

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
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- 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

- d. disagree
- e. strongly disagree

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 it offer?

- a. Open text

Supplementary Material 2: Patients and physicians questionnaires