DIABETES surveillance

ROBERT KOCH INSTITUT

Screening for gestational diabetes



Field of action 2:
Improving the early detection and treatment of diabetes

Adults

Background

Since 2012, pregnant women without known diabetes in Germany have been offered a two-stage screening for gestational diabetes in accordance with the maternity directive of the G-BA [1]. The screening consists of a pre-test using 50g of glucose (glucose challenge test, GCT), which should be carried out between the 24th and 28th week of pregnancy, regardless of the time of day and recent food intake. If the result is abnormal, a diagnostic test using 125g of glucose (oral glucose tolerance test, oGTT) is carried out. In contrast to the maternity directive of the G-BA, the German guideline for gestational diabetes recommends a one-step screening approach using the diagnostic test [2].

Key messages

- More than 90% of pregnant women who gave birth in a hospital in 2020 were tested at least once for gestational diabetes.
- Since 2016, the proportion of women who gave birth in a hospital and received a test for gestational diabetes has increased.
- Two-thirds of women with hospital birth only received the pre-test, 18.8% received both the pre-test and the diagnostic test, and 7.8% only received the diagnostic test.

Figure 1: Temporal development of the proportion of women giving birth in hospital in % who were tested for gestational diabetes between 2016 and 2020.

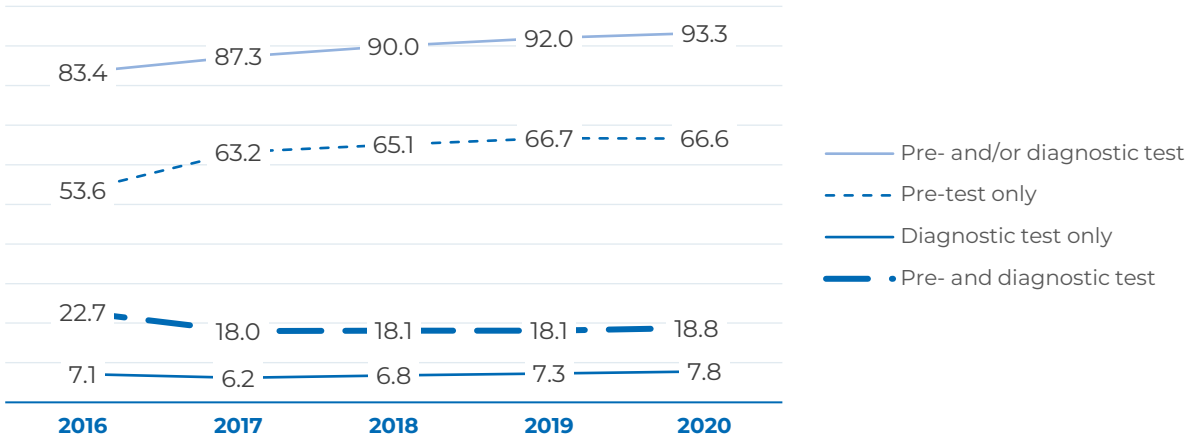


Figure 2: Proportion of women giving birth in hospital in % who were tested for gestational diabetes by age in 2020.

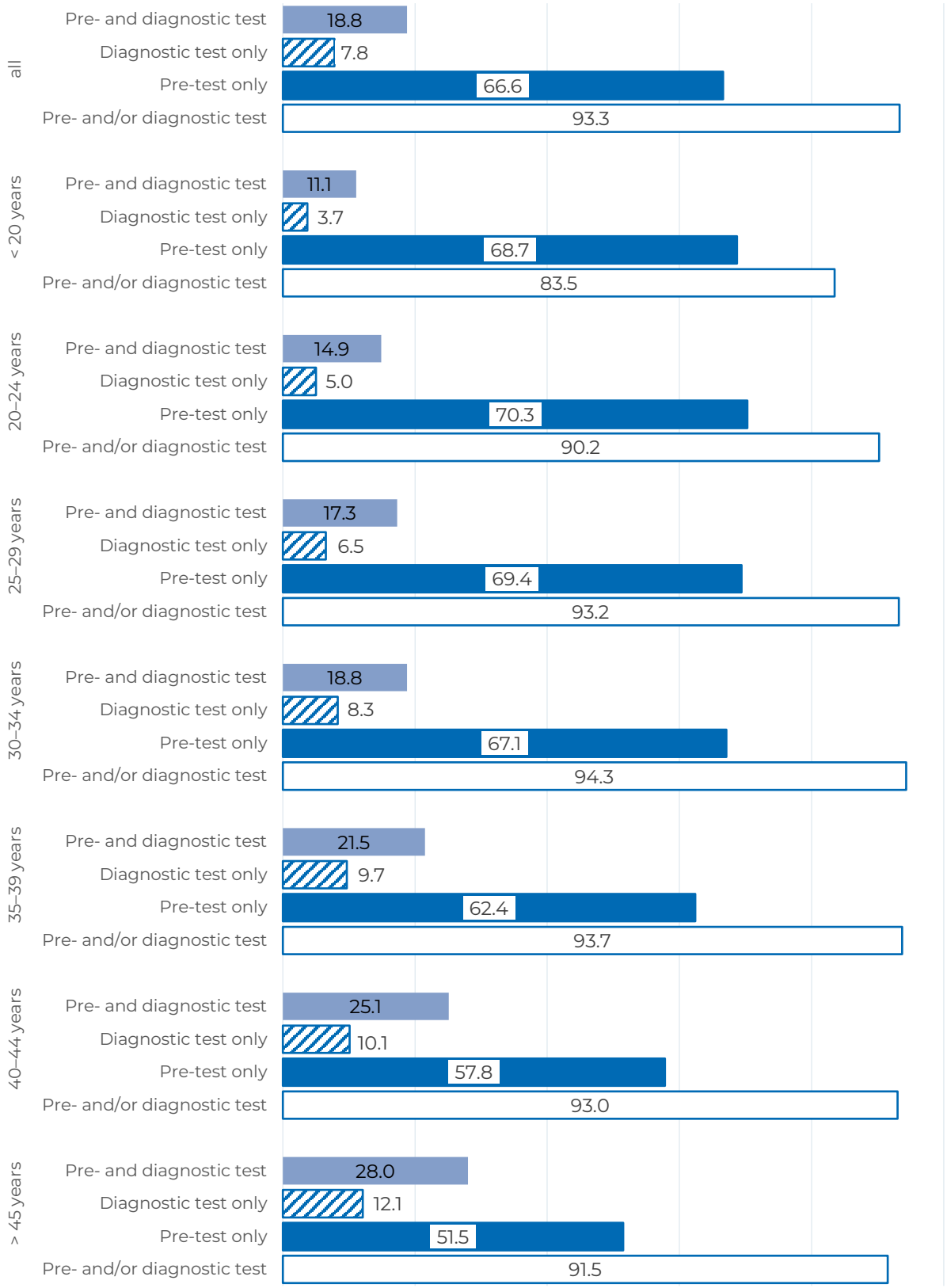


Figure 3: Proportion of women giving birth in hospital in % who were tested for gestational diabetes by regional socioeconomical deprivation in 2020.

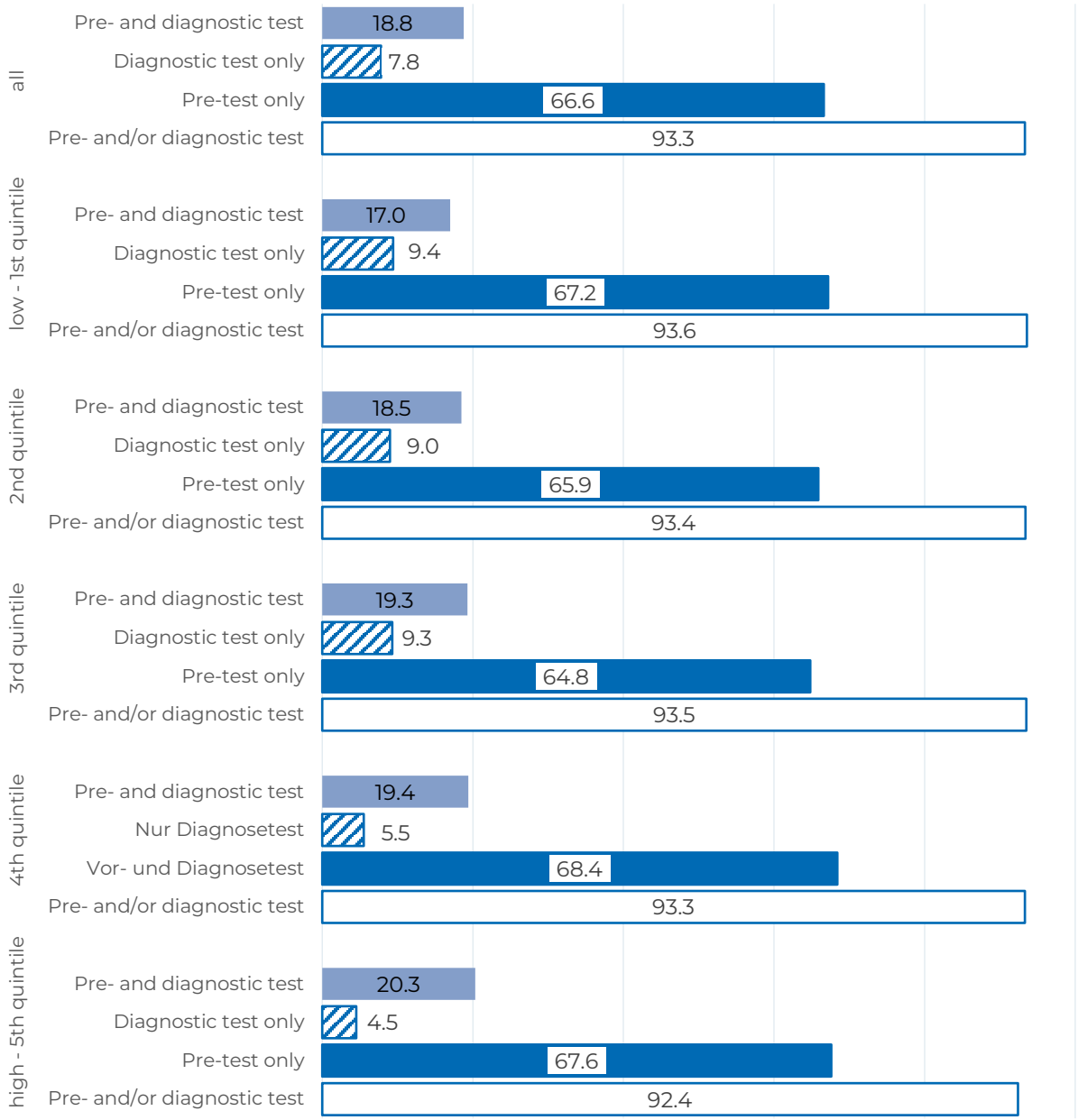
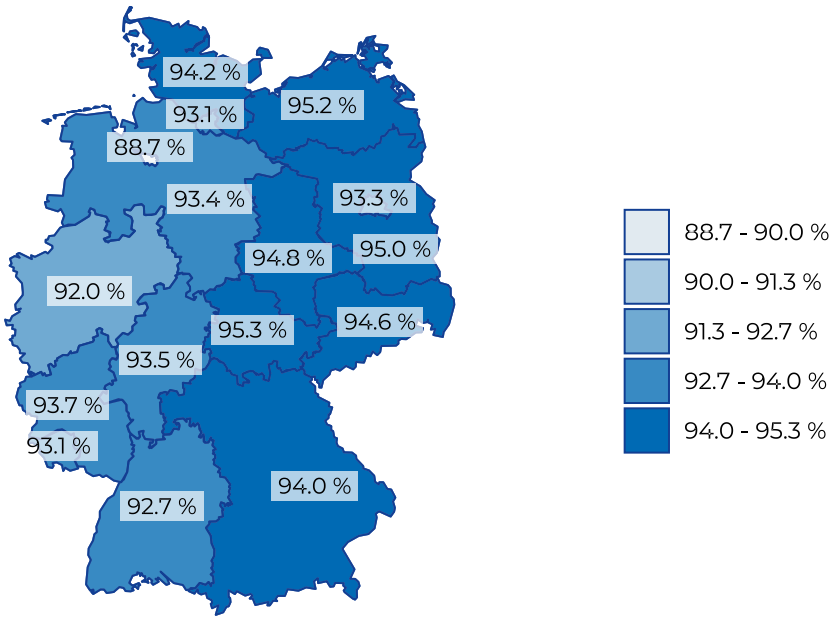


Figure 4: Proportion of women giving birth in hospital in % who were tested for gestational diabetes by federal state in 2020.



Results

In 2020, 93.3% of women who gave birth in a hospital were tested at least once for gestational diabetes. Of these, 66.6% only received a pre-test, 7.8% only the diagnostic test, and 18.8% both tests. In the younger age groups (up to 35 years), more than two thirds of women only received the pre-test. This proportion is lower in the older age groups and the proportion of women who only received the diagnostic test or underwent both tests is correspondingly higher. A comparison over time shows that the proportion of women with hospital birth without a documented test fell from 16.6% in 2016 to 6.7% in 2020, and that the proportion of women who received at least one test increased over the same period (2016: 83.4%, 2020: 93.3%). This trend can be seen across all federal states, however in 2020 there is still a substantial difference of women tested for gestational diabetes between the federal states. In the eastern German states, around 95% receive at least one test for gestational diabetes in 2020, while in Bremen only 88.7% receive a test. In contrast, no difference can be observed depending on the regional socioeconomic deprivation.

Conclusion

The screening participation has increased over time, and documentation shows that over 90% of women are tested for gestational diabetes. In an earlier analysis using data from the Kassenärztliche Bundesvereinigung (KBV) from 2014/15, this proportion was significantly lower at 80.8% [3]. The screening participation has then increased over time, as evidenced by follow-up analyses by KBV [4]. The majority of women follows the recommendation of the maternity directive and they either only received a pre-test or a pre-test followed by a diagnostic test. Only a smaller proportion of pregnant women only received the diagnostic test. Further analyses should address which women are currently not reached by screening and whether they differ in important risk factors for gestational diabetes.

Methodology and data sources

Definition

The indicator screening for gestational diabetes is defined as the proportion of women giving birth in hospital without pre-existing diabetes in a given year, for whom a pretest and/or diagnostic test for gestational diabetes is documented in their maternity logs.

Reference population

All women who gave birth in hospital in Germany after exclusion of women with pre-existing diabetes mellitus (approximately 1% of all women).

Data source

Quality assurance perinatal medicine (obstetrics) at the IQTIG since 2015 based on the perinatal statistics provided by the federal states. This source provides data on all of the approximately 700,000 births that occur in German hospitals annually.

Calculation

- **Observed values:** The quotient of the number of women who gave birth in hospital and documented screening for gestational diabetes recorded in their maternity log in relation to all women who gave birth in hospital after exclusion of women with pre-existing diabetes.
- **Stratification:** The analysis was calculated stratified by the following groups: "Pre-test only", "Diagnostic test only" and "Pre- and diagnostic test". The stratification by federal state reflects the location of the hospital in which the birth took place. Stratification by regional socioeconomic deprivation is based on the German Index of Socioeconomic Deprivation (GISD Release 2022 v0.2) [5, 6] . The GISD provides information on all rural and urban districts and divides them into quintiles from lowest to highest socioeconomic deprivation. We calculated the prevalence for each quintile linking the GISD with the place of residence of the pregnant woman at the level of the four-digit postal code (ecological correlation).

Data quality

As the data set is provided by hospitals, it only contains information on births that occurred in a hospital setting. Therefore, the data of births that take place outside of hospitals, which are less than 2% of all birth, are not included. As documentation of gestational diabetes in maternity logs might be incomplete, it is possible that prevalence is being underestimated.

Data download

Robert Koch Institute. (2024). Results of the National Diabetes Surveillance 2015 – 2024 [Data set]. Zenodo. https://doi.org/10.5281/zenodo.14935276 (in German)

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External links

- Reitzle L, Schmidt C, Heidemann C, Icks A, Kaltheuner M, Ziese T, et al. Gestational diabetes in Germany: Development of screening participation and prevalence. J Health Monit. 2021;6(2):3-18. http://dx.doi.org/10.25646/8325.

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