

Designing, implementing and evaluating prevention programmes

# Health and Health Care for Children Aged 0-19

*In order to maintain health and prevent sickness, it is important to know which factors are detrimental and which factors promote health. TNO Prevention and Health studies these factors and collaborates with the parties involved to develop preventive measures. Evaluating the effectiveness and expediency of these measures in practical settings is another activity. In addition, TNO Prevention and Health examines the performance and quality of such programmes. TNO works for organisations and enterprises in the field of health and health care, in the Netherlands and abroad and in the public and private sectors.*

## Core questions

The core questions we address are:

- Which disorders occur in children and young people, what is their scope, how serious are they and what should be priorities for further research?
- Which causes, determinants and risk indicators can be identified? Which of these provide pointers for prevention?
- Which preventive measures can be developed?
- Are current and new preventive measures efficient and cost-effective? How can existing programmes be improved?
- Which health-promoting measures can be developed in terms of lifestyle and 'flanking policy'?

Our experts are active in the following fields:

- child health care;
- curative child health care;
- preventive policies in child health care;
- cost effectiveness and decision analysis.



## Child health care

In the Netherlands, many preventive and health-promoting measures for children and young people are embedded in the system of child health care (abbreviated as JGZ). These measures are co-ordinated by the municipalities and implemented by organisations for the care of the under-4s and by the area health authorities (GGD) for the 4- to 19-year-olds. TNO conducts annual Preventive Health Care surveys of child health care in the under-4s and 5-19 age groups, making use of periodic tests almost all Dutch children undergo in this respect.

In connection with this, the Fourth National Growth Study was completed in 1997. The results of this study were recently used to update the Dutch national growth charts including also charts for Turkish and Moroccan children. As a follow-up to this project, evidence-based referral criteria for growth monitoring are currently being developed.

Screening programmes form a key component of child health care. Existing programmes, including neonatal heel prick screening for CAH, CH and PKU are



**Prevention of sickness and maintaining children's health is very important. TNO examines factors which play a part in this and develops and implements preventive measures.**

evaluated annually and adjusted accordingly. New screening programmes are tested for cost-effectiveness and efficiency. Examples are coeliac disease, congenital adrenal hyperplasia (CAH) and neonatal hearing screening. This resulted in the nation-wide introduction in 2000 of screening for CAH. Furthermore neonatal hearing screening was introduced in the neonatal intensive care units. Currently neonatal hearing screening is also introduced in child health care as a replacement for the Ewing-screening.

In collaboration with representatives from the field, TNO is engaged in systematically developing guidelines for child health care, aimed at enhancing the quality of care and contributing towards minimising the differences that exist in the provision of care in the Netherlands. Guidelines are currently being developed for scoliosis, cardiac abnormalities and child abuse.

### Curative child health care

The Netherlands Paediatric Surveillance Unit (NSCK) is a project from the Dutch Paediatric Association that started in 1992. With the help of this unit epidemiological studies are being carried out into infrequent diseases among children. The Netherlands as well as twelve other countries are united in the international network of pediatric surveillance units (INoPSU, [www.inopsu.com](http://www.inopsu.com)). Altogether 33 conditions are or have been under surveillance in the Netherlands. These are diseases for which prevention pointers are being sought, for instance diabetes mellitus, coeliac disease and group B streptococcal infections. Also being monitored are disorders for which preventive measures are already in place and the effects of which are to be ascertained, such as Haemophilus Influenzae (group B) infections, HIV, vitamin K deficiency bleeding in neonates, and whooping cough. Acute flaccid paralysis has been in surveillance because of the WHO polio eradication program. The Netherlands was declared polio-free in 2002. Ascertainment of neonatal heel prick screening was carried out in congenital adrenal hyperplasia (CAH) and medium chain CoA dehydrogenase deficiency (MCADD).

### Preventive policies in child health care

Thanks to its scope and the trust placed in it by parents, child health care is in a position to play a key role in the prevention of mental disorders and delinquency in children. Those involved will have to work closely with child welfare agencies. One of the projects in this field is "Starting Together", a TNO initiative in collaboration with municipalities, home care organisations, area health authorities, youth welfare and social work agencies as well as health care insurers are jointly involved. The objective of this programme is a longitudinal survey of the effectiveness of a large-scale intervention programme in these regions.

### Cost effectiveness and decision analysis

In addition to the effectiveness of (preventive) interventions, other important factors are the costs of such interventions and any savings gained. The

costs and benefits of interventions are related to the effectiveness in cost effectiveness analyses. TNO conducts such analyses for new and existing (preventive) interventions and addresses methodological problems in the field of cost effectiveness analyses in child health care. Apart from cost-effectiveness, implementing an intervention efficiently is also important to increase effectiveness and expediency. Decision analysis techniques are an effective tool when it comes to making the best possible use of the scarce funds available in health care and child health care. The essence of this discipline is to optimise whilst bearing limiting conditions in mind. Decision analysis techniques are, for instance, used to optimise referral processes within child health care.

### Other activities

As well as conducting research, TNO is involved in a variety of other activities including:

- advising organisations working with children and prevention with regard to professional development, policy, programming and implementation;
- developing and implementing schooling (modules).

TNO has expertise in the following areas of health and health care for the 0-19 age group:

- child health care
- paediatrics and social paediatrics
- epidemiology
- development and evaluation of interventions
- development of guidelines
- health economy
- decision analysis

### More information

For more information, advice or support regarding child health care for children aged 0-19, please contact our expert staff, who are glad to be of help.

### Integral approach furthers quality of life

Good health is top priority for most people. Of course, it is also the priority of TNO Prevention and Health. We are dedicated to improving health and quality of life in many areas. We are continually looking for practical and creative solutions for problems in health care. Our approach involves high-quality research tailored to the needs of government, industry, health care services and grant providers. The national and international recognition and independent position of TNO guarantees quality research.

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