

## Participation in early detection check-ups for children

### Introduction

Examinations for the early detection of diseases (“U” screening) are among the most important preventive measures for children. The aim of the screening programme that is part of the range of services provided by the health insurance companies is to identify developmental disorders and to initiate suitable measures to treat these disorders where necessary (Gemeinsamer Bundesausschuss 2011). The screening process comprises a thorough examination of the general physical and mental development of the child, and each screening stage is based on age-appropriate focal points such as eyesight and hearing, dietary habits, dental health and a review of vaccination status (BZgA 2015). Even though complete healing of congenital or acquired impairments is not always possible, the screening process provides information that can be used to at least mitigate the consequences and often positively influence the child’s development by means of targeted support. Whereas most “U1” and “U2” examinations take place in the maternity clinic, the subsequent screening appointments from “U3” to “U9” for children up to the age of six are generally with a paediatrician or a GP.

### Indicator

KiGGS Wave 1 surveyed participation in the health screening programme in parent interviews using the following question: “Which early detection check-ups for your child have you taken advantage of?”. Data were collected for the examinations “U1” to “U9”. As children born outside Germany were often unable to take part in the first preventive medical check-ups for children, the following only looks at children born in Germany. Children who were younger than the top age limit for the individual screening examination in question at the time of the survey (Gemeinsamer Bundesausschuss 2011) were also excluded from the analysis on methodological grounds (Rattay et al. 2014). The tables show the utilisation for three preventive medical check-ups (“U3”, “U6” and “U9”). They also show full participation in the screening programme from “U3” to “U9” (without “U7a”) among 7 to 13 year-olds. While it is of no relevance for the analysis of the

individual screening examinations whether respondents took advantage of earlier screening appointments, in the case of the latter indicator incomplete screening series are evaluated as incomplete participation. The findings are stratified by sex, age and social status in each case.

### Key results

- ▶ More than 90 % of children and adolescents have participated in the individual “U3” (97.6 %), “U6” (96.5 %) and “U9” (91.0 %) check-ups. This means the participation in KiGGS Wave 1 is higher than in the KiGGS baseline study.
- ▶ 82.2 % of children between the ages of 7 and 13 have participated in all check-ups from “U3” to “U9”.
- ▶ There are no differences based on sex either with regard to the individual screening examinations or participation in the full screening programme from “U3” to “U9”.
- ▶ Children and adolescents of low social status take advantage of screening examinations less frequently than their counterparts of the same age with high social status.
- ▶ The differences based on social status are already apparent in the findings for the individual preventive medical check-ups for children. They are, however, most noticeable with regard to participation in the full series of screening examinations for children from “U3” to “U9”, and are in turn more significant among girls than among boys.

### Conclusion

Participation in the various health screening examinations for children have increased in recent years, as shown by a comparison of data from the KiGGS baseline study (2003–2006) with data from KiGGS Wave 1 (2009–2012) (Kamtsiuris et al. 2007; Rattay et al. 2014). In particular, this is due to the increased

participation in the younger birth cohorts. The fact that the young birth cohorts have not yet been able to complete the full series of screening programme also explains why the percentage of 7 to 13 year-olds with full participation from “U3” to “U9” has only shown a slight increase – from 81.6 % to 82.2 % between the two survey periods (Rattay et al. 2014).

The data from the school entry examinations of Germany’s federal states – generally in the form of the submitted early detection check-up booklets – confirm the positive trend in participation in the health screening programme (Senatsverwaltung für Gesundheit und Soziales Berlin 2013; Landesamt für Umwelt, Gesundheit und Verbraucherschutz Brandenburg 2015). In Brandenburg, for example, the percentage of school starters who had participated in all the check-ups from “U1” through to “U8” increased from 71.6 % in 2004 to 88.7 % in 2013 (Landesamt für Umwelt, Gesundheit und Verbraucherschutz Brandenburg 2014). In Saxony-Anhalt, the proportion of children with “complete preventive medical check-up status” (participation in all check-ups scheduled for the age group in question) averaged around 80 % for the period from 2008 to 2012, putting it on a comparable level with the KiGGS study (Landesamt für Verbraucherschutz Sachsen-Anhalt 2013).

The increased participation in the health screening programme can be attributed to various measures. One of these measures was the information campaign “Ich geh’ zur U! Und du?” (“I go to the check-ups! How about you?”) developed by the Federal Centre for Health Education (BZgA) and implemented in the period from 2004 to 2010 (BZgA 2015). In addition, the expansion of Article 26 of Volume V of the German Social Insurance Code (SGB V) placed the health insurance companies under an obligation to make greater efforts to increase participation in the health screening programme for children. Moreover, in the last decade many health insurers have rewarded participation in the preventive medical check-ups for children within the framework of their bonus programmes (Rattay et al. 2014). Last but not least, most German states have meanwhile introduced a mandatory invitation, reminding and reporting system for the health screening programme for children (Hock et al. 2013), but there are differences between the various states as regards the legal regulations (Thaiss et al. 2010; Hock et al. 2013).

Despite the positive overall trend, there are still marked differences in utilisation levels of preventive medical check-ups based on the social status of the family in question. The data from the KiGGS baseline study and KiGGS Wave 1 show that children of low social status participate in the free health screening programme offered for children less frequently than their counterparts from families with higher social status (Kamtsiuris et al. 2007; Rattay et al.

2014; Lampert et al. 2015). This finding confirms the results of other studies (Stich et al. 2009) and the data from the school entry examinations (Senatsverwaltung für Gesundheit und Soziales Berlin 2013; Landesamt für Umwelt, Gesundheit und Verbraucherschutz Brandenburg 2015). In view of their potential to reduce health inequality, measures to promote participation in the health screening programme should therefore be geared more strongly towards socially disadvantaged families.

Note: A detailed description of the study as well as explanations on the method are available on the KiGGS study website [www.kiggs-studie.de](http://www.kiggs-studie.de), and in Lange et al. (2014).

Further results regarding the participation in the health screening programme and other outpatient medical services in childhood and adolescence can be found in Rattay et al. (2014).

## Literature

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**Table 1**  
Participation of girls in early detection check-ups by age and social status

	U3		U6		U9		Full participation "U3" to "U9" (without "U7a")*	
	%	(95%-CI)	%	(95%-CI)	%	(95%-CI)	%	(95%-CI)
<b>Girls</b>	<b>97.5</b>	<b>(96.5–98.3)</b>	<b>96.3</b>	<b>(95.2–97.2)</b>	<b>90.6</b>	<b>(88.9–92.0)</b>	<b>82.3</b>	<b>(79.3–85.0)</b>
<b>Age</b>								
0–2 Years	98.2	(93.4–99.5)	98.3	(96.6–99.2)	–	–	–	–
3–6 Years	98.0	(94.9–99.2)	97.3	(94.4–98.7)	96.4	(94.0–97.9)	–	–
7–10 Years	96.7	(94.1–98.2)	96.9	(94.7–98.3)	93.8	(91.0–95.7)	86.5	(82.5–89.7)
11–13 Years	97.7	(95.6–98.5)	93.6	(90.2–95.9)	85.9	(82.2–88.9)	77.9	(73.8–81.4)
14–17 Years	97.5	(95.6–98.5)	96.0	(94.0–97.3)	89.0	(86.2–91.3)	–	–
<b>Social status</b>								
Low	92.4	(86.5–95.8)	90.0	(84.4–93.8)	83.7	(76.7–88.9)	70.7	(60.4–79.2)
Middle	98.6	(98.0–99.0)	97.4	(96.5–98.1)	91.7	(90.3–93.0)	83.4	(79.9–86.4)
High	99.3	(98.7–99.6)	98.7	(98.0–99.2)	93.7	(91.3–95.4)	89.2	(86.0–91.7)
<b>Total (girls and boys)</b>	<b>97.6</b>	<b>(97.0–98.1)</b>	<b>96.5</b>	<b>(95.7–97.1)</b>	<b>91.0</b>	<b>(90.0–92.0)</b>	<b>82.2</b>	<b>(80.2–84.0)</b>

\* Full participation in the health screening programme "U3" to "U9" (without "U7a") refers to children and adolescents between the ages of 7 and 13.

**Table 2**  
Participation of boys in early detection check-ups by age and social status

	U3		U6		U9		Full participation "U3" to "U9" (without "U7a")*	
	%	(95%-CI)	%	(95%-CI)	%	(95%-CI)	%	(95%-CI)
<b>Boys</b>	<b>97.7</b>	<b>(96.8–98.3)</b>	<b>96.7</b>	<b>(95.8–97.4)</b>	<b>91.4</b>	<b>(90.1–92.6)</b>	<b>82.0</b>	<b>(79.2–84.5)</b>
<b>Age</b>								
0–2 Years	99.9	(99.5–100.0)	98.6	(95.8–99.6)	–	–	–	–
3–6 Years	98.5	(95.4–99.5)	98.4	(95.4–99.4)	92.3	(86.2–95.8)	–	–
7–10 Years	96.0	(93.8–97.5)	95.6	(93.2–97.2)	96.6	(95.2–97.6)	85.0	(81.3–88.1)
11–13 Years	96.3	(94.1–97.7)	94.7	(92.4–96.4)	88.1	(85.0–90.6)	78.8	(74.9–82.2)
14–17 Years	98.0	(96.7–98.8)	96.8	(95.5–97.8)	88.8	(86.1–91.0)	–	–
<b>Social status</b>								
Low	94.3	(90.3–96.7)	92.3	(88.3–95.0)	88.6	(84.3–91.8)	76.9	(68.1–83.8)
Middle	98.2	(97.5–98.7)	97.8	(97.1–98.4)	92.1	(90.6–93.3)	82.5	(79.4–85.3)
High	99.2	(98.6–99.5)	97.6	(96.6–98.4)	92.8	(90.8–94.4)	85.5	(81.0–89.0)
<b>Total (girls and boys)</b>	<b>97.6</b>	<b>(97.0–98.1)</b>	<b>96.5</b>	<b>(95.7–97.1)</b>	<b>91.0</b>	<b>(90.0–92.0)</b>	<b>82.2</b>	<b>(80.2–84.0)</b>

\* Full participation in the health screening programme "U3" to "U9" (without "U7a") refers to children and adolescents between the ages of 7 and 13.

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