

# Appendix

## Supplemental Methods

### Coding of Questionnaire Variables

The introductory section of the questionnaire collected basic information from pediatricians that included age, gender, pediatric training (country of medical school, board certification, specialization, years of experience in pediatrics), work setting (practice or hospital, practice type and ownership, or hospital position), district of employment (canton), and degree of urbanization. Pediatric training in Switzerland includes six years of medical school and five years of pediatric residency (supplemental figure 1). We categorized the location of medical school they had attended as Switzerland, a European country (Germany, Italy, Austria, France, or another European country), or a non-European country. We let the participants choose the degree of urbanization of the municipality they work in: urban municipality (city or town), agglomeration municipality (village in agglomeration to city or town), rural municipality (rural village). We asked participants whether they perceived a primary care pediatrician shortage in their region (yes, no, or unsure). We asked participants about general working conditions (working percentage and hours) and working conditions in practices (number of patients seen per day, time spent per consultation, accepting new patients). We coded reported percentages of time worked into six categories: 100%, 80–99%, 60–79%, 40–59%, 20–39%, or <20%. Practice-based pediatricians rated statements about potential factors contributing to a shortage of pediatricians on a Likert scale from 1 (disagree) to 5 (agree). We defined agreement with a statement as a rating of 4 or 5. Finally, participants selected the key factors that either motivated or discouraged them from choosing a career in pediatric primary care. The full questionnaire is available in the appendix.

## Calculation of Full-Time Equivalent Pediatricians

We summed up the working percentages of primary care pediatricians answering our survey. We specifically asked them to report their working percentage in a practice and also included pediatricians working in both practice and hospital settings. We acquired the information on the total number of practice pediatricians by age, sex, and canton from the 2024 statistics of the Swiss Medical Association (FMH) [1]. For few cantons, our survey had a higher number of practice pediatricians in a group (age, sex, canton) than the FMH statistics 2024, wherefore we used a slightly higher number of practice pediatricians for our estimations (total: 1499, FMH statistics 2024: 1482).

We estimated the total number of full-time equivalent (FTE) primary care pediatricians per canton under three scenarios: average, optimistic, conservative.

**Average:** We assumed that practice pediatricians, who did not reply to our survey, would have a similar working percentage as those in our survey. We used four methods to impute the working percentage for those not reached: i) mean working percentage per canton (administrative units, equivalent to federal states or provinces in other countries), because no pediatrician from Appenzell Innerrhoden answered the survey, we used the mean working percentage of Appenzell Ausserrhoden for this canton; ii) mean working percentage per major region (aggregation of cantons into 7 regions of Switzerland); iii) linear regression model based on age, sex, and major region, iv) multiple imputation by chained equations (MICE) based on age, sex, and major region. After imputation, we aggregated the working percentages of practice pediatricians to FTEs per canton and for whole Switzerland. The estimated FTEs were similar across all four imputation methods, wherefore we only report MICE results in figure 1A, supplemental figure 3, and supplemental figure 4A.

We calculated 95% confidence intervals (CIs) of FTEs per canton: For methods i), ii), and iii), we calculated 95% confidence intervals (CIs) based on the variance of the working percentage of the survey respondents and the variance of residuals between observed and predicted working percentage. For multiple imputation, we used the R package *mice* with age, sex, and major region as predictors together with 100 imputations and 10 iterations and used Rubin's rules [2]. We adjusted all 95% CIs with finite population correction because our target population was finite and its size was known from the FMH

statistics 2024 [1]. We calculated the possible bounds of the FTEs by canton: lower possible bound: we assigned 0% working percentage to all practice pediatricians who did not reply to our survey; upper possible bound: we assigned 100% working percentage to all practice pediatricians who did not reply to our survey. In case the 95% CIs were wider than the possible bounds, we reported the possible bounds.

**Optimistic:**

We assumed the practice pediatricians, who we did not answer our survey, to work full-time (100%).

**Conservative:**

We assumed the practice pediatricians, who we did not answer our survey, to work part-time (50%).

Finally, we acquired the number of children below 18 years (0–17) in 2024 by canton from the Federal Statistical Office (FSO).[3] We divided the number of FTE primary care pediatricians by the pediatric population below 18 years (in thousands) for every canton and whole Switzerland. This resulted in the number of FTE primary care pediatricians per 1,000 children. We also repeated the aggregation of FTEs and FTEs per 1000 children on the major region level (supplemental figure 4A).

### Example calculation for canton of Aargau and imputation method i) mean working percentage per canton.

**Average scenario:** 47 practice pediatricians from the canton of Aargau answered the working percentage question in our survey with a mean working percentage of 66%; 2 responded to the survey, but did not answer the working percentage. The FMH statistics counted 97 practice pediatricians in Aargau. We assumed that the 50 practice pediatricians that did not reply to our survey had a working percentage similar to the responders in Aargau (66%). We added the working percentages of all practice pediatricians in the canton of Aargau, to get the estimated number of FTE practice pediatricians:

$$FTE \text{ practice pediatricians}_{avg.} = (47 \times 0.66) + (50 \times 0.66) = 97 \times 0.66 = 64$$

We then divided this number by the child population < 18 years (in thousands), to get the estimated number of FTE practice pediatricians per 1000 children:

$$FTE/1000 \text{ children}_{avg.} = \frac{64}{134858} \times 1000 = 0.47$$

**Conservative scenario:** We assumed that the 50 practice pediatricians that we did not reach with our survey had a working percentage of 50%:

$$FTE \text{ practice pediatricians}_{cons.} = (47 \times 0.66) + (50 \times 0.5) = 56$$

$$\frac{FTE}{1000} \text{ children}_{avg.} = \frac{56}{134858} \times 1000 = 0.42$$

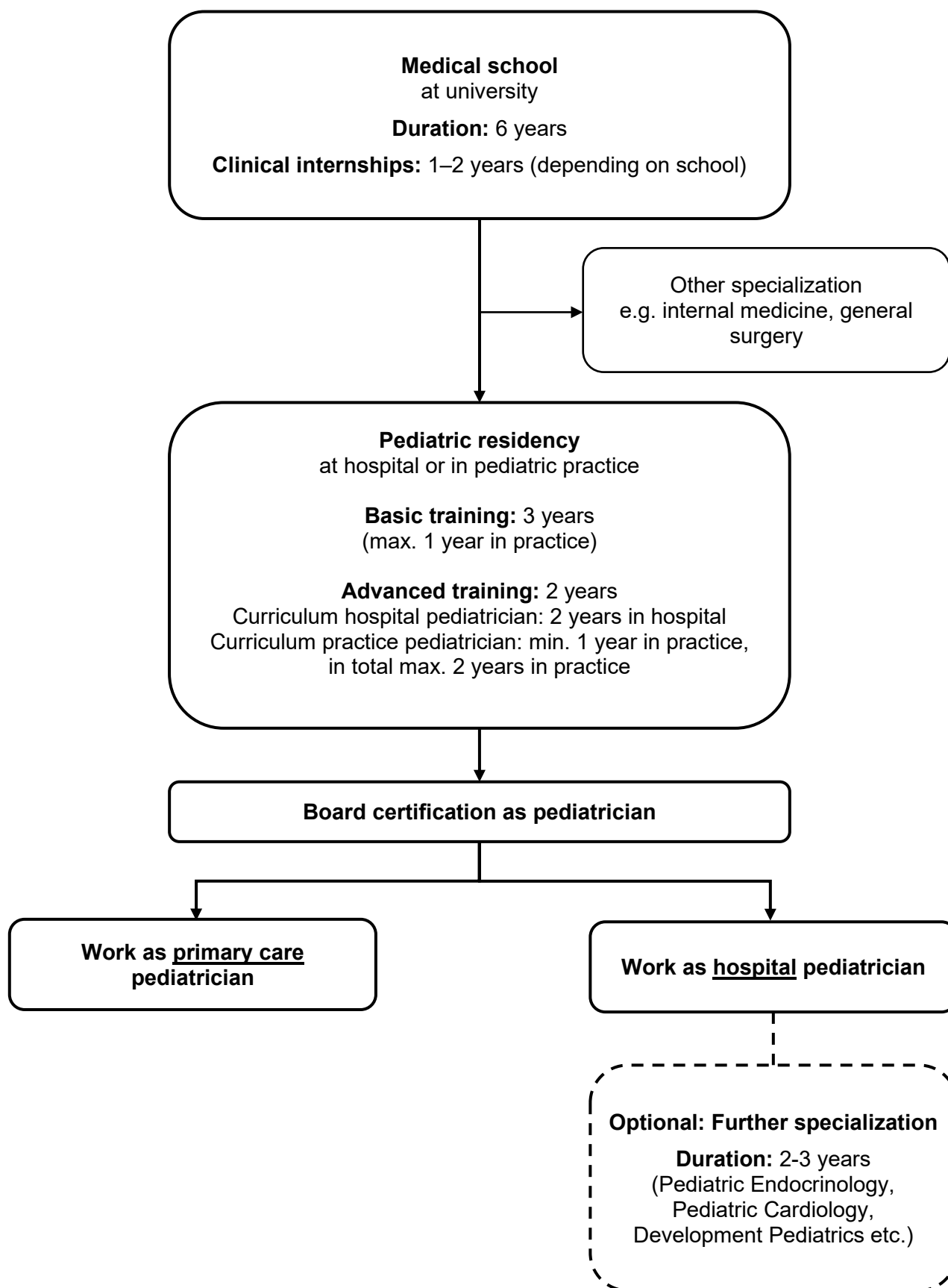
**Optimistic scenario:** We assumed that the 50 practice pediatricians that we did not reach with our survey had a working percentage of 100%:

$$FTE \text{ practice pediatricians}_{cons.} = (47 \times 0.66) + (50 \times 1) = 81$$

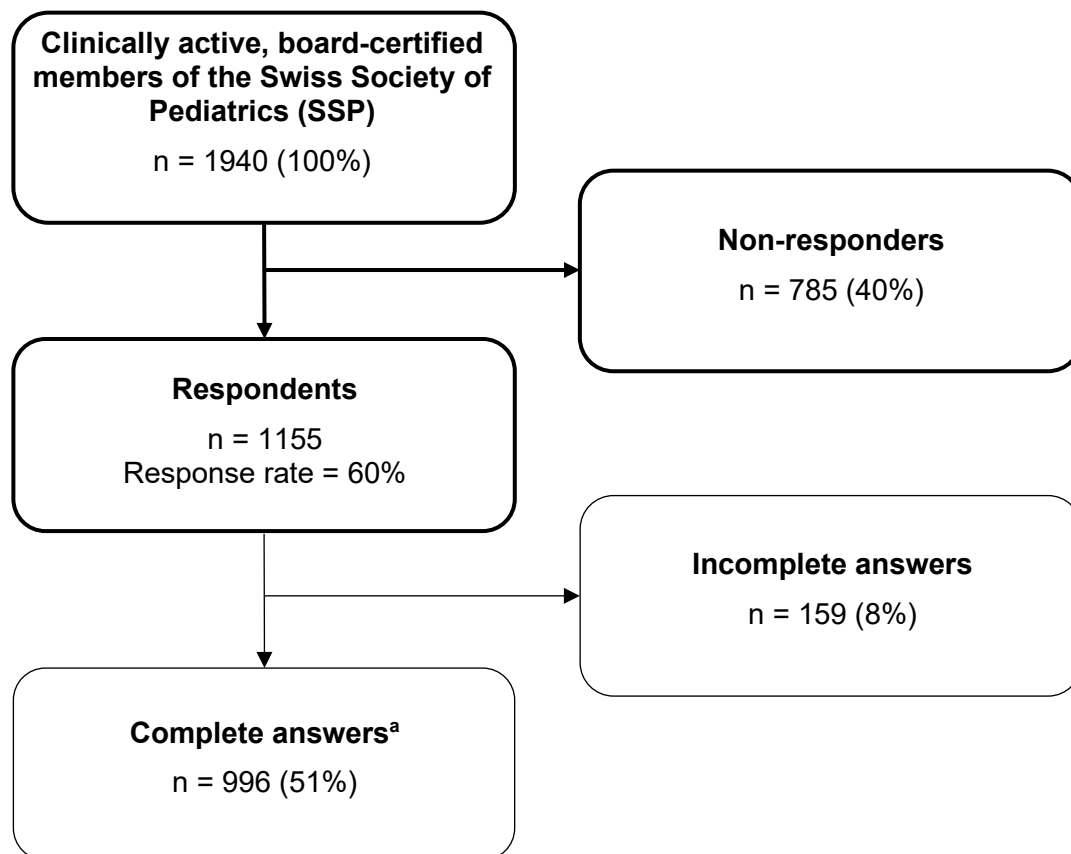
$$FTE/1000 \text{ children}_{avg.} = \frac{81}{134858} \times 1000 = 0.60$$

This example contains rounding errors for simplicity reasons; exact numbers are in supplemental table 3.

## Supplemental Figures



**Supplemental Figure 1:** Path of pediatric training in Switzerland according to the Swiss Medical Association (FMH) [4].



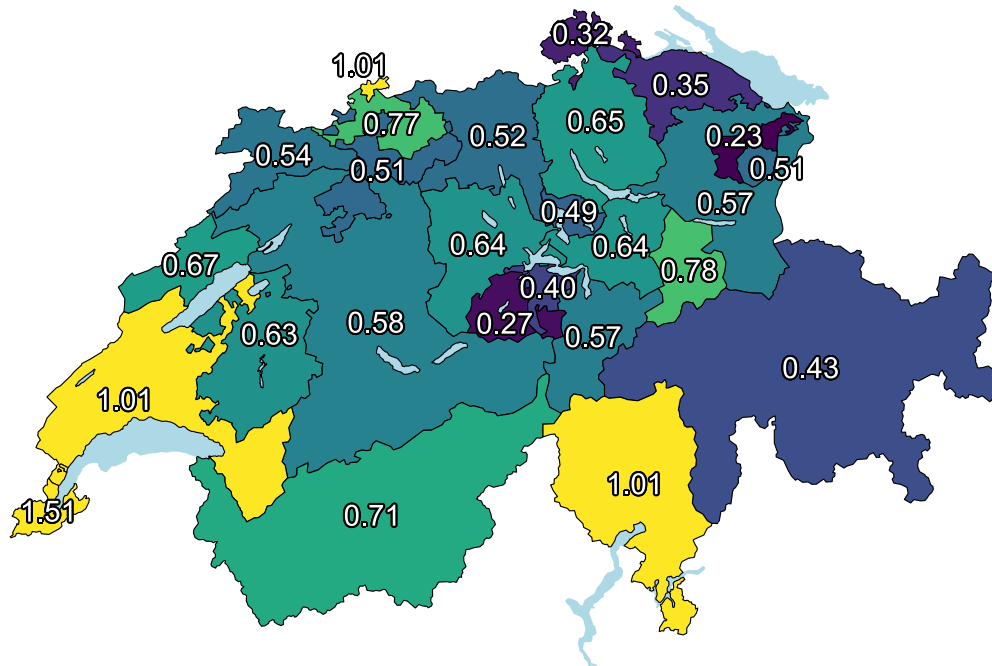
**Supplemental Figure 2: Flow diagram of survey respondents.**

We excluded members with a missing (n=1) or invalid (n=35) e-mail address and respondents who were retired (n = 2) or clinically not active (n = 17) from the eligible population of clinically active, board-certified members of the SSP.

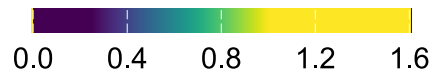
<sup>a</sup> Complete answers: Respondents who filled in all compulsory questions on work setting, specialty, working percentage, perceived shortage, accepting patients, and reasons for a shortage.

Abbreviations: SSP: Swiss Society of Pediatrics—pädiatrie schweiz.

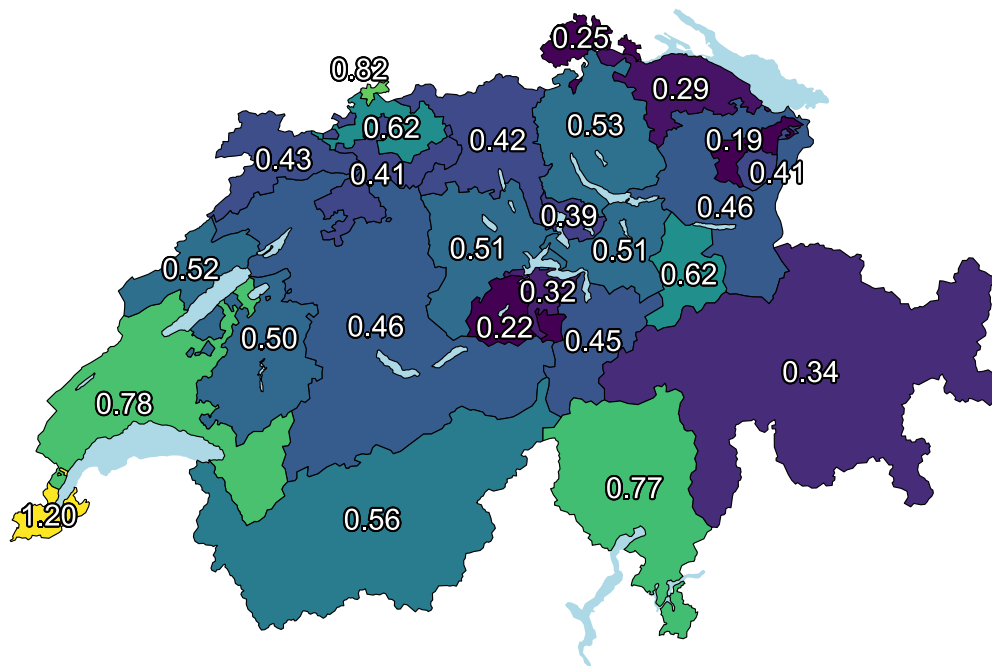
A



Estimated FTE primary care pediatricians per 1000 children (<16 years)



B



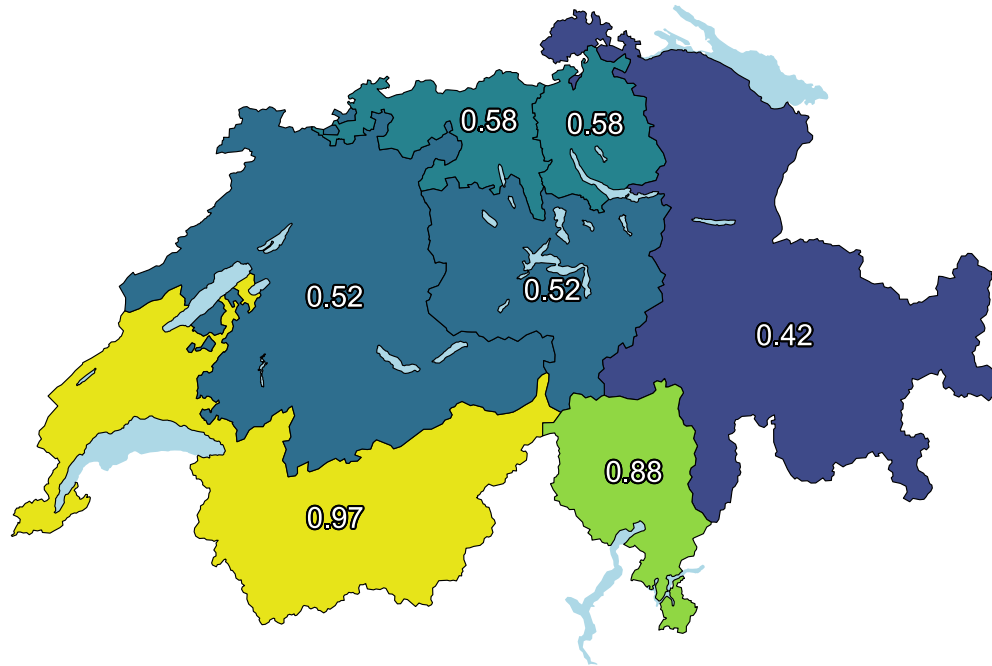
Estimated FTE primary care pediatricians per 1000 children (<20 years)



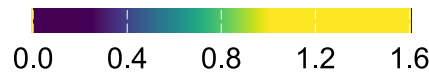
**Supplemental Figure 3: Estimated supply density of pediatric primary care for pediatric populations A) <16 years and B) <20 years.**

The nationwide FTEs per 1000 children were <16 years: 0.71 [0.68–0.74] and <20 years: 0.57 [0.54–0.59]. The number of practice pediatricians per canton was obtained from the 2024 statistics of the Swiss Medical Association (FMH) [1]. The pediatric population per canton in 2024 was obtained from the Federal Statistical Office (FSO) [3]. We used multiple imputation by chained equations (MICE) to estimate the working percentage of pediatricians not reached by our survey. See supplemental methods for detailed calculations. Abbreviations: FTE: Full-time equivalent.

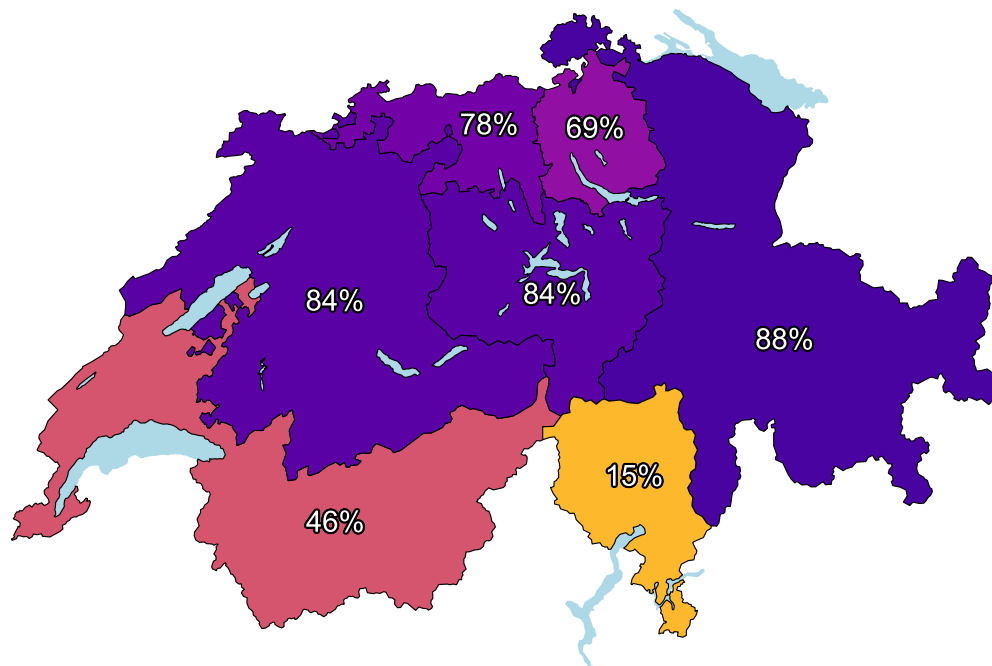
A



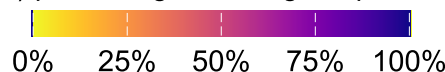
Estimated FTE primary care pediatricians per 1000 children (<18 years)



B



Pediatricians (%) perceiving a shortage of pediatric primary care



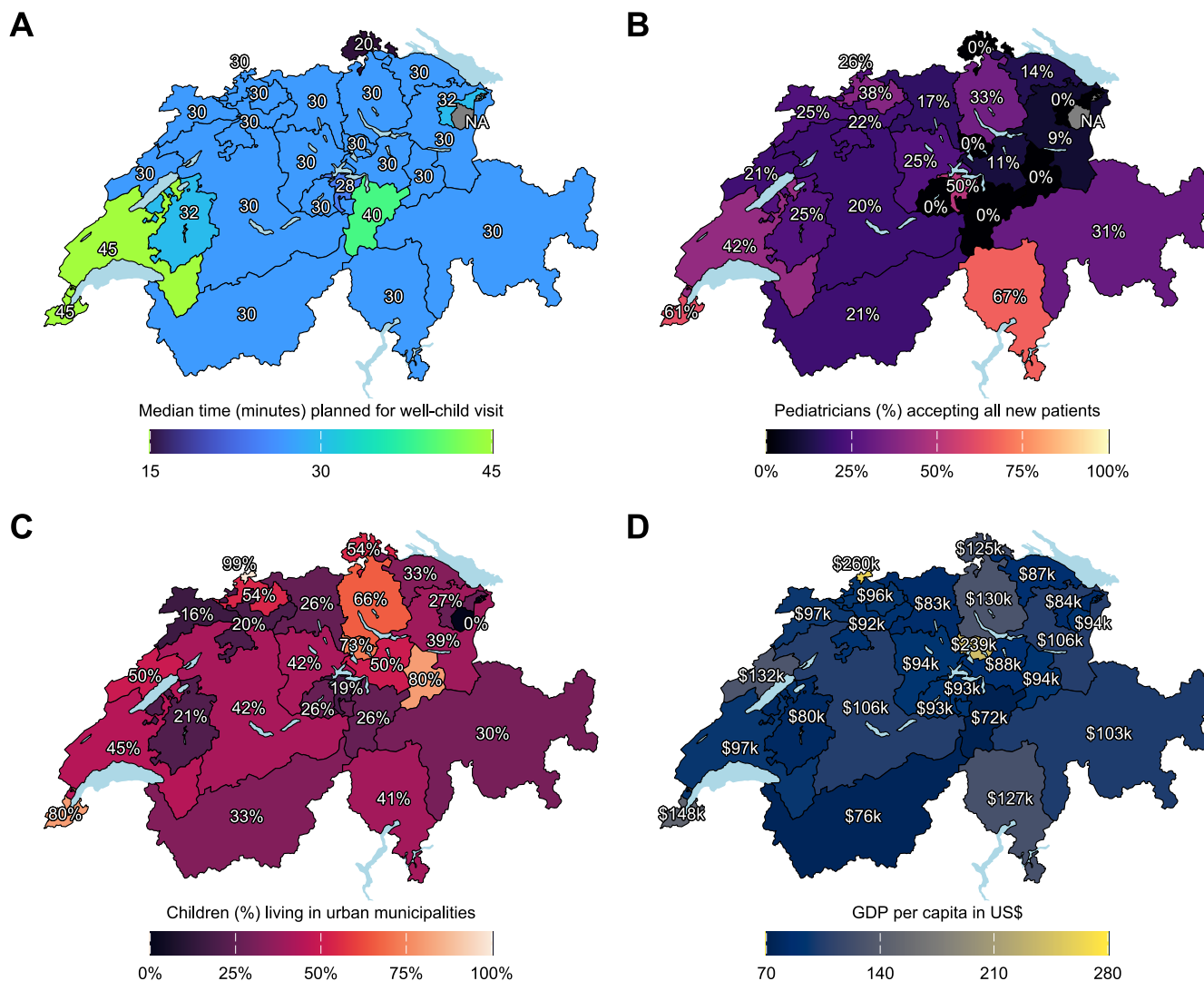
#### Supplemental Figure 4: A) Estimated supply density of pediatric primary care and B) pediatricians' perception of shortages across Swiss major regions.

Panel A: The number of practice pediatricians per major region was obtained from the 2024 statistics of the Swiss Medical Association (FMH).[1] The pediatric population (0–18 years) per major region in 2024 was obtained from the Federal Statistical Office (FSO).[3] We used multiple imputation by chained equations (MICE) to estimate the working percentage of pediatricians not reached by our survey. See supplemental methods for detailed calculations.

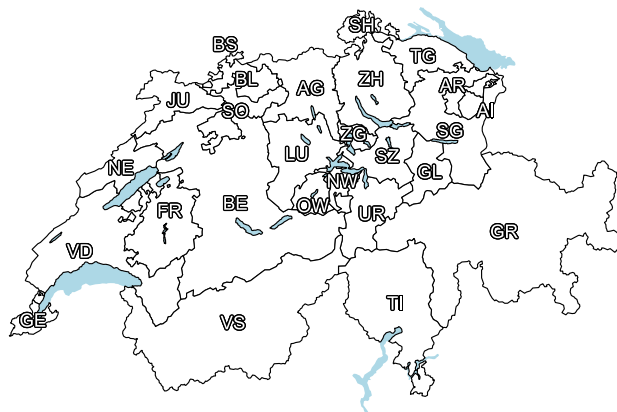
Panel B: Proportion of pediatricians (%) who perceived a shortage of primary care pediatricians in their municipality and neighboring municipalities. Missing: Three pediatricians (<1%) of 1155 did not answer the question on perceived shortage.

Major regions: Aggregation of cantons into 7 regions of Switzerland.

Abbreviations: FTE: Full-time equivalent.



## Canton abbreviations



|                            |                  |
|----------------------------|------------------|
| AG: Aargau                 | NW: Nidwalden    |
| AI: Appenzell Innerrhoden  | OW: Obwalden     |
| AR: Appenzell Ausserrhoden | SG: St. Gallen   |
| BE: Bern                   | SH: Schaffhausen |
| BL: Basel-Landschaft       | SO: Solothurn    |
| BS: Basel-Stadt            | SZ: Schwyz       |
| FR: Fribourg               | TG: Thurgau      |
| GE: Genève                 | TI: Tessin       |
| GL: Glarus                 | UR: Uri          |
| GR: Graubünden             | VD: Vaud         |
| JU: Jura                   | VS: Valais       |
| LU: Luzern                 | ZG: Zug          |
| NE: Neuchâtel              | ZH: Zürich       |

## Supplemental Figure 5: A) Time planned for well-child visit, B) acceptance of new patients, C) children living in urban municipalities, and D) GDP per capita across Swiss cantons.

Panel A: Median minutes planned 'on average' in the practice agenda for a preventive well-child visit by canton.

Panel B: Proportion of pediatricians who are accepting all new patients to their practice by canton. Missing: 70 out of 824 practice pediatricians did not answer the question on accepting new patients.

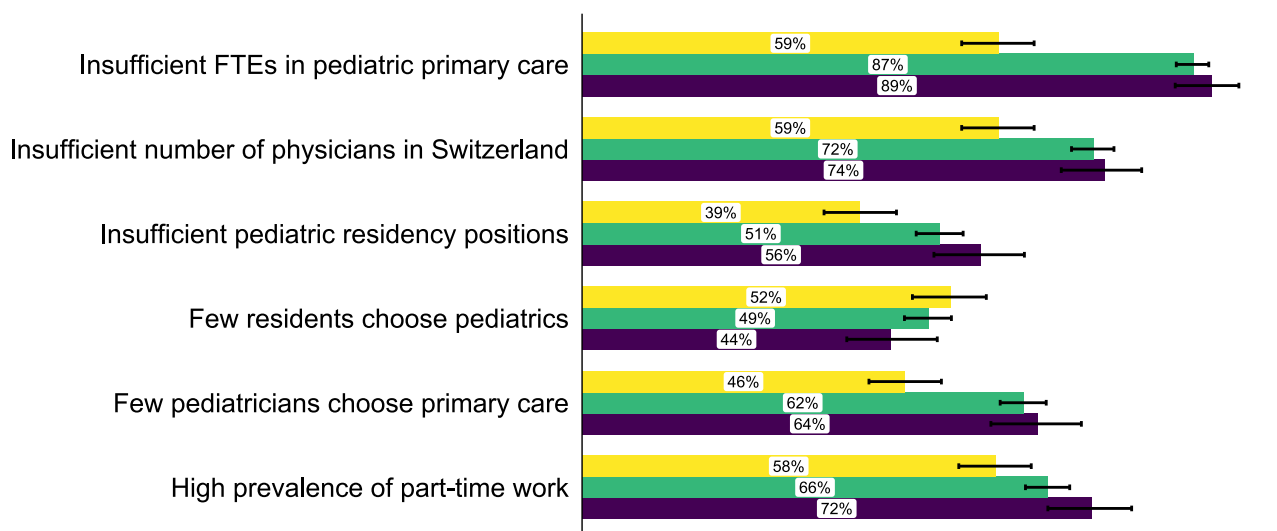
Panel C: Proportion of children (<18 years) living in urban municipalities (cities, towns) by canton in 2024, from the Swiss Federal Statistical Office.[3]

Panel D: Gross domestic product per capita in US\$ by canton in 2022, from the Swiss Federal Statistical Office.[5]

Abbreviations: GDP: gross domestic product; US\$: United States dollar.

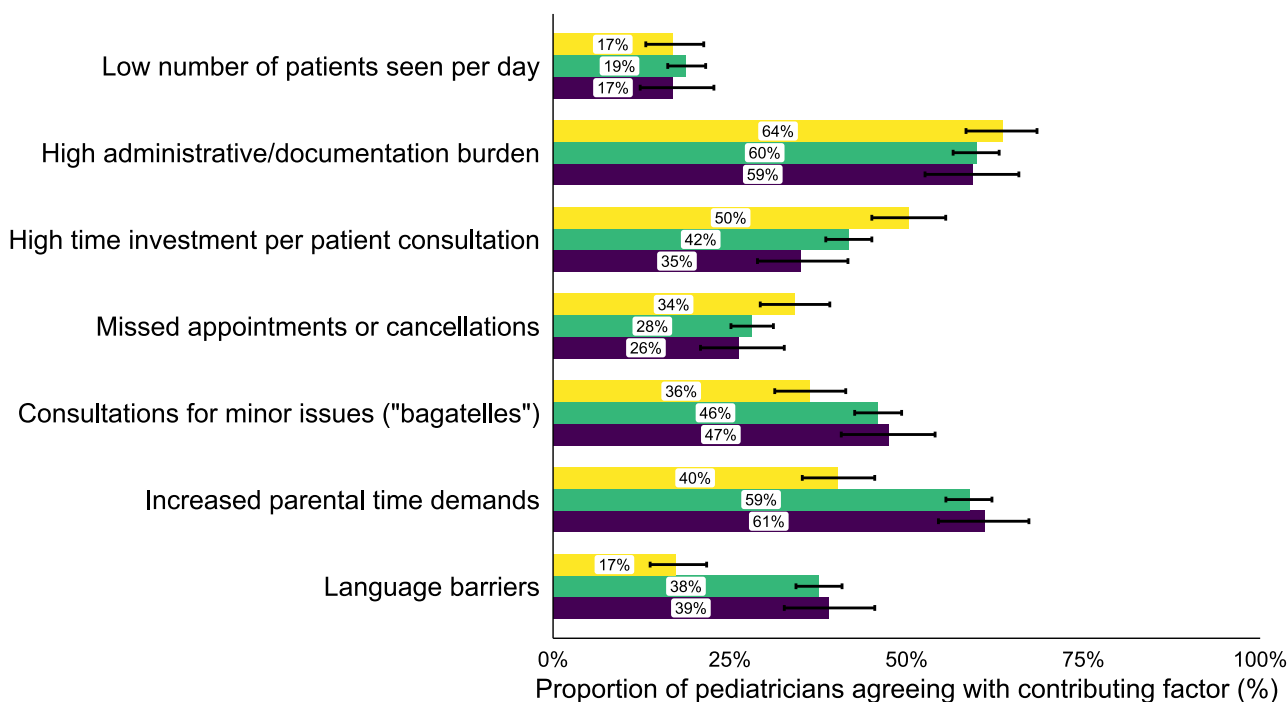
## Explanation A: insufficient workforce

Reducing the number of FTE primary care pediatricians



## Explanation B: insufficient productivity

Limiting the number of patients pediatricians can see per day



Cantonal supply density (FTEs/1000 children)

■ <0.50 ■ 0.50-0.83 ■ >0.83

## Supplemental Figure 6: Agreement with factors potentially contributing to pediatrician shortages by cantonal supply density.

Agreement was measured on a Likert scale from 1 (disagree) to 5 (agree). The bar plot shows the proportion of practice pediatricians agreeing ( $\geq 4$ ) with the statement, and the 95% confidence interval. We computed Korn-Graubard's survey-adjusted Clopper-Pearson binomial confidence intervals accounting for finite population size. We defined the finite population based on the FMH statistics 2024.[1]

Missing: 57 (7%) of 767 practice pediatricians did not answer the questions on potential factors.

Abbreviations: FTE: full-time equivalent.

## Supplemental Tables

**Supplemental Table 1:** Number of consultations per day and consultation duration in pediatric practices by cantonal supply density.

|                                                                          | All practice pediatricians, n (%)<br>824 (100) | Estimated cantonal supply density (FTEs/1000 children) <sup>a</sup> , n (%) |                       |                   |
|--------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------|-----------------------|-------------------|
|                                                                          |                                                | ≤0.55<br>122 (15)                                                           | 0.55–0.95<br>458 (56) | >0.95<br>244 (30) |
| <b>Performing this consultation, n (%)</b>                               |                                                |                                                                             |                       |                   |
| Preventive well-child visit                                              | 677 (98)                                       | 108 (99)                                                                    | 374 (98)              | 195 (98)          |
| Emergency consultation                                                   | 682 (99)                                       | 108 (99)                                                                    | 375 (98)              | 199 (100)         |
| Follow-up after emergency                                                | 674 (98)                                       | 107 (98)                                                                    | 373 (98)              | 194 (97)          |
| Non-urgent consultation                                                  | 679 (98)                                       | 108 (99)                                                                    | 375 (98)              | 196 (98)          |
| Consultation for chronic problem                                         | 676 (98)                                       | 109 (100)                                                                   | 372 (97)              | 195 (98)          |
| Specialist consultation                                                  | 307 (44)                                       | 44 (40)                                                                     | 175 (46)              | 88 (44)           |
| <i>Missing</i>                                                           | 134 (16)                                       | 13 (11)                                                                     | 76 (17)               | 45 (18)           |
| <b># Consultations per day<sup>1</sup>, Median [IQR]</b>                 |                                                |                                                                             |                       |                   |
| Total number of consultations per day                                    | 22 [17, 26]                                    | 25 [20, 30]                                                                 | 25 [20, 30]           | 17 [14, 20]       |
| Preventive well-child visit                                              | 7 [5, 9]                                       | 8 [6, 10]                                                                   | 8 [6, 10]             | 6 [4, 7]          |
| Emergency consultation                                                   | 6 [4, 9]                                       | 8 [5, 10]                                                                   | 7 [5, 10]             | 5 [4, 8]          |
| Follow-up after emergency                                                | 2 [1, 3]                                       | 2 [1, 3]                                                                    | 2 [1, 3]              | 1 [1, 2]          |
| Non-urgent consultation                                                  | 4 [2, 5]                                       | 4 [3, 8]                                                                    | 4 [3, 6]              | 2 [2, 4]          |
| Consultation for chronic problem                                         | 2 [1, 3]                                       | 2 [1, 3]                                                                    | 2 [1, 3]              | 1 [1, 2]          |
| Specialist consultation                                                  | 2 [1, 3]                                       | 1 [1, 3]                                                                    | 2 [1, 3]              | 1 [1, 3]          |
| <b>Planned consultation duration (minutes)<sup>1</sup>, Median [IQR]</b> |                                                |                                                                             |                       |                   |
| Preventive well-child visit                                              | 30 [30, 40]                                    | 30 [30, 30]                                                                 | 30 [30, 30]           | 40 [30, 45]       |
| Emergency consultation                                                   | 15 [15, 15]                                    | 15 [15, 15]                                                                 | 15 [15, 15]           | 15 [15, 20]       |
| Follow-up after emergency                                                | 15 [10, 15]                                    | 15 [10, 15]                                                                 | 15 [10, 15]           | 15 [15, 15]       |
| Non-urgent consultation                                                  | 15 [15, 30]                                    | 15 [15, 20]                                                                 | 15 [15, 20]           | 23 [15, 30]       |
| Consultation for chronic problem                                         | 30 [30, 30]                                    | 30 [30, 30]                                                                 | 30 [30, 30]           | 30 [30, 40]       |
| Specialist consultation                                                  | 30 [30, 45]                                    | 30 [30, 45]                                                                 | 30 [30, 60]           | 30 [30, 45]       |

<sup>a</sup> Only practice pediatricians that also perform this type of consultation were considered in number of consultations per day and in duration planned for a consultation.

Missing: The total number of practice pediatricians for this table is n = 690. Non-responders to the question on performing this consultation were 134 (16%) out of 824 practice pediatricians, including those working in both a practice and a hospital setting.

Abbreviations: IQR: Interquartile range.

**Supplemental Table 2:** Comparison of primary care pediatricians responding to our survey and those in the FMH statistics 2024.

|                                 | <b>Our survey 2024</b><br>N = 824 | <b>FMH statistics 2024</b><br>N = 1482 | <b>P Value</b> |
|---------------------------------|-----------------------------------|----------------------------------------|----------------|
| <b>Gender, n (%)</b>            |                                   |                                        | 0.355          |
| Female                          | 589 (71.5)                        | 1032 (69.6)                            |                |
| Male                            | 234 (28.4)                        | 450 (30.4)                             |                |
| Prefer not to answer            | 1 (0.1)                           | -                                      |                |
| <b>Age group (years), n (%)</b> |                                   |                                        | <0.001         |
| 30–39                           | 135 (16.4)                        | 200 (13.5)                             |                |
| 40–49                           | 295 (35.8)                        | 480 (32.4)                             |                |
| 50–59                           | 258 (31.3)                        | 447 (30.2)                             |                |
| 60–64                           | 103 (12.5)                        | 195 (13.2)                             |                |
| ≥65                             | 31 (3.8)                          | 160 (10.8)                             |                |
| Prefer not to answer            | 2 (0.2)                           | -                                      |                |

**Supplemental Table 3: Estimated full-time equivalents (FTE) and supply density (FTE/1000 children) by Swiss cantons.**

|    | Number of practice pediatricians <sup>a</sup> |          |          |       | Working percentage mean [95%CI] <sup>b</sup> | Estimated number of FTE practice pediatricians FTE [95% CI] <sup>b</sup> |                 |                  |                 |      |      | Population <18 years FSO 2024 | Estimated number of FTE practice pediatricians per 1000 children FTE/1000 children [95% CI] <sup>b</sup> |                  |                  |                  |      |      |
|----|-----------------------------------------------|----------|----------|-------|----------------------------------------------|--------------------------------------------------------------------------|-----------------|------------------|-----------------|------|------|-------------------------------|----------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|------|------|
|    | Survey 2024                                   | SSP 2025 | FMH 2024 | Total |                                              | Average                                                                  |                 |                  |                 | Cons | Opt  |                               | Average                                                                                                  |                  |                  |                  | Cons | Opt  |
|    |                                               |          |          |       |                                              | Canton                                                                   | Region          | Im               | MICE            |      |      |                               | Canton                                                                                                   | Region           | Im               | MICE             |      |      |
| AG | 49                                            | 74       | 97       | 97    | 66% [61–70]                                  | 64 [57–70]                                                               | 63 [57–69]      | 63 [57–69]       | 62 [55–70]      | 56   | 81   | 134,858                       | 0.47 [0.43–0.52]                                                                                         | 0.47 [0.42–0.51] | 0.47 [0.42–0.51] | 0.46 [0.41–0.52] | 0.41 | 0.60 |
| AI | 0                                             | 0        | 2        | 2     | NA                                           | 2 [0–2]                                                                  | 1 [0–2]         | 2 [0–2]          | 1 [0–2]         | 1    | 2    | 3,101                         | 0.48 [0.00–0.64]                                                                                         | 0.45 [0.00–0.64] | 0.52 [0.00–0.64] | 0.45 [0.00–0.64] | 0.32 | 0.64 |
| AR | 2                                             | 3        | 3        | 3     | 75% [50–83]                                  | 2 [2–3]                                                                  | 2 [2–3]         | 2 [2–3]          | 2 [2–3]         | 2    | 3    | 10,613                        | 0.21 [0.14–0.24]                                                                                         | 0.21 [0.14–0.24] | 0.22 [0.14–0.24] | 0.21 [0.14–0.24] | 0.19 | 0.24 |
| BE | 89                                            | 119      | 147      | 147   | 64% [62–67]                                  | 95 [89–100]                                                              | 96 [91–101]     | 97 [91–102]      | 95 [87–102]     | 86   | 116  | 184,497                       | 0.51 [0.48–0.54]                                                                                         | 0.52 [0.49–0.55] | 0.52 [0.49–0.55] | 0.51 [0.47–0.55] | 0.47 | 0.63 |
| BL | 24                                            | 33       | 57       | 57    | 63% [56–70]                                  | 36 [30–41]                                                               | 36 [31–42]      | 37 [32–42]       | 36 [30–42]      | 31   | 48   | 52,408                        | 0.68 [0.58–0.79]                                                                                         | 0.69 [0.59–0.79] | 0.70 [0.60–0.79] | 0.68 [0.58–0.79] | 0.60 | 0.92 |
| BS | 23                                            | 37       | 47       | 47    | 61% [55–68]                                  | 29 [24–33]                                                               | 30 [25–34]      | 30 [25–34]       | 29 [25–34]      | 26   | 39   | 32,484                        | 0.89 [0.75–1.03]                                                                                         | 0.91 [0.77–1.05] | 0.91 [0.78–1.04] | 0.91 [0.77–1.04] | 0.80 | 1.20 |
| FR | 36                                            | 34       | 53       | 53    | 74% [71–76]                                  | 39 [37–41]                                                               | 38 [36–40]      | 38 [36–40]       | 38 [35–40]      | 35   | 44   | 67,502                        | 0.58 [0.55–0.61]                                                                                         | 0.56 [0.53–0.59] | 0.56 [0.53–0.59] | 0.56 [0.52–0.59] | 0.52 | 0.65 |
| GE | 76                                            | 113      | 182      | 182   | 74% [72–77]                                  | 135 [129–142]                                                            | 133 [127–140]   | 136 [130–143]    | 134 [120–148]   | 109  | 163  | 100,168                       | 1.35 [1.28–1.42]                                                                                         | 1.33 [1.26–1.40] | 1.36 [1.30–1.43] | 1.34 [1.19–1.48] | 1.09 | 1.62 |
| GL | 6                                             | 0        | 7        | 7     | 73% [65–77]                                  | 5 [4–5]                                                                  | 5 [4–5]         | 5 [5–5]          | 5 [5–5]         | 5    | 5    | 7,362                         | 0.70 [0.60–0.73]                                                                                         | 0.69 [0.60–0.73] | 0.71 [0.62–0.73] | 0.69 [0.62–0.73] | 0.67 | 0.73 |
| GR | 13                                            | 15       | 17       | 18    | 68% [60–75]                                  | 12 [10–14]                                                               | 12 [10–14]      | 12 [10–14]       | 12 [11–14]      | 11   | 14   | 32,083                        | 0.38 [0.32–0.43]                                                                                         | 0.38 [0.32–0.43] | 0.38 [0.32–0.43] | 0.38 [0.34–0.42] | 0.35 | 0.43 |
| JU | 8                                             | 9        | 8        | 9     | 73% [64–76]                                  | 7 [6–7]                                                                  | 6 [6–7]         | 7 [6–7]          | 6 [6–7]         | 6    | 7    | 13,455                        | 0.48 [0.43–0.51]                                                                                         | 0.48 [0.43–0.51] | 0.49 [0.43–0.51] | 0.48 [0.43–0.51] | 0.47 | 0.51 |
| LU | 31                                            | 50       | 71       | 71    | 62% [56–69]                                  | 44 [38–51]                                                               | 44 [38–51]      | 46 [40–52]       | 45 [38–52]      | 39   | 59   | 79,760                        | 0.55 [0.47–0.63]                                                                                         | 0.56 [0.48–0.64] | 0.58 [0.50–0.66] | 0.57 [0.48–0.66] | 0.49 | 0.74 |
| NE | 20                                            | 20       | 29       | 31    | 59% [53–65]                                  | 18 [16–21]                                                               | 19 [16–22]      | 19 [16–22]       | 19 [17–21]      | 17   | 23   | 32,221                        | 0.56 [0.48–0.64]                                                                                         | 0.59 [0.51–0.68] | 0.59 [0.50–0.68] | 0.59 [0.52–0.65] | 0.53 | 0.72 |
| NW | 2                                             | 2        | 3        | 3     | 95% [63–97]                                  | 3 [2–3]                                                                  | 3 [2–3]         | 2 [2–3]          | 3 [2–3]         | 2    | 3    | 7,231                         | 0.39 [0.26–0.40]                                                                                         | 0.35 [0.26–0.40] | 0.34 [0.26–0.40] | 0.35 [0.26–0.40] | 0.33 | 0.4  |
| OW | 3                                             | 2        | 1        | 3     | 57% [57–57]                                  | 2 [2–2]                                                                  | 2 [2–2]         | 2 [2–2]          | 2 [2–2]         | 2    | 2    | 7,038                         | 0.24 [0.24–0.24]                                                                                         | 0.24 [0.24–0.24] | 0.24 [0.24–0.24] | 0.24 [0.24–0.24] | 0.24 | 0.24 |
| SG | 46                                            | 53       | 72       | 73    | 70% [65–75]                                  | 51 [46–56]                                                               | 51 [46–56]      | 52 [48–57]       | 51 [46–55]      | 46   | 60   | 99,338                        | 0.51 [0.47–0.56]                                                                                         | 0.51 [0.47–0.56] | 0.52 [0.48–0.57] | 0.51 [0.46–0.55] | 0.46 | 0.60 |
| SH | 3                                             | 1        | 6        | 6     | 73% [37–87]                                  | 4 [2–5]                                                                  | 4 [2–5]         | 5 [2–5]          | 4 [2–5]         | 4    | 5    | 15,204                        | 0.29 [0.14–0.34]                                                                                         | 0.28 [0.14–0.34] | 0.30 [0.14–0.34] | 0.28 [0.14–0.34] | 0.24 | 0.34 |
| SO | 20                                            | 19       | 32       | 34    | 69% [62–76]                                  | 23 [20–27]                                                               | 23 [20–26]      | 23 [20–27]       | 23 [21–25]      | 21   | 28   | 50,554                        | 0.46 [0.40–0.53]                                                                                         | 0.46 [0.39–0.52] | 0.46 [0.40–0.52] | 0.45 [0.41–0.50] | 0.41 | 0.55 |
| SZ | 9                                             | 14       | 26       | 26    | 63% [50–75]                                  | 16 [12–21]                                                               | 16 [12–21]      | 17 [13–21]       | 17 [13–21]      | 14   | 23   | 28,955                        | 0.56 [0.41–0.72]                                                                                         | 0.57 [0.41–0.72] | 0.58 [0.44–0.71] | 0.57 [0.44–0.71] | 0.49 | 0.78 |
| TG | 15                                            | 23       | 25       | 26    | 66% [57–75]                                  | 17 [14–20]                                                               | 18 [14–21]      | 18 [15–21]       | 17 [15–20]      | 15   | 21   | 55,104                        | 0.31 [0.25–0.37]                                                                                         | 0.32 [0.26–0.38] | 0.32 [0.27–0.37] | 0.32 [0.27–0.36] | 0.28 | 0.38 |
| TI | 41                                            | 44       | 58       | 60    | 81% [76–85]                                  | 48 [45–52]                                                               | 48 [45–52]      | 49 [46–52]       | 48 [45–52]      | 42   | 52   | 55,119                        | 0.88 [0.81–0.94]                                                                                         | 0.88 [0.81–0.94] | 0.89 [0.83–0.95] | 0.88 [0.82–0.94] | 0.77 | 0.95 |
| UR | 4                                             | 3        | 3        | 5     | 70% [42–82]                                  | 4 [2–4]                                                                  | 3 [2–4]         | 3 [2–4]          | 3 [2–4]         | 3    | 4    | 6,713                         | 0.52 [0.31–0.61]                                                                                         | 0.50 [0.31–0.61] | 0.52 [0.31–0.61] | 0.50 [0.31–0.61] | 0.46 | 0.61 |
| VD | 104                                           | 167      | 201      | 201   | 71% [69–73]                                  | 143 [137–149]                                                            | 145 [139–150]   | 144 [139–150]    | 145 [133–157]   | 122  | 172  | 163,801                       | 0.87 [0.84–0.91]                                                                                         | 0.88 [0.85–0.92] | 0.88 [0.85–0.91] | 0.89 [0.81–0.96] | 0.74 | 1.05 |
| VS | 38                                            | 37       | 52       | 55    | 72% [69–75]                                  | 40 [37–42]                                                               | 40 [37–42]      | 39 [37–42]       | 40 [37–42]      | 36   | 45   | 63,580                        | 0.62 [0.58–0.66]                                                                                         | 0.62 [0.58–0.67] | 0.62 [0.58–0.66] | 0.63 [0.59–0.66] | 0.56 | 0.70 |
| ZG | 7                                             | 13       | 17       | 17    | 58% [46–70]                                  | 10 [7–13]                                                                | 10 [7–13]       | 11 [9–14]        | 10 [8–13]       | 9    | 14   | 24,093                        | 0.41 [0.29–0.53]                                                                                         | 0.43 [0.31–0.55] | 0.47 [0.35–0.58] | 0.43 [0.32–0.54] | 0.38 | 0.58 |
| ZH | 155                                           | 221      | 266      | 266   | 63% [61–66]                                  | 169 [160–177]                                                            | 169 [160–177]   | 170 [162–178]    | 168 [152–185]   | 154  | 210  | 288,474                       | 0.59 [0.56–0.61]                                                                                         | 0.59 [0.56–0.61] | 0.59 [0.56–0.62] | 0.58 [0.53–0.64] | 0.53 | 0.73 |
| CH | 824                                           | 1106     | 1482     | 1499  | 68% [67–69]                                  | 1017 [998–1037]                                                          | 1018 [998–1038] | 1029 [1010–1048] | 1017 [975–1059] | 894  | 1242 | 1,615,716                     | 0.63 [0.62–0.64]                                                                                         | 0.63 [0.62–0.64] | 0.64 [0.63–0.65] | 0.63 [0.60–0.66] | 0.55 | 0.77 |

<sup>a</sup> In a few cantons, the number of SSP members working in practice might be smaller than the number of practice pediatricians in our survey, because the SSP bases the canton of their members on their residence, not on their place of work. For some cantons, the number of practice pediatricians in our survey might be higher than the number of practice pediatricians in the FMH statistics 2024, because also the FMH statistics 2024 are not 100% complete.[1] In a few cantons, our survey counted more practice pediatricians by group (canton, age, sex) than the FMH statistics 2024. As a result, the total number of practice pediatricians can be higher than the number of practice pediatricians in the FMH statistics 2024 or in the survey.

<sup>b</sup> See supplemental methods for calculation of 95% confidence intervals.

Missing information: 24 (3%) out of the 824 practice pediatricians did not answer the question on working percentage. No pediatrician from the canton of Appenzell Innerrhoden answered to the survey.

Abbreviations: AG: Aargau; AI: Appenzell Innerrhoden; AR: Appenzell Ausserrhoden; BE: Bern; BL: Basel-Landschaft; BS: Basel-Stadt; CH: Confoederatio Helvetica—“Swiss Confederation”, Switzerland; CI: confidence interval, Cons.: Conservative; FMH: Foederatio Medicorum Helveticorum, Swiss Medical Association; FR: Fribourg; FSO: Federal Statistical Office; FTE: full-time equivalent; GE: Genève; GL: Glarus; GR: Graubünden; JU: Jura; lm: linear regression model; LU: Luzern; MICE: Multiple imputation by chained equations; NA: Not available; NE: Neuchâtel; NW: Nidwalden; Opt.: Optimistic; OW: Obwalden; SG: St. Gallen; SH: Schaffhausen; SO: Solothurn; SSP: Swiss Society of Pediatrics—pédiatrie suisse; SZ: Schwyz; TG: Thurgau; UR: Uri; VD: Vaud; VS: Valais; ZG: Zug; ZH: Zürich.

**Supplemental Table 4:** Number of pediatricians and perceived shortage across Swiss cantons.

|                     | Number of pediatricians <sup>a</sup> |                     |                        | Perceived shortage <sup>b</sup> |          |
|---------------------|--------------------------------------|---------------------|------------------------|---------------------------------|----------|
|                     | Our survey<br>2024–2025              | SSP members<br>2025 | FMH statistics<br>2024 | n (%)                           | 95% CI   |
| <b>Aargau</b>       | 66                                   | 112                 | 145                    | 55 (83)                         | 74–90%   |
| <b>Appenzell AR</b> | 2                                    | 7                   | 4                      | 2 (100)                         | 50–100%  |
| <b>Appenzell IR</b> | 0                                    | 0                   | 2                      | NA                              | NA       |
| <b>Basel-Land</b>   | 24                                   | 59                  | 65                     | 19 (73)                         | 62–91%   |
| <b>Basel-Stadt</b>  | 42                                   | 82                  | 95                     | 29 (69)                         | 56–80%   |
| <b>Bern</b>         | 130                                  | 205                 | 245                    | 113 (87)                        | 82–91%   |
| <b>Fribourg</b>     | 44                                   | 61                  | 67                     | 32 (73)                         | 63–81%   |
| <b>Genève</b>       | 108                                  | 225                 | 267                    | 32 (30)                         | 23–37%   |
| <b>Glarus</b>       | 6                                    | 0                   | 7                      | 6 (100)                         | 86–100%  |
| <b>Graubünden</b>   | 30                                   | 42                  | 40                     | 28 (93)                         | 83–95%   |
| <b>Jura</b>         | 11                                   | 17                  | 13                     | 9 (82)                          | 69–85%   |
| <b>Luzern</b>       | 55                                   | 81                  | 97                     | 46 (84)                         | 74–90%   |
| <b>Neuchâtel</b>    | 26                                   | 31                  | 40                     | 22 (85)                         | 70–90%   |
| <b>Nidwalden</b>    | 2                                    | 2                   | 4                      | 2 (100)                         | 50–100%  |
| <b>Obwalden</b>     | 3                                    | 2                   | 1                      | 3 (100)                         | 100–100% |
| <b>Schaffhausen</b> | 5                                    | 4                   | 8                      | 5 (100)                         | 63–100%  |
| <b>Schwyz</b>       | 11                                   | 19                  | 30                     | 11 (100)                        | 77–100%  |
| <b>Solothurn</b>    | 20                                   | 25                  | 37                     | 19 (95)                         | 78–97%   |
| <b>St. Gallen</b>   | 59                                   | 96                  | 120                    | 51 (86)                         | 78–93%   |
| <b>Tessin</b>       | 52                                   | 88                  | 87                     | 8 (15)                          | 9–24%    |
| <b>Thurgau</b>      | 18                                   | 36                  | 36                     | 14 (78)                         | 58–89%   |
| <b>Uri</b>          | 4                                    | 5                   | 4                      | 3 (75)                          | 75–75%   |
| <b>Valais</b>       | 45                                   | 57                  | 62                     | 38 (84)                         | 76–89%   |
| <b>Vaud</b>         | 145                                  | 301                 | 292                    | 66 (46)                         | 39–52%   |
| <b>Zug</b>          | 8                                    | 16                  | 18                     | 5 (63)                          | 28–83%   |
| <b>Zürich</b>       | 236                                  | 451                 | 487                    | 164 (69)                        | 65–74%   |
| <b>Schweiz</b>      | 1152                                 | 2024                | 2273                   | 782 (68)                        | 66–70%   |

<sup>a</sup> Number of pediatricians: In a few cantons, the number of SSP members working in practice might be smaller than the number of practice pediatricians in our survey, because the SSP bases the canton of their members on their residence, not on their place of work. In Obwalden, the number of practice pediatricians in our survey is higher than the number of practice pediatricians in the FMH statistics 2024, because the FMH statistics 2024 might not be 100% complete.

The number of board-certified, non-retired SSP members in 2025 (n=2024) is slightly higher than the number of the eligible population for this survey (n=1940), due to missing (n=1) or invalid (n=35) email addresses, retired (n=2) or clinically not active (n=17) members and new members (n=29) between September 2024 and January 2025.

<sup>b</sup> Perceived shortage: The percentages relate to the number of survey respondents. We computed Korn-Graubard's survey-adjusted Clopper-Pearson binomial confidence intervals accounting for finite population size. We defined the finite population based on the FMH statistics 2024 [1].

Missing values: The total number of pediatricians of our survey for this table is n = 1152. Three pediatricians (<1%) of 1155 did not answer the question on perceived shortage. No pediatrician from the canton of Appenzell Innerrhoden answered the survey because the SSP has no member from this canton.

Abbreviations: AR: Ausser rhoden, CI: Confidence interval, IR: Innerrhoden; NA: Not applicable; SSP: Swiss Society of Pediatrics—pädiatrie schweiz.

**Supplemental Table 5:** General working conditions (working percentage and hours) of practice pediatricians by gender.

|                                                                  | All practice pediatricians, n (%)<br>824 (100) | Gender <sup>a</sup> , n (%) |                  |                      |
|------------------------------------------------------------------|------------------------------------------------|-----------------------------|------------------|----------------------|
|                                                                  |                                                | Female<br>589 (71)          | Male<br>234 (28) | P Value <sup>b</sup> |
| <b>Working percentage<sup>d</sup>, n (%) [95%CI<sup>c</sup>]</b> |                                                |                             |                  |                      |
| Full-time (100%)                                                 | 101 (13) [11–14]                               | 34 (6) [5–7]                | 67 (29) [25–33]  | <0.001               |
| Part-time (<95%)                                                 | 703 (87) [86–89]                               | 538 (94) [93–95]            | 164 (71) [67–75] |                      |
| 80–95%                                                           | 216 (27) [25–29]                               | 130 (23) [21–25]            | 85 (37) [33–41]  |                      |
| 60–79%                                                           | 292 (36) [34–39]                               | 244 (43) [40–45]            | 48 (21) [17–25]  |                      |
| 40–59%                                                           | 154 (19) [17–21]                               | 136 (24) [22–26]            | 18 (8) [6–11]    |                      |
| 20–39%                                                           | 34 (4) [3–5]                                   | 25 (4) [3–6]                | 9 (4) [2–6]      |                      |
| <20%                                                             | 7 (1) [1–1]                                    | 3 (1) [0–1]                 | 4 (2) [1–3]      |                      |
| Median [IQR]                                                     | 70 [60, 80]                                    | 60 [50, 80]                 | 80 [70, 100]     | <0.001               |
| Missing                                                          | 20 (3)                                         | 17 (3)                      | 3 (1)            |                      |
| <b>Working hours per week<sup>e</sup></b>                        |                                                |                             |                  |                      |
| Median [IQR]                                                     | 35 [27, 40]                                    | 30 [25, 40]                 | 40 [35, 50]      | <0.001               |
| Missing                                                          | 30 (4)                                         | 25 (4)                      | 5 (2)            |                      |
| <b>FTE working hours per week<sup>f</sup></b>                    |                                                |                             |                  |                      |
| Median [IQR]                                                     | 50 [45, 56]                                    | 50 [45, 56]                 | 50 [45, 60]      | <0.001               |
| Missing                                                          | 30 (4)                                         | 25 (4)                      | 5 (2)            |                      |

<sup>a</sup> Gender: One practice pediatrician preferred not to answer the question on gender.

<sup>b</sup> p-value: For categorical outcomes, we used the survey-adjusted Rao-Scott chi squared test. For continuous variables, we used the survey-adjusted Kruskal Wallis test.

<sup>c</sup> 95% Confidence interval: For categorical outcomes, we computed Korn-Graubard's survey-adjusted Clopper-Pearson binomial confidence intervals accounting for finite population size. For continuous variables, we used t-distribution confidence intervals with finite population correction. We defined the finite population based on the FMH statistics 2024 [1].

<sup>d</sup> Working percentage: For pediatricians working both in a practice and in a hospital, it is the working percentage in practice. P-value comparing full-time work with part-time work.

<sup>e</sup> Working hours per week: For pediatricians working both in a practice and in a hospital, it is the working hours in practice.

<sup>f</sup> FTE working hours per week: For pediatricians working part-time, we extrapolated their working hours per week to a full-time working percentage (100%). For pediatricians working full-time, we used their working hours per week.

Abbreviations: CI: Confidence interval, FTE: Full-time equivalent, IQR: Interquartile range.

**Supplemental Table 6:** General working conditions (working percentage and hours) of practice pediatricians by age.

|                                                                  | All practice pediatricians, n (%)<br>824 (100) | Age group <sup>a</sup> , n (%) |                         |                         |                         |                     | P Value <sup>b</sup> |
|------------------------------------------------------------------|------------------------------------------------|--------------------------------|-------------------------|-------------------------|-------------------------|---------------------|----------------------|
|                                                                  |                                                | 30–39 years<br>135 (16)        | 40–49 years<br>295 (36) | 50–59 years<br>258 (31) | 60–64 years<br>103 (13) | ≥65 years<br>31 (4) |                      |
| <b>Working percentage<sup>d</sup>, n (%) [95%CI<sup>c</sup>]</b> |                                                |                                |                         |                         |                         |                     |                      |
| Full-time (100%)                                                 | 101 (13) [11–14]                               | 2 (2) [1–3]                    | 27 (9) [7–12]           | 40 (16) [13–19]         | 24 (24) [19–30]         | 8 (26) [14–42]      | <0.001               |
| Part-time (<95%)                                                 | 703 (87) [86–89]                               | 128 (98) [97–99]               | 262 (91) [88–93]        | 211 (84) [81–87]        | 77 (76) [70–81]         | 23 (74) [58–86]     |                      |
| 80–95%                                                           | 216 (27) [25–29]                               | 32 (25) [21–29]                | 66 (23) [20–26]         | 71 (28) [25–32]         | 36 (36) [29–42]         | 10 (32) [19–49]     |                      |
| 60–79%                                                           | 292 (36) [34–39]                               | 60 (46) [41–51]                | 102 (35) [32–39]        | 95 (38) [34–42]         | 27 (27) [21–33]         | 8 (26) [14–42]      |                      |
| 40–59%                                                           | 154 (19) [17–21]                               | 28 (22) [18–26]                | 77 (27) [24–30]         | 34 (14) [11–17]         | 10 (10) [7–15]          | 4 (13) [5–28]       |                      |
| 20–39%                                                           | 34 (4) [3–5]                                   | 8 (6) [4–9]                    | 15 (5) [4–7]            | 8 (3) [2–5]             | 2 (2) [1–5]             | 1 (3) [1–17]        |                      |
| <20%                                                             | 7 (1) [1–1]                                    | -                              | 2 (1) [0–2]             | 3 (1) [1–2]             | 2 (2) [1–5]             | -                   |                      |
| Median [IQR]                                                     | 70 [60, 80]                                    | 60 [50, 80]                    | 60 [50, 80]             | 70 [60, 80]             | 80 [65, 90]             | 80 [60, 100]        | <0.001               |
| Missing                                                          | 20 (3)                                         | 5 (4)                          | 6 (2)                   | 7 (3)                   | 2 (2)                   | -                   |                      |
| <b>Working hours per week<sup>e</sup></b>                        |                                                |                                |                         |                         |                         |                     |                      |
| Median [IQR]                                                     | 35 [27, 40]                                    | 30 [25, 36]                    | 30 [25, 40]             | 36 [28, 45]             | 40 [35, 50]             | 40 [28, 50]         | <0.001               |
| Missing                                                          | 30 (4)                                         | 7 (5)                          | 8 (3)                   | 12 (5)                  | 3 (3)                   | -                   |                      |
| <b>FTE working hours per week<sup>f</sup></b>                    |                                                |                                |                         |                         |                         |                     |                      |
| Median [IQR]                                                     | 50 [45, 56]                                    | 50 [44, 52]                    | 50 [45, 55]             | 50 [45, 60]             | 53 [48, 60]             | 50 [44, 60]         | <0.001               |
| Missing                                                          | 30 (4)                                         | 7 (5)                          | 8 (3)                   | 12 (5)                  | 3 (3)                   | -                   |                      |

<sup>a</sup> Age group: Two practice pediatrician preferred not to answer the question on age.

<sup>b</sup> p-value: For categorical outcomes, we used the survey-adjusted Rao-Scott chi squared test; because of the small number of counts in some cells, we also used Fisher's exact test, which resulted in the same p-value. For continuous variables, we used the survey-adjusted Kruskal Wallis test.

<sup>c</sup> 95% Confidence interval: For categorical outcomes, we computed Korn-Graubard's survey-adjusted Clopper-Pearson binomial confidence intervals accounting for finite population size. We defined the finite population based on the FMH statistics 2024 [1].

<sup>d</sup> Working percentage: For pediatricians working both in a practice and in a hospital, it is the working percentage in practice. P-value comparing full-time work with part-time work.

<sup>e</sup> Working hours per week: For pediatricians working both in a practice and in a hospital, it is the working hours in practice.

<sup>f</sup> FTE working hours per week: For pediatricians working part-time, we extrapolated their working hours per week to a full-time working percentage (100%). For pediatricians working full-time, we used their working hours per week.

Abbreviations: CI: Confidence interval, FTE: Full-time equivalent, IQR: Interquartile range.

**Supplemental Table 7:** General working conditions (working percentage and hours) of pediatricians by work setting.

|                                                       | Total, n (%)<br>1155 (100) | Worksetting, n (%)   |                      |                                        |                      |
|-------------------------------------------------------|----------------------------|----------------------|----------------------|----------------------------------------|----------------------|
|                                                       |                            | Practice<br>704 (61) | Hospital<br>331 (29) | Both settings <sup>a</sup><br>120 (10) | P Value <sup>b</sup> |
| <b>Working percentage, n (%) [95% CI]<sup>c</sup></b> |                            |                      |                      |                                        |                      |
| Full-time (100%)                                      | 278 (25) [23–27]           | 94 (14) [12–16]      | 144 (45) [41–49]     | 40 (34) [28–40]                        | <0.0001              |
| Part-time (<95%)                                      | 847 (75) [73–77]           | 593 (86) [84–88]     | 177 (55) [51–59]     | 77 (66) [60–72]                        |                      |
| 80–95%                                                | 328 (29) [27–31]           | 192 (28) [25–30]     | 94 (29) [26–34]      | 42 (36) [30–42]                        |                      |
| 60–79%                                                | 342 (30) [29–32]           | 260 (38) [35–41]     | 59 (18) [15–22]      | 23 (20) [15–25]                        |                      |
| 40–59%                                                | 153 (14) [12–15]           | 126 (18) [16–21]     | 17 (5) [4–7]         | 10 (9) [6–13]                          |                      |
| 20–39%                                                | 23 (2) [2–3]               | 14 (2) [1–3]         | 7 (2) [1–4]          | 2 (2) [1–4]                            |                      |
| <20%                                                  | 1 (<1) [0–<1]              | 1 (<1) [0–1]         | -                    | -                                      |                      |
| Median [IQR]                                          | 80 [60, 90]                | 70 [60, 80]          | 80 [75, 100]         | 85 [70, 100]                           | <0.0001              |
| Missing                                               | 30 (3)                     | 17 (2)               | 10 (3)               | 3 (3)                                  |                      |
| <b>Working hours per week</b>                         |                            |                      |                      |                                        |                      |
| Median [IQR]                                          | 40 [30, 50]                | 35 [28, 42]          | 50 [40, 55]          | 44 [35, 50]                            | <0.0001              |
| Missing                                               | 46 (4)                     | 27 (4)               | 16 (5)               | 3 (3)                                  |                      |
| <b>FTE working hours per week<sup>d</sup></b>         |                            |                      |                      |                                        |                      |
| Median [IQR]                                          | 50 [46, 58]                | 50 [45, 56]          | 54 [50, 60]          | 50 [45, 59]                            | <0.0001              |
| Missing                                               | 46 (4)                     | 27 (4)               | 16 (5)               | 3 (3)                                  |                      |

<sup>a</sup> 119 pediatricians worked both in a practice and in a hospital.

<sup>b</sup> p-value: For categorical outcomes, we used the survey-adjusted Rao-Scott chi squared test. For continuous variables, we used the survey-adjusted Kruskal Wallis test. The p-value for working percentage is for comparing full-time and part-time work.

<sup>c</sup> 95% Confidence interval: For categorical outcomes, we computed Korn-Graubard's survey-adjusted Clopper-Pearson binomial confidence intervals accounting for finite population size. For continuous variables, we used t-distribution confidence intervals with finite population correction. We defined the finite population based on the FMH statistics 2024 [1].

<sup>d</sup> FTE working hours per week: For pediatricians working part-time, we extrapolated their working hours per week to a full-time working percentage (100%). For pediatricians working full-time, we used their working hours per week.

Abbreviations: CI: Confidence interval, FTE: Full-time equivalent, IQR: Interquartile range.

**Supplemental Table 8:** Correlations of cantonal pediatric primary care supply density with perceived shortage, accepting new patients, and patients per day.

| Pearson correlation                                                                  | r     | 95% CI       | P Value |
|--------------------------------------------------------------------------------------|-------|--------------|---------|
| FTEs per 1000 children <sup>a</sup> ~ pediatricians perceiving shortage <sup>b</sup> | -0.75 | -0.88, -0.50 | <0.001  |
| FTEs per 1000 children ~ pediatricians accepting new patients <sup>c</sup>           | 0.65  | 0.34, 0.83   | <0.001  |
| FTEs per 1000 children ~ number of patients per day <sup>d</sup>                     | -0.65 | -0.83, -0.34 | <0.001  |

<sup>a</sup> FTEs per 1000 children: Full-time equivalent pediatricians per 1000 children <18 years.

<sup>b</sup> Pediatricians perceiving shortage: Proportion of pediatricians perceiving a shortage.

<sup>c</sup> Pediatricians accepting new patients: Proportion of practice pediatricians accepting new patients.

<sup>d</sup> Number of patients per day: Median number of patients seen by a practice pediatrician on a full day.

Abbreviations: CI: confidence interval; FTE: full-time equivalent.

## Supplemental References

1. Hostettler S, Kraft E. FMH-Ärztestatistik 2024 – tiefe Grundversorgerdichte. Schweizerische Ärztezeitung, März 2025:9-15.
2. Rubin DB. Multiple Imputation for Nonresponse in Surveys: John Wiley & Sons, Inc. 1987.
3. Bundesamt für Statistik (BFS). Ständige Wohnbevölkerung 2024.  
<https://www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung.html> (accessed 11.11.2025).
4. Schweizerisches Institut für ärztliche Weiter- und Fortbildung (SIWF) und Berufsverband der schweizer Ärztinnen und Ärzte (FMH). Fachärztin oder Facharzt für Kinder- und Jugendmedizin. Weiterbildungsprogramm vom 1. Januar 2022.  
[https://www.siwf.ch/files/pdf2/kinder\\_und\\_jugendmedizin\\_version\\_internet\\_d.pdf](https://www.siwf.ch/files/pdf2/kinder_und_jugendmedizin_version_internet_d.pdf)
5. Bundesamt für Statistik (BFS). Bruttoinlandprodukt pro Kanton und Grossregion 2022.  
<https://www.bfs.admin.ch/bfs/de/home/statistiken/volkswirtschaft/volkswirtschaftliche-gesamtrechnung/bruttoinlandprodukt-kanton.html> (accessed 11.11.2025).

## English Translation of Questionnaire

The pediatricians were able to choose the language of the questionnaire: German, French or Italian. This is an English translation of the original questionnaire.

## Survey about pediatric primary care shortage in Switzerland

### Introduction

**Pediatricians and parents report a shortage of pediatricians in primary care. The Swiss Society of Pediatrics (pädiatrie schweiz) would like to describe the extent of the problem in the various regions of Switzerland and discuss possible causes and solutions.**

The survey consists of five parts:

- Perceived shortage of pediatricians
- Medical training and working environment
- Contributing factors to the shortage of pediatricians
- Organization of patient care in primary pediatric care (only for pediatricians in practice)
- Practice owners (only for practice owners)

This questionnaire was developed in close collaboration between pädiatrie schweiz and the research group on child and adolescent health at the Institute of Social and Preventive Medicine in Bern. Summary results of the survey will be published, but individual responses will remain anonymous.

**The survey takes approximately 5 minutes to complete for pediatricians working in hospitals and approximately 15 minutes for pediatricians working in a practice.**

## Introductory Questions

### 1. Where do you work clinically?

*(single choice)*

- 1, Practice (primary care or specialist)
- 2, Hospital
- 3, Both hospital and practice
- 4, I am not currently working in a clinical setting or I am retired

### 2. In which canton is the practice located?

*(only shown if answer 1 or 3 to Q1, single choice)*

- 1, Dropdown of all Swiss cantons

### 3. In which canton is the hospitals located?

*(only shown if answer 2 or 3 to Q1, Single choice)*

- 1, Dropdown of all Swiss cantons

### 4. What is your Gender?

*(single choice)*

- 1, Women
- 2, Man
- 3, Diverse
- 4, I prefer not to answer

### 5. How old are you?

*(single choice)*

- 1, 29 years or younger
- 2, 30-39 years
- 3, 40-49 years
- 4, 50-59 years
- 5, 60-64 years
- 6, 65 years or older
- 7, I prefer not to answer

Perceived shortage of pediatric primary care

**6. Do you think there are too few pediatricians providing primary care in your region (including neighboring municipalities)**

*(Single choice)*

- 1, Yes
- 2, No
- 3, I am not sure.

**7. Do you have any comments on whether there are too few pediatricians providing primary care in your region? *(free text)***

**Age of pediatric patients**

**8. In your opinion, up to what age should children and adolescents ideally be cared for by pediatricians?**

*(Single choice)*

- 1, Up to 5 years
- 2, Up to 12 years
- 3, Up to 16 years
- 4, Up to 18 years
- 5, Up to 20 years
- 6, Up to 16, 18 or 20 years. Depending on the adolescents' choice.
- 7, Up to a different age

**9. Up to what age**

Please enter a number.

*(only shown if answer 7 to Q8)*

*(Integer, Min 0, Max 25)*

**10. Should it be different for children with chronic illnesses?**

- 1, Yes
- 2, No

**11. In your opinion, up to what age should children and adolescents with chronic illnesses ideally be cared for by pediatricians?**

Please enter a number.

*(only shown if answer 1 to Q10)*

*(Integer Min 0, Max 25)*

**12. Do you have any comments on the age up to which children and adolescents should be cared for by pediatricians?**

*(free text)*

## Medical training and work environment

### Medical training

#### 13. What is your specialization?

Please select your FMH specialist title. If you have multiple specialist titles, select the one that corresponds to the field you are currently working in.

*(Single choice)*

- 1, Pediatrics (FMH Kinder- und Jugendmedizin)
- 2, Internal medicine (FMH Allgemeine Innere Medizin)
- 3, Practical physician (FMH Praktischer Arzt / Praktische Ärztin)
- 4, I do not have a specialist title; I am a resident.
- 5, Other specialist title

#### 14. Which other specialist title?

- 1, *Dropdown of all FMH specialist titles*

#### 15. Do you have a pediatric focus, or have you acquired an additional FMH specialist title, or are you currently undergoing further training in this area?

An example of a pediatric focus would be pediatric pneumology.

*(Multiple choice)*

- 1, No, I do not have a pediatric focus or an additional FMH specialist title, nor am I undergoing further training in this area.
- 2, Yes, pediatric focus.
- 3, Yes, pediatric focus in training.
- 4, Yes, additional FMH specialist title.
- 5, Yes, additional FMH specialist title in training.

#### 16. Which pediatric focus?

Please select your pediatric focus. If you have multiple pediatric focuses, select all of them.

*(only shown if answer 2 or 3 to Q15, Multiple choice)*

- 1, *Dropdown of all pediatric focuses.*

#### 17. Which additional FMH specialist title?

Please select your additional FMH specialist title. If you have multiple additional FMH specialist titles, select all of them.

*(only shown if answer 4 or 5 to Q15, Multiple choice)*

- 1, *Dropdown of all FMH specialist titles.*

#### 18. Apart from pediatric focuses, do you have any other specialized training.

By this we mean the interdisciplinary focuses, competence certificates, a medical "hobby", or a specialist consulting hour in which you discuss specific pediatric problems.

*(Multiple choice)*

- 1, No, I do not have any other specializations.
- 2, Yes, I have an interdisciplinary focus.
- 3, Yes, I have a competence certificate.
- 4, Yes, I have a specialist consulting hour
- 5, Yes, I have another specialization.

**19. Which interdisciplinary focus?**

Please select your interdisciplinary focus. If you have multiple interdisciplinary focuses, select all of them.

*(only shown if answer 2 to Q18, Multiple choice)*

- 1, Dropdown of all interdisciplinary focuses

**20. Which competence certificate?**

Please select your competence certificate. If you have multiple competence certificates, select all of them.

*(shown if answer 3 to Q18, Multiple choice)*

- 1, Dropdown of all competence certificates.

**21. What type of specialist consulting hour or other specialization**

*(shown if 4 or 5 to Q18, Multiple choice)*

*(free text)*

**22. In which country did you study medicine?**

*(Single choice)*

- 1, Dropdown of all countries *(Switzerland as default)*

**23. In which country did you complete most of your residency?**

*(Multiple choice)*

- 1, Dropdown of all countries *(Switzerland as default)*

**24. Did you work in a pediatric practice during your residency?**

*(Single choice)*

- 1, Yes  
2, No

**25. If so, how many months did you work in a pediatric practice during your residency?**

Please specify the number of months.

*(Integer, Min 0, Max 60)*

**26. How many years did you work in a hospital since completing your residency?**

Please specify the number of years, regardless of your working percentage.

*(Integer, Min 0, Max 100)*

**27. How many years did you work in a practice since completing your residency?**

Please specify the number of years, regardless of your working percentage.

*(Integer, Min 0, Max 100)*

## Work environment

### 29. What is your working percentage in the practice?

Please specify the percentage. 1 day  $\triangleq$  20 %

*(only shown if answer 1 or 3 to Q1)*

*(Integer, Min 0, Max 140)*

### 30. How many hours do you typically work per week in the practice?

Please specify the number of hours.

*(shown if answer 1 or 3 to Q1)*

*(Integer, Min 0, Max 168)*

### 31. Is the practice located in a city or in the countryside?

*(only shown if answer 1 or 3 to Q1, Single choice)*

- 1, Urban municipality
- 2, Municipality in agglomeration to a city.
- 3, Rural municipality
- 4, I do not know.

### 32. What is the postal code of the municipality, in which the practice is located?

This question allows us to better understand regional differences.

If you would like to, please enter your postal code.

*(only shown if answer 1 or 3 to Q1)*

*(Integer, Min 1000, Max 9999)*

### 33. How is the practice organized?

Please select the type of practice that best describes the practice you work in, regardless of who owns the practice.

*(only shown if answer 1 or 3 to Q1, Single choice)*

- 1, Single practice
- 2, Group practice with general pediatricians
- 3, Group practice with general pediatricians and specialist pediatricians
- 4, Group practice with pediatricians and/or general practitioners and/or adult specialists
- 5, Permanence oder walk-in practice (centrally located medical facility with extended opening hours)
- 6, Other practice type

### 34. Please describe your practice type.

*(only shown if answer 6 to Q33)*

- 1, *(freier Text)*

### 35. How many physicians work in your practice?

Please specify the number of physicians, regardless of their working percentage. Including yourself.

*(only shown if answer 1 or 3 to Q1)*

*(Integer, Min 1, Max 50)*

**36. Who owns the practice?**

*(only shown if answer 1 or 3 to Q1, Single choice)*

- 1, Me
- 2, Me with other physicians
- 3, Other physicians
- 4, A practice chain
- 5, Other person

**37. Which practice chain?**

*(only shown if 4 zu Q35, Single choice)*

- 1, Medbase
- 2, Swiss Medi Kids
- 3, Hirslanden
- 4, Other practice chain

**38. Other practice chain:**

*(only shown if answer 4 to Q37)*

*(free text)*

**39. What language do you primarily speak in your practice?**

*(only shown if answer 1 or 3 to Q1, Single choice)*

- 1, German
- 2, French
- 3, Italian
- 4, German and French about equally common
- 5, Other language

**40. What other language?**

*(only shown if answer 5 to Q39)*

*(free text)*

**41. What is your working percentage in the hospital?**

Please specify the percentage. 1 day  $\triangleq$  20 %

*(only shown if answer 2 or 3 to Q1)*

*(Integer, Min 0, Max 140)*

**42. How many hours do you typically work per week in the hospital?**

Please specify the number of hours.

*(only shown if answer 2 or 3 to Q1)*

*(Integer, Min 0, Max 168)*

**43. What is the postal code of the municipality, in which the hospital is located?**

This question allows us to better understand regional differences.

If you would like to, please enter your postal code.

*(only shown if answer 2 or 3 to Q1)*

*(Integer, Min 1000, Max 9999)*

**44. What is your position at the hospital?**

*(only shown if answer 2 or 3 to Q1, Single choice)*

- 1, Resident physician
- 2, Consulting physician
- 3, Senior physician
- 4, Chief physician

**45. What language do you primarily speak in your hospital?**

*(only shown if answer 2 or 3 to Q1, Single choice)*

- 1, German
- 2, French
- 3, Italian
- 4, German and French about equally common
- 5, Other language

**46. What other language ?**

*(only shown if answer 5 to Q45)*

*(free text)*

**47. Do you work in a non-clinical area (full-time or in addition to your clinical work)?**

Administrative work for the practice or hospital (finance, human resources) is not included here.

*(shown if answer 1, 2, or 3 to Q1, Single choice)*

- 1, No
- 2, Yes, academic research
- 3, Yes, public health (municipality, canton, federal government)
- 4, Yes, medical industry
- 5, Yes, other non-clinical area

**48. Are you retired?**

*(shown if answer 4 to Q1, Single choice)*

- 1, Yes
- 2, No

**49. Do you work in a non-clinical area?**

*(shown if answer 2 to Q48, multiple choice)*

- 1, No
- 2, Yes, academic research
- 3, Yes, public health (municipality, canton, federal government)
- 4, Yes, medical industry
- 5, Yes, other non-clinical area

**50. Which other non-clinical area?**

*(shown if answer 5 to Q47 or Q49)*

*(free text)*

**51. What is your working percentage in the non-clinical area?**

Please specify the percentage. 1 day  $\triangleq$  20 %  
(shown if answer 2, 3, 4 or 5 to Q47 or Q49)  
(Integer, Min 0, Max 100)

**52. How many hours do you work per week in the non-clinical area?**

Please specify the number of hours.  
(shown if answer 2, 3, 4 or 5 to Q47 or Q49)  
1, Integer (min 0, max 100)

**53. Do you live in a neighboring country and commute across the border to work in Switzerland?**

(single choice)

- 1, No, I live in Switzerland
- 2, Yes, I live in Germany.
- 3, Yes, I live in Austria.
- 4, Yes, I live in Liechtenstein.
- 5, Yes, I live in Italy.
- 6, Yes, I live in France.

**54. What factors influenced your decision to leave clinical practice?**

Please select the 3 most important factors.

(shown if answer 4 to Q1, multiple choice)

- 1, Maternity / paternity leave
- 2, Unpaid leave
- 3, Salary
- 4, Working night shifts, weekends, and holidays
- 5, I wanted a more flexible schedule
- 6, Stress/burnout from clinical work
- 7, Too many administrative tasks

**55. What other factors influenced you to leave clinical practice?**

(shown if answer 4 to Q1, multiple choice)

(free text)

## Factors contributing to the shortage of primary care pediatricians

### Factors contributing

**We would like to know what factors you believe contribute to the shortage of pediatricians in Switzerland.**

#### 56. Full-time equivalents of primary care pediatricians.

The number of full-time equivalents is calculated based on the number of pediatricians and their working percentage.

Please rate the following statement from 1 (disagree) to 5 (agree).

*(shown if answer 1 or 3 to Q1)*

|                                                                            | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| There are not enough primary care pediatricians (full-time equivalents)... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... and that contributes to the pediatric primary care shortage.           |                       |                       |                       |                       |                       |

#### 57. Number of pediatricians.

Please rate the following statements from 1 (disagree) to 5 (agree).

*(shown if answer 1 or 3 to Q1)*

| There are not enough primary care pediatricians (full-time equivalents)...                         | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|----------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ... because there are generally too few doctors in Switzerland (too few places to study medicine). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because there are too few training positions for pediatric residents.                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because only few resident physicians choose to specialize in pediatrics.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because only few pediatricians choose to work in primary care.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

#### 58. Part-time work.

Please rate the following statement from 1 (disagree) to 5 (agree).

*(only shown if answer 1 or 3 to Q1)*

| There are not enough primary care pediatricians (full-time equivalents)... | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ... because many primary care pediatricians work part-time.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**59. Number of patients per day.**

Please rate the following statement from 1 (disagree) to 5 (agree).

*(only shown if answer 1 or 3 to Q1)*

|                                                                                                                                                   | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Pediatricians nowadays treat a relatively small number of patients per day...<br>... and this contributes to the pediatric primary care shortage. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**60. Time per consultation.**

Please rate the following statements from 1 (disagree) to 5 (agree).

*(only shown if answer 1 or 3 to Q1)*

| Pediatricians treat a relatively small number of patients per day...              | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ... because a lot of time is spent on patient contact during each consultation.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because a lot of documentation is required during and after the consultation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**61. Lost time.**

Please rate the following statements from 1 (disagree) to 5 (agree).

*(only shown if answer 1 or 3 to Q1)*

| Pediatricians treat a relatively small number of patients per day...                                    | Disagree<br>1         | 2                     | 3                     | 4                     | Agree<br>5            |
|---------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ... because time is lost when parents cancel their appointment or do not show up.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because time is lost when parents visit for minor issues ("bagatelles").                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because time is lost when parents generally expect more time.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... because time is lost due to increasing language barriers, difficult communication, and translation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**62. In what percentage of consultations are there language barriers?**

Please specify the percentage.

*(only shown if answer 1 or 3 to Q1)*

*(Integer, Min 0, Max 100)*

**63. Do you have comments on situations with language barriers?**

*(shown if answer 1 or 3 to Q1)*

*(free text)*

**64. Do you have electronic health records in your practice?**

*(shown 1 or 3 to Q1, single choice)*

1, Yes

2, No

**65. Since when does the practice have electronic health records?**

Please specify the year in which the electronic health records were introduced in your practice.

*(only shown if answer 1 or 3 to Q1)*

*(Integer, Min 1980, Max 2025)*

**66. What IT system does the practice use for electronic health records?**

Bitte geben Sie den Namen des IT Systems an.

*(only shown if answer 1 or 3 to Q1)*

*(free text)*

**67. Do you save time during consultations thanks to electronic health records?**

*(only shown if answer 1 or 3 to Q1)*

1, Yes, I save time with electronic health records.

2, I need about the same amount of time per consultation with electronic health records or with paper.

3, No, I lose time with electronic health records.

**68. In your opinion, are there other issues that contribute to a potential shortage of primary care pediatricians or inefficiencies in pediatric primary care.**

*(only shown if answer 1 or 3 to Q1)*

*(free text)*

## Motivation to work in pediatric primary care

We would like to know what factors can motivate doctors to work in pediatric primary care.

### 69. What factors motivated you to go into pediatric primary care?

Select the 3 most important factors.

(only shown if answer 1 or 3 to Q1, Multiple choice, max. 3 answers)

- 1, Better salary in practice.
- 2, Better working conditions in practice (fewer hours per week, more vacation time).
- 3, Less night shifts and weekend work in practice.
- 4, Flexible working hours, part-time work.
- 5, Own organization of the practice.
- 6, Long-term relationships with children and families.
- 7, Good interdisciplinary support in the practice (e.g. medical practice assistants).
- 8, Flat hierarchy, no supervisors in the practice.

### 70. Are there other factors that motivated you to go into pediatric primary care?

(only shown if answer 1 or 3 to Q1)

(free text)

### 71. What factors might discourage people from going into pediatric primary care?

Select the 3 most important factors.

(only shown if answer 1 or 3 to Q1, Multiple choice, max. 3 answers)

- 1, High level of responsibility towards patients, no supervision.
- 2, Financial risk.
- 3, Better social insurance in hospitals (sickness, maternity, pension fund).
- 4, Administrative work (taxes, personnel).
- 5, Fear that it will be difficult to return to the hospital after spending some time in the practice (one-way street).
- 6, Fewer diagnostic tools (X-ray, extensive laboratory).
- 7, Less interaction with other medical professionals.
- 8, Fewer opportunities to be involved in research.
- 9, Fewer opportunities for continued education.

### 72. Are there other factors that discourage people from going into primary pediatric care?

(only show if answer 1 or 3 to Q1)

(free text)

### 73. How satisfied are you with your work in pediatric primary care?

Rate your satisfaction from 1 (not satisfied) to 10 (very satisfied).

(only shown if answer 1 or 3 to Q1)

|                                                        | Not<br>satisfied<br>1 | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     | 8                     | 9                     | Very<br>satisfied<br>10 |
|--------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| Satisfaction with your work in pediatric primary care. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   |

**74. Are you considering going into pediatric primary care?**

*(shown if answer 2 to Q1)*

- 1, Yes
- 2, No
- 3, I am not sure.

**75. What factors could motivate you to go into pediatric primary care?**

Select the 3 most important factors.

*(only shown if answer 2 to Q1, Multiple choice, max. 3 answers)*

- 1, Better salary in practice.
- 2, Better working conditions in practice (fewer hours per week, more vacation time).
- 3, Less night shifts and weekend work in practice.
- 4, Flexible working hours, part-time work.
- 5, Own organization of the practice.
- 6, Long-term relationships with children and families.
- 7, Good interdisciplinary support in the practice (e.g. medical practice assistants).
- 8, Flat hierarchy, no supervisors in the practice.

**76. Are there other factors that could motivate you to go into pediatric primary care?**

*(shown if answer 2 to Q1)*

*(free text)*

**77. What factors might discourage you from going into pediatric primary care?**

Select the 3 most important factors.

*(only shown if 2 to Q1, Multiple choice, max. 3 answers)*

- 1, High level of responsibility towards patients, no supervision.
- 2, Financial risk.
- 3, Better social insurance in hospitals (sickness, maternity, pension fund).
- 4, Administrative work (taxes, personnel).
- 5, Fear that it will be difficult to return to the hospital after spending some time in the practice (one-way street).
- 6, Fewer diagnostic tools (X-ray, extensive laboratory).
- 7, Less interaction with other medical professionals.
- 8, Fewer opportunities to be involved in research.
- 9, Fewer opportunities for continued education.

**78. Are there other factors that could discourage you from going into pediatric primary care?**

*(only shown if 2 to Q1)*

*(freier Text)*

**79. Are you considering returning to work in a hospital or practice in the future?**

*(only shown if answer 2 to Q48, single choice)*

- 1, Yes
- 2, No
- 3, I am not sure.

**80. Are you considering going into pediatric primary care?**

*(only shown if answer 1 or 3 to Q79)*

- 1, Yes
- 2, No
- 3, I am not sure.

**81. What factors could motivate you to go into pediatric primary care?**

Select the 3 most important factors.

*(only shown if answer 2 to Q48, Multiple choice, max. 3 answers)*

- 1, Better salary in practice.
- 2, Better working conditions in practice (fewer hours per week, more vacation time).
- 3, Less night shifts and weekend work in practice.
- 4, Flexible working hours, part-time work.
- 5, Own organization of the practice.
- 6, Long-term relationships with children and families.
- 7, Good interdisciplinary support in the practice (e.g. medical practice assistants).
- 8, Flat hierarchy, no supervisors in the practice.

**82. Are there other factors that could motivate you to go into pediatric primary care?**

*(shown if answer 2 to Q48)*

*(free text)*

**83. What factors might discourage you from going into pediatric primary care?**

Select the 3 most important factors.

*(only shown if 2 to Q48, Multiple choice, max. 3 answers)*

- 1, High level of responsibility towards patients, no supervision.
- 2, Financial risk.
- 3, Better social insurance in hospitals (sickness, maternity, pension fund).
- 4, Administrative work (taxes, personnel).
- 5, Fear that it will be difficult to return to the hospital after spending some time in the practice (one-way street).
- 6, Fewer diagnostic tools (X-ray, extensive laboratory).
- 7, Less interaction with other medical professionals.
- 8, Fewer opportunities to be involved in research.
- 9, Fewer opportunities for continued education.

**84. Are there other factors that could discourage you from going into pediatric primary care?**

*(only shown if 2 to Q48)*

*(freier Text)*

## Organization of patient care in pediatric primary care

### New patients and emergency consultations

Please answer the following questions for **preventive well-child visits**. We consider a preventive well-child visit to be a scheduled visit for a healthy child to check their growth, development, health, and vaccinations.

**Please answer the questions for yourself only.** In group practices, the answers may vary depending on the pediatrician.

**85. Are you currently accepting new patients?**

*(wird angezeigt, wenn 1 oder 3 zu Q1, single choice)*

- 1, Yes, all children and adolescents (0-16 years)
- 2, Yes, but only certain groups (admission criteria are listed below)
- 3, No

**86. How old are the children you accept as new patients?**

Select all age groups you accept as new patients.

*(only shown if answer 2 to Q85, multiple choice)*

- 1, Newborns
- 2, Preschool children (<5 years)
- 3, School children (5-12 years)
- 4, Adolescents (13-16 Jahre)

**87. What admission criteria do you apply for new patients?**

Select all the admission criteria you apply for new patients.

*(only shown if answer 2 to Q85, Multiple choice)*

- 1, Siblings of children already registered at the practice.
- 2, Local children (municipality or neighboring municipalities)
- 3, Children referred by colleagues or other practices.
- 4, Children referred for special consultations (e.g. ADHD)

**88. Are there other criteria based on which you accept children as new patients?**

*(shown if answer 2 to Q85, Multiple choice)*

*(free text)*

**89. What do you (or your medical practice assistants) do if you cannot accept a child?**

*(shown if answer 1 or 3 to Q1, multiple choice)*

- 1, We specifically recommend another pediatric practice in the region that accepts new children.
- 2, We specifically recommend a general practitioner's practice in the region that accepts new children.
- 3, We recommend asking other parents for advice.
- 4, We will put the child on a waiting list for the practice.
- 5, Other recommendation.

**90. What other recommendation?**

*(only shown if answer 5 to Q89)*

*(free text)*

**91. Are there other pediatricians or pediatric practices that are currently accepting new children?**

This could also be other pediatricians in your practice.

*(only shown if answer 1 or 3 to Q1, single choice)*

- 1, Yes
- 2, No
- 3, I don't know.

Please answer the following questions for **emergency consultations**. We consider an emergency consultation to be a visit by a sick child that is scheduled for the same day to examine a specific and acute health problem (e.g., urinary tract infection, bronchitis, middle ear infection, accident).

**Please answer the questions for yourself only.** In group practices, the answers may vary depending on the pediatrician.

**92. Do you accept children for emergency consultations outside of the mandatory emergency services?**

*(only shown if answer 1 or 3 to Q1, single choice)*

- 1, Yes, all children and adolescents (0-16 years)
- 2, Yes, but only certain groups (admission criteria are listed below)
- 3, No

**93. How old are the children you accept for emergency consultations?**

Select all age groups you accept for emergency consultations.

*(only shown if answer 2 to Q92, multiple choice)*

- 1, Newborns
- 2, Preschool children (<5 years)
- 3, School children (5-12 years)
- 4, Adolescents (13-16 Jahre)

**94. What admission criteria do you apply for emergency consultations?**

Select all the admission criteria you apply for emergency consultations.

*(only shown if answer 2 to Q92, Multiple choice)*

- 1, Children already registered at the practice.
- 2, Siblings of children already registered.
- 3, Local children (municipality or neighboring municipalities).
- 4, Emergencies on behalf of a regional practice.
- 5, Children referred by colleagues or other practices.

**95. What do you (or your medical practice assistants) do if you cannot accept a child for an emergency consultation?**

*(only shown if answer 1 or 3 to Q1, multiple choice)*

- 1, We refer the parents to an organized emergency hotline for basic pediatric care in the region.
- 2, We refer the child to another pediatric practice in the region.
- 3, We refer the child to a family doctor's practice in the region.
- 4, We refer the child to a hospital emergency room.
- 5, Other recommendation.

**96. What other recommendation?**

*(only shown if answer 5 to Q95)*

*(free text)*

**97. Do you reserve time in the practice schedule for emergency consultations?**

*(only shown if answer 1 or 3 to Q1, single choice)*

1, Yes

2, No

**98. How many hours per day are reserved in the schedule for emergency consultations?**

Please specify the number of hours.

*(only shown if answer 1 to Q97)*

*(Integer, Min 0, Max 10)*

## Patient consultations

**We would like to understand how patient care is organized and what working conditions exist in primary pediatric care. Please answer the questions for yourself only.** In group practices, the answers may vary depending on the pediatrician.

We distinguish between the following types of consultations:

- **Preventive well-child visit:** Scheduled visit by a healthy child to check growth, development, health, and vaccinations.
- **Non-urgent consultation:** Scheduled visit by a child to examine a non-acute health problem, e.g., plantar warts, bedwetting (enuresis), sleep problems.
- **Emergency consultation:** Same-day visit by a sick child to examine an acute health problem, e.g., urinary tract infection, bronchitis, middle ear infection, accident.
- **Emergency follow-up:** Scheduled visit for a follow-up examination after an emergency consultation.
- **Consultation for chronic problems:** Scheduled visit for chronic illness or developmental disorder, e.g., asthma, celiac disease, ADHD.
- **Consultation during special consultation hours:** Scheduled visit during your special consultation hours, e.g., pediatric endocrinology, neurology, pulmonology, often upon referral.

### 99. How much time do you allocate on average for a single consultation of this type?

Please specify the number of minutes that you or your medical practice assistants normally schedule in the appointment calendar.

**How much time do you spend on administrative tasks for a single consultation of this type?**

(e.g., reading patient files, documenting, writing letters to health insurance companies)

The administrative time also counts toward the time scheduled in the appointment calendar.

Please indicate the number of minutes you normally spend on administrative tasks.

*(only shown if answer 1 or 3 to Q1)*

| Type of the consultation                       | Time scheduled in the appointment calendar (in minutes)<br>If you do not perform this type of consultation, enter 0. | Time scheduled in the appointment calendar (in minutes)<br>If you do not perform this type of consultation, enter 0. |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Preventive well-child visit                    | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |
| Non-urgent consultation                        | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |
| Emergency consultation                         | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |
| Emergency follow-up                            | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |
| Consultation for chronic problems              | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |
| Consultation during special consultation hours | Integer (min 0, max 120, minutes)                                                                                    | Integer (min 0, max 120, minutes)                                                                                    |

**100. Do you have any comments on the scheduled or administrative time for consultations?**

*(only shown if answer 1 or 3 to Q1)*

*(free text)*

**101. What proportion of your working time do you spend on the various consultations?**

Please indicate the average percentage of your working time that you spend on the various consultations. **The total percentage for all consultations should add up to 100% (even if you work part-time).**

This may vary seasonally (e.g., more emergency consultations for infections in winter). Please answer this question for an “average time” in spring or early fall.

*(only shown if answer 1 or 3 to Q1)*

| Type of the consultation                       | Percentage of working time spent on this type of consultation. If you do not perform this type of consultation, enter 0. |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Preventive well-child visit                    | Integer (min 0, max 100, percent)                                                                                        |
| Non-urgent consultation                        | Integer (min 0, max 100, percent)                                                                                        |
| Emergency consultation                         | Integer (min 0, max 100, percent)                                                                                        |
| Emergency follow-up                            | Integer (min 0, max 100, percent)                                                                                        |
| Consultation for chronic problems              | Integer (min 0, max 100, percent)                                                                                        |
| Consultation during special consultation hours | Integer (min 0, max 100, percent)                                                                                        |

**102. How many patients do you treat on average on a full working day in your practice?**

Please indicate the number of patients you alone treat on an average full working day. This number may differ from the number of patients treated by all pediatricians at your practice.

*(only shown if answer 1 or 3 to Q1)*

1, Integer (min 0, max 100)

**103. How are patients distributed across the various consultations?**

The sum of patients across all consultations should roughly correspond to the total number of patients specified above.

*(only shown if answer 1 or 3 to Q1)*

| Type of the consultation                       | Number of patients you see for this type of consultation on an average workday. If you do not perform this type of consultation, enter 0. |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Preventive well-child visit                    | Integer (min 0, max 100)                                                                                                                  |
| Non-urgent consultation                        | Integer (min 0, max 100)                                                                                                                  |
| Emergency consultation                         | Integer (min 0, max 100)                                                                                                                  |
| Emergency follow-up                            | Integer (min 0, max 100)                                                                                                                  |
| Consultation for chronic problems              | Integer (min 0, max 100)                                                                                                                  |
| Consultation during special consultation hours | Integer (min 0, max 100)                                                                                                                  |

Please answer the following questions about activities that can be delegated to medical practice assistants (MPAs).

**104. Do you perform the following tasks yourself?**

Yes, always, if you always perform the activity yourself.

Yes, sometimes, if you sometimes perform the activity yourself.

No, if you always delegate the activity to an MPA.

*(only shown if answer 1 or 3 to Q1, single choice)*

| Tasks                             | Do you perform the task yourself?                        |
|-----------------------------------|----------------------------------------------------------|
| Venous blood draw                 | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |
| Vaccination                       | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |
| Cast change                       | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |
| Ear rinsing                       | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |
| Hearing and vision tests          | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |
| Psychomotor development checklist | Yes, always<br>Yes, sometimes<br>No, delegated to an MPA |

**105. In your opinion, can these activities be delegated to MPAs?**

*(only shown if answer 1 or 3 to Q1, single choice)*

| Tasks                             | Can be delegated to an MPA |
|-----------------------------------|----------------------------|
| Venous blood draw                 | Yes<br>No                  |
| Vaccination                       | Yes<br>No                  |
| Cast change                       | Yes<br>No                  |
| Ear rinsing                       | Yes<br>No                  |
| Hearing and vision tests          | Yes<br>No                  |
| Psychomotor development checklist | Yes<br>No                  |

**106. Do you have any comments on the activities that can be delegated to MPAs, or how MPAs can support you in practice?**

*(only shown if answer 1 or 3 to Q1)*

*(free text)*

## Practice owners

As a practice owner, we would like to learn more about your practice and your administrative responsibilities for the practice.

**108. What is the total working percentage of the doctors working in your practice?**

Please specify the total percentage. Including yourself.

If you do not know the exact figure, make an estimate. 1 full working day of 1 person  $\triangleq$  20%.

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36)*

*(Integer, Min 0, Max 10000)*

**109. How many medical practice assistants work in your practice?**

Please specify the number of persons, regardless of their working percentages.

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36)*

*(Integer, Min 1, Max 50)*

**110. What is the total working percentage of the medical practice assistants working in your practice?**

Please specify the total percentage. Including yourself.

If you do not know the exact figure, make an estimate. 1 full working day of 1 person  $\triangleq$  20%.

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36)*

*(Integer, Min 0, Max 10000)*

**111. Do you have support for administrative tasks for the practice (e.g., trustee for financial and tax documents)?**

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36, single choice)*

1, Yes

2, No

**112. How much time do you spend on administrative tasks for the practice (e.g., human resources, planning, finances)?**

Please indicate what percentage of your working time you spend on average per week on

administrative tasks in your practice. Your full working time: clinical work + tasks as practice owner  $\triangleq$  100%.

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36)*

*(Integer, Min 0, Max 100)*

**113. Do you have a position for a pediatric resident in your practice (practice residency)?**

*(only shown if answer 1 or 3 to Q1 and if answer 1 or 2 to Q36, single choice)*

1, Yes, currently occupied

2, Yes, currently open

3, No

## Conclusion

**Thank you for completing the survey.** The information will help pediatricians and policymakers improve the situation of primary pediatric care in Switzerland.

**114. Is there anything else you would like to tell us about this topic?**  
*(free text)*

**Thank you for completing the survey.**  
We wish you a pleasant day!