 The German Association of General Practitioners has created an explanatory handout on this. See https://hausarzt-thueringen.de/wp-content/uploads/2020_11_16_FAQ_Liste_DiGA-1.pdf [last access: 05/03/2021]

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is located. 15 manufacturers were able to submit an application for testing from May 27, 2020. The BfArM maintains the so-called DiGA directory (§ 139e SGB V). The first entries of approved products were made from October 2020. The DiGA listed there can be prescribed by doctors and psychotherapists to support the detection and treatment of diseases or, for example, the individual implementation of treatment processes. The costs for the DiGA and any medical services required as part of its application are covered by statutory health insurance.

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15   https://diga.bfarm.de/de [last access: 05/03/2021]

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Appendix II: Suggested structure for written documentation of the consolidated project idea

1. The starting position in Sollstedt

1.1 The population to be provided with telemedicine

1.2 Actors in health and care

1.3 Currently available technical infrastructure

2. Implementation options for telemedical care in Sollstedt.

2.1 Telemedical applications within the framework of the delegation of medical services.

2.2 Application of teleconsultation hours

2.3 Use of the "App on Prescription"

3 Expected benefits of telemedicine applications in Sollstedt

3.1 Benefits of telemedicine applications for providers of health or care services

3.2 Benefits of telemedicine applications for the population to be cared for

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