Patient Survey

1. How old are you? (continuous scale [18 - 99])

2. What is your sex?
   a. male
   b. female
   c. divers

3. Which rheumatic diagnosis do you have?
   a. rheumatoid arthritis
   b. psoriatic arthritis
   c. spondyloarthritis
   d. gout
   e. systemic lupus erythematoses
   f. any form of vasculitis
   g. other (free text)

4. What is the approximate travel time to your treating rheumatologist [in minutes]?
   a. continuous scale, open end [0 to x minutes]

5. How often do you use apps on a smartphone?
   a. several times a day
   b. once daily
   c. once weekly
   d. less often than once weekly
   e. never
6. I believe using digital health applications (e.g. medical apps, video consultation, online pharmacies) is useful for managing my disease:
   a. strongly agree
   b. agree
   c. neutral
   d. disagree
   e. strongly disagree

7. Has your attitude towards digital health applications changed due to the COVID-19 pandemic?
   a. It changed positively
   b. It changed negatively
   c. It has been unaffected

8. Do you use digital health applications since the COVID-19 pandemic more often?
   a. yes
   b. no

9. I feel able to use digital health applications:
   a. strongly agree
   b. agree
   c. neutral
   d. disagree
   e. strongly disagree

10. Please indicate if you
    a. already used the following digital health applications before the COVID-19 pandemic
    b. currently use the following digital health applications
c. are planning to use the following digital health applications

d. are not interested in the following digital health applications

- digital information on disease / diagnosis / therapy
- symptom checker (quick check of symptoms with suggestions of diagnoses)
- digital diary (documentation of flares, electronic patient records)
- digital therapy (online courses)
- digital disease-related questionnaires (for example HAQ)
- self-administered blood collection at home and electronic results (e.g. blood withdrawal from the fingertip, receiving results via app / website / mail)
- Video consultation

11. In your opinion, how does digitisation affect the patient-doctor relationship?
   a. extremely negatively
   b. negatively
   c. positively and negatively
   d. no influence at all
   e. positively
   f. extremely positively
   g. I don’t know

12. For which purpose would you use video consultations? (multiple answers)
   a. Never at all
   b. first appointment
   c. follow-up appointment
   d. emergency appointment
13. Would you be willing to skip an on-site (real-life) appointment if your disease is stable and you could indicate your well-being to your doctor using digital health applications? If yes, what form of digital health application would you use?
   a. No, I prefer an on-site (real-life) appointments, even if I'm fine and there is nothing to discuss
   b. Yes, I would. I would prefer a digital health application that is time synchronous to the doctor (phone call, video consultation)
   c. Yes, I would. I would prefer a digital health application that is time asynchronous to the doctor (time-shifted, flexible) e.g. using digital questionnaires / forms

14. What is preventing you from using digital health applications (e.g. diagnostic apps, digital appointment scheduling) at all or more regularly? (multiple answers)
   a. too little information about suitable digital health applications (from my doctors, the manufacturers, etc.)
   b. too little evidence of the benefits of digital health applications
   c. poor quality of current digital health applications
   d. concerns about data protection
   e. poor usability
   f. poor accessibility
   g. high costs
   h. no suitable equipment (poor internet connection, old device, etc.)
   i. lack of skills
   j. no need, as I am satisfied with the current analogous solutions
   k. nothing

15. What advantages do you see in digital health applications (e.g. diagnostic apps, digital appointment scheduling)? (multiple answers)
   a. location-independent usage
   b. time-independent usage
   c. more detailed documentation
d. cost saving  
e. more opportunities to get information, diagnostics and therapy  
f. a higher degree of independence of doctors  
g. more flexibility  
h. better preparation for the doctor-patient discussion  
i. I don’t see any advantages at all

16. Do your treating doctors (e.g. family doctors, rheumatologists) believe in the usefulness of digital health applications (e.g. medical apps, Video consultation, online pharmacies)?
   
a. yes, very much  
b. yes  
c. neutral  
d. no  
e. no at all  
f. I don’t know

17. If you could wish for a digital health application: what purpose would it serve / solution would it offer? 
   
a. Open text
**Physician Survey**

**Characteristics**

1. How old are you?
   a. 21-30
   b. 31-40
   c. 41-50
   d. 51-60
   e. >60

2. What is your sex?
   a. male
   b. female
   c. divers

3. Professional activities
   a. assistant doctor / trainee (university based)
   b. assistant doctor / trainee (state hospital)
   c. assistant doctor / trainee (private praxis)
   d. specialist (university based)
   e. specialist (state hospital)
   f. specialist (private praxis)

**Please rate the following statements**

4. The use of digital health applications (e.g. medical apps, video consultation hours, online pharmacies) makes sense for treating my patients
   a. strongly agree
   b. agree
   c. neutral
5. Has your attitude towards digital health applications changed due to the COVID-19 pandemic?
   a. It changed positively
   b. It changed negatively
   c. It has been unaffected

6. Do you use digital health applications since the COVID-19 pandemic more regularly?
   a. yes
   b. no

7. Please indicate if you use or recommend following digital health applications and when you recommended these following digital health applications to your patients
   a. I use and recommended the following digital health applications pre-COVID-19
   b. I use and recommended the following digital health applications right now
   c. I plan to use and recommended the following digital health applications
   d. I am not interested in the following digital health applications

   · digital information on illness / diagnosis / therapy
   · symptom checker (quick check of symptoms with suggestions of diagnosis)
   · digital diary (documentation of flares, electronic patient records)
   · digital therapy (online courses)
   · digital disease-related questionnaires (HAQ)
· self-administered blood withdrawal at home (e.g. blood withdrawal from the fingertip, receiving results via app / website / mail)

· Video consultation

8. I am in a position to use digital health applications
   a. strongly agree
   b. agree
   c. neutral
   d. disagree
   e. strongly disagree

9. In your opinion, how does digitisation affect the patient-doctor relationship?
   a. extremely negatively
   b. negatively
   c. positively and negatively
   d. no influence at all
   e. positively
   f. extremely positively
   g. I don’t know

10. For which purpose would you use video consultation? (multiple nomination)
    a. never at all
    b. first appointment
    c. follow-up appointment
    d. emergency appointment

11. Would you be willing to skip an on-site (real-life) appointment if the patient’s disease is stable and he/she could indicate his/her well-being to you using a digital health application? If yes, what form of digital health application would you use?
a. No, I prefer an on-site (real-life) appointment, even if there is nothing to discuss

b. Yes, I would. I would prefer a digital health application that is time synchronous to me (phone call, video consultation)

c. Yes, I would. I would prefer a digital health application that is time asynchronous to me (time-shifted, flexible) e.g. using digital questionnaires / forms

12. What is preventing you from using digital health applications (e.g. diagnostic apps, digital appointment scheduling) at all or more regularly? (multiple nomination)

a. too little information about suitable digital health applications (from my doctors, the manufacturers, etc.)

b. too little evidence of the benefits of digital health applications

c. poor quality of current digital health applications

d. concerns about data protection

e. lack of usability

f. lack of accessibility

g. high costs

h. no suitable equipment (poor internet connection, old device, etc.)
i. lack of user competence

j. no need, as I am satisfied with the current analogous solutions

k. nothing

13. What advantages do digital health applications have in your opinion (e.g. diagnostic apps, digital appointment scheduling)? (multiple nomination)

a. location-independent usage

b. time-independent usage

c. more detailed documentation

d. Cost saving

e. more opportunities to get information, diagnostics and therapy

f. a higher degree of independence of doctors
g. more flexibility
h. better preparation for the doctor-patient discussion
i. I don't see any advantages at all

14. If you could wish for a digital health application: what purpose would it serve / solution would if offer?
   a. Open text

**Supplementary Material 2: Patients and physicians questionnaires**