

FeverApp registry: Characteristics and interests of users

Silke Schwarz¹, David Martin^{1,2}, Arndt Büsing¹, Olga Kulikova¹, Hanno Krafft¹,
Moritz Gwiasda¹, Sara Hamideh Kerdar¹, Ingo Fingerhut³, Ekkehart Jenetzky^{1,4}

¹ Faculty of Health/School of Medicine, Witten/Herdecke University, Witten, Germany

² University of Tübingen, Department of Pediatrics

³ Practice s Kleiner Piks, Bochum

⁴ Department of Child and Adolescent Psychiatry and Psychotherapy, Mainz University Medical Center

Background

- The FeverApp Registry is one of six model registries since 2019.
- The FeverApp record domestic fever events by parents in real time (Ecological Momentary Assessment).
- Interactions with the FeverApp are recorded in the registry.

Method

- FeverApp is accessible for parents primarily through doctors' office with an access code, which generates a family code.
- The app includes an educational video and a detailed Info library with 23 information chapters (Fig 1b) on childhood fever.
- The registry consists of users which observe children (profiles) and their fever events.
- One or more series of entries (loops) over the course of a fever event can be recorded (Fig 1a).
- Interactions recorded between Sept. 2019 and Oct. 2020 are analyzed.

Figure 1: a)App screenshot_Entries; b)App screenshot_Info library

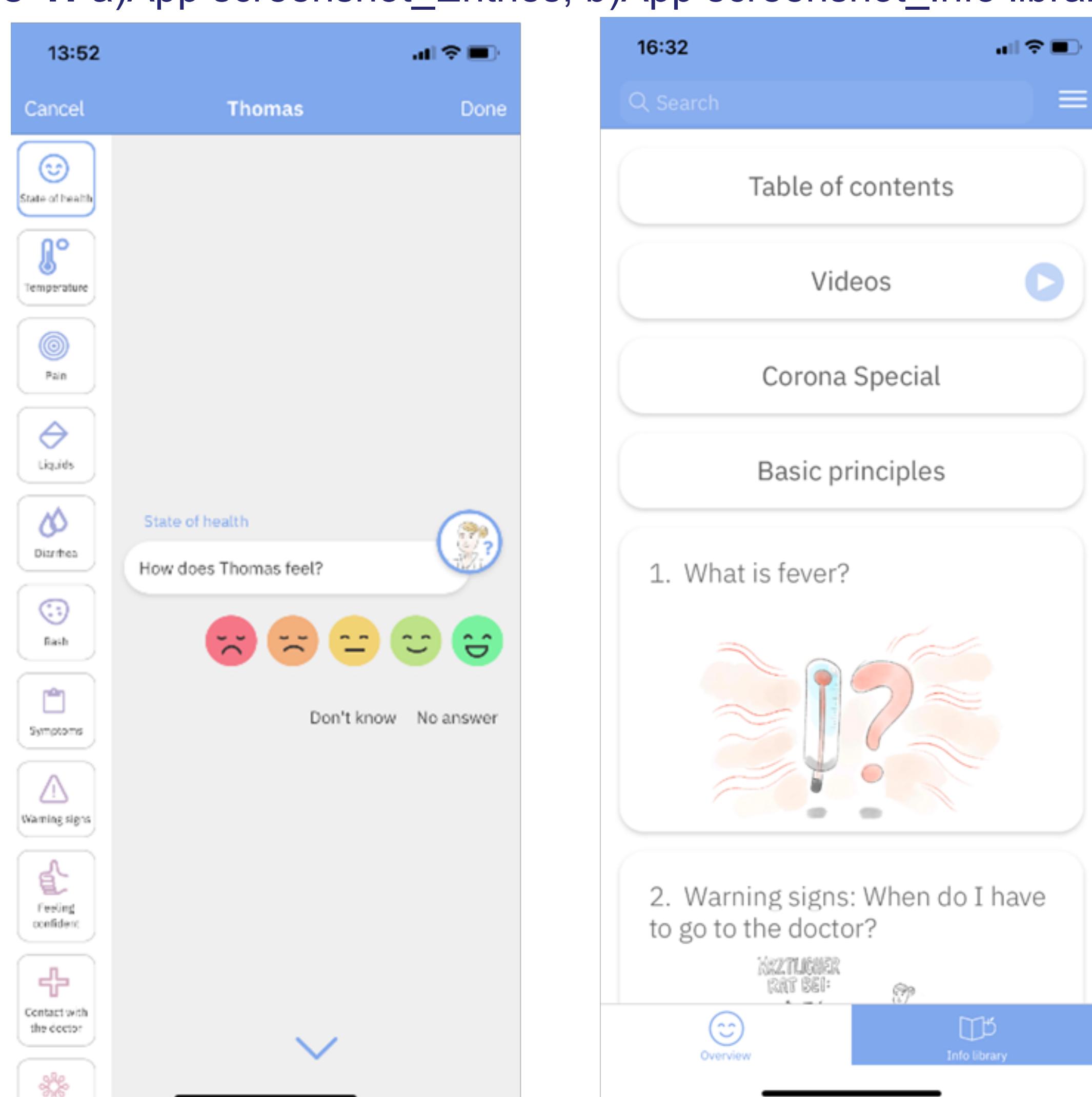
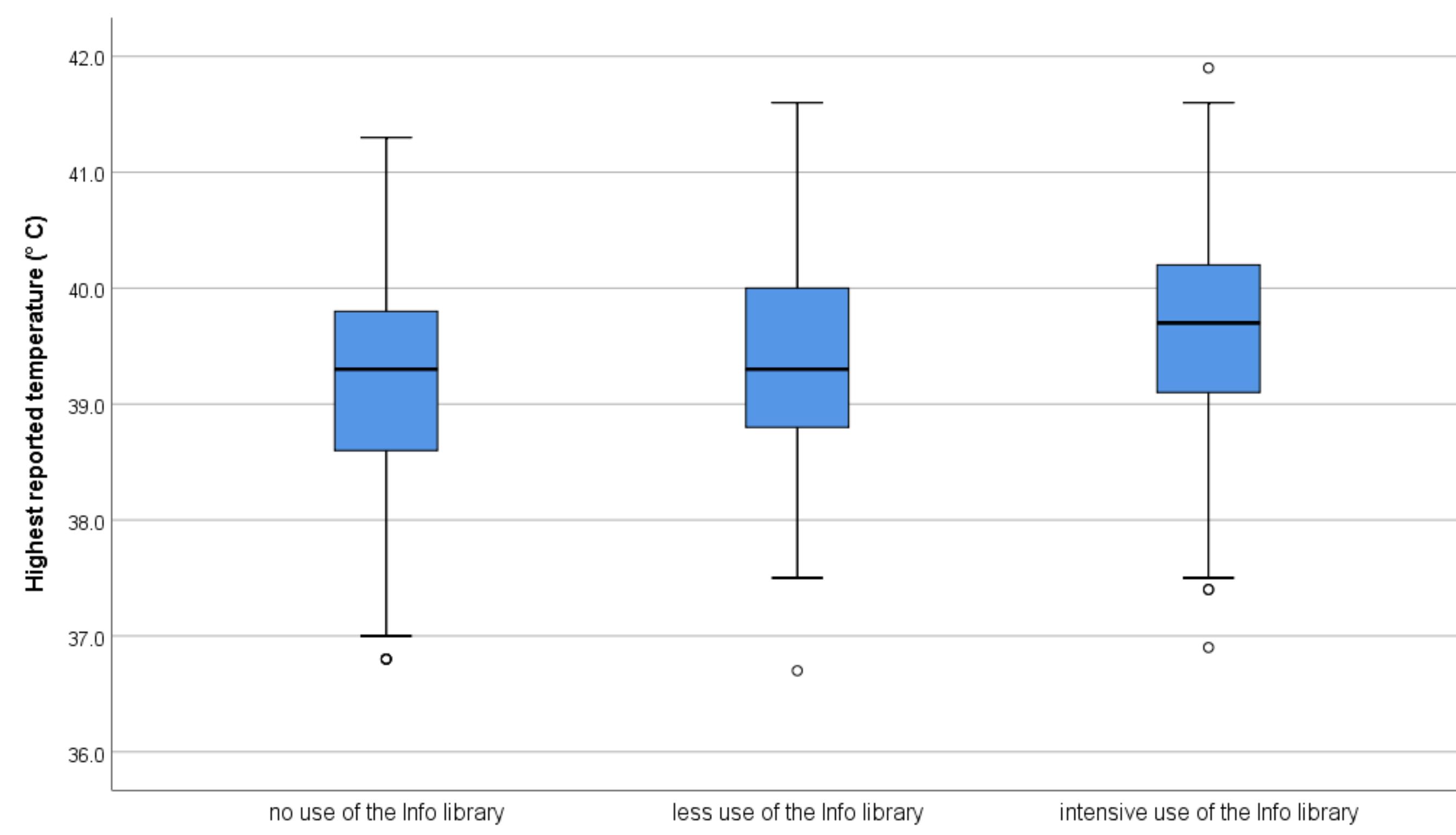


Figure 2: Use of Info library and maximum temperature



Results

	Absolute frequency N (Relative frequency %)	No opening video	One time opening video	Several times opening video	p-value (Chi ² -value)
Type of role	Mother 1,244 (83.4)	705 (56.7)	502 (40.4)	37 (3.0)	0.0090 (Exact test) ^a
	Father 230 (15.4)	150 (65.2)	76 (33.0)	4 (1.7)	
	Others 18 (1.2)	15 (83.3)	2 (11.1)	1 (5.6)	
	Total 1,492* (100)	870 (58.3)	580 (38.9)	42 (2.8)	
Education status	'Abitur'	717 (48.0)	386 (53.8)	311 (43.3)	20 (2.8)
	'Fachhoch-schulreife'	334 (22.4)	190 (56.9)	131 (39.2)	13 (3.9)
	'Mittlere Reife'	345 (23.1)	202 (58.6)	134 (38.8)	9 (2.6)
	'Hauptschulabschluss', no certificate	98 (6.6)	76 (77.6)	21 (21.4)	1 (1.0)
Operating system	Total 1,494* (100)	854 (57.2)	597 (40.0)	43 (2.9)	0.0013 (21.8)
	Android 874 (57.3)	521 (59.6)	333 (38.1)	20 (2.3)	
	iOS 651 (42.7)	368 (56.5)	261 (40.1)	22 (3.4)	
	Total 1,525* (100)	889 (58.3)	594 (39.0)	42 (2.7)	
User registration	September to December 2019	404 (25.4)	198 (49.0)	194 (48.0)	12 (3.0)
	January to May 2020	306 (19.2)	180 (58.5)	116 (37.9)	10 (3.3)
	June to October 2020	882 (55.4)	554 (62.8)	307 (34.8)	21 (2.4)
	Total number 1,592 (100)	932 (58.3)	617 (38.8)	43 (2.7)	
Age group	<30 years	221 (14.7)	134 (60.6)	85 (38.5)	2 (0.9)
	30-34 years	486 (32.3)	275 (56.6)	196 (40.3)	15 (3.1)

Table 1: Viewing the educational video

Participants:

- 1,451 families from 86 practices after 14 months.
- Mothers (83.4%) were the most common user type.
- Majority of users (N=1494) had a higher school education (48% 'Abitur').
- Majority of users were German (89%).
- The age of the users (N=1503) was on average 35.5 ± 6.6 years with a range of 14-68 years (IQR= 31;39).

Educational video:

- Individuals with higher education level were more likely ($p=0.0013$; Chi² value=21.8) to view the video.
- Those who watched the video also used the Info library more intensively afterwards ($p=0.010$; Chi² value=9.1) and documented in the app ($p<0.0001$; Chi² value= 28.9).

Info library:

- Most frequent section was "Warning signs of fever" (N=484; 11.5%)
- 62.5% did not use Info library; 22.5% used multiple times.
- Mainly fathers did not use the Info library ($p=0.0002$; Chi² value=22.4), as well as users who had only recently installed the app ($p<0.0001$; Chi² value=110.1).
- Age and number of children have no influence on the use of Info library.
- The maximum level of the child's fever ($p<0.001$) was related to the intensity of Info library use (Fig. 2)

Documentation:

- Users who saw the introductory video or consulted the Info library were also more likely to document the fever events.
- Users from 2019, with the longest observation interval, were more likely to document a fever event.

Conclusions

- The data collected provides a good overview of user behavior.
- Documentation function is used more than the information option, whether via Info library or an educational video.
- Data collection by means of an app as an electronic case report seems feasible.