Evaluation of Cancer Screening in Württemberg
(Federal Republic of Germany)

Experiences with an Integrated System*

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Received July 6, 1970, accepted October 6, 1970

Summary. Four about 75% of the 775,000 women between the ages of 35 and 60 in Nordwürttemberg and Südwürttemberg-Hohenzollern one free cancer screening per year is provided by a formal contract. In 1968 24,818 examinations were performed, in 1969 63,862. The rate for smears in Papanicolaou's grade IV and V was 7.8 per 1000 in 1968 and 5.6 per 1000 1969. The yield of cases was significantly higher among the women attending a practitioner than those of being examined by a gynaecologist. Of 643 cases of cancer of the cervix 32% were detected by screening though only 9.2% of all women were examined. The detection of one case on Papanicolaou's grade IV and V requested in 1968 about 880 $, in 1969 about 1040 $.

In spite of the long tradition of the German Health Insurance System access to modern preventive medicine has only now become possible on a voluntary basis. The administrative district of Nordwürttemberg, with about 3.3 million inhabitants, was the first district in the Federal Republic to negotiate a formal contract between Health Insurance organisations including organisations for providing social aid for the poor on the one hand and Doctor's organisations on the other. The same arrangement was provided for the adjacent district of Südwürttemberg-Hohenzollern. This caters for about 75% of the 775,000 women between the ages of 35 and 60, age-limits being by no means rigid. For every woman there is guaranteed one free examination per year including palpation of the breast, pelvic examination, and taking of a cervical smear. These examinations are performed by gynaecologists and general practitioners, and a patient may attend a doctor of her own choice. The literature about the new examination was worded carefully and care was especially taken to ensure continuity between clinical and laboratory investigations. Since October 1968 a school for cytological technicians is operating at the University of Ulm.

In 1968, the first year of the programme, 24,818 examinations were performed. This number is not quite so unsatisfactory if one realises that up to the end of 1967 virtually no screening had been done at all. The number of smears taken in 1968 for clinical reasons was 19,123 (Nordwürttemberg only); those taken for preventive reasons numbered 20,030, in 1969 the figures were 28,496 and 40,378 respectively. The number of smears in Papanicolaou's grade IV and V amounted to 193, giving a rate of 7.8 per 1000. An additional 625 smears were graded in Papanicolaou's grade III. By a follow-up it is known that histological confirmation of cancer was obtained in 11% of grade III cases, 57% of grade IV cases and 86% of grade V cases. In 1968 every 142nd woman who had a cancer screening test showed cytological evidence of cancer of the cervix. The number of cases of Papanicolaou's grades IV and V gives a fair estimate of the positive findings, but no informations about false negative results are available.

In 1969 the number of examinations increased to 63,862, that is 157% more than 1968, but this means still only 9.2% of all woman entitled to cancer screening. The number of smears taken by general practitioners increased from 13.1% in 1968 to 26.4% in 1969, that is by more than 102%. The yield of cases with Papanicolaou's grade IV und V was 10 per 1000 for practitioners in 1968 and 8.7 per 1000 in 1969. For gynaecologists it was 7.1 and 5.3 respectively. The difference between these two groups is significant at the 0.001 level. The coverage shows big regional differences: Already in the city and county of Ulm 31% of all women participate in cancer screening, whereas in other rural districts only a few smears have been taken.

Another attempt to achieve a high coverage was made through the guild insurances. They sent a letter inviting all their female members between 35 and 40 years of age to have free cancer screening. 492 of them were interviewed in a special survey and in 41% a smear was taken. With a few exceptions the members were in complete agreement with the action of their insurance organisation.

The yield of cases of Papanicolaou's grade IV and V in 1969 was slightly below the yield in 1968. This might be expected, for at the beginning of a voluntary mass campaign many people seek a medical examination because of symptoms which should have already motivated them to attend a doctor.

The 193 respectively 359 cases of carcinoma of the cervix detected by screening may be compared with other figures. In 1968 154 women in the same area died from cancer of the cervix, that is 5.9 per 100,000.

The attack-rate is not known, as no cancer registry exists. But, from the preliminary results of a special epidemiological investigation, the number of new cases of carcinoma of the cervix may be estimated. Within one year 643 cases were registered, 32% of them being detected by preventive examination. This number is consistent with the number of Papanicolaou’s grade IV and V cases found in the screening tests. Emphasis should be put on the fact that by examination of a relative small number of women such a high number of cases resulted.

The screening is paid for in the same manner as normal medical services, being 3.00 $ for the physical examination and 3.20 $ for evaluation of the smears. For 1968 the costs amounted to about 155,000 $, in 1969 to about 400,000 $. The