

# **Germany: preventive care for obese children and adolescents - quality and deficiencies of programmes and interventions**

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## ***1. Introduction***

In Germany, as in other industrialized countries, obesity in younger people seems to be increasing significantly, as the German HBSC findings show (1). In view of concerns about how representative these data are, additional evidence from regular school entrance diagnoses was consulted. This confirmed the increasing prevalence rates and consequent health-risk burdens (2–8).

One of the central factors among the socioeconomic determinants of unhealthy eating habits and physical inactivity is inequalities in gaining access to sociocultural resources and opportunities to develop coping competences and patterns of resilience. Programmes established to prevent and reduce obesity and associated diseases in children and adolescents should comply not only with evidence-based guidelines, but also with sociocultural expectations of target populations.

## ***2. Background: health promotion and education in Germany***

Health promotion and education (HPE) in Germany exists within an environment of institutions, activities and providers (3). There are approximately 250 health insurance companies under public law – ranging in numbers of members from several thousand to several millions – and more than 100 private health insurers. Most of them match marketing and sponsoring strategies with particular preventative approaches and profiles of health care supply. Many organisations, institutions (such as schools) and federal agencies participate in HPE, providing funding to support diverse programmes and projects.

The federation of health insurance companies publishes annual reports summarizing their preventative activities. The reports are based on guidelines which present standardized quality criteria for interventions in several HPE fields, such as stress, obesity and addiction, and for

fieldwork projects. Local insurance company representatives tend to use the criteria differently, however, meaning that reliable data on programme quality and extent of implementation are scarce.

Studies on HPE in Germany show positive health outcomes, but also severe deficiencies in the conceptual and procedural quality of many projects (10–13).

### **3. The study**

The Hamburg University Hospital's Institute of Medical Psychology (UKE) and the German Federal Centre for Health Education (BzgA) have carried out a national survey to assess available resources and capacity for health promotion and education for obese children and adolescents in Germany. Research targets were to:

- give an account of existing health care programmes and institutions in the field;
- assess the quality of providers, treatment settings (clinical instruction, outpatient treatments, counselling, school fitness programmes) and institutional branches (hospitals, individual practitioners, information centres);
- describe strengths and weaknesses of types of institutions, programmes and providers to address the potential for quality improvement and offer recommendations for empirically guided systematic development of health care in this field.

### **4. Methods: a representative survey and quality assessment of institutions and programmes**

The project was carried out in several steps.

First, a brief questionnaire based on professional knowledge, scientific evidence and the dimensions of an evidence-based quality assurance system for health promotion and education (Quality Assurance for Prevention – *QIP*) was developed and pre-tested. Fifteen comprehensive criteria were extracted from obesity prevention and care guidelines. The criteria selected were discussed and validated by an expert group coordinated by the BZgA in co-operation with prestigious scientific societies. The resulting survey questionnaire contained 150 items (two pages) addressing:

- structural characteristics of providers (treatment setting, number of participants, duration time and cost of treatment, average frequency of interventions and number of annually administered treatments);
- quality criteria of programmes and interventions; most of the criteria contained several sub-criteria, meaning that almost 30 guideline-based criteria were integrated (Table 1, overleaf).

All relevant categories of providers – hospitals, general and paediatric practitioners, information centres and local health authorities, for instance – were identified via internet searches and listings of scientific and professional societies. A random sample to receive the questionnaires was then drawn for every relevant branch.

Around 2400 questionnaires were sent out, commencing February 2004, with 1100 responses. Only responses that indicated activities directed at the prevention and treatment of obesity and associated health problems and diseases were considered, with unspecified health promotion interventions excluded from the sample. The resulting data set contained 436 providers, plus a further 56 who sent delayed answers and were considered in later analyses.

All findings were compared to several former studies to assess their validity and to identify changes in supply patterns. Analyses were done by common multivariate statistical procedures (correlation and regression analysis, t-tests, U-tests, cluster analysis, factor analysis, MANOVA).

In the final stage, the survey findings were empirically controlled by an in-depth quality assessment. Data were gathered from 38 providers selected as a representative sample of typical interventions from eight provider clusters defined empirically by cluster analysis. Quality profiles were generated by means of QIP, a field-tested quality assurance system for health promotion and education developed by UKE and BZgA. This system for measurement, feedback of results to ensure continuous quality improvement and monitoring of central quality dimensions in HPE consists of several distinct structural elements: data generation, quality assessment, analysis and feedback, and health care monitoring.

**QIP** measures seven central evidence-based quality dimensions by means of highly structured and reliable experts' assessments in seven main and 22 sub-dimensions of quality in HPE.

1. Quality of concept (definition of health targets, intervention goals, output objectives and indicators, target groups, scientific foundations and professional approach).
2. Quality of planning (initial analysis of health problems and specific settings conditions, overall design of the intervention, formal institutional cooperation).
3. Participants (staff, professional qualifications, networking and professional cooperation).
4. Method of intervention and dissemination (publicity, education elements and approaches).
5. Project monitoring and management.
6. Available evaluation results or monitoring of output and health outcomes.
7. Sustainable quality development of the programme or intervention.

Nineteen expert raters nominated by the most prestigious scientific societies (medicine, paediatrics, psychology, dietetics, nutrition science and science of sport) participated in the assessments. The results from **QIP** confirmed all aspects of the survey findings.

<b>Table 1.</b> Criteria for a survey of preventive activities for obese children and adolescents.	
<b>Quality dimension</b>	Comprehensive and sub-criteria included
<b>Structural quality</b>	programme handbook
	inclusion criteria for age groups
	exclusion criteria defined or considered
	dropout statistics available
<b>Targets of intervention</b>	intervention goals defined on several levels: <ul style="list-style-type: none"> <li>• physical activity levels</li> <li>• BMI</li> <li>• eating habits</li> </ul>
	families/parents defined as a specific target group; practical involvement of families/parents in treatment
<b>Diagnostics at the beginning of the treatment</b>	assess motivation levels for life style modification
	exclusion of somatic diseases
	exclusion of mental illness
	general diagnostic, describing: <ul style="list-style-type: none"> <li>• eating habits</li> <li>• physical activity patterns</li> <li>• psychologically relevant aspects</li> <li>• BMI</li> </ul>
	diagnostics in laboratory
<b>Treatment procedures</b>	multidisciplinary team comprising: <ul style="list-style-type: none"> <li>• medical doctor</li> <li>• psychotherapist</li> <li>• physical activity/ sports expert</li> <li>• nutrition expert</li> </ul>
	multimodal treatment comprising: <ul style="list-style-type: none"> <li>• physical activity elements</li> <li>• nutrition modification</li> <li>• behaviour / life style modification</li> <li>• health information and education</li> </ul>
<b>Diagnostics at the end of the treatment</b>	general diagnostics, describing: <ul style="list-style-type: none"> <li>• eating habits</li> <li>• physical activity patterns</li> <li>• psychologically relevant aspects</li> <li>• BMI</li> </ul>
<b>Follow-up treatment</b>	active follow-up interventions (not merely information leaflets)

## **5. Findings: obesity prevention for children and adolescents in Germany**

This national survey is the most comprehensive data source available on obesity prevention and treatment both in terms of number of providers and in relation to detailed data on the quality of their interventions and programmes. The data received enabled the calculation of a statistical projection model of the amount of activities currently dedicated to the prevention and treatment of obesity in Germany. Analyses resulted in a description of intervention quality and of specific categories of institutions, a typology of interventions and a description of their strengths and deficiencies.

The projection yielded an estimate of 708 providers offering 44 000 treatment places per year. Supply is balanced by an (increasing) prevalence of 1 million obese or slightly obese children and adolescents in Germany. Defining the potential intervention range for obesity in childhood and adolescence as a time span of 10 years, providers are able to treat a total of 44% (SE: 33–55%) of obese children and adolescents.

Two thirds of the providers work in an ambulatory setting, 19% in an inpatient or clinical setting, and 11% in a hybrid form of both. Only 4% offer interventions in genuine settings according to the principles of WHO's setting approach, particularly in kindergarten and schools.

Programmes in hospitals provide a third of treatment places, with nutrition information centres and local health authorities supplying a fifth. Practising physicians contribute only a small degree to HPE on obesity.

According to our estimates, the number of available treatment places has risen by approximately 70% between 2002–2004, making it a rapidly growing branch of HPE. The number of institutions offering interventions has risen by 19%.

Several severe deficiencies of supply quality concerning most categories and programmes were identified. Interventions reached an average of only 51.5% of the guideline-based quality criteria, meaning just under half are deficient. This is clear evidence of the need for further quality improvement in this field.

There is no clear-cut borderline between highly deficient, mediocre and high-level quality providers and programmes. Rather, there are gradual shades of quality and overlapping strengths and weaknesses among providers, with high variance in quality within institutional branches, professions and treatment settings.

Almost no providers have specialized in HPE for socially disadvantaged or other particular target groups, and gender-related approaches are lacking.

Providers working in inpatient or hybrid settings outmatch the ambulatory setting in many quality criteria. Providers in ambulatory programme settings comply with 49% of the guideline-based quality criteria; the figure is 57% in hybrid settings, and 62% in inpatient. Multimodal treatment (addressing eating habits, activity level, health information and general lifestyle) is found in only 10% of the ambulatory programmes, but 37% in hybrid and 41% in inpatient programmes. Multidisciplinary intervention teams (consisting of a medical doctor, a psychotherapist and nutrition and sports experts) are found in only 19% of ambulatory programmes, but in up to 49% of hybrid and 71% of inpatient. Relevant diagnostic standards to exclude somatic diseases are available in 77% of ambulatory programmes but achieve almost 100% in hybrid and inpatient programmes.

Conversely, ambulatory providers are more competent in integrating young patients' families into the treatment and follow-up plan and provide a higher number of intervention approaches. They

are also dramatically less expensive. As a rule, however, there is almost no provision to secure continuous and sustainable interventions after inpatient treatment.

Different institutional categories are characterized by significant quality patterns. Hospitals comply with 63% of the quality criteria, while nutrition information centres achieve 46% and other information centres only 35%. Thirty-six per cent of the hospitals utilise multimodal treatments, versus less than 10% in the other branches, and 62% of hospitals provide multidisciplinary teams (for others, the figure is 10%). There is nevertheless high variance across all quality criteria within all categories, and some hospitals offer rather low programme standards.

Findings around the interaction of programme expenditure and programme quality prove highly relevant for health policy. There was tremendous variance of intervention costs, both in terms of treatment places (participation) and treatment duration (dose). In Germany, treatments are paid for by different institutions that must invest significantly differing amounts for programmes of similar quality and duration. Those interventions carried by the health insurance funds required an average of 800€ per person treated (43% of the programmes are paid for by the health insurance funds), in comparison to an average of 2300€ per person treated in programmes paid for by the pension insurance funds (5% of the programmes are paid for by this source). Co-payment is rather common (almost 30% of the programmes are financed by more than one source); here, participation costs of the families of the patients treated amounted to 300€ per treatment. Higher costs did not, however, predict improved quality (the correlation is  $r=.29$  for programmes paid by the health insurance funds). Thus, approximately only 15% of variance in quality is dependent on differences in available funding. To put it in a nutshell: In this field, money and quality do not predict one another. There are comparatively cheap providers that offer good quality, and expensive programmes of rather poor quality.

## **6. Discussion and recommendations**

The 44 000 treatment places available per annum represent a considerable contribution to tackling the problem of overweight and obesity. In view of increasing prevalence rates, any loss of providers would be extremely worrying. Our findings indicate striking variations in quality profiles and severe shortcomings in many programmes. Consequently, institutions and programmes should be encouraged to improve their performance, with continuous quality assurance and quality monitoring. Economic incentives without quality criteria are insufficient to develop adequate supply chains and enhance high-quality interventions, as there is a low correlation between programme costs and overall programme quality.

Other recommendations are:

- a broad array of quality enhancement approaches for the highly heterogeneous field of HPE is required;
- health insurance funds should establish and maintain quality standards;
- scientific and professional societies should launch information campaigns promoting a professionalization of interventions;
- regular quality monitoring should be introduced, organized by a neutral institution, with reliable quality assessments;

- providers should be offered accreditation to help patients find the right high-quality programmes for their needs;
- special programmes for specific target groups should either be developed or transferred from other countries and evaluated, particularly programmes that focus on social disadvantage and gender-sensitive approaches and interventions;
- children's and adolescents' social and cultural backgrounds should become a relevant feature of all interventions;
- campaigns should be launched to encourage individual motivation to change lifestyles and to participate in obesity programmes by concentrating on the positive prospects, the considerable likelihood of success and the efficiency of high-quality programmes.

The settings approach, using social systems and the modification of institutional structures and conditions, seems to be underestimated. Schools and elementary education settings are important arenas for the development and stabilization of healthy eating habits and physical activity. Comprehensive programmes for developing life skills should be developed, implemented and improved. Supply chains should be established to bridge HPE, prevention, treatment and follow-up interventions.

## **7. Conclusion**

Studying supply structures is a worthwhile enterprise. Although methodologically immature, such research provides a valuable underpinning for systematic quality improvement and improved accessibility to prevention programmes.

The research design produced valid and relevant data, from which recommendations that are being transferred to other fields of health promotion and education, particularly in schools and elementary education institutions, emerged. For health policy-makers, the findings that there may be severe deficiencies in HPE programmes, even in highly respected hospitals, and that high costs do not predict high quality, will be of particular interest.

In conclusion, we find that continuous quality monitoring and quality improvement programmes are to be recommended, as they enhance the specific quality criteria of prevention, health promotion and education.

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