Rich evidence for poor families

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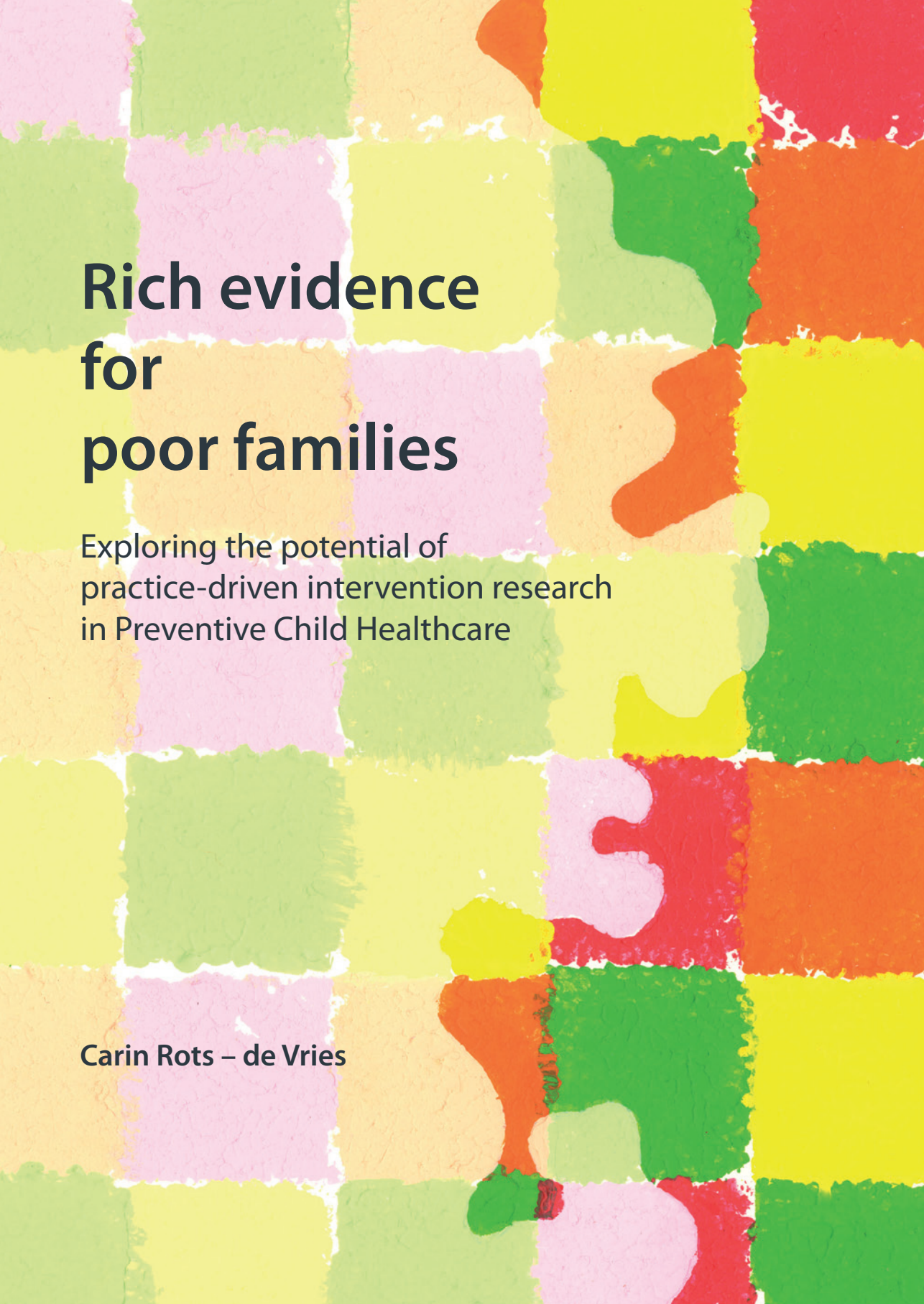

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Exploring the potential of practice-driven intervention research in Preventive Child Healthcare

Carin Rots – de Vries

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Praktijk en theorie

Het gelijk ligt in het midden, schijnbaar voor het grijpen, als
een lekke voetbal in een vijver, ook met een stok kun je er

net niet bij, een valse start zal alles in het honderd laten lopen,
de risico's voor eigen rekening. Wat kan ons overkomen, wat

kunnen we niet zien? De wijzers staan bewegingloos, of willen we
niet weten dat we deze kostbare minuten zo uit handen geven?

Alle begin is moeilijk, elk begin een verstoren van een rust,
een oningerichte uitdaging, een steile bergwand, je klimt en klimt

tot daar waar het patroon dat je verliet je duizelt, een wirwar aan
kleur. Daar sta je dan. Je vermoeden was juist, zoveel is zeker.

Alfred Schaffer
Uit: Geen hand voor ogen
Amsterdam: De Bezige Bij, 2004

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Chapter 1

Background and problem definition

1.1 Introduction

In 1995 an experienced physician in Preventive Child Healthcare observed increasing numbers of poor parents who economised on expenditures related to their children's health, like healthy food, sports and social activities. After epidemiological research to underpin this observation, an intervention was designed consisting of close collaboration between the Preventive Child Healthcare department concerned and the local Social Benefit Service. The child healthcare professionals took an active role in detecting children with adverse health effects due to poverty. The Social Benefit Service provided extra finances for these children for specific, health promoting purposes. Initial evaluation showed that the intervention was practicable and suited the needs of the targeted families. In later years, some difficulties related to the practicability aroused due to increasing numbers of detected children. These practical issues led to several refinements of the intervention-model. Accompanying evaluations were conducted to assess the redesigned intervention. Although the intervention still was in an incipient stage, some other Local Authorities showed their interest for the intervention and asked their Preventive Child Healthcare department to deliver it. These requests could originate from several parties within the local community, like (organised) interest groups, political bodies or the civil service. Implementation research showed that every Local Authority developed its own version of the intervention due to for example differences in available budget and in opinions of the local Social Benefit Service. Meanwhile, in the Local Authority where the intervention had been started, the way of delivering the intervention was adapted due to increased professional skills making it possible to use a more efficient way of detecting and referring children.

In realising the goals of interventions in the field of public health three domains are involved: policy, practice and research. In current times policymakers, practitioners and researchers have a common interest in their pursuit of effectiveness. They all profit from an answer to the question: does the intervention work? Only when interventions benefit the targeted populations, there is legitimacy to deliver them. Interventions that have shown to do so, are usually referred to as 'evidence-based interventions'. While few argue against the need for evidence-based interventions, the real-life story as told above highlights that gathering and transferring this evidence is a comprehensive enterprise.

Despite the shared interest in evidence-based interventions, the notion of evidence is considered one of the thorniest issues in public health [1-3]. Our story demonstrates a number of specific problem characteristics. First of all, it illustrates the involvement of the three public health domains. Each domain has its own values, aims and professional

standards which do not easily converge [4]. Policymakers are involved in processes of negotiation, which are tied in with politics and the debate about divergent interests in society. Their goal is to decide about the levels and allocation of resources in a specific period. Practitioners aim to contribute to solving the problems of individuals or groups. They intend to meet the needs of their clients or communities. Finally, researchers are oriented to the production of knowledge to support the development and underpinning of both policy and practice. Their goal is to add facts and theories to the existing body of knowledge.

A second element in the story is that several forms of research have been brought into action. Epidemiological research was carried out in order to gain insight into a specific public health problem. Later on, several evaluation studies commissioned by local as well as national authorities were conducted. The goal of these studies was to test the intervention. Also, the results of the intervention were investigated: did the intervention produce the expected outcomes for the target group? Subsequent implementation research was focused on the replicability of the intervention outside the region of origin.

The starting point for the several forms of research was day-to-day practice, showing the third aspect in our example that illustrates the complicated and vast task of evidence building in public health.

In the practice setting, different questions arose and the accompanying research had to be adapted to these questions and the manifestations of the intervention in daily practice. In addition, the different forms of research only partly took place chronologically, although our description may suggests a logical sequence of studies. While in one municipality preparations were going on for several refinements of the intervention, implementation started in the neighbouring municipality. Also, implementation in other settings elsewhere in the country had already started before the intervention was fully developed. As a result, the different forms of research mixed up and information about the separate intervention aspects gradually became available in a repeated process.

Briefly summarised, even though 'evidence-based interventions' has become a very popular concept, actual practice shows the complexity of the evidence. Ideally, policy, practice and research should be collaborative and mutually dependent partners in gathering evidence. In reality, however, the question arises how to connect the dynamics of the policy and practice field with the concept of 'evidence-based interventions'. Especially with regard to preventive interventions for populations at risk inevitably ethical, political, practical, organisational, research technical and economic issues arise [5-8].

This dissertation explores the process and potential of intervention research in public health when interventions that are available and carried out in daily practice are taken as a starting point. We use the term 'practice-driven intervention research' to refer to this type of research. Although there is an urgent need for studying public health interventions

[9-12], and especially for knowledge that suits the information needs of policymakers and practitioners, little progress has been made in a systematic development of practice-driven intervention research. This dissertation aims to fill this knowledge gap by studying practice-driven intervention research in detail. Two intervention cases in the field of Preventive Child Healthcare (in Dutch: Jeugdgezondheidszorg), as an important field of application within public health, are investigated. The interventions concerned address the physical, psychological and social well-being of children and youth at risk for a negative health outcome later in life. This introductory chapter first presents the theoretical perspectives on intervention research. This theoretical framework serves as a blueprint to guide data collection, analyses and the framing of inferences. Next, the current evidence for preventive interventions for at risk youth is considered, followed by the problem statement of this thesis. After that, the potential of practice-driven intervention research is hypothesised. Finally, the research questions, the study design and the outline of the thesis are presented.

1.2 Theoretical perspectives on intervention research in public health

1.2.1 Introduction of a staged approach in intervention research

An intervention is defined as a set of actions with a coherent objective to bring about change or produce identifiable outcomes [13]. Public health interventions are intended to promote or protect health or prevent ill health in communities or populations. The urgent need to underpin public health interventions with scientific research, has led to an increased demand for intervention research. In current literature a vast spectrum of approaches to intervention research appears (see for example Øvretveit 1998 [14]). Despite this diversity, a common and well-accepted notion is the concept of phases in intervention research [15-22]. This originates from the notion that public health interventions have distinct developmental stages. These range from a first idea for an innovative approach in order to address an emerging public health problem to maintenance of an intervention of proved effectiveness systemwide. Hence, it is argued that the stage of development of an intervention is a key factor in investigations to these interventions. Consequently, an evidence-based intervention results from a sequence of studies. These studies should be prudently tailored to the stage of development to provide all the pieces of evidence needed to build a sound knowledge base for an intervention. Each phase informs the next one and requires its own criteria for evidence and an according research design.

Arguing for a staged approach of intervention research, several additional arguments have been used. The first one concerns the different stakeholders in public health [13, 20]. Although there is inevitably some overlap between the interests of policymakers,

practitioners and scientists, their perspectives on what is needed and valued in the evaluation of an intervention can differ [8]. For example, policymakers need to know what results will be achieved with what public means. They need to be able to judge the (likely) effectiveness and efficiency of an intervention. Local program managers, on their part, need evaluations that give feedback on the extent to which an intervention contributes to the achievement of local strategies, or on whether the intervention is delivered as originally intended. The foremost interest of practitioners to attach value to an evaluation is the interest of their target groups: are their needs served adequately? Researchers aim to give rational and logical interpretations for observed phenomena and the relations between these phenomena preferably using abstraction and academic rigour. A staged approach of intervention research can be used to acknowledge the legitimacy of this range of stakeholders' perspectives. In a strategically sequenced approach the different assessment criteria can be appropriately addressed at different stages in the development and implementation of a particular intervention. A related argument in this respect concerns the identification of outcome information needed by important stakeholders. Given the social and political nature of public health intervention research should determine the outcome variables that cover the interest of all important stakeholders [13, 22]. A staged approach offers the opportunity to determine these outcomes carefully and to design according measures that also take into account the distant relationships between health promoting activities and health outcomes.

A second additional reason that has been adduced for staged models of intervention research is of scientific nature and deals with the interpretation of study findings. Several authors have argued that without tailoring and sequencing evaluations it is hard to interpret study findings, specifically of effectiveness studies [13, 23, 24]. In current literature this has been discussed particularly in the case of a lack of intervention effects because the data did not assist in making a distinction between the different causes of negative findings. Negative findings warrant careful exploration. Has the research failed to find an effect where one exists (evaluation failure) or is there truly no effect (intervention failure). In the event of intervention failure, is the failure attributable to an inadequacy of the intervention itself or to poor implementation of the intervention? Campbell et al in this respect specifically address the complexity of interventions, defining them as interventions made up of various interconnecting parts [15]. Sequential phases of research are needed to first define the content of the intervention and test the feasibility of delivery. In subsequent effectiveness studies crucial factors such as the content of the intervention evaluated, the quality of the implementation and the adequacy of the outcome measures relative to interventions goals can be taken into account. Without this information one cannot conclude that negative results mean that an intervention is ineffective. It is argued that a careful and strategic sequencing of evaluation designs to an intervention's stage of

development provides all the information pieces needed and support the interpretation of study findings. It should be noticed that regardless of whether the findings are positive or negative, factors such as the stability of the intervention and the quality of the implementation are crucial to the interpretations of study findings because they provide feedback on the anticipated causal pathways and the mechanisms of change.

1.2.2 Main stages in intervention research

Several models of a staged approach of intervention research have been proposed. Although these models slightly differ in their refinement of the distinct stages, they share a common understanding of the key stages involved. These can be summarised in three main stadia:

- intervention development
- intervention implementation and
- intervention dissemination.

Each of these stages consists of a specific stage of the intervention and is paralleled by a different set of research and evaluation questions. The distinct stadia are now being discussed.

Intervention development

The first main stadium is that of intervention development. This stadium focuses on problem definition and designing a possible solution that addresses this problem. It draws upon basic epidemiological research and community needs assessment aiming to investigate the causal basis of the health-related problem and to identify community concerns, priorities and access points for change. Once a health-related problem and the population at risk have been identified, social, behavioural and organisational research is needed to form the content for the intervention and methods for achieving change. Learning from other evaluations about effective ways of addressing the problem, current policies and provisions that propose likely solutions, and expert opinions are appropriate to support this stadium. An important result of this stage is the specification of the theoretical basis of the intervention. The intervention theory offers a clarification of the intervention's methods and activities, why these methods and activities are chosen and what changes they are supposed to bring about in the target group. Intervention theory explains which characteristics (personal, social, environmental) are aimed to change and plausible ways to achieve this. The phrase 'intervention-theory' sounds rather abstract, but in fact it is a practical description of why which activities will be undertaken and how this will be done [25]. Various models, such as theory of change [26] and theory-based evaluation [27], have been developed to guide the specification of the rationale underlying an intervention. In literature on health promotion, specifically on planning

models devised to assist practitioners in the planning and delivery of health promotion programmes, the intervention theory is termed the 'logical model', defined as a causal model which links programme objectives (or expected outcomes) with the intervention activities in a logical order [28, 29].

Intervention implementation

The second main stadium is intervention implementation. This stage involves testing the intervention in (small scale) pilots. A first version of the intervention is delivered and it is tested whether the intervention is acceptable to providers and targeted populations. Furthermore the feasibility of delivering the intervention is tried out. Next to testing acceptability and practicability, an important part of this phase is to assess whether the intervention achieves its expected outcomes and to identify what impacts are realistic for the intervention to achieve. It can also be important to test for learning effects amongst the providers of the interventions [15]. If a learning curve exists, this will lead to improved performance of the intervention over time. Different versions of the intervention may need to be tested, for example if the proposed intensity and duration of the intervention are found to be unacceptable to recipients. The pilots lead to ongoing improvement of the intervention. When passing through pilot stages the intervention becomes increasingly stable resulting in a well-specified and standardised programme that is accepted by its target group and made available in a feasible and uniform way.

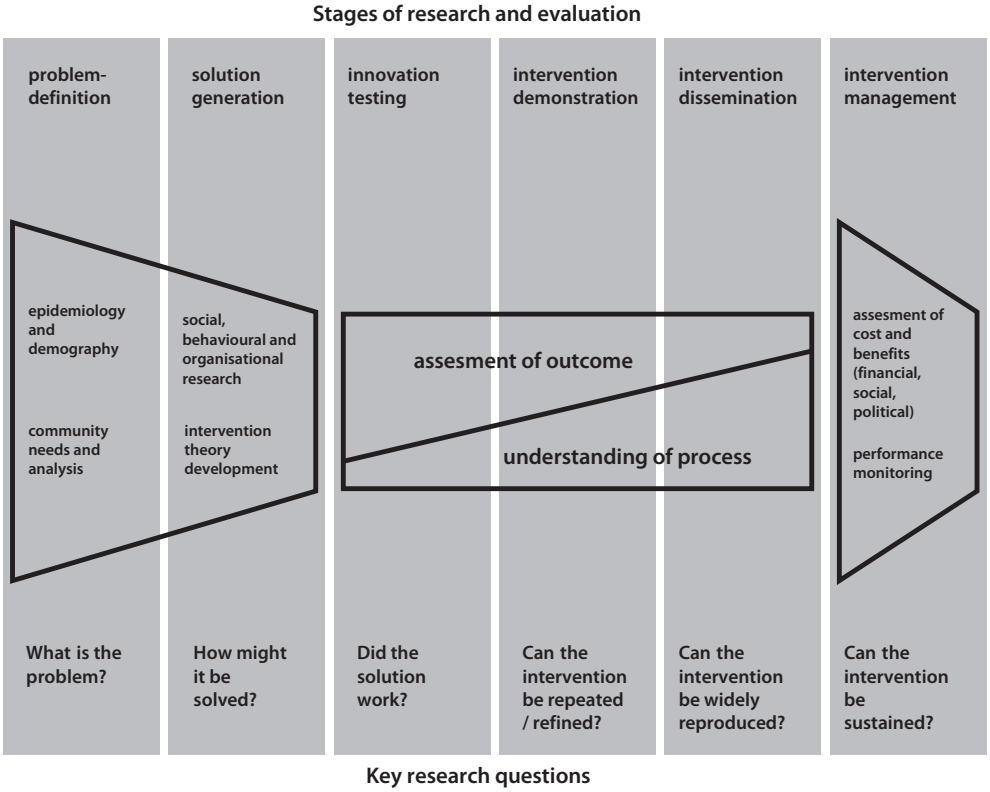
Evaluation is the main research activity in this stage. Evaluation research attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in the light of their objective [30]. The two fundamental purposes of evaluation are to assess the intervention's outcomes and understanding the intervention's processes. Assessing outcomes concerns determination of the extent to which the intervention achieves its desired effects. Evaluation of processes is focused on identifying the basic conditions for successful delivery, and allow for reproduction of the intervention, and subsequent repetition of successful outcomes. Regarding these processes current literature distinguishes three related factors:

- availability: does the program reach the target group
- acceptance: is the program accepted by the target group and the providers
- practicability: can the program be conducted as intended [16, 22, 31].

Regarding the connection between evaluation of outcomes and evaluation of processes two perspectives emerge. This especially regards the timing of both types of evaluation. To illustrate the first perspective the 'six-stage development model of health promotion programmes' of Nutbeam is useful (figure 1.1, in particular column 3, 4 and 5). During the stage of testing of the new intervention, the model suggests that the majority of the evaluation effort is spent on the assessment of outcome. After that, a gradual shift

takes place that is characterised by a decreased emphasis on outcome measurement and an increased emphasis on evaluation of processes. By the end of the implementation stage, the intervention is implemented and widely reproduced in practice. The second perspective reasons the other way around [20]. Preliminary evaluation focuses on evaluation of processes and identification of the possible outcomes. Once the intervention project is well-established, the evaluation turns to assessing effectiveness.

Figure 1.1 Six-stage development model for the evaluation of health promotion programmes [22]



The underlying difference between these two alternatives can be understood by looking closer at the conditions and circumstances under which the intervention is implemented and studied. The first perspective assumes preliminary testing of an intervention under optimum conditions of implementation and scientific rigor [16, 18, 22]. The intervention consists of a well-specified and standardised entity that is made available in a uniform fashion and completely accepted by its target group. Participants or social units are carefully selected and the intervention providers are often highly trained professionals.

The reason to choose these conditions is that the accompanying evaluation is focused on determining a causal relation between the intervention and its effects. As a consequence minimal variation is allowed that might interfere with interpreting results. Such studies are also termed 'efficacy trials' and may take place in either a laboratory or a field setting. The epitome of the efficacy trial lies in the various components of the randomised controlled trial (RCT): manualised interventions, randomisation, a control condition and specific inclusion and exclusion criteria. This stance is reflected in the widely accepted concept of the 'levels of evidence' [13, 32, 33]. This concept builds on a hierarchy of study designs used in evaluative research. Study designs are graded by their potential to eliminate bias (i.e. the extent of the internal validity). RCT's provide the best evidence of the effects of interventions. Weak evidence is based on nonexperimental research conducted with uncontrolled groups. Personal experience and experts opinions are the lowest level of scientific evidence. Rychetnik has shown that in guides for appraising interventions' effectiveness it is standard practice to define the levels of evidence in terms of study design and to treat this as the primary determinant of credibility [13].

The second perspective (first evaluation of processes, after that evaluation of outcomes) supposes the establishment of an intervention in real-life circumstances from the outset of the intervention's existence. At the start of the implementation the projectmanager and the evaluator are concerned with defining appropriate milestones for the intervention, refining the intervention's design and agreeing with stakeholders on appropriate performance indicators and quality standards [20]. When the intervention has become stable, project staff has gained experience and confidence, and early problems have been addressed, an evaluation that focuses on effectiveness can become feasible. It is assumed that in real-life settings formative process evaluations are needed to identify key factors for success and failure of the intervention [12]. In the realm of the nature of 'evidence' this perspective has a broad perception of what counts as evidence and the required research designs. Evidence is perceived as the interpretation of empirical data derived from formal research or systematic investigations using any type of science or social science methods. Initially, there are degrees of freedom to design a study, delivering descriptive, theoretical or indicative evidence. Later on, less design freedom is allowed in order to acquire causal certainty [34]. Current literature reflects that the usually assumed order is that from studies in controlled environments ('efficacy trials') to studies in settings that represent real-life conditions [16, 18, 22, 35, 36]. Interventions of proven efficacy are subsequently tested in conditions that more typically reflect a real-life setting. The central part the Nutbeam-model (i.e. figure 1.1 column 3, 4 and 5) in this respect represents the dominant perspective. Scientific literature on interventions that have followed the second perspective is scarce.

Intervention dissemination

The third and final main phase concerns intervention dissemination. While the term 'dissemination' generally refers to the transfer of knowledge, in literature on public health it is also used to refer specifically to the transfer of interventions in order to implement them on a larger scale. The term 'dissemination' is often exchanged for the word 'diffusion' [37]. The research activities in this stage concern the identification and evaluation of ways in which interventions of proven effectiveness can be widely disseminated. Such studies include those directed at the transferability of an intervention and the sustainability of its outcomes when implemented in other settings, as well as studies on improving ways in which communities can be supported to adopt and maintain innovations and build capacity. For instance, the question should be addressed whether training and support structures developed for the intervention can work to sustain the intervention when implemented over the next cohort of the population [18]. Beyond this stage long term intervention management is necessary to maintain the intervention systemwide. Evaluation is then focused on monitoring the quality of intervention delivery and ongoing assessment of costs and benefits [22, 31, 38]. Dissemination research is the type of research that is the least common in public health literature, partly as a natural consequence of decline in the number of interventions which reach this stage of development [18, 39]. Research designs to test for example different models of support structures to sustain an intervention systemwide are underdeveloped.

To disseminate an intervention information is needed on its transferability to different settings at a different time. Several authors have stated that current evaluation research in public health lacks appropriate data to assess transferability because it is unclear which elements of the programme are effective and need to be transferred, and what preconditions are necessary for implementation of the intervention [13, 22]. In other words, the generalisability (or external validity) of the intervention research remains unclear. This especially counts for efficacy trials because the studied interventions are not automatically suitable for target groups, healthcare structures and professional skills available in real-life settings. Additional transferability assessment is required to translate these interventions into practice, taking the real-life context into account. According to Wimbush, barriers to assess transferability can be minimised if evaluations carried out in the earlier stages of an intervention's development have created understanding of the mechanisms that are most effective and of the necessary preconditions for delivery of the intervention [20]. Flay has suggested deliberate manipulation of mode of implementation, for example by varying staffing arrangements and settings, or by adding supplementary activities [16]. Such studies provide data on the generalisability of the intervention and ways of dissemination.

The theoretical perspectives that we have presented in this section provide a framework to locate intervention research in public health. To recapitulate, current literature demonstrates that there are distinct stages and many types of research which contribute to the development of evidence-based interventions. The core of this framework is the understanding of the match between the current developmental stage of an intervention and the type of research. The appraisal of evidence for public health interventions should encompass all the research and evaluation pieces needed to inform important stakeholders responsible for implementation decisions.

1.3 Evidence for public health interventions for children and youth at risk

Traditionally, children and adolescents are an important target group within public health as they have special health needs due to their fast growth and development, and their dependence on adults. National and local policies are directed at realising healthy life experiences and positive outcomes for all young people. Stated shortly, children should be "at home, in school, with peers, in the community, and out of trouble" [40]. This broad aim also represents the intended outcomes of interventions when children experience psychosocial problems. In recent years comprehensive efforts have been made to inform Dutch policy about the state of the art with regard to evidence underpinning preventive interventions for children and youth. This section presents an overview of the conducted studies. First specific characteristics of children and youth at risk and preventive interventions for this target group are introduced.

1.3.1 Children and youth at risk

From empirical studies it appears that Dutch children and adolescents in general grow up in supportive environments resulting in positive outcomes for the majority of them [41]. Compared to other European countries, Dutch children experience relatively high levels of health and well-being [41, 42]. Although modern society brings about new hazards, also new benefits arise and the overall conclusion is that these factors are in balance [43]. These positive findings however do not hold for every child and adolescent. In fact, psychosocial problems are common in children and adolescents. These problems are often divided into two parts: behaviour problems (or externalising problems), such as aggressive and delinquent behaviour, and emotional problems (or internalising problems), such as withdrawn behaviour, physical complaints, anxiety, or depressive complaints. The prevalence of these problems varies among studies because they depend on age group, definitions of psychosocial problems and time of research. Studies in western industrialised countries show that approximately 18% of all children experience behaviour

or emotional problems at some point in their development [44, 45]. Comparable research in the Netherlands shows that 21% of Dutch elementary and high school students (aged 11-16 years) experienced externalising problems and 19% internalising problems [46]. The prevalence of clinical behavioural and emotional problems in Dutch youth aged 11 to 17 years is approximately 11 to 13% [46]. For Dutch preschool and schoolchildren (aged 0-12 years) it is shown that 5% experience severe behavioural and emotional problems [41]. Some groups of young people have an increased risk of developing serious psychosocial problems. Many studies conclude that these are largely children from families in a weaker social position, such as parents from non-Western ethnic minorities, parents of families living below the poverty line, parents with a low educational level and single parents [41, 47-49].

In research in the field of adverse child development the notion of 'risk factors' is a key concept. These factors are in some way related to later, undesirable outcomes for a child. In scientific research many risk factors have been identified, like specific characteristics of the child (e.g. low intelligence), specific characteristics of a parent (e.g. psychiatric problems, negative perceptions on parenting), the family (e.g. income below the poverty line), the broader environment (e.g. living in a deprived neighbourhood) or a specific life event (e.g. divorce). A reoccurring finding is that it is not a single risk factor that predicts a problem, but that especially the number of risk factors is important [50-52]. The risk for developing problems increases as the number of risk factors coinciding within one and the same family rises (e.g. a single-parent family with a poorly educated mother and an income below the poverty line). This phenomenon is usually referred to as the accumulation of risk factors. Especially when protective factors are lacking, the accumulation of risk factors comes with a higher chance of adverse outcomes later in life. It is estimated that the development of 2-5% of Dutch children is fundamentally threatened due to an accumulation of risk factors [41, 52].

1.3.2 Preventive interventions for children and youth at risk

Children and youth at risk for developmental problems (i.e. having several risk factors or already preliminary problems in their development) have become a high priority target group in Dutch national and local policies. These policies are shaped by early detection of developmental problems, followed by appropriate interventions. Two main reasons can be distinguished that account for this line of policy. First, there is increasing scientific knowledge about the links between childhood conditions and adult problems later in life [52, 53]. Even though not all adverse childhood conditions will develop into connected problems in adulthood, many adult problems have related antecedent problems in childhood. Severe internalising disorders and, even more, externalising disorders are rooted in (early) childhood [54, 55]. Also, the major long-term adverse effects of child

abuse and neglect are becoming increasingly clear, as well as the conditions that bring child maltreatment [56]. The second reason for an increased focus on early detection of developmental problems is that in the last two decades progress is being made where early interventions address at risk children and adolescents. The body of knowledge about what works for children has increased tremendously, especially by international research [53, 57-59]. A central insight from this research is that interventions in early childhood are more effective than interventions later in life. In general scientists agree that effect sizes decline with ascending starting ages of targeted children. From economic perspective, intervening in early childhood is more cost effective than intervening in later years of a child's life [60]. Clearly the greatest benefit to society would be to prevent disorders in the first place.

The Dutch Preventive Child Healthcare system (abbreviated as PCH) is an important care structure to implement policies regarding the identification of developmental problems at the earliest possible stage in order to prevent adverse outcomes later in life. In this care system child health professionals (i.e. public health nurses and physicians) offer routine child health examinations free of charge, including detection of a range of environmental and family issues that influence children's safety and health. PCH is carried out by a national network of regional departments that are part of basic home care (ages 0-4) and Regional Public Health Services (in Dutch: GGD-en) (ages 4-19). These departments are operating under Local Authority responsibility. Take up rates of the routine child health examinations are high. For all ages, coverage is more than 95% of the total population [61, 62]. Like in other industrialised countries the goal of preventive child healthcare is to foster an optimal trajectory for growth and development in children and to provide anticipatory guidance [63]. Especially when it comes to the application of standardised instruments for the identification of risks and problems, as well as the provision of or referral to appropriate evidence-based interventions, PCH is considered to take a central position [52, 64]. The aim of the interventions is to alter identified risk factors and the later negative outcomes mend to be prevented for targeted children.

1.3.3 Evidence for preventive interventions

The recent efforts to intensify policies regarding at risk youth involved four review studies of existing knowledge on evidence-based interventions in this field. Below, these studies are presented separately, followed by a discussion about their results.

Effectiveness of preventive interventions for youth: state of the art (2003)

Commissioned by the Ministry of Public Health, Welfare and Sports, Verdurmen and co-workers made an inventory of the evidence base for preventive interventions for children and youth [65]. They included programmes aimed at psychological problems, criminality,

school drop-out and unemployment, and social subordination.
The initial intention was to take interventions carried out in actual practice as a starting point. However, it was concluded that this was unfeasible due to the huge amount of delivered interventions and inadequate registration of these deliveries. Therefore, the study started with available Dutch studies. Fifty experimental and quasi-experimental studies were found, including 12 RCT's and covering 41 interventions. It was concluded that 6 studies indicated that the studied intervention was possibly effective. Applying more stringent criteria for study design and study performance, very few promising interventions remained. Examples of these interventions are a training for mothers having sensitive babies and a school-based intervention to stimulate prosocial behaviour. The study was completed by a quick scan of 39 international meta-analyses and systematic reviews. From the international literature, mainly originating from studies conducted in the USA, it was concluded that there is considerable empirical evidence for the effectiveness of preventive interventions. The most promising results were found for interventions aimed at externalising problem behaviour and substance abuse.

Supporting upgrowth and upbringing: earlier, faster and better (2005)
This study was part of the so-called 'Operation Young', a comprehensive endeavour of the national government to create a more coherent youth policy. The secretary of state of Public Health asked a scientific committee (called 'Inventgroup') to advise on early detection of childhood disorders, early interventions in this field and the minimal care infrastructure needed. The Inventgroup focused on externalising problem behaviour, internalising problem behaviour and difficulties within the family related to the children's upbringing. Furthermore, the authors distinguished several levels for detection and intervention attuned to the severity of problems [52].
To select appropriate interventions the research built on strict scientific criteria. Evidence-based interventions were defined as interventions underpinned with RCT's, independent replication of effects and long term effects. The authors concluded that worldwide a limited amount of studies met these methodological requirements. They proposed 22 interventions, the majority (one exception) developed outside the Netherlands commenting that these interventions did not yet cover all problem areas, problem levels and age groups. The Inventgroup elaborated on issues concerning implementation of the selected interventions, including the minimum infrastructural preconditions for implementation, and the relevance of ongoing evaluation and monitoring of effectiveness when implementing the selected interventions in the Netherlands.

This will work: from promising practices to effective parenting support in PCH (2006)
Prinsen and colleagues have provided an overview of interventions in the field of parenting

support delivered by Preventive Child Healthcare [66]. Based on preceding inventories a checklist of interventions was compiled and completed by PCH departments across the country. It turned out that the portfolio of PCH interventions consisted of approximately 55 interventions, nine of them making up the majority of the actually conducted interventions. The 55 interventions were assessed on quality and effectiveness. The quality criteria required that an intervention was well-defined, replicable and transferable. Furthermore, several levels of effectiveness were specified. *Promising interventions* were defined as having a clear specification of the elements of the intervention and a sound rationale explaining why and how the intervention should lead to the intended changes in the target group. *Effective or partly effective interventions* were interventions that were systematically evaluated to determine whether or not the intended goals and outcomes were achieved, and whether or not these changes could be attributed to the intervention. Several levels of effectiveness were distinguished, depending on the scientific rigour of the applied designs. After applying the defined criteria for quality and effectiveness it was concluded that out of the 55 interventions, 18 met the required quality criteria. From these 18 interventions 3 turned out to be partly effective, 2 to be effective abroad (no research in Dutch settings), 5 showed positive but small effects and 8 were promising. It was concluded that, although the selected interventions were a start, PCH did not have an evidence-based package of parenting support interventions.

Program studies youth (2007)

To prepare a national knowledge program on policies and interventions for young people several studies have been conducted aimed to review current knowledge on interventions in the youth sector. Part 2 of this series is on prevention programmes for at risk children and adolescents [67]. The study focused on interventions aiming to improve competencies of parents in raising their children as well as interventions directly addressing the psychological and social well-being of children and youth at risk. The study built on a literature search into intervention studies in international scientific literature (meta-analysis, systematic reviews), supplemented with Dutch reviews conducted by national institutes. Intervention effects must initially be determined in controlled studies, including at least measurements taken before and after the intervention. The findings of the study showed an overview of approximately 200 interventions, itemised per problem area, age group and origin (foreign western countries or the Netherlands).

The authors noted that criteria for effectiveness were divers in the literature they found. It was concluded that some international model programmes were available, especially regarding externalising problem behaviour, however their application in the Netherlands was very limited. The authors drew attention to several gaps in the existing knowledge regarding the application of the interventions in Dutch contexts. These concern the

generalisability of empirical evidence found in foreign research and ways of transferring the interventions to the Netherlands and the Dutch care structures and health services.

1.3.4 Problem statement

From the aforementioned studies it emerged that comprehensive endeavours have been conducted to inform Dutch policy about the state of the art regarding the effectiveness of interventions for at risk children and youth. In these studies two distinct approaches have been chosen. The first and dominant one is characterised by the selection of scientific publications which meet methodological requirements for determining intervention's effectiveness, treating the randomised controlled trial as the gold standard. The second approach takes the interventions that are available and carried out in actual practice as a starting point. Investigations of these interventions have been selected and reviewed. Considering the results of the studies two critical issues arise. First, from method-driven literature limited evidence is in stock to inform Dutch policymakers. To meet the methodological requirements the interventions studied are largely conducted in specialised settings specifically created for the studies. Without addressing issues concerning external and transcontextual validity an important question remains unanswered: can the effects found in controlled studies be generalised to the complexity of daily practice? This problem is also referred to as 'social validity' of the conducted research [68]. Several studies have shown that researched interventions do not resemble daily practice of interventions for at risk youth. Empirical research to this phenomenon has been conducted for school-based intervention programs on aggressive behaviour [69], for child and adolescent psychotherapy [70, 71] and for juvenile delinquency treatment [72]. The types of interventions used in controlled experimental studies a) included youngsters that were recruited for the intervention, not actually referred; b) selected samples for homogeneity, with all participants displaying a similar, often single problem; c) had clearly stipulated intervention guidelines (structured manuals); and d) typically involved well-trained staff who were provided maximum support. This is in contrast to real-life conditions where interventions frequently involve multi-problem cases, detailed manuals are lacking and practitioners carry out various interventions with minimum support or supervision. In other words, it is unclear whether the findings of studies selected on the basis of scientific rigour can be generalised to real-life contexts. An additional barrier in this respect is that the majority of the studies have been conducted abroad raising issues concerning transcontextual validity and also demanding for supplementary transfer and dissemination research [73]. However, this kind of research is often neglected [4, 18, 52, 74].

The second notable issue emerging from the studies discussed in the previous section is that the number of different interventions employed in daily practice in the Netherlands

exceeds by far the number of interventions that have been evaluated with an (quasi-) experimental research design. In general, the application of interventions in practice has not been accompanied by effectiveness studies and as a consequence these interventions have no empirical evidence on their behalf. From the study of Verdurmen and co-workers [65] it can be concluded that only 60 of the well over 600 programmes were evaluated on effectiveness. The same trend emerged from the study of Prinsen, focusing specifically on Preventive Child Healthcare [66]. Veerman and Van Yperen concluded that the number of empirically supported interventions in the field of youth care (institutional as well as community-based) definitely encompass less than 10% of the interventions most commonly used in youth care practice and may encompass less than 5% [34]. The same picture emerges in the field of health promotion. Of the 3000 existing projects, only a small minority is sufficiently evidence-based [75]. Recently, these findings have been confirmed by the development of national databases on good quality and effective interventions in the field of health promotion and youth care [76, 77]. Again, a gap emerged between the number of interventions that possibly could be approved for admission to these databases and the huge number of interventions carried out in daily practice.
In sum, although the body of knowledge about what works for children has increased tremendously, the gap between the research base and daily practice is significant. An underpinned package of applicable interventions is yet beyond the reach of youth policy and Preventive Child Healthcare.

1.4 Objective, research questions and research design

1.4.1 Objective of the thesis

From this point, the question arises how to bring about more evidence-based practices in the field of preventive healthcare for children and youth at risk. Basically, two different pathways can be followed. The first one is implementation of interventions that have been shown to be effective in controlled research settings. Scientific literature usually assumes such a top-down approach [35, 78, 79]. It requires transfer of the interventions from the scientific frame to actual practice, and accompanying studies to see whether the interventions flourish in practice settings and in Dutch contexts. The accompanying studies build on the findings of preceding studies and would be shaped by methodological requirements to fulfil new experimental research in real-life settings [34]. This approach is attractive because of the high internal validity of the underlying studies and should therefore certainly be pursued and further developed. Along this pathway however several obstacles will be encountered that warrant attention. As discussed in the previous paragraph, it is often unknown to what extent the studied populations, interventions and

outcomes can be generalised to less homogeneous populations, real-life contexts and practice conditions. The studied interventions have to be restructured and redesigned to tailor them to contextual conditions in which they are to become implemented. Due to limitations regarding the representativeness for daily practice (social validity) the assumption that the implementation of well-studied interventions will lead to more effective care is still being debated [80, 81]. A second obstacle is that a top-down approach assumes a compulsory and structural planning system with institutionalised research-practice links [3, 82]. In the field of selective prevention for youth, such an implementation structure is lacking until now, although efforts have been made to outline such structures [52]. Finally, it is unlikely that the well-studied interventions alone can meet the needs of children and adolescents at risk because these interventions do not yet cover the broad range of problems that this target group and their families have to deal with.

The second pathway is to underpin and evaluate promising interventions already being carried out in actual practice. Starting point in this bottom-up approach is what we have 'so far'. The research addresses questions raised by the actors involved in the delivery of the intervention, aiming to build an evidence base for these interventions. This road could be referred to as practice-driven intervention research, in contrast to method-driven intervention research, which takes the methodological requirements for effectiveness studies as the first principle. It can be argued that this approach has several benefits. First of all, practice-driven intervention research offers an approach to work towards the so badly wanted collaboration between research and practice in public health. Researchers and practitioners meet in order to gather information on content and outcomes of delivered interventions. It encourages practitioners to get involved in intervention research and challenges researchers to design studies that suit the information needs of policy and practice. Secondly, practice-driven intervention research offers the possibility of generating the comprehensive evidence needed. It possibly yields not only evidence-based interventions, but also evidence-based practices. From the theoretical considerations on intervention research as discussed in § 1.2 it has emerged that research should suit the developmental stage of an intervention, ranging from theorising a first idea about a new intervention to implementation of an established intervention on a larger scale. As a result, different forms of research are needed. In daily practice, these various phases could be discerned which helps to design studies relevant to the level of knowledge on a particular intervention. This also includes factors that influence the sustainability and dissemination of the intervention. The availability of such information helps to assess the transferability of the evidence. Third, a specific benefit for the practice field is that practice-driven intervention research could contribute to a systematic and reflective approach to improving practice and performance. Practitioners and managers are directly provided with feedback on for example intervention results, which in turn

can contribute to practice improvement. Evaluation and quality improvement in this perspective are not separate endeavors, but are interwoven in the process of intervention testing and delivery [20, 83]. Fourth, a specific scientific profit can be distinguished. Practice-driven intervention research probably delivers a more complete knowledge base that can serve as a basis for subsequent high quality effectiveness studies [35, 84]. More specifically, practice-driven research can deliver evidence on the content of interventions and the conditions in which outcomes occur. Subsequently, meaningful and interpretable effectiveness studies are becoming possible. This approach can prevent that effectiveness is assessed too early in the existence of a project. Untimely effectiveness studies could be a wasted effort since outcomes are unlikely to be realised until an intervention is fully developed and operational. Likewise, the practice-driven approach can promote interpretable outcome assessment because it is illuminated what generated the observed outcomes and why they occur.

Especially when it comes to interventions as delivered by Preventive Child Healthcare for children and youth at risk, it can be assumed that the practice-driven road has good chances to generate the comprehensive evidence needed to establish evidence-based practices. The reasons for this assumption are related to the interventions themselves, the targeted populations, and the contexts in which the interventions are delivered. First, the interventions conducted by PCH for children and youth at risk are compound interventions. They address social determinants of health for which in general interagency working and intersector approaches are needed [85, 86], all the more since treatment of any kind is beyond the scope of the Dutch PCH system (in contrast to the systems found in many other countries, including the USA [63]). Hence, development of alliances with a broad range of stakeholders inherently is a part of these interventions. Practice-driven research may be able to appropriately address the factors of success and failure that are related to these collaborative processes. Second, the targeted populations in many cases have to deal with an accumulation of risk factors. Furthermore, engaging at risk families in public health interventions requires specific attention to enrolment strategies, and motivation and participation techniques [85, 87]. Parent involvement is an important component of effective early identifications and following interventions [88]. It could be argued that because of these characteristics disadvantaged groups that are hard to reach in a population, will favour from a shift towards practice-driven research. "Best" evidence (i.e. using designs that resemble the randomised controlled trial) is often gathered on simple interventions and from groups that are easy to reach in a population and less evidence of this kind exists on interventions for disadvantaged groups [13]. This suggests that considerations of equity should temper the rigid application of rules of evidence. Finally, the interventions are implemented in specific social, organisational and political contexts. It is well-known that characteristics of the context influence the interventions

content and effectiveness [12, 13]. Practice-driven intervention research could be able to include contextual variables and assess their impact on intervention outcomes.
Based on these considerations regarding the possible strengths of practice-driven intervention research the objective of this thesis is to explore the process and possibilities of this type of intervention research. Although the selection of 'promising interventions' is a challenge regarding the mass of different interventions carried out in practice, the potential of this pathway is worth it to be explored. Up until now, researchers rely heavily on one research area, namely effectiveness research in controlled conditions driven by methodological requirements that shape this research. However, this standard may be set too limited given the major lack of empirical evidence regarding the interventions as they emerge in practice settings. Practice-driven intervention research can be seen to have its own scientific value, however a systematic development of this kind of intervention research has been neglected and is therefore underestablished and less known compared to the top down approach [34, 35, 39, 81]. This thesis aims to fill this gap by providing a deeper understanding of this form of intervention research and the kind of knowledge that it can yield.

1.4.2 Research questions

The general research question of this dissertation is: How can practice-driven intervention research be developed in the field of preventive healthcare interventions for children and youth at risk and how does this research contribute to evidence that is locally relevant and transferable to other settings? This question has been subdivided into the following, more specific, research questions:

1. Which intervention stages does this research address?
2. Which stages of research and evaluation characterise this research?
3. What kind of knowledge on an intervention does this research yield that is locally relevant?
4. What kind of knowledge on an intervention does this research yield that can be generalised to other settings?

Practice-driven intervention research is specified here as research into interventions that are carried out in daily practice. In this research researchers and intervention providers closely collaborate in order to systematically gather information about an intervention. The research addresses questions raised by the actors involved in the delivery of the intervention [89] and can be directed at all relevant aspects of the intervention. Research findings are discussed between researchers and stakeholders to identify how the intervention can be improved. We derived the term 'practice-driven' from Veerman and

Van Yperen who have developed the concept of 'practice-driven effectiveness research' (also referred to as 'practice-driven evaluation') in the field of youth care [34]. We adapted the term to the field of public health by broadening it to practice-driven intervention research in order to indicate that the research can address a broad range of intervention aspects, besides the intervention's effects.

1.4.3 Research design and methods

The general research question presented above deals with the 'how' questions about a real-life phenomenon, that is practice-driven intervention research. To reveal the processes and potentials of practice-driven intervention research a case study research design was adopted. A case study is an empirical method that investigates a contemporary phenomenon in depth and within its real-life contexts [90, 91]. It is the preferred strategy when 'how' and 'why' questions are posed. Case studies are specifically applicable in those situations where the phenomenon and the contexts studied are not clearly demarcated, and the contextual circumstances are of great importance to the object of the study and cannot be controlled by the investigator [92]. At the heart of the case study design is the idea that a case is studied in its own right, from a holistic point of view, to maintain the meaningful characteristics of real-life situations.

A case study has to cope with the distinctive situation in which there are many more variables of interest than data points. As a result this approach relies on multiple sources of evidence. To provide guidance in determining what data to collect and where to look for relevant evidence constructing a preliminary theoretical framework is an essential part of a case study. Therefore we have started this introductory chapter with such a framework based on the current scientific literature on intervention research. The goal of this framework is to have a blueprint for this thesis. Based on the framework the likely topics that will be the essence of the case study were identified and translated into the specific research questions as mentioned above.

Our study consisted of an embedded two-case design. Compared to single-case designs, the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust, provided that each individual case encompasses a single study and the findings are not pooled [93]. Embedded means that each case involves more than one unit of analysis. In this study these units concern the intervention stages and the research stages within practice-driven intervention research. This operationalisation helps to examine not only the global nature of practice-driven intervention research but also specific intervention and research stages, and the specific features of these stages. Hence, within the individual cases several quantitative and qualitative methods are used. Within case study research, the mode of generalisation is 'analytic generalisation' (in contrast to 'statistical generalisation'). In analytic generalisation

the previously established theory is used as a template with which to compare the empirical results of the case study. If two or more cases are shown to support the same theory, replication may be claimed.
The cases selected for this thesis include two PCH interventions. The cases were selected because practice-driven intervention research was conducted that has accompanied the establishment of the interventions. The first case is an intervention called 'Poverty and children's health' and aims to reduce health-related deprivation in children living in low-income families. Adopting an intersector approach, the intervention builds on a close collaboration between PCH and the local Social Benefit Service (see note 1 for explanation of the Dutch system). As a result of this intervention extra finances for specific, health-promoting purposes are made available. The second case is an intervention called 'Assertive outreach care'. This intervention is directed at families who experience a chronic complex of socio-economic and psycho-social problems, and do not make use of regular healthcare facilities or other services. The intervention consists of an active approach of the target group in their own environment to get in touch with them, motivate them to accept suitable support, and liaise between them and resources in their environment (either formal care and services or social support). These interventions have been established by the Regional Public Health Service in the West-Brabant region during 1997-2009 (Poverty and children's health) and 2002-2009 (Assertive outreach care). Detailed descriptions of the interventions are provided in the several chapters of this thesis.

1.4.4 Outline of the thesis

This first chapter has presented the theoretical framework, the reasons for this study and the research questions and design. Ensuing this introduction, chapter 2 to 5 are dedicated to our first case (i.e. Poverty and children's health), and chapter 6 and 7 to our second case (i.e. Assertive outreach care). Chapter 2 presents the findings of a survey addressing the prevalence of material and social deprivation, and poverty-related health risks in schoolchildren. Chapter 3 describes the first pilot implementation of the intervention Poverty and children's health and the accompanying research. Chapter 4 presents how this intervention was redesigned and disseminated in West-Brabant, as well as preliminary experiences outside West-Brabant. In chapter 5 a formative analysis is provided regarding research questions 1 and 2, comparing the development of Poverty and children's health to the 'six-stage development model of health promotion programmes' of Nutbeam [22]. Chapter 6 deals with a study into the characteristics of the target group of Assertive outreach care. Chapter 7 continues on Assertive outreach care by examination of the content of the intervention as delivered in and outside West-Brabant, and the early outcomes achieved. The final chapter links the theoretical framework to the main findings. First an extensive summary report of each individual case is presented (§ 8.2.1 and § 8.2.2).

The intervention stages and research stages that have been passed through are described with a focus on the collaborative processes between practice and research. Across cases, the locally relevant and transferable knowledge that the practice-driven intervention research has yielded is considered. After discussing the quality of this study, the chapter reflects on the main findings by using the theoretical framework. Also, the implications per developmental stage of interventions are discussed.

note 1) In The Netherlands, Preventive Child Healthcare and Social Benefit Services (in Dutch: sociale diensten) are run under Local Authority responsibility. Through the Social Benefit Service Local Authorities are responsible for the implementation of several elements of the social security system, including income support additional to regular benefits or low incomes.

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Chapter 2

Poverty-related health risks to children: prevalence and risk groups

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Abstract

This article is a report of an investigation of (1) how often primary-school children suffer material or social deprivation due to poverty, (2) how often they are subject to poverty-related health risks, and (3) in which socio-demographic subgroups of the population health risks to children, due to poverty, are above average. For the 4274 children investigated, living in two (medium) large municipalities, 88% of the parents filled in a questionnaire on the material or social deprivation of their child due to shortage of money. Examples of such deprivation are: impossibility of joining a (sports) club (5.4%), inadequate clothing (4.9%), no swimming lessons (4.6%), unable to give or go to a birthday party (2.7%), inability to obtain the medicines or aids that the child needs (1.2%), or not receiving milk, vegetables, or fruit every day (0.9%). On the basis of the questionnaire about deprivation, and taking account of additional information, a doctor or nurse of Preventive Child Healthcare assessed the risk from the poverty situation to the health of the child. They indicated that, for 6.2% of the primary-school children, health was at risk due to poverty. The health of 28.0% of the children of families with an income below welfare level was at risk. In families that found it difficult to pay their fixed costs, this was 47.4%. The socio-demographic subgroups for which the risk to children's health due to poverty was above average were, families in which both parents were born outside the Netherlands and one-parent families. In these families, the chance of risk to children's health due to poverty is four to nine times greater than in other families. The more frequent occurrence of social and material deprivation alone, as indicated by the parents, is not sufficient to explain this. Among children of large families poverty-related health risks also occur more frequently, which is explained by the more-frequent occurrence of social and material deprivation.

2.1 Introduction

Of children up to the age of 18 living in the Netherlands, 11 % live in a household with an income at or below the social minimum [1] (note a). This amounts to 364,000 children. Since the beginning of the nineties, both the relative share and the absolute number of minors in minimum households have risen. At present, children are the age group where relatively most poverty occurs.

The relative share of poor households has remained fairly stable over the last ten years (social minimum: 10.5%, low income: 15.5%). The increase in the number of children in minimum households should be sought rather in an increase in the number of one-parent families [2]. It is known that these families have a high poverty risk: 58% of one-parent families have a low income [1]. The ethnic composition of the population is also important. Immigrant households are more than twice as likely as native households to have a low income. Of the non-western immigrants, 43% have a low income as against 20% of the western immigrants [1].

Also, when poor children are compared with children who are not poor, the risk groups stand out. Of the poor children, more than a quarter live in a one-parent family, while among children who are not poor this is less than 5%. Furthermore, 26% of the poor children are of immigrant origin, as against 11% of other children. A third difference relates to the education of the mother. Within the poor group, there are relatively many mothers with only primary or lower secondary education, while, within the not-poor category, mothers with a higher secondary or tertiary level of education are over-represented. Similar results are found when the policy norm is taken as the poverty threshold [3].

The first important question concerning the consequences of poverty for children is to what material and social deprivation are children subjected as a result of poverty? Does poverty mean that economies have to be made on expenditure that is important for the health and the development of children? Some insight into this can be gained from budget investigations by the CBS (Central Statistical Office). Poor households spend relatively less of their income on the categories 'clothing and shoes' and 'sport, games, holidays, and transport'. By contrast, poor households spend structurally relatively more of their income in two areas where it is difficult to economise, namely food and fixed costs. Accommodation costs in particular weigh relatively heavily on the budget of the social minima. When those involved are questioned, the following picture emerges. Of the households with a minimum income, 38% say that they find it difficult to manage on their income. The vast majority have insufficient money to cover such things as clothing, new furniture, and holidays. Due to shortage of money, a third are unable to buy or replace durable household goods and a quarter have debt problems [4].

The second important question is whether there are differences in health and development between children who grow up in poor families and children from more-advantaged

families, and what are possible socio-demographic explanations for this? Dutch research into this question relates specifically to differences between children in one- and two-parent families, and between children of immigrant and native origin. The findings point to small differences to the disadvantage of one-parent families and immigrants. Children from these families are more often socially isolated or feel less happy, and their school performance lags behind [5]. The explanation for the differences is often sought in the employment and educational level of the parents. The effects of the family income are insufficiently distinguished from these factors to give insight into the effects of poverty on children. In recent research, an attempt has been made to overcome this lack [2, 3, 6]. This involves new analyses of data collected earlier. Hoff et al [3] concluded that children who grow up in families with low income participate less in cultural activities, and make less use of recreational facilities. This more-limited social participation could not be ascribed to other characteristics of the parents or the families, so that this seems to be an independent effect of poverty. The participation in sporting activities also proved to be related to the level of the parental income. Dekovic et al [6] found that there is an independent relationship between poverty in the family and problem behaviour of the children. Children from poor families develop problem behaviour more frequently than children who are not poor. This applies to a limited extent to externalised problem behaviour and more strongly to internalised problem behaviour. Snel et al [2] found an independent relationship between material wellbeing in the family and the psycho-social development and experienced health of children. However all the researchers cited concluded that the effects of poverty on children must not be over-estimated. Non-financial parental and family characteristics are also relevant.

For some years now, in poverty research and policy in the Netherlands, children have been considered as a specific target group. In the present study, the following questions have been investigated.

1 How often are children materially or socially deprived through poverty?
2 How often are they subject to health risks because of poverty?
3 In which socio-demographic subgroups of the population do poverty-related health risks occur more frequently than on average?

2.2 Method

Research group

The research group consisted of 4724 children in groups 2 and 7 of the normal primary schools in the municipalities of Breda (3549 children) and Oosterhout (1175 children) who, in the school year 1998-1999, were invited for a routine health examination by a doctor or nurse of Preventive Child Healthcare (abbreviated as PCH, in Dutch:

Jeugdgezondheidszorg). This research group was effectively all the children in groups 2 and 7 of the primary schools in these municipalities, because virtually all the children in these school years were eligible for a routine health examination. The research group is representative of all primary-school children in the research municipalities in terms of the distribution of the children over the residential districts and over schools that may or may not receive extra resources for combating educational disadvantages [7, 8].

Procedure

An explanatory letter and a questionnaire were included with the invitation in the school year 1998-1999 for the routine health examination for children in groups 2 and 7 of the primary schools in the municipalities of Breda and Oosterhout. The parents / carers were asked to bring the completed questionnaire with them to the routine health examination. There, the questionnaire was handed over to the PCH doctor or nurse. At the end of the routine health examination, the PCH doctor or nurse recorded certain information on a separate form (see below: registration by the PCH doctor or nurse) that was stapled to the questionnaire completed by the parents.

Questionnaire for parents / carers

On the basis of the practical experience of PCH doctors and nurses a questionnaire was developed about poverty and children's health [9]. The questionnaire consisted largely of statements in which poverty is represented in terms of shortage of money. The statements describe the relationship between shortage of money and important determinants of the health and development of the child - 'Through shortage of money my child is unable to...', see table 2.2. Each statement refers to a particular material or social deprivation, and the parents are asked to indicate whether, in the situation of their child, the statement is 'not true', 'partly true' or 'true'.

Information was also collected to get a better picture of the financial situation of the family: in receipt of benefit for more than a year, payment arrears of the fixed costs (both parameters collected for the whole group of 4724 children), and the net family income (collected for 1175 children in the municipality of Oosterhout, see note b).

To make it possible to distinguish socio-demographic subgroups, information was collected on characteristics of the school attended by the child, of the family situation, and of the parent(s). For the whole group of 4724 children the following is known: whether attending a school that receives extra resources for combating educational disadvantages, and whether or not a one-parent family. The additional background parameters that were collected in Oosterhout (1175 children) are: the number of children in the family, the country of birth of the parents, and the highest level of education of the mother.

Registration by the PCH doctor or nurse

The PCH doctor or nurse estimated whether the health or development of the child was at risk due to shortage of money. They based this assessment on the answers to the deprivation questionnaire completed by the parents, and on additional information - in particular visual inspection of parent and child, the routine health examination, and an interview with the parent(s). Examples of health risks are motor dysfunction of the child related to non-participation in sport and games, the child being excluded from social contact, and no money for, for example, birthday parties or membership of a club, the child has sleep problems because of tension in the family due to shortage of money, the child can not develop its talent because there is insufficient money, the child is often sick because it has no winter coat or wears summer shoes in the winter. The PCH doctor and nurse base their definition of health risk on the standard of living that is seen as normal in the relevant environment of the child (family, school, neighbourhood). For this they follow the definition of poverty of Oude Engberink and Post [10]: 'a situation in which people at the level of the social minimum have insufficient cover from financial and social resources to maintain the (minimum) standard of living normal for his or her relevant environment, and in which there is a greater risk of falling into a negative financial or social spiral'.

The PCH doctor or nurse also recorded on the form the reasons why parents did not want to complete the questionnaire on deprivation.

Statistical analyses

Data from the parents' questionnaire and from the form filled in by the PCH doctor or nurse was entered and processed with SPSS for Windows, version 10.0. Differences between groups 2 and 7, and between municipalities, were studied. The (small) differences were not relevant for the research questions, so the groups and municipalities were merged.

First of all, a frequency analysis was carried out for the non-response to the questionnaire by the parents and the reasons for this. Then the frequencies of the types of social and material deprivation due to shortage of money, as indicated by the parents, were analysed. Percentages were calculated for the number of respondents for whom the answer is known. The numbers can vary per statement in the questionnaire. The tables show the total number of respondents in the research file. The types of deprivation were analysed for all the primary-school children investigated, and for the subgroups. Three subgroups were distinguished according to the financial characteristics of the family: families in receipt of benefit for more than a year, families having an income below welfare level, and families having difficulty with the payment of their fixed costs.

Five subgroups were distinguished according to socio-demographic characteristics, namely: children attending a school receiving extra resources for combating educational disadvantages, one-parent families, families with four or more children ('large families'),

families in which both parents were born outside the Netherlands, and families in which the educational level of the mother was primary school or lower secondary school.
To make it possible to reflect the statements of the deprivation questionnaire on a single scale, a scale score was calculated. It turned out that the 14 statements together formed a consistent scale (Cronbach's alpha = 0.89). The scale score is the unweighted sum of the 14 kinds of deprivation in which the answer 'not true' counts as 0, the answer 'partly true' as 1, and the answer 'true' as 2. This deprivation score was interpreted as 'no risk' for a score of 0, as 'some risk' for a score of 1 or 2, and as 'definite risk' for a score of 3 or higher. This sum score was calculated over the complete research file, and for the subgroups distinguished.
The prevalence of health risk related to poverty as estimated by the PCH doctor or nurse was subjected to a frequency analysis for all the primary-school children investigated, and for the subgroups described earlier. Then the relationship between the health risk as estimated by the PCH doctor or nurse and the socio-demographic characteristics were subjected first to a univariate analysis, and then to a multivariate analysis with a forward stepwise logistic regression.
The relationship between the health risk related to poverty as estimated by the PCH doctor or nurse and the types of social and material deprivation investigated was also analysed, first univariate and then multivariate with a forward stepwise logistic regression, with the socio-demographic characteristics also included. This was done to check whether the links discovered between the health risk as assessed by the PCH doctor or nurse and the socio-demographic characteristics can be explained through the increased occurrence of social and material deprivation in the socio-demographic subgroups.
For all these analyses, a result with a p-value less than 0.05 is regarded as a statistically significant relationship.

2.3 Results

Non-response
Of the parents who were invited to bring their child for a routine health examination, 12% did not fill in the questionnaire (table 2.1). In 1% of the cases, the reason is that they did not respond to the invitation for the routine health examination. Only a few parents (1%) did not cooperate with the investigation because they were not prepared to fill in a questionnaire on the theme of 'poverty'. For 1%, language problems were a factor. The most common reason (4%) was that the parents had lost or forgotten the questionnaire.

Material and social deprivation as indicated by parents
The deprivation questionnaire indicates that for 4.9% of the primary-school children

Table 2.1 Non-response of parents, and reasons for this (N=4724).

Reason	Percentage
Did not accept the invitation for the routine health examination	1
Questionnaire lost or forgotten	4
Didn't feel like it / no interest	2
Language problem	1
Not willing to fill in a questionnaire about poverty	1
Other reasons	2
Not known	1
Total non-response	**12**

investigated the deprivation score is 'definite risk' and for 4.2% 'some risk' (table 2.2). The five kinds of deprivation that occur most frequently are: unable to take holidays or days out (6.8%), unable to join a (sports) club (5.4%), inadequate clothing (4.9%), no swimming lessons (4.6%), and tension in the family causing problems for the child (3.6%). Even very basic conditions for health such as proper diet (0.9%) or medicines and aids (1.2%) are sometimes problematic.
In subgroups with financial problems, a 'definite risk' deprivation sum score (sum score 3 or higher) occurs for more than a quarter of the families with an income below welfare level and for half of the families that have difficulty with paying their fixed costs. Holidays and days out, membership of clubs, and clothing come most under pressure.

Health risk as assessed by the professionals
The PCH doctor or nurse estimated that the health of 6.2% of the primary-school children is at risk through poverty (table 2.2). As expected, considerably more social and material deprivation occurs among the children whose health is at risk due to poverty (table 2.3). From a cross-reference table (not shown) it is clear that for 85% of the children where the PCH doctor or nurse assessed the health as at risk through poverty, the questionnaire filled in by the parents also indicated this. For the other 15%, the questionnaire filled in by the parents indicates 'no risk'.
In families with financial problems, the percentage of children for whom the PCH doctor or nurse assessed that the health of the child was at risk is 28.0% when the family income is below welfare level, and 47.4% in families that have difficulty paying their fixed costs.

Health risk in socio-demographic subgroups
With respect to the background parameters, the children's health is at risk in 20.9% of the one-parent families, in 20.0% of the families where both parents were born outside the Netherlands, in 11.6% of the families with four or more children, in 7.9% of the

Table 2.2 Percentage of children in the various socio-demographic subgroups for whom types of deprivation through shortage of money have been indicated by the parents or for whom a health risk has been assessed by professionals; and totals for all children investigated.

	Child attends OAB school#	Benefit > 1 year	Income < welfare	Difficulty paying fixed costs	One-parent family	≥ 4 children	Both parents born outside NL	Mother's education ≤ lower sec	All children
Number	814	261	101*	132	466	72*	94*	250*	4274
Types of deprivation filled in by the parents									
(% (partly) true). Through shortage of money …									
….we have no telephone, and this is a problem for my child	2.1	5.7	3.0	6.1	4.1	1.4	2.1	0.4	1.0
….my child is not a member of a (sports) club	11.2	30.9	28.4	41.7	20.9	12.3	23.2	8.1	5.4
….my child cannot give or attend a birthday party	5.3	19.4	19.2	28.1	12.6	6.8	14.7	6.5	2.7
….my child does not go on school trips	4.0	11.1	11.8	19.1	7.1	4.1	10.8	4.1	1.5
….there is no after-school care for my child	5.6	14.2	17.2	21.4	11.1	4.2	9.8	4.8	2.6
….my child does not get milk, vegetables, or fruit every day	2.4	6.1	4.8	10.5	4.1	0	3.2	1.6	0.9
….my child wears second-hand shoes	2.7	8.3	9.5	16.3	6.2	2.7	6.4	2.8	1.6
….I cannot buy adequate clothing for my child	8.3	30.9	25.5	43.7	21.2	8.1	15.6	8.9	4.9
….there are tensions in the family that trouble my child	5.7	19.7	20.4	38.2	11.4	8.2	11.8	7.3	3.6
….my child cannot go on holiday or on day trips	14.0	40.0	34.0	56.4	27.3	13.7	17.7	10.9	6.8
….my child cannot have swimming lessons	10.2	29.1	20.8	40.0	17.0	8.1	15.6	4.4	4.6
….my child cannot always go to the doctor when necessary	0.6	2.7	2.9	6.0	1.7	1.4	2.1	1.2	0.3
….my child does not receive the medicines / aids that it needs	2.6	8.0	8.9	12.7	5.2	1.4	5.4	2.8	1.2
….my child cannot shower or bath as often as I would like	1.3	5.0	1.0	8.9	1.9	0	1.1	0.4	0.6
Deprivation sum score									
Some risk	6.8	15.4	13.8	17.4	11.9	9.1	12.8	5.8	4.2
Definite risk	10.1	30.8	26.4	50.4	20.2	9.1	17.4	8.6	4.9
Assessment by the PCH doctor or nurse that the health of the child is at risk	14.7	34.2	28.0	47.4	20.9	11.6	20.0	7.9	6.2

All background parameters have a significant relationship with the deprivation sum score and with the assessment by the PCH doctor or nurse (p<0,001).
OAB school = a school that receives extra resources under the policy on educational disadvantage * measured only in Oosterhout

families where the educational level of the mother is lower secondary school or lower, and for 14.7% of the children who attend a school that receives extra resources for the improvement of educational opportunities.

Table 2.3 Relationship between the risk to child's health as assessed by professionals and socio-demographic characteristics or types of social and material deprivation as indicated by the parents.

		Univa-riate OR	95%-CI	Model I OR	95%-CI	Model II OR	95%-CI
One-parent family		8.3	6.2-11.1	7.4	3.3-16.3	8.7	2.9-25.9
≥ 4 children		4.2	2.2-8.2	3.2	1.2-8.2	n.s.	
Country of birth of parents							
-	Both in NL	Ref.		Ref.		Ref.	
-	1 outside NL	2.3	0.7-8.0	1.5	0.3-7.2	0.5	0.1-3.4
-	both outside NL	12.3	6.1-24.7	8.5	3.8-18.9	4.2	1.4-12.7
Educational level of mother							
-	primary school	23.4	5.1-107.1	n.s.		n.s.	
-	lower technical secondary school (LBO)	3.1	0.6-15.7				
-	lower secondary school (MULO/MAVO)	1.7	0.3-9.4				
-	normal secondary school (HAVO)	4.0	0.8-21.1				
-	higher secondary school (VWO)	7.2	1.0-53.4				
-	technical secondary school (MMS/MBO)	1.5	0.2-9.0				
-	tertiary education (HBO/universiteit)	Ref.					
Deprivation sum score							
-	0 (no risk)	Ref		n/a	n/a	Ref.	
-	1,2 (some risk)	23.2	(12.9-42.1)			14.6	(3.6-59.9)
-	>= 3 (definite risk)	226.1	(138.2-369.8)			115.6	(34.4-388.1)

Odds ratios corrected for the other determinants in the model and 95% confidence intervals (CI), first univariate, then in a model with only socio-demographic characteristics as independent variables (model I; model Chi^2 = 69.9 p<0,001) and then in a model with socio-demographic characteristics and types of deprivation (model II; model Chi^2 = 139.3 p<0,001). n.s. = not statistically significant

It is reasonable to assume that the background parameters are interrelated. This relationship is strongest between the country of birth of the parents and the educational level of the mother (results not shown). A multivariate analysis, in which corrections are made for the interrelationship between the background parameters, shows that in families

where the parents were both born outside the Netherlands, in one-parent families, and in large families, the danger of poverty-related health risks is greater than in the other families by a factor of three to eight (table 2.3).
If the deprivation sum score for the children as indicated by the parents is also taken into account in the model as independent variable, the danger of a risk to the health of the children in one-parent families and in immigrant families is still a factor four to nine times greater than in other families. However, the effect of the variable 'large families' is no longer significant. The more frequent occurrence of material and social deprivation as indicated by the parents of children in large families explains the higher health risk as assessed by the PCH doctor or nurse.

2.4 Discussion

In this study, two sources of information were used to investigate the consequences of poverty for children's health:

- a questionnaire filled in by the parents / carers, in which they indicated whether certain expenditure of importance for the health and development of children was not possible because of shortage of money.
- an assessment by professionals of whether there exists a risk to the health of the child due to poverty.

The questionnaire for parents included potential forms of deprivation that are assumed to be important for the health and development of children. For most types of deprivation, it is fairly reasonable to assume a direct link with the physical or psycho-social health and development of children. A statement in the questionnaire where this is less obvious is: 'my child can not go on holiday or days out because of shortage of money', although even here a child may be socially excluded if it cannot join in conversations about days out. In all the statements in the parents' questionnaire, a link was made with shortage of money, so that other reasons were excluded as far as possible. In agreement with the findings of other research (see Introduction), poverty puts most pressure on recreation, clothing, and participation in social activities. These forms of deprivation occur with approximately 5% of the primary-school children. However, sometimes there is pressure on very basic prerequisites for children's health, such as proper diet and medical care (affecting approximately 1% of the primary-school children).
According to the professionals, the health of 6.2% of primary-school children in the two (medium) large municipalities is at risk due to poverty. In their risk assessment, the PCH doctors and nurses also used the health check of the child and additional information. Then it appears that for 15% of the children whose health they assessed as at risk due

to poverty, the questionnaire as filled in by the parents indicated little or no risk. This was possibly due to embarrassment and/or language problems among the parents. The experience of the PCH doctors and nurses is that the questionnaire as filled in by the parents is more likely to underestimate than overestimate the deprivation. The poverty monitor [1] shows that the risk of poverty in the Netherlands is higher in the large cities than elsewhere. The prevalence of health risk among children due to poverty is likely to be higher in these cities than the figures from the present study indicate.

The findings confirm that children in one-parent families and of immigrant origin are groups with significant poverty-related health risks. This study also found an independent effect in relation to large families. This effect is explained by the fact that parents of large families more often indicated social and material deprivation. In families where both parents were born outside the Netherlands, and in one-parent families, the chance of risk to children's health due to poverty is four to nine times as great as in other families, independent of the effect of the more frequent occurrence of deprivation as indicated by the parents. Engbersen, Vrooman, and Snel [11] point out that such classifications into broadly compiled risk groups have their limitations. In the every-day practice of policy and intervention programmes, it is important to reach beyond these broad classifications and to specify the risk groups in greater detail. Hooghiemmstra and Knijn [12], and Veenman [13] give examples of more detailed specifications. Within the group of one-parent families, there is a variety of income levels. The most important factors that determine the income level are the educational level of the parent and why it is a one-parent family. Those who have a low educational level, are separated, or are unmarried have a much greater chance of poverty than those who have a higher educational level or are widowed [12]. Poverty among ethnic minorities has to do with economic inactivity as well as with the household structure. Among Antilleans and Surinamese, welfare-level households are mainly one-parent families, while among Moroccans they are mainly complete families with a large number of children [13].

The present study shows the importance of devoting attention to the target group 'children' in poverty research and policy. More research into prevalence is needed at a national level, and the big cities must be involved. It is not possible to conclude from our study whether there are actual long-term detrimental effects on the health of children, such as under-nourishment, infectious disease, reduced growth, or limited social development. However, as summarised in the Introduction, there are some indications for this. Further studies in this field, particularly longitudinal, are desirable.

Notes

a In the literature, two income levels are used to define the category of 'poor households', namely, the social minimum and the low-income level. The social minimum is the

minimum income defined in social legislation. The low-income level is higher, and is adjusted annually in line with price movements. The total low-income group is approximately equal to the sum of the group with a minimum income and a group with a somewhat higher income. Depending on the availability of information, both levels are used in this section.

b It was possible to investigate more background parameters in Oosterhout than in Breda. This was associated with a difference in the nature of the research. In Oosterhout the study was focused on problem definition, whereas in Breda the evaluation of an intervention programme was central. The findings of this evaluation will be described in a later article.

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Chapter 3

Poverty-related health risks to children: policy and intervention programme

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Abstract

The Public Health Service in the Netherlands West-Brabant region (in Dutch: GGD West-Brabant) has developed an intervention programme with the aim of reducing socio-economic health inequalities among children by addressing the 'poverty' factor. Through a process of identification, referral, and checking, extra financial resources are made available for specific health-promoting purposes. The evaluation of this intervention programme is the central theme of this article. The intervention programme proves to have a number of strong points. These are the method of identification, the acceptance by the parents, the targeted application of extra resources, and the support experienced by the parents. Weaker points are its limited reach, and its incidental and labour intensive nature. These points are partly the result of the experimental nature of the intervention programme, and are still subject to improvement. The transferability to other settings has not been studied in detail. The experiences in Breda demonstrate how such an initiative can be set up, and the factors that are conducive to its success. An important factor is recognition by both the Regional Public Health Service and the Local Authority of the negative influence of poverty on the healthy development of children. Furthermore, both partners must be prepared to collaborate closely in finding concrete and flexible solutions.

3.1 Introduction

The first article in this series has been a report of research into the relationship between poverty and children's health [1]. It was concluded that 6.2% of the primary school children in medium (large) municipalities are subject to health risks related to shortage of money. It also became apparent that the effect of poverty on children must not be over-estimated. Non-financial parental and family characteristics are also relevant.

Research into the relationship between poverty and health gives an understanding of the mechanisms by which health is affected by poverty. This understanding is important for the development of policy and intervention programmes for the prevention of poverty-related health problems. The most fundamental strategy is that of combating the poverty itself.

For some years, combating poverty has been a theme of Government policy, particularly at Local Authority level. Although this is not the primary objective of this policy, it can potentially improve the health of the lowest income groups. However, at present, this poverty policy seems to be too limited to lead to a substantial reduction in health problems [2]. The Programme Committee Socio-economic Health Inequalities has recommended that policy aimed at the prevention of (long-term) poverty should continue to be a primary consideration so as to contribute to the reduction of socio-economic health inequalities [3]. The Committee also pointed out that a contribution to the reduction of the negative health effects of poverty can be made, not only by strengthening the poverty policy, but also through health policy [3]. Several initiatives are now known in which a link is made between health promotion and income [4-6].

The increase in the number of poor children [7,8] and the effects of poverty on children [1,9] justify specific consideration for the position of children. Although various researchers have argued for this [10-12], until now, children have been neglected in the policy to reduce socio-economic health inequalities.

In the Breda municipality, an intervention programme has been developed with the aim of reducing health risks among children related to shortage of money. In close collaboration between the Regional Public Health Service (RPHS, in Dutch: GGD) in the West-Brabant region and the Social Benefit Service department (SBS, in Dutch: sociale dienst) of the Local Authority Breda, extra resources are being made available for specific purposes. The evaluation of this intervention programme is the central theme of this article. The evaluation relates to the school year 1998-1999, when the intervention programme was carried out for the first time. In view of its experimental nature, the emphasis is on factors related to the process. The following questions are considered.

1 How did the implementation of the intervention programme work out in the Preventive Child Healthcare department of the RPHS West-Brabant?

2 How many children does this intervention programme reach, and what are the characteristics of these children?
3 Can criteria be developed that indicate who should be considered for the intervention programme?
4 For what purposes are extra resources made available, and what sums are involved?
5 Have other guidance activities been initiated as a result of the intervention programme?
6 How have the parents experienced this intervention programme?
7 Does the intervention programme have side effects, and what value is to be attached to them?

3.2 Intervention programme

Every child in group 2 and group 7 in the primary schools in the Breda municipality is given a routine health examination by the doctor (group 2) or nurse (group 7) of Preventive Child Healthcare (PCH, in Dutch: Jeugdgezondheidszorg). The intervention programme was aimed at these children, and consisted of the following steps:

step 1: identification
A questionnaire on the relationship between shortage of money in the family and the health of the child was included with the invitation for the routine health examination [1]. In an accompanying letter, the parents were asked to fill in the questionnaire and to bring it with them. During the routine health examination, the questionnaire was reviewed with the parent(s). On the basis of the questionnaire, the review discussion, and additional information from the routine health examination, the doctor or nurse considered whether there was a risk to the health of the child related to shortage of money [1]. The guideline for this assessment was based on the definition of poverty by Oude Engberink and Post: a situation in which people at the level of the social minimum have insufficient financial and social resources to maintain the (minimum) standard of living normal for their environment, and in which the risk of falling into a negative financial and social spiral becomes greater [11].

step 2: referral
If, because of poverty, the health of the child is at risk, he/she is referred to the doctor or nurse of the PCH-Poverty and Health team (A-team). The task of this team, in a second interview with the parent(s), is to again assess the relationship between poverty and the threat to health. The family finances are discussed and consideration is given to whether and how the health of the child is at risk. On the basis of this interview, the decision is taken on whether the child is eligible for an allowance.

step 3: allowance
Allowances are specific items that are made available either directly ('direct allowance') or via an indication for Special Needs benefit ('indirect allowance'). Direct allowances relate to smaller items. The Breda Local Authority makes a budget (note a) available for this purpose that is used directly by the A-team, without further checks by the Social Benefit Service. This speeds up the procedure. A Special Needs (in Dutch: Bijzondere Bijstand) indication counts as socio-medical advice to the SBS. This gives the Local Authority a clear basis on which it can allocate a Special Needs benefit, and counteracts the under-use of Special Needs benefits.

The first experiences with this method of working were obtained in the 1998-1999 school year. The PCH department in Breda already had some experience with the assessment of health risks related to poverty [10]. The translation of health risk signals into concrete allowances and indications for Special Needs benefits was a new step. An important starting point for the collaborating partners was the health of the child. The agreement was that the intervention programme should be carried out only if the measures would directly benefit the child. Any further criteria for considering the intervention programme would be developed in the working process.

3.3 Method

A consequence of the preceding is that during the first year of implementation the intervention programme was in development. This was a determining factor for the design and content of the evaluation research. Various evaluation tools were used. These complement each other, and together give a picture of the development process and the reach of the intervention programme [14].
Table 3.1 gives an overview of the research groups, the method of data collection, and the data collected. The A-team maintained a logbook for each child referred. The questionnaire filled in by the parents gave information on the background of the children reached. By means of case discussions, research was undertaken into common characteristics of the children in the intervention programme group with the purpose of developing criteria for indicating who should be eligible for the intervention programme.
By means of interviews, information was collected on the experiences of the RPHS and the Local Authority with the intervention programme, both at implementation and policy level. The expectations in relation to the intervention programme were also investigated in the process. By finding out the degree to which these were satisfied, a picture of the implementation was obtained, and of the local and contextual factors that played a part in this.

Table 3.1 Overview of the evaluation research

Research group	Method of data collection	Data collected
intervention group (36 children)	logbook, filled in by A-team	• size of intervention group • problem (e.g. income) • reasons for child to be considered for an allowance • nature and cost of allowance • determinants of health to be promoted • guidance activities
intervention group	case discussions with A-team and researcher	• practical procedure • reasons for choosing a particular approach
parents of children in intervention group (27 parents)	interview by researcher	• experience/s of parents about the whole procedure from identification to allowance • importance for health of child
healthcare professionals (4 doctors and 3 nurses of Preventive Child Healthcare, and Social Benefit Service contact person)	interview by researcher	• expectations • experiences during implementation • opinion of structural inclusion under Preventive Child Healthcare
policy makers (head of Preventive Child Healthcare, Social Benefit Service policy maker)	interview by researcher	• prior history • expectations • cost / benefit • future perspective
progress discussion (of Preventive Child Healthcare team, and between RPHS and Social Benefit Service)	observational	• progress of the project • development of the intervention programme

An important evaluation aspect was how parents experienced the intervention programme. To gain an understanding of this, the parents of the children involved were interviewed after completion of the intervention programme. To separate research and

intervention programme as far as possible, these interviews were carried out by the researcher and not by the doctors or nurses of the PCH department. Possible effects on the health and well-being of the child were also discussed in these interviews. These interviews and the information from the child healthcare professionals also gave some insight into the reasons for the parents not to participate in this intervention programme.

3.4 Results

Experiences of Preventive Child Healthcare with identification

At the start of the pilot year, within the PCH department the intervention programme was viewed with some scepticism. Because of the sensitive nature of the subject of poverty, it was expected that it would be difficult to discuss it with parents. There was also resistance to the expansion of the routine health examination and there were doubts concerning the boundaries of the area of PCH responsibility. This expressed itself, for example, in the question of whether combating poverty is one of the tasks of PCH.

The reactions of the parents to the questionnaire were generally positive. The following quotes illustrate this.

'I was pleasantly surprised that the RPHS looked at this.'

'As a rule, I never talk about money problems. This gave me the opportunity to do so this time.'

'That's the way it is. I have got used to talking about it with other people.'

The predominantly positive reactions of the parents contributed to the fact that, as time went on, the initial diffidence when talking about 'finance and health' retreated into the background. A PCH doctor expressed this as follows.

'Now I bring up the subject as if it were the most natural thing in the world'.

The time needed for introducing it into the routine health examination varied greatly. After a while it became routine, so that, in general, the expansion of the examination presented no insuperable problems. However, this applied to a lesser extent for schools in deprived areas.

Reach of the intervention programme

The expected size of the intervention programme group was calculated on the basis of research in the municipality of Breda into health risks related to poverty [10]. It was estimated that it would be possible to reach at least a quarter, and at most a half, of the children with health risks related to shortage of money. This meant a minimum of 40 and a maximum of 80 children.

Practice confirmed that only a proportion of the children among whom health risks

related to poverty had been identified, were referred to the A-team. The main reasons for this were that, in the specific situation, the intervention programme did not provide a solution, or that the parents declined referral. Parents said, for example: *'I'll manage alright by myself', 'grandma and grandpa help us out'* or *'it isn't worth the effort'*.

Weighing up referrals to the A-team proved to be difficult, so there were regularly doubtful cases. The decision on whether or not to refer depended on the specific situation and the overall picture of the child. The interview with the parents following the questionnaire was essential in this. Priorities were also set according to the type of deprivation reported. Initially there was more restraint in the referrals to the A-team because of unfamiliarity with the intervention programme and the wish to avoid disappointment if a child should possibly not be eligible for an allowance.

Of the 186 children whose situation was assessed as 'at risk', 46 (25%) were referred to the A-team. A quarter of the 46 parents did not respond to the invitation for the interview with the A-team. The following quotes (from the parents who did come) illustrate the barrier that can be experienced.

'Eventually I took the plunge, and decided to go and talk to the RPHS.'

'First I thought: "I'll deal with it myself". But each time, the sport for the children had to go by the board.'

'I have had bad experiences with admitting to financial problems. People often say, "It's your own fault"".'

'I was taken aback that the interview was about money. That's why I clammed up a bit.'

'I didn't expect much from the RPHS because of negative experiences with the Dutch authorities.'

Children also came to the A-team by routes other than referral from the routine health examination. This was the case for a total of 13 children.

Almost all the children proved to be eligible for an allowance. In addition to the identified children, in many cases brothers and sisters were also given an allowance, 43 brothers and sisters in total. Table 3.2 summarises the reach of the intervention programme. In all, 79 children were given an allowance.

Development of criteria

Table 3.3 gives an overview of several background parameters of the children in the intervention programme group. In many of the families the income was a benefit payment. Other cases included "Melkert banen" (subsidised jobs), income just above the poverty line, or average income. Temporary high fixed outgoings, debt problems, extra costs of study, or the setting up of a company also played a role.

In the case discussions, it became apparent that there was a variety of reasons for giving a child an allowance. Five of the identified children had specific physical health problems

or were behind in their development. Some of the identified children were in danger of becoming very isolated related to the shortage of money. Some children proved to be very good at a particular activity, but were unable to develop this talent further due to the shortage of money. In a third of the cases there was an unstable family situation (in some cases with very severe problems).

Table 3.2 Reach of the intervention programme

reach	**n**
via routine health examination	23*
via other route, i.e. at the request of:	
parents	7
Social Benefit Service	3
teacher	1
RPHS	2
other children in the family	43
total	**79**

* This number is lower than the number of children that were offered an allowance because some of the parents did not make use of the sports opportunity for their child.

Nature of the allowances and practical implementation

Of the 36 families (79 children) reached by the intervention programme, 29 received a direct allowance for a variety of purposes. Seven indications for Special Needs benefit were issued (table 3. 4). Because of its lack of familiarity with SBS, the PCH workers were initially inclined to take the direct route with allowances. In the course of the school year, this led to the signal from the Local Authority that there was little activity in the project. SBS staff expressed their disappointment, because they had expected that the project would facilitate the granting of Special Needs allowances. There was little to be seen of this so far. The Local Authority encouraged the granting of more indirect allowances.

When, after this, more children were given an indication for Special Needs allowances, the procedure sometimes stagnated. This was related to an adjustment process among the Social Services staff. Once the purpose of the project had been clearly explained again, these problems disappeared.

In practice, procedures were developed concerning the practical implementation of the allowances. The starting point for this was proper control of the use of the resources and the prevention of problems with payment in advance. For example, in the case of a sports club or swimming lessons, the parents were given a letter that they could hand over to

the club which stated that the bill could be sent to the RPHS. For the purchase of clothing and suchlike, an appointment in the shop was arranged for a particular time, where a member of the A-team made the payment. In other cases it was decided to reimburse against receipts.

Table 3.3 Background parameters of the intervention group

background parameters of the intervention programme group	n*	%
type of school:		
- OAB school**	17	47%
- non OAB school	19	53%
group:		
- group 2	11	31%
- group 7	17	47%
- other	8	22%
family composition:		
- one-parent family	23	64%
- two-parent family	13	36%
- average number of children	3.4	-
financial situation:		
- benefit	32	89%
- average number of benefit years	5.5	-
- ≥ 3 years of benefit	19	54%
- difficulty meeting fixed costs	22	60%
*immigrant origin****	18	50%

* : only the identified children; the other children of the families reached were left out of consideration
** : OAB school = a school that receives extra resources under the policy on educational disadvantage (in Dutch: Onderwijs Achterstanden Beleid)
*** : approximation; the A-team has estimated this

Guidance activities

Because it was recognised that money problems do not normally exist on their own, it was decided, if necessary, to plan guidance activities. With some of the families there were indeed complex problems in which money worries formed only a part. There were also families where the financial straits stood more-or-less on their own. The A-team spoke to several parents about possible guidance activities. Two families had follow-up contact with SBS.

Table 3.4 Nature and costs of the direct allowances and the indications for Special Needs benefits

Nature of the allowances and indications	number of times	Costs (€)
direct allowances:		
- sports clubs	30	1595
- swimming lessons	9	353
- clothing / shoes	5	720
- school activities	4	132
- aids /medicine / therapy	3	206
total direct allowances	51*	3004
indications for Special Needs benefit:		
- clothing / shoes	4	3876
- provisions at home (e.g. repairs, toys)	3	1097
total indications for Special Needs benefit	7*	4973

* The total number of allowances (58) does not match the 79 children reached for the following reasons: some families received several allowances, clothing for the whole family counted as one allowance, five children each received two allowances (for example, the subsequent quarter at the sports club).

Experiences of parents

It appeared from the interviews with parents that they were (very) positive about the course of the interview with the A-team. The parents indicated that they felt at ease, and that the anxiety and tension that they sometimes felt at the start, was quickly over. In general, the parents thought that the doctor/nurse knew enough about the problems to be able to help. They also indicated that they felt that they had gained support from the interview:

'The interview was very pleasant because I was not pushed into a dependent position.'

'She was a really nice, kind woman, I really felt I was being taken seriously, It was quite a relief.'

'I was amazed that it went so easily. I had not expected that'.

'I was especially happy and relieved that the allowance was granted.'

'It was a lucky day for me and my family.'

'It was great that my other children were not forgotten in this project.'

In the interviews with parents there was also discussion of the importance of the intervention programme for the health of the child. Many parents pointed out both the socio-emotional development and the physical health. Keywords relating to the first were: more contact with friends, the breaking through of (threatened) isolation, greater self-confidence, the prevention of boredom. As far as physical health was concerned, the

parents pointed out the importance of winter coats, of exercise, and of learning to swim. This latter was particularly important for a number of children behind, for example, in motoric development.

'The warm winter coats especially were great because one of the children kept getting colds.'

'My son is now much more one of the group because he sees his friends at judo too.'

'One of the children was completely unable to concentrate at school because she was so excited at getting new clothes.'

'I very much wanted to get help to pay for swimming lessons. I don't have the money myself, and in the holidays the children often go fishing in the nearby pond.'

'My husband went to watch the street dance. He said that my daughter really enjoys it; she chats with everyone. She has also become more cheerful at home.'

Finally, several parents mentioned its importance for the family situation. The intervention programme gave the family some breathing space, and at last something positive happened. This meant that the tensions could be pushed into to the background for a time, and the children were happier. The intervention programme sometimes meant a great deal to the parents as well, because they wanted to protect their children from the consequences of poverty.

3.5 Discussion

The intervention programme described in this article was aimed at making a contribution to a reduction in the negative health effects of poverty via targeted allowances. The first year of implementation was evaluated. In view of the experimental phase of the intervention programme, process factors were central in the study. Through interviews with the parents some insight was gained into the effects on the health of the children who were reached with the intervention programme. These seemed to be positive, both in physical and psycho-social aspects.

It was very important to hear from the parents how they experienced the intervention programme. It should be noted that only the parents who actually made use of the intervention programme were interviewed. This is a limitation since they can be expected to be positive about the project. At the start of the evaluation study, however, the most important question was whether the parents would accept the intervention programme, and how they would react to the approach. Therefore it was decided to limit the evaluation to this group of parents.

It became clear from the interviews that the parents were positive to very positive about the intervention programme. They felt themselves supported in the care for their children.

The concrete help had a positive effect on the often tense family situation. These findings were supported by the positive reactions of parents in the questionnaire. They evidently did not find it odd that PCH also looked at the financial situation as a factor of importance for the healthy development of their child. The literature shows that poverty is often 'silent poverty' [9,12]. With the questionnaire there is recognition that poverty exists, and barriers to talking about shortage of money are removed.

The weaker points of the intervention programme relate particularly to its reach and incidental nature. The number of children reached via the routine health examination was lower than expected. This can partly be explained by the experimental nature of the intervention programme resulting in a degree of caution in referral to the A-team. A second explanation lies in the drop out that occurred between the routine health examination and the interview with the A-team. It is expected that the reach of the intervention programme will increase as PCH becomes more accustomed to the way of working and the parents can be better informed on what they can expect (note b). It has also been shown that only some of those children whose health is at risk due to shortage of money can be reached by the intervention programme. Further research into the causes of this is desirable.

The incidental nature of the intervention programme threatens the long term effectiveness of the approach. For some of the families reached, the receipt of financial resources one or more times is not sufficient to prevent health risks related to poverty. They will repeatedly call upon the A-team. In the future it will be necessary to develop a picture of the extent of this effect. Methods will also have to be developed that will make a more structural approach possible, for example, through collaboration with Social Welfare institutions (note c).

An attempt has been made to develop general criteria that indicate who is eligible for the intervention programme. In view of the wide range of reasons for granting allowances, a translation to general criteria is not really possible. To avoid subjective influences, the intervention programme must provide a structural place for the review and discussion of cases among colleagues.

The question has been asked of whether this intervention programme falls under the responsibilities of PCH. PCH is responsible for protecting, promoting, and safeguarding the healthy physical, mental, and social development of the young, taking account of parents' own responsibilities. PCH does this by influencing health determinants, including relevant environmental factors [15]. One of these environmental factors is poverty. Without detracting from the complexity of the problem, it can be stated that poverty has a negative effect on children's health [1,9]. It is also the perception of parents that money and health are linked. Consequently, PCH will have to keep a lookout for this determinant. This is a learning process, as has become apparent in this article.

The intervention programme goes beyond identification and incorporates a concrete provision by PCH. This method of working suits PCH in the sense that the health of the deprived child is central and the parents are closely involved. This involves labour-intensive and tailor-made care that goes further than collective prevention. A less labour-intensive form could be simply identification with the aid of the deprivation questionnaire, and then referral to SBS. However, experience in the municipality of Oss has taught that this method of working is not very fruitful if additional provisions are not made [5].

Extensive research into the transferability of this intervention programme to other municipalities would have been going too far for this evaluation. The Breda experiences illustrate how an initiative such as this takes form. Research into the nature and extent of the problem formed an important starting point [10]. This research was carried out at the request of the doctors and nurses of PCH who observed in their work that shortage of money can affect the healthy development of children. The research findings attracted a great deal of attention from various segments of Breda society. The Alderman for Public Health was a driving force in promoting political interest in the problem. A plan of action was then developed in collaboration between the RPHS, the Local Authority, and other organisations involved in the problem. The PCH intervention programme was part of this. A research year has also been the starting point in the neighbouring municipality of Oosterhout, where the intervention programme is now also being carried out. In the municipality of Oss, the initiative came from politicians.

In conclusion, it is clear that the initiative for such a project can come from either the RPHS or from the Local Authority. For the project to be successful, the problems relating to poverty and children's health must be recognised by both organisations. Underpinning figures support this recognition. There must also be willingness, both political and official, to handle procedures and resources flexibly. Close collaboration between GGD and Social Services is essential for this.

Notes

a In the first year this budget was € 2270. This amount was based on a rough estimate, and could be increased if necessary.

b In the school year 2000-2001, 132 children (69 families) were reached by the intervention programme. An amount of € 9530 was devoted to direct allowances, and € 14070 to indirect allowances.

c It is currently being investigated whether it is possible to develop a follow-up for families that call on the A-team repeatedly. This project, entitled 'Poverty and children's health: is still more possible?', is financed by the Public health fund (in Dutch: Fonds Openbare Gezondheidszorg).

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Chapter 4

Intervention programme 'Poverty and children's health': from experiment to implementation

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Abstract

Over a period of more than six years, a number of municipalities in the West-Brabant region have had experience with an intervention programme intended to reduce the negative effects of poverty on children's health. Through a process of identification, referral, and checking, extra financial resources are made available for specific purposes. The evaluation of the pilot year was positive. This article concerns the findings of new evaluations, some follow-up activities, and their implementation. Over time, the reach of the intervention programme has increased considerably. This is explained by, among other things, the repeated return of the same families, and by the "bandwagon effect" of the intervention programme after a number of years. On the basis of these findings, follow-up activities were carried out in the areas of collaboration with institutions, creation of protocols, and training of staff. In addition, a change of direction is proposed towards identification, advising parents, and referral to Social Services.

The introduction of the intervention programme into other municipalities within West-Brabant occurred both at the initiative of the Regional Public Health Service in the West-Brabant region (in Dutch: GGD West-Brabant) and at the request of the other municipalities. In every municipality, an infrastructure has to be developed for the implementation of the intervention programme. For implementation elsewhere in the country, the distribution of requested and unrequested information is insufficient. There is definite need for an appropriate support structure.

4.1 Introduction

Since 1998, an intervention programme has been in use in the West-Brabant region, with the aim of reducing health risks to children related to shortage of money in the family. Of the children in the Netherlands (0-15 year olds), 12.5% (one in eight) live in a household with a low income [1]. Of all the inhabitants of the Netherlands, 8.4% live in a household with a low income. Therefore, children form a group where poverty occurs proportionately more frequently. Moreover, since 1990 the number of minors in minimum households has risen [2]. However there is scant attention for this group in terms of policy.
There are differences in (determinants of) health between children who grow up in poor families and children from more privileged families: children who grow up in poor families have more health problems. Preventive Child Healthcare doctors and nurses estimate that 6% to 7% of primary-school children have poverty-related health risks. For a more detailed description of the relationship between poverty and the healthy development of children, please see earlier publications [3-6].

4.2 Intervention programme 'Poverty and children's health'

Over a period of more than six years, a number of municipalities in the West-Brabant region have had experience with an intervention programme intended to reduce the negative effects of poverty on children's health. In this intervention programme, PCH collaborates with the Local Authority Social Benefit Service department (SBS, in Dutch: gemeentelijke sociale dienst). The intervention programme consists of the following. Children with health risks due to shortage of money are actively traced. This is done through a questionnaire that is included with the invitation for the routine health examination by Preventive Child Healthcare (PCH, in Dutch: Jeugdgezondheidszorg) [7]. The next step is a referral to the so-called A-team (Poverty and health team) of PCH. In an interview with the parent(s), the A-team checks whether and how the health of the child is at risk due to poverty. This can then result in an allowance for material items (for example, sport, swimming lessons, clothing, and mattresses). The material items can be provided in two ways, either directly by the A-team or indirectly via a socio-medical indication for Special Needs allowances (in Dutch: Bijzondere Bijstand).
The Special Needs allowances are made available by the SBS department, and the A-team settles up with the parents. The indirect route is used if larger sums are involved. For a detailed description of the method of working, see earlier contributions [8,9].

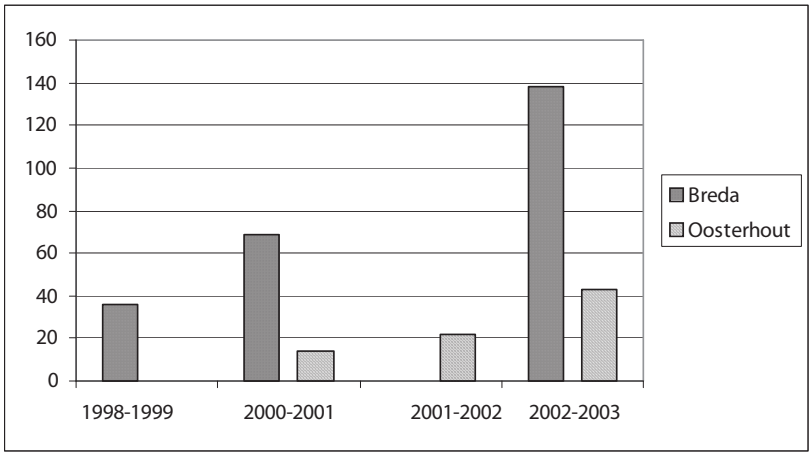
4.3 Evaluations

The pilot year of the intervention programme (school year 1998-1999) was evaluated on the aspects of practicability, reach, effects on determinants of the health of the child, and other effects [9,11]. The results of this evaluation were positive, and the approach was continued. The evaluation was repeated periodically in a more limited form. The results of these evaluations are described in this article. The findings from additional research are also considered. Next, several activities are described that were carried out as a result of these findings. There then follows a section on experience with the regional and national implementation of the intervention programme. Finally, conclusions are drawn, and several points of interest concerning this intervention programme are discussed.

Reach

Figures 4.1a and 4.1b show the reach of the intervention programme among primary-school children since the start of the programme, broken down by participating municipality. They also show the sums spent on the direct and indirect allowances.

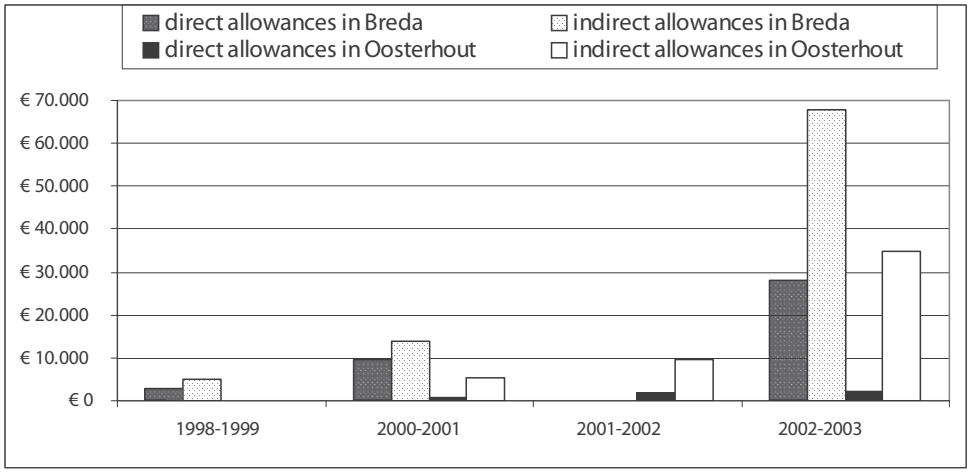
Figure 4.1a Reach of the intervention programme (number of families)



For the year in which the active identification was begun, the reach was limited (to about 2% of the children screened). Thereafter the number of families that received an allowance increased substantially. The expenditure on allowances increased even more strongly.

Besides the increase in the number of children living in poverty, there are a number of other explanations for these trends. These are related to the intervention process. The increase in reach is partly because families return to the A-team repeatedly. In practice

Figure 4.1b Sums spent on direct and indirect allowances



it appears that parents approach the team again to see whether expenditure for the children can be considered for an allowance. Study of the figures in Breda in the school year 2000-2001 showed that half of the families were already known from previous years. Experience in Oosterhout confirmed this. Of the 48 families reached in the school year 2002-2003, 15 were already known through earlier allowances [10]. It is also apparent that, over the course of several years, the intervention programme develops a "bandwagon effect". It becomes better known. Parents speak to each other about the possibilities of the A-team. Sometimes the A-team comes up against demanding and aggressive behaviour. Sometimes, too, the parents bias their answers to the questionnaire so as to increase the likelihood of obtaining an allowance. In the early years this hardly ever happened [11].
A third explanation is that families are referred to the A-team by other bodies. The Oosterhout Local Authority has allowed this. This means that bodies such as General Social Work and Youth care Bureau can refer parents directly to the A-team.

Research into repeated use
At the start of the intervention programme it was already expected that other guidance activities would have to be set up for some of the families. The need for this was also demonstrated by the repeated return of the same families. Additional research was carried out to provide better insight into this group and into the possibilities for a follow-up programme [12].

From interviews with the A-teams, supplemented by case descriptions, the following picture emerged of the clients with whom there was repeated contact. The families concerned have many and complex problems, both material and immaterial. There are long-term financial problems, and chronic worries and tensions related to this. Another common characteristic is a lack of social support. The immaterial problems often relate to health problems of the parent(s). Apart from these more or less common characteristics, the picture is mixed. The families are both immigrant and native, both large and small, both in receipt of benefit and with income from employment just above minimum wage. As far as behaviour in seeking help was concerned, a certain dichotomy was apparent. One group consisted of people skilled in finding their way to official agencies, but with rather disappointing experiences with these provisions. With their sometimes demanding behaviour, they can provoke resistance in the A-team. The other group consisted of people who have little skill in organising their household and in finding their way to official agencies. The A-team then seems to be a last lifeline to hang onto. Literature research into the determinants of the use of financial provisions shows that the use of such provisions in poverty situations arises in an interaction between characteristics of the supply of provisions, the motives of potential clients, and characteristics of the implementation process. Until the 90s, the emphasis was on the client-oriented factors [13]. Van Oorschot also worked on the basis of the supply factors and the implementation process. It became increasingly clear that the use of financial provisions is the result of a mixture of factors at different levels (what is supplied, client, implementation) that are related and interact. For a complete explanation, these three factors, as well as the behaviour of the three groups of actors (policy makers, professionals, and clients), must be considered [13-15].
This information was checked by the A-teams and the policy makers of SBS and General Social Work to discover what factors play a part in the repeated use of the A-team. The most important explanations seem to be the active detection by PCH, combined with a caring and friendly treatment.

4.4 Follow-up activities

As a result of the findings described above, a number of activities were carried out relating to collaboration with official bodies, creating protocols for the working methods, and training of staff. These activities are considered below.

Collaboration with official bodies
A work conference was organised to investigate the possibility of follow-up activities. The key bodies were invited to this conference, namely SBS and General Social Work. The

A-teams and an external expert were also present.
The participants confirmed that it is highly desirable to provide structural help for the families that return to the A-team repeatedly, but that this rarely happens. However, a possible barrier to collaboration also came up. If the health of the child is at risk, PCH will try to motivate the parents to seek and accept help, whereas other bodies are more likely to give help only if the parents make a concrete request. It was recommended that the low threshold approach of the A-team should be retained. This makes it possible to win the confidence of clients who have difficulty in finding their way to support, and to gain access to families who are distrustful of support. These are preconditions for making it possible to discuss other, more structural solutions. Repeated use of the A-team must not be seen as a problem by definition. It occurs either in complex situations where confidence in support agencies must be restored or with clients who have little skill in finding the route to these agencies. Moreover, there are many factors that hinder the use of the underlying provisions. Through regular progress meetings between PCH, SBS and General Social Work, referral to these provisions by PCH must be improved.

Creation of protocols
The "bandwagon effect" of the intervention programme and the demanding attitude of some of the parents have made it necessary to move to a tougher protocol for the method of working. This protocol describes, on the basis of practical experience, what items are eligible for an allowance and what criteria must have been met. What is most important is the socio-medical indication that is given for an individual child.
The protocol has an appendix specific to the Local Authority, because each Local Authority sets its own limits, for example, on the sums for specific purposes. The protocol has been given the motto: 'Working with the rules, instead of according to the rules' [16]. Six years of experience has taught that the poverty situation is different for every family, and every family requires its own approach. On the one hand, the intervention programme wants to respect the subjective aspect by consulting with the parents to find out what can be done for the health of the child in the given circumstances. On the other hand, the GGD wants to avoid the occurrence of large differences in the treatment of residents, and damage to the trust between PCH and parents.

Training
It has become increasingly clear that this intervention programme demands a great deal from those who carry it out. In the communication with the parents, an optimum must be sought between, on the one hand, low threshold and accessibility, and on the other hand, the prevention of a too-passive attitude by the parents. Therefore, there has been investment in training PCH staff. At the beginning of the training course they were asked

what had moved them most in their work with the target group of the poor. This brought out: the build-up of problems in families, the impotence of the official agencies to deal with these problems, and the feeling of being only a drop in the ocean. The core of the training course consisted of three poverty scenarios, namely 'remained poor', 'became poor', and 'made poor'. This shows that there are different ways in which people experience their poverty situation, which affect the way in which they deal with the situation, and affect their communication with PCH staff. Learning to recognise these scenarios can make communication more effective. Survival patterns were also discussed. This term covers diverse forms of behaviour that are found in poor families, arising out of their situation and effective at a given moment but ineffective in the long run [16]. The scenarios and behaviour patterns must be looked at in a balanced way. In practice, these never occur in pure form. However, they can help to give better insight into the complexities of everyday reality. In the evaluation of the training course, the participants commented that they required more practice in the application of what they had learned.

4.5 Regional and national implementation

In the West-Brabant region, two municipalities have substantial experience with the intervention programme, another municipality has recently started with the intervention programme, and preparations are underway in three other municipalities. Several municipalities outside the West-Brabant region have also made a start with the intervention programme. This section describes progress in introducing the intervention programme in a wider area.

In the first municipality, the trigger was an epidemiological investigation following signals from PCH. After publication of the findings, the Alderman for public health and a committed SBS policymaker played leading roles in promoting social and political interest.

The introduction of the intervention programme into other municipalities occurred both at the initiative of the Regional Public Health Service (RPHS, in Dutch: GGD) and at the request of the Local Authority. In municipalities where problems were expected in this area, the RPHS raised the subject. For the municipalities, immediate causes included the development of new policy on poverty or changes in legislation. For example, a new law (in Dutch called Wet Werk en Bijstand) demands that there must be individual grounds for every form of Special Needs payment.

It was a common experience that every municipality had to come up with a specific infrastructure for the concrete implementation. The method of implementation is not automatically transferable. For example, every Local Authority has its own implementation rules for making Special Needs allowances available. The rigour with which the rules are

applied also varies. The attitude of PCH is also a factor in the implementation. Initially there is a degree of diffidence in talking about subjects such as 'finance and health'.
In the past few years, municipalities and RPHSs outside West-Brabant have always shown interest in the intervention programme. The evaluation of the pilot year was included in the research programme of the Programme Committee Socio-economic Health Inequalities II [17]. The intervention programme has been carried out for a year in a municipality in a neighbouring RPHS region [18]. The intervention programme has now been included in the Support point for tackling local health inequalities (in Dutch called Steunpunt Lokale Aanpak Gezondheidsverschillen - SLAG). This support point has selected a number of intervention programmes, and supports municipalities that are interested in their implementation. A number of municipalities have made a start with the intervention programme 'Poverty and children's health'. Collaboration between PCH and SBS seems to be the most important hurdle that needs to be surmounted. SBS is geared to carrying out concrete and material tasks. For them, the preventive focus and related tasks of PCH are abracadabra, as a SBS employee expressed it.

4.6 Discussion and conclusions

This contribution describes how the intervention programme 'Poverty and children's health' has developed over a period of approximately six years, and has been disseminated to other settings. The public health sector is attempting to contribute to the reduction of the negative effects of poverty on children's health. The intervention programme acts directly on determinants of the health of children for whom health risks have been identified. Interviews with parents indicated that the intervention programme contributes to meeting the objective [9]. Further evidence for the intervention programme will still have to be built up. A randomised controlled trial is the most appropriate tool for this. However, its application would face ethical and practical objections. Therefore a different method will have to be used, for example, determining the conditions required for effectiveness in the intervention process [19,20].
The definitive form of the intervention programme has not yet been found. With the method of working that has been developed, it is possible to trace children whose health is at risk through shortage of money, and to gain entry to families who are generally difficult to reach. Help can then be offered for short periods. When this is not sufficient, referral can be made to other forms of help and services.
One problem is that the latter is still unsatisfactory. The problems in some of the families identified demand a more structural approach. It is recognised that this is not easy. In recent research there is discussion of 'institutional exclusion' [21,22]. By this is meant

that provisions do not match the needs of families with many (financial) problems. Institutions focus on problems of a single type, and stick to their own area of expertise. Often, a coherent analysis is lacking, and clients are sent from one institution to the other. The West-Brabant experience confirms this, and shows that, to prevent it, there must be intensive collaboration between the institutions most involved, under the control of the Local Authority. To encourage a structural approach, in the future, the PCH doctor or nurse who identifies the problem will be given a greater role in the implementation of the intervention programme.

Another discussion point is the implementation of the allowances. Initially this was supervised intensively by PCH. For example, if there was a lack of adequate clothing, a PCH staff member accompanied the parent to the shop in order to pay. The purpose of this was to ensure that the money was actually used for the intended purpose. In general, this method of working did not turn out to be a problem for the parents and, moreover, offered a natural way of providing support for the bringing up of children. However, with the present number of children, this approach is too labour-intensive. There will have to be discussions with the municipalities on how this element can be organised in the future. One of the municipalities involved has already indicated that it wants to handle the payment of the Special Needs allowances itself, and that it already has the required infrastructure or is willing to develop it further. In this model, the most important tasks of PCH become identification of the problem, advising parents, and referral to SBS. There will have to be proper evaluation of the results and effectiveness of this. Experience elsewhere has shown that this method of working is not very effective if there are no additional provisions or measures that are directed at children in poverty situations [18]. It is also known that, for the referral to succeed, it is important to provide aftercare [23]. Specialist family care can possibly play a role in this. The third point requiring attention is the relationship of trust between parent and PCH employee. The intervention programme can strengthen this, but also put it under pressure. Careful communication is necessary on the possibilities and limitations. The risk that has been identified to the health of the child, and, equally, stimulation of the parents' ability to cope, will have to be central to the communication.

The method of identification is also a point requiring attention. After several years, the intervention programme becomes common knowledge. PCH employees notice that parents fill in the questionnaire 'strategically'. Of course this makes the identification process difficult. At the start of the intervention programme, the purpose of the questionnaire was to track down an unknown and, for the PCH staff, fairly new problem. By now, the staff have become familiar with shortage of money as a determinant of children's health. Consideration is being given to including the most important indication items from the intervention questionnaire in the general, standard questionnaire that is used for routine

health examinations. The intervention questionnaire is then kept in reserve as an extra tool for identifying problem issues in the second instance.

To round off this contribution, there follow some comments on the implementation of the intervention programme. This is a process of experimentation, learning from practice, systematic evaluation, and adjustment. In this, evaluation and implementation go hand-in-hand, and demand close collaboration between practice, research, and management. The process has the characteristics of both a bottom-up and a top-down innovation strategy. It fits in with the current dominant theory that this combination leads to innovative results [24]. Some factors of influence have been described. The initiative can come from either the RPHS or the Local Authority. Specific adaptations for the local context are required for each municipality. Training of the professionals, including in the area of communication with groups of low socio-economic status is of continuing importance. The distribution of requested and unrequested information is insufficient for implementation outside the region of origin. This definitely requires a national support structure. Systematically following and documenting implementation strategies can also make an important contribution.

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Chapter 5

Intervention development and evaluation: an iterative process

An illustration on the basis of the intervention programme 'Poverty and children's health'

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Abstract

Since 1998, the intervention programme 'Poverty and children's health' has been developed and implemented in the West-Brabant region. The purpose of this article is to give a picture of the role that research has played in this from the perspective of the working practice of the Regional Public Health Service (in Dutch: GGD). The process of developing an evidence-based intervention programme has a number of stages. These are described in Nutbeam's 'six-stage development model for the evaluation of health promotion programmes'. The present article illustrates stages 1 to 4 of this model. Two kinds of research were carried out, namely epidemiological research and evaluation research. The epidemiological research was quantitative, and gave a picture of the nature and extent of the problem in a number of municipalities. The evaluation research was observational in nature, and provided both quantitative and qualitative data on the intervention process and its effects on intermediate outcomes. When developing an intervention programme in the working practice of a Regional Public Health Service implementation and evaluation go hand-in-hand. This is important for knowledge on implementation possibilities, as well as for effectiveness. Effectiveness is not only a characteristic of an intervention programme itself, but is also the result of the whole intervention process with all the influences that play a part in this.

5.1 Introduction

Since 1998 in the West-Brabant region, an inter-sector intervention programme has been under development in the area of overlap between poverty in families and children's health. The purpose of this article is to give a picture of the part that research has played so far in the development of this intervention programme in the working practice of a Regional Public Health Service (RPHS, in Dutch GGD) .

Of the children in the Netherlands (0-15 year olds), 12.5% live in a household with a low income [1]. Of all the inhabitants of the Netherlands, 8.4% live in a household with a low income. Therefore, proportionately, children form an age group in which poverty frequently occurs. Moreover, since 1990, the number of minors in minimum households has risen [2]. The interest of policymakers in this group has gradually been increasing over recent years.

First of all, there is the relevant question of whether there are differences in health and healthy development between children who grow up in poor families and children from more privileged families. Results of various research projects describe such differences. For example, Dekovic et al established that children from poor families develop problem behaviour more frequently than children who are not poor [3]. This is true to a limited extent for externalised problem behaviour and more strongly for internalised problem behaviour. Snel et al found the same relationship between material affluence in the family and the psycho-social development and health as experienced by children [4]. The problems identified could not be ascribed to other characteristics of the parents or the families (ethnicity, family composition, and educational level), so this is a case of an independent effect of poverty on the healthy development of children.

Next, it was important to discover how these health differences could be explained. The direct consequences of poverty have been investigated largely by determining the kinds of deprivation faced by people with low incomes. Someone is deprived if, for financial reasons, he or she does not have certain items, cannot participate in activities, or cannot make use of facilities. These items, activities, and facilities are related to what is regarded as normal in our society [5]. Hoff et al concluded that children who grow up in low-income families participate less in cultural activities and make less use of recreational facilities [6]. Participation in sports activities, swimming lessons, and social activities is also linked to the height of the parental income [6,7]. Such deprivation can partially explain the threat that poverty forms for the healthy development of children.

For this reason, in a number of municipalities in the West-Brabant region, over a substantial period (8 years), experience has been obtained with an intervention programme having the objective of combating the types of deprivation that are related to children's health. It concerns an inter-sector approach in which Preventive Child Healthcare (PCH, in Dutch

Jeugdgezondheidszorg) and the Local Authority Social Benefit Services department (SBS, in Dutch: gemeentelijke sociale dienst) work together. In the case of children for whom a health risk related to shortage of money has been identified, extra financial resources are made available for specific, health promoting purposes. The sidebar gives a description of the intervention programme. The intervention programme was evaluated within the framework of a national research programme into the reduction of socio-economic health inequalities [8,9].

Sidebar: the intervention programme

The intervention programme involves the following. At fixed ages, PCH examines the state of health of children, and, if there are problems, investigates what determinants influence this. The first intervention step is that PCH investigates whether shortage of money in the family has a possible effect on the identified health disadvantage. This is done during the routine health examination. By health disadvantage is meant both health problems and health risks (for example, being overweight).

If poverty seems to be a relevant factor, a follow-up contact is arranged with the parent(s). In this follow-up contact, the relationship between the financial situation in the family and the health of the child is again checked, together with the motivation of the parents to accept the intervention offered. This is done with the aid of a questionnaire for parents that is included with the invitation for the follow-up contact. The final step is the issuing of material items (for example, sports subscriptions, swimming lessons, clothing, mattresses). Allowances can be issued in two ways, namely, indirectly via an advice for a special needs allowance, or directly through PCH. At the start of the first pilot (1998), the direct variant was mainly used: PCH dealt with issuing the allowances (both in the administrative sense and in checking the use of the payments for the intended purposes). At a later stage, a strict separation was introduced between identification on the one hand and making financial resources available on the other hand. In this way, the indirect variant gained the upper hand. Monitoring of the use of the resources was arranged under the normal sbs procedures. Improvements to the health of the child were monitored by PCH. The financial resources were made available through SBS from the budget for special needs allowances.

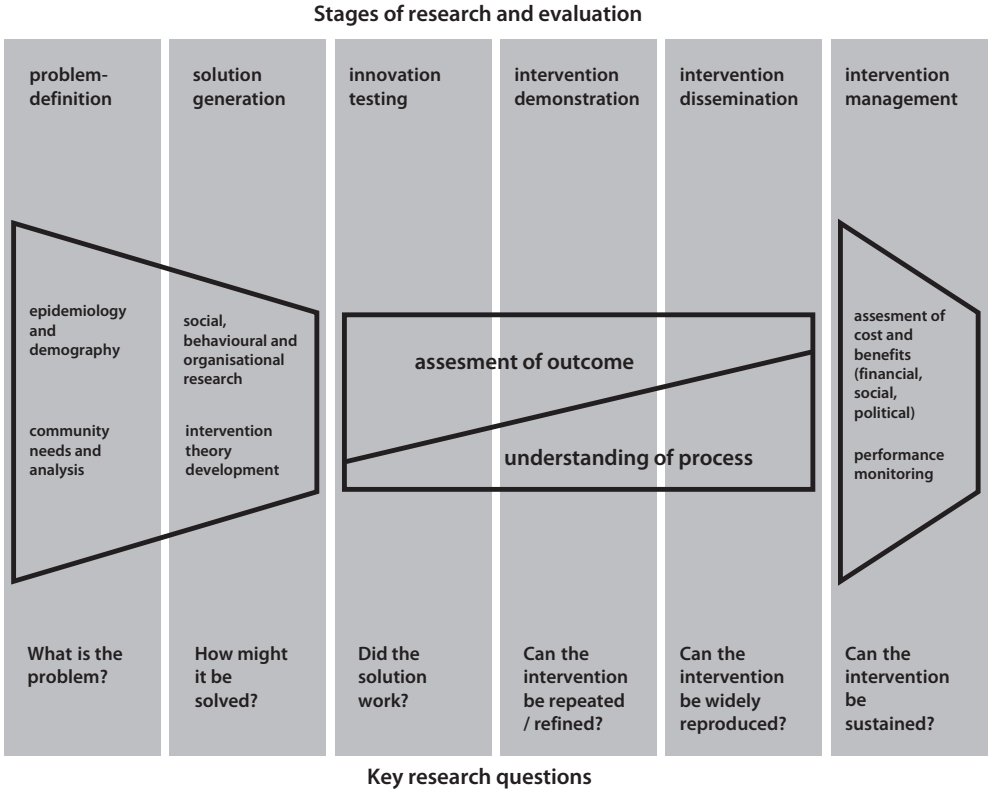
The process of development and evaluation of a new intervention programme has a number of stages. These are described in Nutbeam's 'six-stage development model for the evaluation of health promotion programmes' (see figure 5.1) [10]. The stages to be distinguished are 1) problem definition, 2) solution generation (i.e. the design of an intervention programme), 3) testing of the intervention programme, 4) demonstration of the intervention programme (i.e. the repetition / refinement of the intervention

programme), 5) dissemination of the intervention programme, and 6) management of the intervention programme. To arrive at an evidence-based intervention programme, every stage must be accompanied by appropriate research to answer the research questions relevant to that specific stage. These research questions per stage are as follows.

- What is the problem and what are its causes?
- How might it be solved?
- Did the new intervention programme work?
- Can the intervention programme be repeated / refined?
- Can the programme be reproduced on a large scale?
- Can the programme be sustained?

Based on the intervention programme 'Poverty and children's health', this article gives an illustration of stages 1 to 4 of Nutbeam's model. The research carried out consisted of epidemiological research and observational evaluation research. The epidemiological research is related to the first two stages of the model and the evaluation research to stages 3 and 4.

Figure 5.1. Six-stage development model for the evaluation of health promotion programmes [10]



5.2 Method

Epidemiological research

This research was triggered, in the mid-90s, by signals from PCH in a large municipality in the region. In their practice, PCH doctors and nurses came across parents who had difficulty managing financially. This seemed to affect their children's health, and it was their impression that this type of problem was increasing. This signal from practice was confirmed by epidemiological research. At this stage, the central question was the nature and extent of the problem [11].

In order to answer this question, a deprivation questionnaire was developed [7]. The questionnaire covered the kinds of potential deprivation that were assumed to be significant for the health and development of children. The questionnaire made the link with shortage of money, in order to exclude other reasons as far as possible. (Through shortage of money my child can not ... , see also table 5.3). In accordance with the tasks of PCH, the chosen items cover children's health in a broad sense (physical and psycho-social health and development). The parents were asked to indicate whether, in the case of their child, each statement was 'not true', 'partly true' or 'true'. The questionnaire also included several questions about parental and family parameters, including questions relating to the financial situation.

As well as this questionnaire for parents, there was also an assessment by the PCH doctor or nurse of whether there was a poverty-related health risk to the child. This assessment made use of the questionnaire filled in by the parents and the results of the routine health examination of the child conducted by PCH, and any additional information from the parents. The guideline for this estimate was the definition of poverty by Oude Engberink and Post: 'a situation in which people at the level of the social minimum have insufficient cover from financial and social resources to maintain the (minimum) standard of living normal for their relevant environment, and in which there is a greater risk of falling into a negative financial or social spiral' [12].

The research was first carried out during the school year 1995/1996 in the municipality of Breda (the municipality where this type of problem was identified by PCH staff) [11]. Later, the research was repeated in three other municipalities in the region, namely Oosterhout, Etten-Leur, and Bergen op Zoom [13-15]. This was done on the basis of signals from PCH or at the initiative of the Local Authority. For Local Authorities, the trigger was the development of new policy on poverty or changing legislation.

Evaluation research

The intervention programme 'Poverty and children's health' was developed because of the results of the epidemiological research. These results were supplemented by interviews

with key figures. The implementation was accompanied by evaluation research. The central questions of the evaluation research were the following.

- Who is reached by the intervention programme and how extensive is the reach?
- For what purposes are financial resources made available?
- What effects of the intervention programme are observed by the parents?
- What processes are involved in relation to the reach and implementation of the intervention programme?

The implementation of the intervention programme began with a pilot in one municipality (Breda). The experimental nature of the intervention programme was a factor in determining the design of the evaluation. The research was observational in nature, and various evaluation tools were used [16]. Table 5.1 gives an overview of the method of data collection and the information collected by each research group.

Tabel 5.1 Overview of evaluation research on the pilot intervention programme

Research group	Method of data collection	Data collected
intervention group (36 children)	logbook, filled in by A-team	• size of intervention group • problem (e.g. income) • reasons for child to be considered for an allowance • nature and cost of allowance • determinants of health to be promoted • guidance activities
intervention group	case discussions with A-team and researcher	• practical procedure • reasons for choosing a particular approach
parents of children in intervention group (27 parents)	interview by researcher	• experience/s of parents with the whole procedure from identification to allowance • importance for health of child
Healthcare professionals (4 doctors and 3 nurses of Preventive Child Healthcare and Social Benefit Service contact person)	interview by researcher	• expectations • experience/s during implementation • opinion of structural inclusion under Preventive Child Healthcare

Tabel 5.1 Continued

Research group	Method of data collection	Data collected
Policymakers (head of Preventive Child Healthcare, Social Benefit Service policymaker)	interview by researcher	• prior history • expectations • cost / benefit • future perspective
Progress discussion (of Preventive Child Healthcare team, and between RPHS and Social Benefit Service)	observational	• progress of the project • development of the intervention programme

The evaluation was repeated periodically in subsequent years in a more limited form. This concerns monitoring the reach of the intervention programme, the expenditures, and the experience in practice with the implementation of the intervention programme. These evaluations were carried out in the two municipalities that had commissioned the intervention programme (Breda and Oosterhout).
A number of intervention processes and results led to further research after two to three years [17]. The purpose of this research was to obtain greater understanding of the group of families that made repeated use of the intervention programme. A literature study was carried out into the determinants of the use of financial provisions [18-22]. Findings from the study were checked and supplemented in different research groups (see table 5.2).

5.3 Results

Nature and extent of the problem
Table 5.3 contains the findings of the epidemiological research. Parents of all children in group 2 received the questionnaire. By linking the questionnaire to the routine health examination, a response of 90% was achieved. The reasons for not filling in the questionnaire were mainly of a practical nature (questionnaire forgotten or lost). All regular primary schools in the municipalities concerned were represented in the research. Table 5.3 shows that shortage of money was mainly expressed as:

- unable to become a member of a (sports)club
- unable to go on holiday or days out
- unable to buy adequate clothing
- unable to take swimming lessons
- unable to give or attend a birthday party
- tensions in the family.

These kinds of deprivation occur among 3% - 15% of the children investigated. Many other kinds of deprivation occur, however to a lesser extent. These include the use of care and medicines / aids. The PCH doctor or nurse estimated that the situation presented risks for 6% - 19% of the children.

table 5.2 Overview of supplementary research after pilot stage on group that made repeated use of the intervention programme

Research group	Method of data collection	Data collected
healthcare professionals (4 doctors and 3 nurses of Preventive Child Healthcare)	group interview by researcher	• characteristics of target group • checking of promotional and limiting factors in the literature relating to the use of financial provisions • supplementing these factors
policymakers (2 Social Benefit Service policymakers, 1 Public health policymaker)	interview by researcher	• characteristics of target group • checking of promotional and limiting factors in the literature relating to the use of financial provisions • supplementing these factors
parents of children in the intervention group (11 parents)*	interview by researcher (5 parents), case descriptions by intervention programme healthcare professionals (6 parents)	• checking of promotional and limiting factors in the literature relating to the use of financial provisions • supplementing these factors

* The healthcare professionals carrying out the intervention programme were asked to make a selection of parents representative of the problem areas and with a range of background parameters. in view of the heavily stressed family situation, in sometimes case descriptions were used (interview not possible).

Reach of the intervention programme

By the reach of the intervention programme is meant the number of children from the target group who participate in the intervention programme. This number is shown in figure 5.2a, split according to the participating municipalities. Figure 5.2b shows the amounts spent on direct allowances (by PCH) and indirect allowances (via the Special Needs allowances). In the year in which active identification was first started, the reach was limited. After this, the number of families receiving an allowance increased sharply.

Table 5.3 Percentage of children (partly true + true) in group 2 for whom deprivation in relationship to shortage of money has been indicated in the municipalities Bergen op Zoom (school year 2004-2005), Etten-Leur (school year 2003-2004), Oosterhout (school year 2003-2004), and Breda (school year 2000-2001).

Deprivation	Bergen op Zoom 2004-2005 (n=1232)	Etten-Leur 2003-2004 (n=384)	Ooster-hout 2003-2004 (n=320)	Breda 2000-2001 (n=1118)
Through shortage of money …				
... my child is not a member of a (sports) club	15	8	17	8
... my child cannot give or attend a birthday party	9	5	11	3
... my child does not go on school trips	4	2	7	2
... my child does get milk, vegetables, or fruit every day	3	1	4	1
... my child wears second-hand shoes	3	3	7	2
... I cannot buy adequate clothing for my child	9	6	12	5
... there are tensions in the family that trouble my child	5	6	8	4
... my child sleeps on a worn out mattress	3	1	6	2
... my child cannot go on holiday or day trips	13	10	15	8
... my child cannot have swimming lessons	11	4	16	7
... my child has hardly any toys at home.	6	2	8	2
... my child cannot always go to a service provider (e.g. doctor, dentist, physiotherapist, speech therapist) when necessary	3	2	3	1
... my child does not receive the medicines / aids that it needs (e.g. spectacles, brace, anti head louse products, support soles)	3	1	4	1
... there is no after school care for my child	7	5	8	3
Assessment by Preventive Child Healthcare doctor or nurse that situation represents a risk to the health of the child (perhaps + yes)	19	9	15	6

For example, in the municipality of Breda, the number of families reached in the fourth year was almost four times that in the first year, 1998. The expenditure for the allowances rose even more strongly. In the year 2002/2003, the amount spent on indirect allowances in the municipality of Breda was almost 5 times the amount spent in the year 1998/1999.

Figure 5.2a Reach of the intervention programme (number of families)

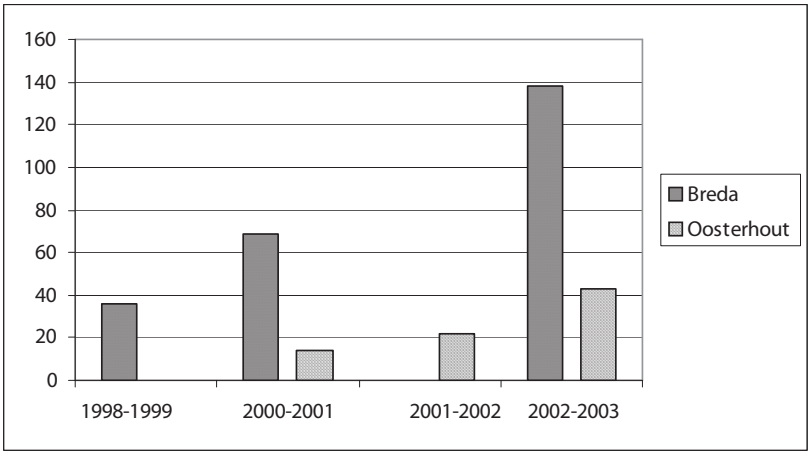
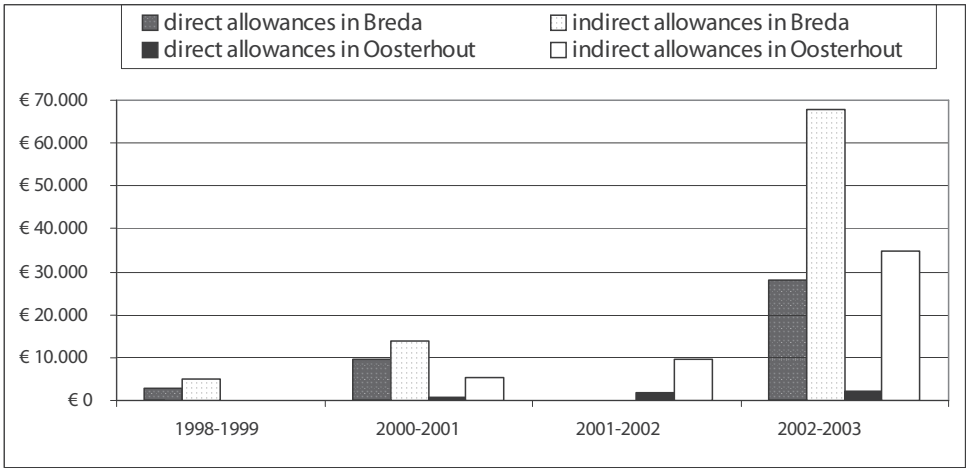


Figure 5.2b Sums spent on direct and indirect allowances



Purposes of the allowances

Approximately 75% of the allowances were granted for sport and swimming lessons (and necessary related items such as shoes and other sports materials) for children with a motor dysfunction, overweight, or socially isolated. The other 25% were granted for various matters related to health disadvantages of the child in a variety of areas. These allowances were for clothing, shoes, participation in school activities, toys, household provisions (such as beds, mattresses), aids (such as support soles, spectacles), medicines (including anti-head-louse products) and therapy (including psychotherapy).

Effects on the health of the child observed by the parents

Through interviews with the parents of the children who were reached in the pilot year of the intervention programme (see table 5.1), qualitative insight was obtained into the effects on the health of the children. The parents pointed out both socio-emotional development and physical health. Keywords relating to the former were: more contact with friends, the breaking through of (threatened) isolation, greater self-confidence, the avoidance of boredom. As far as physical health was concerned, particular emphasis was placed on the importance of winter coats, exercise, and learning to swim. This latter was especially important for a number of children behind in, for example, motoric development. Some quotes:

'My son is now much more one of the group because he sees his friends at judo too.'

'One of the children was completely unable to concentrate at school because she was so excited at getting new clothes.'

'I very much wanted to get help to pay for swimming lessons. I don't have the money myself, and in the holidays the children often go fishing in the nearby pond.'

'My husband went to watch the street dance. He said that my daughter really enjoys it; she chats with everyone. She has also become more cheerful at home.'

'The warm winter coats especially were great because one of the children kept getting colds.'

Finally, several parents mentioned the importance of the allowance for the family situation. The intervention programme gave the family some breathing space, and at last something positive happened. This meant that the tensions could be pushed into to the background for a time, and the children were happier. The intervention programme sometimes meant a great deal to the parents as well, because they wanted to protect their children from the consequences of poverty.

Processes related to the reach

Further study of the increase in the reach of the intervention programme (figure 5.2a) showed that, in the first few years, approximately half of the parents returned repeatedly

to PCH with the question of whether expenditure for the children could be considered for an allowance. The families concerned had many and complex problems, both material and immaterial. There were long-term financial problems, and chronic worries and tensions related to this. Another common characteristic was a lack of social support. The immaterial problems often related to health problems of the parent(s). Apart from these more or less common characteristics, the picture was mixed. The families were both immigrant and native, both large and small, both in receipt of benefit and with income from employment just above minimum wage. As far as behaviour in seeking help was concerned, a certain dichotomy was apparent. One group consisted of people skilled in finding their way to official agencies, but with rather disappointing experiences with these provisions. With their sometimes demanding behaviour, they could provoke resistance in the PCH staff. The other group consisted of people with little skill in organising their household and in finding their way to official agencies. PCH then seemed to be a last lifeline to hang onto.

Processes related to implementation and delivery

Research by the health professionals who had delivered the pilot intervention (see table 5.1) showed that, at the start of the intervention programme, PCH, in particular, was rather sceptical. Because of the sensitive nature of the subject of poverty, it was expected that it would be difficult to discuss it. There was also resistance to the expansion of the routine health examination, and there were doubts concerning the boundaries of the area of responsibility of PCH. This expressed itself, for example, in the question of whether combating poverty was one of the tasks of PCH.

The parents were asked what they thought of the intervention programme (see table 5.1). The reactions of the parents to the questionnaire were generally positive. The following quotes illustrate this.

'I was pleasantly surprised that the GGD looked at this.'

'As a rule, I never talk about money problems. This gave me the opportunity to do so this time.'

'That's the way it is. I have got used to talking about it with other people.'

The predominantly positive reactions of the parents contributed to the fact that, as time went on, the initial diffidence when talking about 'finance and health' retreated into the background. A PCH doctor expressed this as follows. 'Now I bring up the subject as if it were the most natural thing in the world',

The time needed for introducing it into the routine health examination varied greatly. After a while it became routine, so that, in general, the expansion of the health examination presented no insuperable problems. However, this applied to a lesser extent for schools in deprived areas because of the cumulative effects of the problems.

As the reach of the intervention programme increased, its practicability came under

pressure. This concerned particularly the handling of the allowances by PCH (the direct variant as described in the sidebar on the intervention programme). Another reason for the practicability to come under pressure was that the PCH staff came up against demanding and sometimes aggressive behaviour from parents. Sometimes, too, the parents biased their answers to the questionnaire so as to increase the likelihood of obtaining an allowance. In the early years this hardly ever happened. These experiences led to a modification of the implementation of the intervention programme in the form of stricter separation between identification on the one hand and the granting of financial resources on the other. Identification of the problem, advising parents, referral to the Social Benefit Service department, and aftercare contact are thus the most important tasks of PCH. Making financial resources available (and their use), has passed into the hands of SBS, that, with the advice of PCH, have clear grounds for allocating Special Needs allowances.

5.4 Discussion

This contribution has described the research that was carried out prior and parallel to the development and pilot implementations of the intervention programme 'Poverty and children's health'. Characteristics of the intervention programme are that it is a new, inter-sector way of working at local level. An analysis by the Council for Health Research has shown that there is a lack of intervention research in public health [23]. This is also true for intervention programmes directed at reducing socio-economic health inequalities [24].
First there was research into the types of health-related deprivation that occur in families with children. These kinds of deprivation were tackled by the intervention programme then developed. In this research, and in the intervention programme, deprivation functions as an intermediate measure. In inter-sector health promotion, such measures make it possible to operationalise complex relationships and to describe intervention results [10].
In order to develop an evidence-based intervention programme it is important to carry out research at all stages of development [10,25,26]. The Nutbeam model describes the various stages in a usable way because it takes account of the stages of intervention development as they occur in practice. Each stage benefits from research that matches that particular stage. The intervention programme described in this article has passed through the first four stages of this development model once. The problem has been described, and an intervention programme designed, tested, and repeatedly implemented. (Work is now being carried out on stage 5: Dissemination of the intervention programme. A guidebook for the intervention programme and its implementation is being prepared and tested

outside the West-Brabant region.)

In the test stage (stage 3), Nutbeam places great emphasis on determining the effect, and less on the process (see figure 5.1). There is a gradual shift during the subsequent stages in that process factors are given more attention. However, in the case of intervention programmes such as 'Poverty and children's health', the processes create the conditions for achieving the effects. If the various steps in the intervention process are carried out successfully (identification by PCH, referral of parents, checking by SBS), the intended (intermediate) results are achieved. From this it follows that appropriate evaluation research initially places more emphasis on the process. Subjects of research then include the feasibility of the intervention programme, acceptance by the target group, quantification of the process steps, and the gaining of insight into global indications of the effect [27].

When developing an intervention programme in RPHS working practice, implementation and evaluation go hand-in-hand in an iterative process. Knowledge of implementation aspects is also important for the effectiveness. The parameter 'effective' not only applies to an intervention programme itself, but also to the result of the whole intervention process, with all the influences that play a role in this everyday reality such as the behaviour of those who implement the intervention programme and the policy applied [25]. Literature on the use of financial provisions in poverty situations also shows that this use results from interaction between characteristics of the range of provisions, motives of potential clients, and characteristics of the implementation process [18-20].

As a result of the evaluation carried out, the intervention programme 'Poverty and children's health' was refined. This seems to have led to the definitive form of the intervention programme. In this form, the most important tasks of PCH are identification and advice to parents. The parents are then referred to SBS that, with the advice of PCH, has clear grounds for allocating Special Needs allowances for specific health promoting purposes. Making financial resources available, and their use, comes into the hands of the SBS. New evaluation is needed to obtain insight into the effects on (intermediate) outcome measurements. The first results are encouraging [28,29]. This shows that it may be necessary to work through the stages of Nutbeam's model several times. When the optimal intervention form has then been found, consideration can be given to an explorative trial in which the intervention programme is compared with a suitable alternative [27]. Such an expensive and labour-intensive form of research is suitable only for intervention programmes that have been shown to be successful in earlier pilots (evaluated with observational studies) [29]. Particularly in the case of intervention programmes such as this developed in PCH practice, it makes sense to first obtain indications of effectiveness by means of studies less demanding of resources, and then, at a later stage, to determine effectiveness in accordance with the gold standard of (variants of) the RCT. Since PCH

practice is always changing, in order to interpret the results of a trial correctly, a form of process evaluation must always be included.

In conclusion of this article, the following observation. As well as generating scientific knowledge, in practice the research carried out has had various other functions. The research findings have promoted political and social interest in poverty-related health risks in children, and have thus contributed to the development of the intervention programme. The findings of the research provided feedback to the various parties involved, both at the level of implementation and at the level of policy and management. These were positive side effects of the research.

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Chapter 6

Psychosocial child adjustment and family functioning in families reached with an assertive outreach intervention

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Abstract

Families who experience a chronic complex of socio-economic and psycho-social problems are hard to reach with mainstream care. Evidence exists that the core of this problem is a problematic interaction between this type of family and current systems of care and services. To improve access to problem families an assertive outreach intervention was implemented into the field of preventive child healthcare, the Netherlands. The study aimed to provide a more detailed insight in characteristics of the target group. Although there is consensus about some general features of hard to reach problem families, little is known about their specific characteristics because empirical studies among this group are rarely conducted. Especially the problems of the children is shed insufficient light on.

The studied population consisted of families included in the assertive outreach intervention delivered during one year (N=116). To assess psychosocial adjustment of the children the Strengths and Difficulties Questionnaire was filled in by the parents. Furthermore, a Dutch questionnaire on family functioning (FFQ) was completed by professional carers. Descriptive data were calculated.

The findings show that by using the assertive outreach intervention, programme staff came into contact with families characterised by a considerably higher than average proportion of single parents and unemployed households receiving social benefits. The families faced a high level of risk and a wide range of severe and multiple difficulties, including a lack of basic child care, an inadequate social network and poor parenting. Children in these families were also facing a number of risks. The proportion of psychosocial problems was well above the (inter)national average. The findings reveal the problem areas of unreached families and a need to improve the access to care for these families.

6.1 Introduction

Families who experience a chronic complex of socio-economic and psycho-social problems have impaired contact with healthcare and welfare services. Evidence exists that the core of this problem lies in a problematic interaction between this type of families and current systems of care and services [1-4]. The adults and children involved have continues needs in multiple domains like finance, labour, housing and parenting. Their complex and interwoven difficulties do not fit in with the fragmented nature of care systems, highlighting well-defined, single problems and short-term services. Especially, the splitting of socio-economic and psycho-social support systems appears to be difficult for problem families [5-7]. Psycho-social care often ignores socio-economic troubles, whereas these two fields are interrelated for this target group. From the practice of social workers and service providers it is known that they experience that problem families are one of the hardest populations to serve. The extensive study of Ghesquiere has shown that the term 'multi-problem families', to point out the target group, mainly originates from the context of care and services facing difficulties in dealing with this group of clients [1].

In the Netherlands there are growing concerns about children and adolescents growing up in problem families. It is estimated that the development of 2-5% of Dutch children is fundamentally threatened [8,9]. In policy and practice there is an increasing awareness that current systems of care fail to serve this target group effectively [10,11]. As a consequence, assertive outreach approaches are coming into existence in order to improve access and care to hard to reach problem families. Assertive outreach originates in public mental healthcare settings for marginalised persons with severe and complex problems not receiving help they objectively need, like homeless people and persons with complex addiction problems. These services consist of an active approach of the target group in their own environments to get in touch with them, motivate them to accept suitable care and liaise between them and services and healthcare providers. Nowadays, these types of interventions are entering the field of child care, and are applied to marginalised problem families as well.

In the design and application of new interventions for youth and their families policymakers and practitioners need to know the target groups' distinctive characteristics. However, research on characteristics of the target group of assertive outreach is lacking [12]. Especially, empirical studies using psychometric instruments are rarely conducted [1]. Moreover, the perspective of the families themselves and the characteristics of the children are shed insufficient light on [13,14]. This article aims to fill these knowledge gaps. In this way a more detailed picture of the specific characteristics of the target group is obtained. According to the staged models of intervention development and evaluation, a sound profile of the target group is required to build a knowledge base new interventions

[15]. Furthermore, this study provides the opportunity to gain insight into the difficulties of a population that stays hidden in common research.

6.2 Method

Setting

The study accompanied the implementation of an assertive outreach intervention conducted by the preventive child healthcare system, the Netherlands. Preventive child healthcare (henceforth: PCH) routinely offers child health examinations (free of charge). PCH departments operate under local authority although they mainly implement a nationally appointed programme. PCH-physicians and nurses assess the health status of all children at a fixed age (15 routine contacts for 0-4 years old and 3 routine contacts for 4-19 years old). These individual examinations include detection of adverse child environments and take the broader context into account (e.g. family, social network, social participation). Treatment is beyond the scope. If therapy of any sort is deemed necessary, the child is referred to a general practitioner or other specialised care or services. For all ages coverage is more than 95% of the total population [16,17].

The assertive outreach intervention implemented offered two courses to get in touch with the families. The first one was extra efforts to get in contact with families who did repeatedly not respond to routine PCH invitations for examination of the child's health and well-being. The second one was that other professionals reported their concerns about care avoiding problem families and their difficulties to get in contact with them. In both cases PCH applied the following criteria before a family enroled in the intervention:

- a family with at least one child under age;
- the family has several problems; these problems are chronic, interrelated and appear to reinforce each other;
- the development of the child is severely threatened;
- the family is not accessing, or no longer accessing, mainstream services and there is no case manager available yet;
- it is suspected that it takes extra efforts to get in touch with the family and to establish a working relation.

These criteria were thoroughly examined by consultation of the child's record as kept by PCH and by consultation of other professionals (i.e. teachers). Only when these consultations were in line with these criteria, PCH started trying to get in touch with the family by outreaching approaches.

Population

Foregoing this study, the assertive outreach intervention was piloted in one Local Authority. After the pilot, key-elements of the intervention were adopted by several other Local Authorities elsewhere in the country. Two of them participated in this study. The main criteria for selection of the municipalities were programme integrity and a successful implementation and delivery of the intervention.

The studied population consisted of families included in the assertive outreach programme in one year. Intervention staff had contact with 133 families. Eighty-five per cent of these families were eligible for the intervention (116 families), while the remaining 15% were not considered suitable at the stage of first contact with the referrer or with the family. The reasons for exclusion differed. Most common were that families were facing juvenile justice enforcement actions, were open for help (not care avoiding) or did not had to deal with a complex of socio-economic and psycho-social problems (no complexity). In some cases there was already a case manager available.

Measurements and procedures

To study characteristics of the families, two instruments were chosen. The Strengths and Difficulties Questionnaire (SDQ) was used for measurement of psychosocial problems in the children. Furthermore, a Dutch questionnaire on family functioning was incorporated in the research project. This inventory assess the core dimensions of family functioning. The instruments chosen can be readily used by practitioners in PCH. This was considered of importance because the instruments were embedded in the intervention as implemented in day-to-day practice.

The SDQ is a standardised measure covering the most important domains of psycho-pathology in children and adolescents (4-16 year olds). It has been translated into more than 40 languages. The psychometric properties of the Dutch version of the SDQ are examined providing evidence of the psychometric qualities of the questionnaire [18,19]. Dutch cut-off scores have been established for 7-12 years old [20]. Based on these results it is nationally proposed to use the SDQ as a standard instrument for early identification of psychosocial problems by the PCH [21]. The questionnaire is divided in five subscales (5 items per scale): emotional symptoms, conduct problems, hyperactivity-inattention, peer problems and prosocial behaviour. A total difficulty score can also be calculated. The SDQ has an impact supplement that enquires further about chronicity, distress, social impairment, and burden to others.

The second questionnaire is the Dutch Family Functioning Questionnaire (FFQ). This questionnaire measures the performance of problem families. It is developed by researchers in collaboration with professionals who work with these families. The psychometric properties of the FFQ are exploratively examined [14]. On the basis of these

studies the questionnaire has been adapted slightly. The FFQ now has 95 items, divided into 4 parts:

- a general part on care, housekeeping, formal and informal contacts;
- a part on competences and performance of the mother;
- a part on competences and performance of the father;
- a part on the relationship between the father and the mother.

The psychometric analysis has shown that these parts consist of 11 subscales: basic care, social network, parental competencies (mother/father), youth perception (mother/father), safety (mother/father), individual performance (mother/father) and relationship between mother and father. The number of items per subscale vary between 4 items (youth perception) and 17 items (basic care).

The SDQ as well as the FFQ exists in several versions to meet the needs of researchers and practitioners. In this study the SDQ was completed by the parents (parental version) because we were especially interested in the families' perspective. When a family had several children, the SDQ was completed for the child who was mostly involved in starting the intervention. The FFQ was completed by the intervention providers (clinician's version) to obtain an outsider's view as well. Besides this, it seemed to be not feasible to ask the parents in this vulnerable target group to complete two questionnaires.

In order to complete the questionnaires, they were embedded in the intervention processes. When a family was included in the intervention, the SDQ was distributed to the parent(s) on a natural moment during the phase of acquaintance. In order to prevent disturbance of intervention processes, attention was paid to a careful introduction of the questionnaire to the parent(s). The parent filled in the SDQ immediately after distribution or shortly afterwards. In the latter case the SDQ was returned to the PCH staff in a later contact. During intervention delivery (4-6 months) programme staff collected the information to complete the FFQ. Additional demographic data for this study were extracted from official client records.

Examination of the reliability of the various scales of the SDQ and the FFQ shows that the internal consistencies were generally satisfactory. Mean alpha of the SDQ scales was 0.71. Regarding the FFQ good internal consistencies were found for the subscales basic care, parental competencies (mother as well as father) and youth perception of the mother (Cronbach's alpha > 0.85). The remaining subscales have somewhat weaker internal consistencies (alphas between 0.53 and 0.69).

The study design was brought to a committee for ethical approval. Ethical approval was deemed unnecessary. The main reason was that the study accompanied an intervention that was already conducted in actual care practice before the study started (the intervention was not set up to fulfill the study).

Statistical analysis

Not all parts of the obtained FFQ's were fully completed. If more then two items per part were missing, this part of the questionnaire was not included in the analysis. Especially the scale on youth perception in the father-part showed a lot of missing values. Therefore, this scale was excluded. The missing criterion was applied to the remaining subscales. The part on the relationship between the father and the mother also was excluded from the analysis because this part was hardly completed.

Sum scores have been calculated for the SDQ- and FFQ-scales. Each SDQ item has a 3-point scale (0=not true,1=somewhat true, 2=certainly true). Subscale scores were computed by summing scores on relevant items (after recoding reversed items; range 0-10). Higher scores on the prosocial behaviour subscale reflect strengths, whereas higher scores on the other four subscales reflect difficulties. A total difficulties score can also be calculated by summing the score on all items except the items of the prosocial behaviour subscale (range 0-40). The sum score of the impact supplement is calculated using a three point scale for each item (0=not all all/only a little, 1=quite a lot, 2= a great deal, range 0-10). For parents who indicated that the child generally has no difficulties, the impact score is also zero. As for the FFQ each item has a Likert response scale, ranging from 1 (not true at all) to 5 (certainly true). Subscale scores were computed by summing scores on relevant items (after recoding reversed items), dividing this sum by the number of items (range 0-5). In all cases, higher scores reflect a lower level of problems.

Descriptive data were calculated. To compare means of demographic subgroups within the studied population t-tests were used. T-tests were also used to compare studied families and children with reference groups. The level of significance was set at $p < 0.05$. We also examined the accumulation of problems by bringing together information on the SDQ scales and FFQ scales. We counted the occurrence of elevated scores on several subscales at the same time. Characteristics of the father were excluded from this analysis because this was only a small group. With regard to characteristics of the mother we selected the parental competencies for this analysis because this seems one of the more distinct features of problem families. Cut-off points for the FFQ were set at the mean score plus one standard deviation. As for the SDQ the cut-off scores that have been established for Dutch children has been used.

6.3 Results

Demographic characteristics

One-hundred-sixteen families were included in the intervention. Table 6.1 shows the demographic characteristics of these families. The majority of the families consisted of

single mothers (64.7%) with an average of three children. More than half the families (56.6%) was of non-Dutch origin. These immigrant families were ethnically divers, Moroccan families being the largest group. Most parents were unemployed. These families lived on social security benefits (65.1%). For most of them this situation already existed for a longer period of time (more than three years). Mean age of the studied children was 10.0 (sd=3.6), 56% were boys and 44% girls.

Table 6.1 Demographic characteristics of studied families and children

Families	% (N=116)	**Children**	% (N=84*)
Family composition		**Gender**	
▪ single mother	65	▪ boy	56
▪ couple	29	▪ girl	44
▪ single father	6		
		Age	
age mother	mean 37	▪ 4-9	49
age father	mean 43	▪ 10-16	51
number of children	mean 3		
	(range 1-9)	**age child**	mean 10.0
Ethnic group			
▪ Dutch	43		
▪ Moroccan	15		
▪ Turkish	9		
▪ Surinamese/Antilleans	8		
▪ Others	24		
Income			
▪ labour	35		
▪ unemployment benefit (short term)	14		
▪ unemployment benefit (chronic)	51		

Strengths and Difficulties Questionnaire

Ninety-nine (85%) parents responded to the SDQ. Eighty-four SDQ's were useable for analysis (85%). Fifteen children were younger than 4 years old and outside the target group of the SDQ. Results of the SDQ are presented in table 6.2 and 6.3.

With regard to the four difficulty subscales, the mean scores ranged from 3.0 (sd=2.3) to 4.7 (sd=2.6), emotional symptoms and hyperactivity-inattention having the highest means, and conduct problems and peer problems having the lowest means. Analysis of means by gender and by age only yielded a significant effect of gender on the subscale emotional symptoms. Parents reported higher levels of emotional symptoms for girls (p=0.006). Analysis of means by characteristics of the family showed a significant higher score on the subscale hyperactivity for immigrant children (p=0.024) and a significant lower score on hyperactivity for children living in families receiving long term unemployment benefits (p=0.026).

Table 6.2 Means and reference means of the SDQ

SDQ scores	Mean[1] (standard deviation)	Reference mean[2] (standard deviation)
SDQ scales		
▪ Total difficulties	14.9 (6.9)[3]	8.4 (5.8)
▪ Emotional symptoms	4.1 (2.6)[3]	1.9 (2.0)
▪ Conduct problems	3.0 (2.3)[3]	1.6 (1.7)
▪ Hyperactivity-inattention	4.7 (2.6)[3]	3.5 (2.6)
▪ Peer problems	3.2 (2.3)[3]	1.5 (1.7)
▪ Prosocial behaviour	6.9 (2.5)[3]	8.6 (1.6)
Impact score	2.4 (2.6)[3]	0.4 (1.1)

[1] N=84 [2] British means as presented at www.sdqinfo.org [3] Significant difference (p<0.001) with British means

Of all parents who completed the SDQ 15.7% reported that the child in general had no difficulties in the field of emotions, concentration, behaviour or getting on with others, whereas 37.3% reported minor difficulties, 34.9% definite difficulties and 12.0% severe difficulties. Three-quarters of the parents (75.4%) indicated that the problems were present for over a year. The impact questions asked about resultant distress for and social impairment of the child. The impact scores are shown in table 6.2 and 6.3, with a mean score of 2.4 (sd=2.6). No significant differences were found for effects of gender, age and family characteristics.

Social impairment on class-room learning had the highest impact with 54% of the parents reporting that the difficulties interfered at least quite a lot with the child's everyday life

in this area. With regard to the other areas this percentage was 37% (friendships), 43% (home life) and 44% (leisure activities).
In table 6.2 the findings are compared to British means (representative British sample, presented at www.sdqinfo.com). T-tests revealed significant differences (all p's<0.001) between the studied group and the reference population, with higher means of the studied group on total difficulties, difficulty subscales and impact score. The subscale prosocial behaviour showed a lower mean, reflecting fewer strengths. It appeared that, according to their parents, the children living in the targeted families clearly had more difficulties and fewer strengths than British children in general.
Finally, the findings were related to norms for the SDQ Total difficulties scale (table 6.3). The norms for 7-12-year-olds resulted from an extensive Dutch validation study [20]. The result was as follows: 23.9% of the children in this age band obtained the 'normal' rating, 13.0% scored in the border range, and the remaining 63% had elevated scores on the SDQ Total difficulties scale.

Table 6.3 7-12 Years old referred to Dutch norms for SDQ scale Total difficulties

SDQ scale	7-12 yrs (%) (N=46)
Total difficulties	
▪ normal	23.9
▪ border	13.0
▪ elevated	63.0

Family Functioning Questionnaire
Table 6.4 shows the results for the FFQ. The mean scores on the subscales varied between 2.3 (parental competencies of the father) and 3.9 (safety aspects of the mother). Basic care and parental competencies of both the father and the mother had relatively low means, indicating that these were the weaker aspects within the targeted families. Analysis of means by family composition, ethnicity and income (not shown) only yielded significant effects on the subscale basic care. Non-Dutch families and families living on long term unemployment benefits had lower means (poorer performance) (p's respectively 0.036 and 0.048).
The reference group (table 6.4, third column) consisted of families who received different forms of intensive ambulant family treatment. No significant differences were found between the studied group and the reference group (one-sample t-test, p=0.05), suggesting that the studied population was comparable to the reference group on the measured characteristics.

Table 6.4 Means and reference means of the FFQ

FFQ scales	Means (standard deviation)	Reference mean [2] (standard deviation)
Part A (N=95)		
▪ Basic care	2.7 (0.6)	3.1 (0.7)
▪ Social network	3.0 (0.5)	3.3 (0.6)
Part M (mother) (N=75)		
▪ Parental competencies	2.5 (0.6)	2.5 (0.6)
▪ Youth	2.6 (1.0)	2.4 (1.0)
▪ Safety	3.9 (0.5)	3.7 (0.7)
▪ Personal performance	3.7 (0.7)	3.6 (0.8)
Part F (father) (N=30)		
▪ Parental competencies	2.3 (0.7)	2.6 (0.6)
▪ Youth	- [1]	2.9 (0.9)
▪ Safety	3.8 (0.7)	3.7 (0.6)
▪ Personal performance	3.5 (0.9)	3.8 (0.6)

[1] Excluded from analysis, due to large numbers of uncompleted items
[2] N=1001, families who have received different forms of intensive ambulant family treatment, means as presented by Ten Brinke et al (2000).

Accumulation of problems

Finally, we examined the accumulation of problems (table 6.5). We selected four problem fields, namely basic care, social network, parental skills of the mother, and SDQ total difficulties score (see analysis section for details). It turned out that the majority of the cases (79.8%) had a combination of three or four problems.

Regarding the subscales of the FFQ accumulation in the field of basic care, social network and parental competencies of the mother occurred in 75% of the families, meaning that these families had an elevated score (below cut-off points) in all of these fields. As for the SDQ it turned out that within the group with increased scores on the SDQ (border and elevated) 87.5% also had problems in the fields of basic care, social network and parental competencies of the mother.

Table 6.5 Number of problems

Number of problems	% (N=94)
0	3.2
1	1.1
2	16.0
3	30.9
4	48.9

6.4 Discussion

This study assessed specific difficulties of families who experience multiple problems and are hard to reach with mainstream systems of care up until now. Policy-makers and practitioners both agree that there is a need to develop new approaches to reach this type of families effectively. The findings show that by using assertive outreach, programme staff get in touch with very disadvantaged families including a considerably higher than average proportion of single parents and unemployed households receiving social benefits. The families faced a high level of risks and a wide range of severe and multiple difficulties, including a lack of basic child care, an inadequate social network and poor parenting. Children in these families were also facing a number of risks. The proportion of psychosocial problems was well above the (inter)national average. Dutch children tend to score lower on the SDQ than UK children, reflecting a higher level of well-being among Dutch children [21], making the findings even more pronounced. Related to the recommended Dutch norms for 7-12 years old, 63.0% has an elevated score on the SDQ Total difficulties scale (≥14). Generally spoken, this score comes with a high chance of being under treatment and with chronic mental problems, even in the long run [20]. From a study by Tischler and co-workers among homeless families using an UK mental health outreach service it emerged that 37.5% of the children involved (N=44) had a SDQ total difficulty score above the UK clinical cut–off point (≥17) [22]. It should be noticed that SDQ cut-off scores have not yet been established for ethnic minority groups. Validation of the SDQ for these groups could result in different cut-offs.

Evidence exists that there are differences between various informants (parents, teachers, adolescents themselves) reporting on children's and adolescents' behavioural and emotional problems. In general, researchers report that there is low to moderate agreement on standardised measures between different informants [23]. Specific results with respect to the Dutch SDQ show moderate inter-informant correlations [18, 19]. With regard to the levels of reported problems, findings are consistent in that parents tend to report more problems than professional workers (e.g. teachers, caregivers) [23], although for the Dutch SDQ this conclusion can not yet be drawn. Differences between various informants could also count for reports on family functioning with the FFQ, however this is less investigated compared to research on the SDQ [14,24] .

Consistent with our expectations with respect to the group targeted with the assertive outreach programme, the study demonstrates high levels of problems with regard to basic care and parental functioning. In general, our findings are consistent with a study of Baartman among problem families with an earlier version of the FFQ [25]. On the family aspects measured it emerged that the studied group is comparable to families participating in intensive ambulant family treatments. This is an indication that they may also be eligible for this type of programmes. From scientific research little is known yet

about the effectiveness of interventions for problem families. Important elements seem to be that all family members are targeted, that the help is offered in their own homes and that practical assistance is provided, beside therapeutic care [26-28]. Next to these distinguishable components, several service models have been proposed, including the broker's model (the model in which care is 'brokered' between clients and agencies, i.e. clients are transferred to regular care) and the more intensive case management model (providing an extended package of care based on a long term relationship with clients) [12]. The assertive outreach intervention was designed to reach very problematic families as indicated in the specifications for inclusion. Our findings show that programme staff did actually work with very vulnerable families and children. Moreover, staff was cautiously confident that the referral process was enabling them to reach the target group. In spite of these findings, there is a lack of robust evidence to actually prove whether the intervention was reaching the most needy families, let alone the question about families missed. To verify this, a comparison should be made between the families in the programme and the potential target group of families in a local area, however this is practically not feasible. Another possibility to gain insight in the process of in- and exclusion is to compare selected families with families that were not eligible for the intervention as appeared during the first contacts with referrers or families. The expectation would be that families considered as 'not eligible' should be less problematic then selected families. We have not provided these analysis as the number of families in the latter category was small (17 cases).

Strengths and limitations

This study has important strengths but also limitations. One strength is the involvement of the parents' perspective. According to current literature, two perspectives can be chosen to characterise problem families. The first one is that of service providers and care givers observing the functioning of these families, and of the parents and children who make up the families. The second point of view is that of the families themselves. A particularly important aspect of this study lies in including the latter perspective as well. It is notable that parents clearly reported severe difficulties about the psychosocial adjustment of their children because the general assumption is that parents within this target group are care-avoiding and do not easily recognise and report existing troubles. Bourdon et al concluded that parental judgement of the severity of children's difficulties may be a key indicator in bringing those difficulties to the attention of health professionals [29].

The study was embedded in daily practice of preventive child healthcare departments. Gaining access to care-avoiding problem families appears to become more and more a specific goal of the preventive child healthcare system. Notwithstanding the complexity of doing research in marginalised and hidden populations, data collection was rather successful. Although we expected some difficulties regarding completion of the SDQ by this group of parents, they responded well. The programme deliverers commented that

especially the FFQ was supportive for the intervention because every aspect of the family is addressed. They perceived some difficulties with the SDQ, because they felt that in this target group it is very important to stress strengths and to give less attention to difficulties and failures.

Limitations that should be acknowledged are the following. First of all, we conducted a cross sectional study in which only some aspects of problem families are addressed. Research on parenting and child development is predominantly based on ecological models that take into consideration parental characteristics (e.g. personal psychological), child's characteristics (e.g. temperament) and contextual sources of stress and support (e.g. marital relationship, social network) [30, 31] . Beside these three general sources, the mutual relations between them should be taken into account (see e.g. 1, 32). With respect to problem families interaction patterns are hardly studied, although some theoretical contributions have been done [33].

A second major limitation is that we do not have robust data on how the families used care and services in the (recent) past, and on the relationship between the families and the different organisations that deliver the care and services. Although the absence of contact with care was one of the inclusion criteria, this does not provide information about the history of care consumption and the functioning of care for the benefit of these families. When we consider the problems of the targeted families as related to characteristics of the families on the one hand and current organisation of care on the other, as outlined in the introduction of this article, this study has shed light on aspects from the side of the families but not yet on aspects of delivery systems.

Implications

The findings of this study reveal some specific characteristics of a vulnerable group of families not accessing, or no longer accessing, mainstream services but reached by an experimental assertive outreach programme conducted by preventive child healthcare. These kinds of families form a relatively new target group for which services and interventions are developing.

This study provides evidence that parental skills, and the severe behavioural and emotional problems of the children involved need particular attention. The challenge is to liaise these families to appropriate agencies and services that meet their multiple needs.

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Chapter 7

Evaluation of an assertive outreach intervention for problem families: intervention methods and early outcomes

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Abstract

Families who experience a chronic complex of socio-economic and psycho-social problems are hard to reach with mainstream care. Evidence exists that the core of this problem lies in a problematic interaction between this type of family and current systems of care. The adults and children involved have needs in multiple domains, while the care system is fragmented and highlights well-defined requests for help.

To improve access to this target group an assertive outreach intervention was implemented into the preventive child healthcare system in the Netherlands. Evaluation research was carried out to get a detailed insight into the content of this intervention. Also, early outcomes were examined. Information was gathered by interviews, attending meetings on method-development, analyzing registration forms and a survey on client satisfaction. Five intervention stages were identified: case finding, making contact, sustaining contact, developing a family plan, and linking (arranging for services to be delivered). Practical support was used to build rapport and clear the way to the uptake of follow-up help. The professionals delivering the intervention need a broad range of competencies to establish a working relation with the families and to link them to care and services. A good care network across professionals from various organisations must exist to provide a variety of linking options. Early outcomes indicate that professionals were able to get in touch with the families within a mean of 13,2 days. Goals of the intervention were mainly practical support (73%), starting new assistance for a child (63%) and starting new assistance for a parent (43%). Linking to care and services was attained in the majority of the cases and parents expressed satisfaction.

The findings indicate that the studied intervention is a promising one. Some potent components can be indicated: the outreach approach, practical support, maximizing participation of the family, and building bridges between the family and (in)formal support and assistance.

7.1 Introduction

Families who experience a chronic complex of socio-economic and psycho-social problems are hard to reach with mainstream care and services. Evidence exists that the core of this problem lies in a problematic interaction between these families and current systems of care and services [1-5]. The adults and children involved have needs in multiple domains. Considering the socio-economic problems three problem fields are distinguished, namely finance, labour and housing. With regard to the psycho-social aspects, inadequacies related to parenting are typical. The educational difficulties are related to psycho-social problems of the parents (e.g. psychiatric disorders, relation problems, domestic violence, substance abuse). These characteristics do not fit in with the fragmented nature of care systems, highlighting well-defined, single problems and short-term services. Especially, the splitting of socio-economic and psycho-social support systems appears to cause difficulties for this target group [6-8]. Psycho-social care often ignores socio-economic troubles, whereas these two fields are interwoven for this target group. In addition, care systems require a clear cut and delineated request for help, creating a barrier for marginalized families. Because of the difficulties that care providers face in retention of these families, care providers tend to refer to them as 'problem families' or 'multiproblem families' which points out that the families are not problematic in themselves, but that the care system has problems in reaching them and serving their needs the way they should [4].

To improve access to problem families, assertive outreach approaches are coming into existence [9]. Assertive outreach originates in public mental healthcare settings for marginalised persons with severe and complex problems not receiving help they objectively need, like homeless people and persons with complex addiction problems. These services consist of an active approach of the target group in their own environments to get in touch with them, motivate them to accept suitable care and liaise between them and services and healthcare providers [10]. In assertive outreach care two models of service delivery are distinguished: a broker's model and a model of intensive case management [11, 12]. The broker's model is the form where care is 'brokered' between agencies and clients. The clients are typically transferred to regular care facilities after an assessment and development of a treatment plan. The more intense case management model, on the contrary, provides an extended package of healthcare and is built on a long-term relationship with the client. Nowadays, these types of interventions are entering the field of child care and are applied to marginalised problem families as well [5, 13]. In the Netherlands, these kinds of services often have a combined approach using an outreach perspective followed by care coordination [14]. Because of the recency of development, these interventions are in early stages of research.

The present study was established to set up the scientific underpinning of an assertive outreach intervention for hard to reach families who experience chronic and multiple problems. The study focused on two aspects. Firstly, we aimed to get detailed insight into the content of the intervention. According to the framework for measurement of program characteristics of assertive outreach interventions developed by Roeg, we distinguished characteristics of the primary intervention processes (including specific counselling methods), of the professionals delivering the intervention, and of the organisation of the intervention [10]. Secondly, early outcomes were assessed on the level of direct intervention results and client satisfaction. Our approach contributes to the development of a proper intervention theory, that is a specification of the potent components of the intervention and a sound rationale explaining why and how these components lead to the intended changes in the target group [15,16]. The study had an observational design. Several authors advised to start with this type of research, especially with regard to complex interventions [17-19]. Only when this type of studies has provided realistic indications for effectiveness and when the intervention has crystallised, it is useful to search for harder evidence using more rigid research methods.

7.2 Method

Intervention

The assertive outreach intervention was carried out by the Dutch preventive child healthcare system. In this system child health professionals (i.e. public health nurses and physicians) offer routine child health examinations free of charge, including detection of a range of environmental and family issues that influence children's safety and health (15 routine examinations for 0-4 years old and 3 routine contacts for 4-19 years old). Take up rates are high. For all ages, coverage is more than 95% of the total population [20,21]. Like in other industrialised countries the goal of preventive child care is to foster an optimal trajectory for growth and development in children and to provide anticipatory guidance [22].

The intervention was focused on problem families that were hard to reach for preventive child healthcare (henceforth: PCH) using their regular methods (i.e. written invitations for the examinations; in the event of non-response repetitive invitations) . Furthermore, the child health professionals had serious concerns that the development of the child(ren) living in these families was severely threatened, based on their contacts with the family in the past or on the file of the child as kept by PCH. The broader aim of the intervention was to get in touch with these families in the first place. By assertive outreach approaches the child health professionals helped the family to accept care or support, and liaise between

them and appropriate care (broker's model). The intervention focused on improving the situation of the children by means of a system-approach: the needs of all family members were taken into account. The predetermined goals of the intervention were:

- so-called 'shared care': parents and PCH reached a shared understanding that the development of the child(ren) was severely threatened;
- linking to, and uptake of follow-up help (both formal and informal care).

Samples

The assertive outreach intervention had been devised and piloted in one municipality. The intervention's key elements as mentioned above were adopted by several other municipalities and departments for PCH across the country. Three of them participated in this study. We selected municipalities with a variety in size in order to get a broad picture of the organisation of the intervention in various local settings. Table 7.1 shows some general characteristics of the three municipalities and the assertive outreach intervention as implemented there. The studied population consisted of families included in the assertive outreach program during one year (2007).

Table 7.1 Characteristics of the three municipalities and of the intervention delivered

Municipality	**A**	**B**	**C**
Number of inhabitants	482.742 23% children (0-19)	185.937 29% children (0-19)	54.243 24% children (0-19)
Number of households	236.950 30% with children	74.110 47% with children	22.947 37% with children
Start assertive outreach intervention	2005	2005	2003
Number of workers delivering the intervention	10	8	7
Team composition	Specialists (i.e. special team, only delivering the intervention studied)	Generalists (i.e. no special team, deliverers combine the intervention studied with regular tasks)	Generalists (i.e. no special team, deliverers combine the intervention studied with regular tasks)
Frequency of team meetings	weekly	monthly	monthly
Availability of method supervisors	yes, 1 supervisor	yes, 2 supervisors	no

Measurements and data collection

To study the content of the intervention the researcher (first author of this paper) conducted monthly observations of team meetings on the three locations. These team meetings were attended by the PCH staff delivering the intervention, their manager and method-supervisors. These supervisors were experts in working with problem families. They were called in from organisations in the field of youth mental healthcare organisations. During the team meetings the content and proceedings of the intervention delivery were discussed, mainly on the basis of case descriptions and related discussions. Furthermore, semi-structured interviews were carried out by the researcher with the team managers (N=3), method supervisors (N=3) and intervention deliverers (N=25). The topic lists for the team observations and semi-structured interviews were structured around the framework for measurement of program characteristics for assertive outreach interventions [10].

The direct intervention results (shared care, and liaising between families and follow-up help) were measured by means of a registration for every family enrolled in the program. Concerning follow-up help the registration distinguished between the kind of help (formal or informal) and the family-member involved. This registration was completed by intervention deliverers during and shortly after completion of the intervention. The registration contained background characteristics of the family: composition of the family, ethnicity and family income.

Finally, the parents were surveyed about their satisfaction with several aspects of the program, as client satisfaction is seen as an important indicator of service effectiveness [23,24]. An existing Dutch questionnaire on client evaluation of ambulant programs was used [11]. Parts of this questionnaire were beyond the scope of this study, so the list was shortened to 23 items (3 subscales). The items covered contact with intervention deliverers (e.g. responsiveness to the needs of the family, keeping appointments), behavior of the intervention deliverers, especially assertive aspects (e.g. collaboration with the family), and care coordination (e.g. being informed on available and suitable care, linking to care and services). Some general judgments (overall satisfaction scores) on the results of the program were added at the end of the questionnaire. The parents got the questionnaire and a postal return envelope shortly after completion of the intervention. The questionnaire was sent by mail or handed over by the intervention deliverers. All respondents received a €10 gift voucher.

The study design was brought to a committee for ethical approval. Ethical approval was deemed unnecessary. The main reason was that the study accompanied an intervention that was already conducted in actual care practice before the study started (the intervention was not set up to fulfill the study).

Data analysis

The team observations and interviews were reported and summarized by the researcher. The persons interviewed received their report to find out whether the interpretation was correct. Subsequently, a comprehensive report on the intervention content and implementation was compiled. Three drafts of this report were discussed between the researcher and intervention deliverers, team managers and method-supervisors. The final report served as a basis for an intervention guide book to be employed nationwide [13].

All quantitative data were analysed using SPSS 14. Examination of the reliability of the scales of the client satisfaction instrument showed that the internal consistencies were satisfactory. Mean alpha of the three subscales was 0,76 (range 0,73-0,80). Each item has a 3-point scale (1=certainly true, 2=somewhat true, 3=not true). Subscale scores were computed by summing scores on relevant items (after recoding reversed items). Higher scores reflect more satisfaction.

7.3 Results

Demographic characteristics of the families reached

Intervention deliverers had contact with 133 families. Eighty-five per cent of these families appeared eligible for the intervention (116 families), while the remaining 15% were not considered suitable at the first intervention stage (see next subheading 'primary intervention processes'). Outcome data were gathered for 99 families. The other 17 families were still in the program when data collection was closed, although maximum length of the intervention (beforehand set at approximately 6 months) already was exceeded with several months at that time.

Table 7.2 shows some characteristics of the families and children reached. The majority of the families consisted of single mothers (65%) with an average of three children. More than half the families (57%) was of non-Dutch origin. These immigrant families were ethnically diverse, Moroccan families being the biggest group. Most parents were unemployed. These families lived on social security benefits. For most of them this situation already existed for a longer period of time (more than three years). Mean age of the children was 10.0 (sd=3.6), 56% were boys and 44% girls.

Table 7.2 Demographic characteristics of the families and children reached

Families	% (N=116)	**Children**	% (N=84*)
Family composition		**Gender**	
▪ single mother	65	▪ boy	56
▪ couple	29	▪ girl	44
▪ single father	6		
		Age	
age mother	mean 37	▪ 4-9	49
age father	mean 43	▪ 10-16	51
number of children	mean 3 (range 1-9)	**age child**	mean 10.0
Ethnic group			
▪ Dutch	43		
▪ Moroccan	15		
▪ Turkish	9		
▪ Surinamese/Antilleans	8		
▪ Others	24		
Income			
▪ labour	35		
▪ unemployment benefit (short term)	14		
▪ unemployment benefit (chronic)	51		

* These data were derived from a questionnaire on psychosocial child adjustment (not presented in this paper). Not all of the parents were willing to complete this questionnaire for their child.

Primary intervention processes

From the observations of team meetings and the interviews it appeared that the intervention delivered consisted of five main stages: case finding, making contact, sustaining contact, developing a family plan, and linking (arranging for services to be delivered). Together these stages made up the core of the activities. Two routes were used to trace the families. The first one was when parents repeatedly did not respond to routine calls of PCH for examinations of the child's health and well-being. The second one was that third parties (e.g. teachers, juvenile care) reported their difficulties to get or stay in contact with a family. Before the program providers started to try to get in touch with the traced families, they gathered information about the child's development by consulting the file of the child as kept by PCH. When these consultations confirmed that the development of the child was severely threatened, program providers started to make contact with the

family (stage 2). As mentioned before, at this stage 15% of the families were not eligible for the intervention. The reasons for exclusion differed. Most common were that families were facing juvenile justice enforcement actions, were open for help (not care avoiding) or did not had to deal with a complex of socio-economic and psycho-social problems (no complexity). In some cases there was already a case manager available. Stage 2 consisted of the application of outreaching approaches. The intervention deliverers tried to contact the families in their everyday living conditions at home (occasionally in the street). Ringing at the family's door and expressing interest in the well-being of the parents and children in most cases resulted to an invitation to come in and start a talk. Together stage 1 and 2 lasted an average of 13,2 days. This took a mean number of 1,8 attempts to get a first contact (e.g. telephone calls, ringing the doorbell, engaging in conversation at other places like schoolyards). Subsequently, time was invested in building and sustaining contact (stage 3). It appeared that this stage was a difficult one due to a complex dilemma. On the one hand program deliverers had to express their serious concerns about the child's development. On the other hand they tried to establish a working relation for which they needed the parent's confidence. One of the professionals mentioned:

> '*First I tell them that I have a serious message and that something should be changed for the benefit of the children. After that, I become friendlier*'.

The main goal in this stage was that parents were going to subscribe to the expressed concerns about the child's health and well-being. When this was reached, the way was open to stage 4: developing a family plan. Core activities in this stadium consisted of building bridges between the family and agencies that could offer help or assistance. Often a meeting with the family members and the agencies involved was organised. During this meeting agreements were reached on what kind of assistance would be delivered by which agency and on participation of the family members in the follow-up help. Often, arrangements on care coordination were part of the family plan. When family and agencies reached agreement on the plan, the final stage of the intervention was closing the contact between the program deliverer and the family, and final handing over to others. Program deliverers invested in a careful transfer to prevent that clients were lost during referral and to stimulate compliance.

Within the five main stages providing practical support took a distinct position. During the team meetings, many discussions were spent on the role of practical care, such as helping with household chores (e.g. transportation to play group/nursery/school), administration, application for social benefits or other financial troubles. For several reasons, program providers felt that this kind of support was an important part of the intervention. They argued that fulfillment of basic needs and establish some order in less organised households were necessary to clear the way to the uptake of further interventions. Furthermore, low-threshold practical care was found to be very well suited

for gaining trust of the parents. On the other hand, the program providers discussed that practical support came with pitfalls. They reported their difficulties about being absorbed and getting bogged down into the practical problems. These processes hampered the proceeding of the other intervention stages.

Specific counseling methods

By observations of the team meetings we also aimed to gather more detailed information about specific counselling methods. We wanted to know more about what happens on the 'shop floor'. One out of the three research locations implemented a well-defined set of counselling tactics as a basis for the intervention, namely the solution-focused model [25, 26]. The interviews on all locations showed a need for such methods, but the persons interviewed mentioned that the intervention developed by practice, based on pragmatic decision-making. This involves that only global goals and working processes were determined beforehand, and that no underlying methods were specified. They also stated that a mix of techniques was needed because the target group was not homogeneous and had to deal with diverse problems. One of the method-supervisors said that:

'When one method doesn't work, we need flexible switches to others'.

Professional competencies

With respect to professional competences, the interviews showed that some personal characteristics and attitudes were essential in the first place, especially a strong engagement with the families involved, and tenacity to achieve something for their benefit. In the words of one of the managers:

'*These professionals are terriers; they hang on to the bitter end*'.

However, it was observed that this involvement came with some hazards. During team meetings professionals discussed their inclination to offer advice or help in early stages of the intervention. When this happened they encountered resistance, meaning that parents were not willing to collaborate anymore.

Beside competencies regarding the target group, professionals need to be knowledgeable about the healthcare and welfare system. The families involved experienced a broad range of problems, so knowledge of and access to all kinds of facilities offered a variety of referral options, coming with a higher chance of successful linking. The program providers stated that they were faced with difficulties when transferring families to regular care. They expressed their concerns about families lost during transferal and a deficiency in accessible and tailor-made care. For example a practitioner mentioned that:

'Sometimes for me it is more difficult to get on speaking terms with agencies about these families then to get in touch with the families themselves. I really need to advocate the interest of these families'.

Therefore, professionals needed competencies to organise interagency working and coordination of care, establish negotiations with care and service providers, deal with conflicts of interests, and advocate the interests of the family.

Organisational aspects

The interviews showed that the intervention at the three locations came into existence due to experiences of PCH and adjacent child serving agencies that extra efforts were needed to reach the target group under study. The development of the intervention was stimulated by national and local incentives to strengthen a coherent youth policy. In this policy PCH is considered to take a central position, especially with regard to populations that are difficult to engage.

Although global goals and working processes were the same at the research locations, each department developed its own version of the intervention in more detail during the implementation. Managers stated that the intervention was being born to fill a gap in existing provision. This provision and its functioning in practice varied from location to location. For example, outreaching approaches for youth by social workers were more common at location C compared to the other locations. Furthermore, regular healthcare facilities differed. At location A (the largest city in this study) more specialist care (e.g. for parents with addiction or psychiatric problems) was available within the municipality. As a consequence, referral options were different. Integration with care coordination was an important issue at all locations. In the Netherlands, coordination of care is a matter of local policy. Legislated coordination among child serving agencies in order to reduce fragmentation is lacking up until now. A major difference between the locations was the composition of the teams delivering the intervention. At location A a special and multidisciplinary team was set up consisting of PCH-workers that only delivered the assertive outreach program. At the other two locations on the contrary, all PCH-workers carried out the intervention next to their routine PCH- tasks.

Direct intervention results

A first goal of the intervention was to reach agreement with the parents on the development of the child. The providers of the intervention started their contacts expressing their concerns in this respect. They also opened their minds to the views of the parents. It turned out that in this way in half of the cases (52%) providers and parents were able to reach agreement. They reached a shared understanding that the development of the child was threatened. There were 37 parents (37%) who only agreed on certain points and 11% of the parents continued to differ with workers regarding the child's development. These cases were taken to the framework of juvenile justice.

Table 7.3 shows the specific goals regarding follow-up help and to what extent these goals

were attained. The mean number of goals was 2.5 (range 1-6, sd 1.0) (not shown). Starting assistance for a child and starting assistance for a parent were important goals. These goals were set for 62% and 43% of the families respectively. To start assistance, parents and children needed to be linked to other agencies. This was realised for the majority of them at the end of the intervention. Assistance has actively started at that time for 84% of the children linked. For the parents this was 78%. To a lesser degree, the intervention aimed at resumption of stagnated assistance and strengthening social support. Families were linked to a variety of agencies, including social benefit services, youth care, social work (at schools or in the community), general practitioners, mental healthcare and addiction care.

Table 7.3 Direct intervention results

Goals	Number of families for which the goal was set (N=99)	Percentage of families linked to follow-up help	Percentage of families actually started in follow-up help
Resumption assistance child	11	91%	90%
Resumption assistance parent	14	86%	92%
Starting assistance child	62	90%	84%
Starting assistance parent	43	84%	78%
		Percentage of families for which attained	Percentage of families for which partly attained
Strengthen social support	31	18%	61%

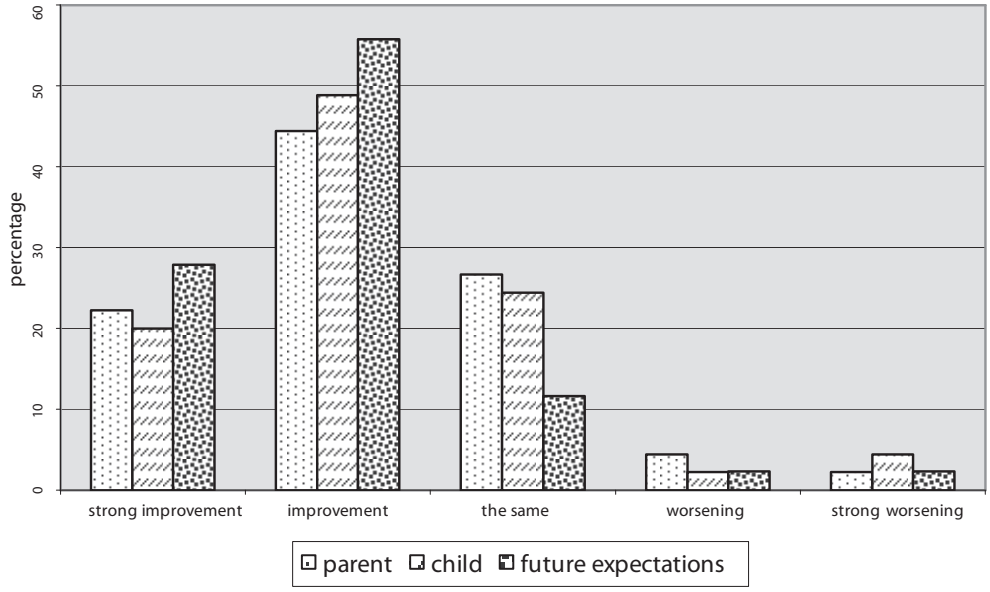
Parent satisfaction

Of the 99 families who received the client satisfaction questionnaire, 47 (47%) responded. Table 7.4 and figure 7.1 present the results on parent satisfaction. The mean grades on the three point scales varied from 2,48 to 2,76 reflecting high satisfaction with the intervention received. A total of 33 parents (67% of the parents who responded) indicated that their situation had (strongly) improved comparing it before and after the intervention. Regarding their children, this grading is similar (32 parents reported improvement). A quarter of the parents stated that the situation has not changed. Future expectations were optimistic. A majority of the parents (39, 84%) thought that their circumstances would improve. Mean report mark assigned by the parents was 8,2 (sd 1,77).

Table 7.4 Parent satisfaction

subscales	Mean (sd)
contact (n=39)	2,76 (0,51)
behaviour of workers (n=41)	2,74 (0,55)
care coordination (n=46)	2,48 (0,76)

Figure 7.1 Parent satisfaction



7.4 Discussion

Assertive outreach interventions for marginalised families who experience multiple problems are internationally widely used but still in early stages of research [9]. Studies of these interventions are complex because the interventions, and their context-dependent implementation, consist of multiple components. These components are seldom described properly. This complicates the interpretation of results and causes lack of knowledge of the contribution of program components. The present study was established to set up the scientific underpinning of an assertive outreach intervention for problem families aiming to get detailed insight in the intervention components. This phase of research is necessary in preparation for effect studies [9].

The intervention studied emerged from the practice of preventive child healthcare faced

with a target group that is difficult to reach just using routine practices. The findings show that the intervention deliverers were able to reach the target group and to achieve the final intervention goal (i.e. linking to follow-up help) in the majority of the cases. Several components seem to contribute to the results of the intervention, including the outreach approach, practical support, maximising participation of the family, and building bridges between the family and (in)formal support and assistance. The remaining of this paper discusses these components as well as how they relate to the target group and to the intervention results.

By using outreaching approaches and expressing high interest in the family's well-being, program providers were able to reach the families. On average contact was reached within two weeks. It is likely that the role of PCH as a low-threshold and child centred service has contributed to this result [22].

Both this study and previous research show that practical support is a tool in building rapport [27, 28]. The majority of the assertive outreach programs provide at least practical care [10]. Practical care can motivate clients and supports the process of binding [29]. In this kind of families retention needs careful attention because of their poor experiences with services in the past making them suspicious of workers who represent formal agencies [27]. Our study shows some pitfalls of practical help in that practical assistance dominates the intervention and hampers the other intervention stages (i.e. developing a family plan and linking). In conclusion we can say that within the broker's model balancing practical support with the other activities is a point of particular interest. Nevertheless, practical support is an inevitable part of the intervention because those services make a contribution to the families' well being and are supplementary to regular facilities.

In this study we also searched for specified counselling methods used, especially with regard to overcoming resistance and motivating parents to take up follow-up care. In line with current literature on assertive outreach interventions, we found that such methods are in their infancy as yet. Program providers and managers expressed a need to strengthen the intervention's methodological basis. The solution-focused approach emerged to be useful [25,26]. Especially two characteristics of the solution-focused model seem appropriate, namely the focus on the family's perceptions and what they want to achieve, and the emphasis on the families' strengths. It is becoming increasingly clear that maximising family engagement and involvement of a family in the development of their family plan are key components in working with problem families [9, 27, 30]. The solution-focused approach offers practical techniques for implementation of these principles.

The ultimate goal of the intervention is to liaise between families and services and healthcare. At this point support was agreed with other agencies that were brought on board. It seems that a meeting with the agencies involved is a tool to reach agreement on responsibilities for carrying out and monitoring the family plan. After that withdrawing

from families by the intervention deliverers is conducted in a planned and phased manner, rather than making a sudden exit. This approach, combined with the preceding building of rapport and relationship with the family, proved to be successful. The majority of the families were linked to other agencies. Again a majority of the linked families has actively started participation in follow-up help. Given the fact that the families in general were disillusioned with services, this is quite an achievement, although we don't know yet whether these positive outcomes will be sustained in the longer term.

Due to a lack of similar studies it is hard to compare our results to the findings of others. Moreover, the limited studies available report on more distant outcomes like reducing risks on family break down and improvement of mental health of children and parents [9, 27, 31, 32]. This was beyond the scope of our study because we focused on intervention content and direct intervention results. Some authors cast doubt on the broker's model because clients can be lost during referral and a deficiency in tailor-made follow-up care [12]. They advocate for more intense and broader models, building on a long-term relationship with the client. Research on assertive outreach and intensive case management for families has not yet addressed the full range of models. In a review on intensive case management for children with severe emotional disorders (at risk for out of home placement) Burns et al concluded that, although the evidence base is small, there are indications that case management is an effective intervention [9]. Often, assertive outreach is a core function of case management but because of the variability in models and in service system characteristics it is difficult to separate the potential effect of assertive outreach from the other functions of intensive case management.

The survey on parent satisfaction revolved around contact with the worker, behaviour of the worker and care coordination. Typically parents were positive about the support they had received. Approximately two thirds of the parents who responded indicated that the situation of the family (parents and children) has improved. Interestingly, even the aspects on the workers' behaviour, concerning the assertive and persistent style of working, were not assessed negatively. It seems that the parents viewed this as acceptable. Previous studies on parent satisfaction with case management indicate the crucial role that case managers play in providing families with both practical and emotional support [24, 33]. In an evaluation of family intervention projects to reduce anti-social behaviour in problem families, White et al concluded that families clearly valued the emotional advice and practical assistance above other aspects of the service [27]. Furthermore, she concluded that the ease with which parents and children could relate to their worker was attributed to their friendly, helpful, caring and personable manner. Again, it is hard to distinguish the assertive aspects from other components of the services delivered. Despite high overall levels of parental satisfaction, approximately a quarter of the parents expressed that their situation had not changed. The results offer little in the way of explanations

of this finding, apart from the fact that problem families have historically been one of the hardest populations to serve and it is difficult to motivate these families for change. When interpreting the findings on parent satisfaction it is important to keep in mind that in most satisfaction surveys clients tend to report relatively high levels of satisfaction [34]. Furthermore, the response rate was only 47%, although this was in line with our expectations for this target group and comparable to rates in other studies [23, 33].

The intervention under study was delivered by PCH, public health nurses and - physicians being the core functions here. Basically, this seems appropriate professional background because PCH considers the development of a child (physical, emotional and social) within the (broader) social context. A key challenge for workers is to ensure engagement and participation of the family throughout the delivery of the intervention. A too intense involvement of workers as well as directive and leading attitudes can hamper engagement of the parents.

In the preceding discussion of our results, we have already mentioned a few limitations of this study. Furthermore the role of the researcher should be considered. The study was established in close collaboration with child health professionals. The participation of the researcher was focused on making the intervention more explicit and clarifying the rationale underpinning the intervention, in contrast with developing the intervention itself. Additionally, possible influence of the research and the researcher on the validity of the results was compensated by structural reflection on the research in an academic setting [35, 36].

This evaluation has provided descriptive evidence of the way in which the assertive outreach intervention operates for children living in disadvantaged families. The intervention appeared to be able to reach and build rapport with these families, and to bridge the gap between these families and agencies that can offer assistance. This is an encouragement to move ahead to controlled studies. The description of specific program components contributes to improved effect studies. Part of these studies should be the measurement of program characteristics of experimental and control services. In this way conclusive evidence can be found on effectiveness and the contribution of program components.

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Chapter 8

Discussion and implications

8.1 Introduction

The ultimate goal of this dissertation was to explore the process and possibilities of practice-driven intervention research, applied in the field of preventive interventions for children who are at risk for (severe) developmental problems. Practice-driven intervention research in this study was defined as research on interventions that are carried out in daily practice. The research is characterised by a close collaboration between research and practice. It binds together the activities of these two domains. The research questions to be addressed, the form of the investigations as well as the realisation of the research are shaped by the assembled efforts of practitioners and researchers.

Practice–driven intervention research will possibly result in enhanced quality and effectiveness of interventions for vulnerable children. It aims to deliver practically meaningful and scientifically sound evidence. As discussed in chapter 1, a systematic development of this kind of research is in its infancy and has received little attention of scientists [1-4]. Regarding research on interventions, until now there has been a strong emphasis on effectiveness research in controlled conditions, treating the randomised controlled trial as the gold standard (randomisation, manualised interventions, a control condition, and specific inclusion and exclusion criteria) [5]. Although this kind of research has the best credentials to determine a causal relation between a particular intervention and a specific, measurable effect, such elaborate procedures are not always appropriate and feasible in practice settings. Moreover, the evaluation of evidence about public health interventions should examine not only the credibility of the evidence, but also its completeness and its transferability [6]. For example, if an intervention is unsuccessful, the evidence should help to determine whether the intervention was inherently faulty or just badly delivered. This means that detailed data on the intervention as intended and as delivered should be provided as well.

Especially with regard to complex interventions as they emerge in practice settings it is recognised that several forms of research are necessary to underpin these interventions [7-10]. Concerning the interventions as delivered by PCH (PCH, in Dutch: Jeugdgezondheidszorg) for disadvantaged families the complexity manifests itself in characteristics of the interventions, the target group and the contexts in which these interventions take place, as described in chapter 1. In short, the interventions are shaped by the collaborative activities of staff working for different organisations and (healthcare) sectors, the targeted population has to deal with multiple problems, is hard to reach and unevenly motivated, and the contexts in which the interventions are delivered are made up by a number of actors having their own strategic goals and purposes.

The goal of this thesis was to explore the process and possibilities of practice-driven intervention research. What does this research look like and what kind of knowledge

does it yield? Two PCH interventions were used as cases to examine the application of practice-driven research. The first case concerned an intervention that aims to reduce health-related deprivation in children living in low-income families. The intervention builds on a close collaboration between PCH and the local Social Benefit Service (SBS, in Dutch: sociale dienst). Extra finances for specific, health-promoting purposes are made available for children with poverty-related health risks as identified by PCH staff. The second case was an assertive outreach intervention for families who experience a chronic complex of socio-economic and psycho-social problems and are hard to reach with mainstream care. This intervention consists of an active approach of the target group in their own environment aiming to get in touch with them, motivate them to accept suitable care and liaise between them and services, healthcare providers, and/or social support from their own social network. Chapters 2 to 7 reported on the practice-driven research that has been conducted aiming to provide evidence for these interventions. The investigations have accompanied the development, implementation and dissemination of the two interventions. The intervention stages ran from the first ideas that emerged in practice about the perceived need for these interventions to the delivery of an intervention guidebook for both interventions which can be employed nationwide. This final chapter summarises the main findings and discusses the methodological quality of this dissertation. After that, we reflect on the main findings by using the theoretical framework on intervention research presented in chapter 1. Finally, the implications per developmental stage of interventions are discussed.

8.2 Main findings

In chapter 1 the following research questions were raised:

- Which intervention stages does practice-driven research address?
- Which stages of research and evaluation characterise this research?
- What kind of knowledge on an intervention does this research yield that is locally relevant?
- What kind of knowledge on an intervention does this research yield that can be generalised to other settings?

This paragraph addresses each question separately. Table 8.1 summarises the main findings for both intervention cases with respect to the intervention stages and research stages (question 1 and 2). The distinguishable stages are shown on the left (first column). The findings per intervention are presented in the second and third column. In these columns intervention developments as well as accompanying research are listed.

Table 8.1 Overview of intervention and research stages per intervention

Main stadia	Intervention: Poverty and children's health	Intervention: Assertive outreach care
Development		
problem definition	community needs from practical and policies experiences	community needs from practical and policies experiences
	foregoing local epidemiological research funded by RPHS	no foregoing local epidemiological research
intervention design	by practice, no additional research	by practice, no additional research
Implementation		
intervention testing (pilot)	in one municipality in West-Brabant	in one municipality in West-Brabant
	accompanying evaluation research into acceptance, feasibility and direct intervention outcomes	accompanying evaluation research to extent of the target group, acceptance, feasibility, activities and policy issues
	evaluation nationally funded	evaluation nationally funded
intervention refinement	in two municipalities in West-Brabant	in several municipalities in (n=7) and outside West-Brabant (n=12)
	additional research into intervention processes to improve practicability	accompanying evaluation to characteristics of the target group, intervention methods and direct intervention outcomes
	additional research nationally funded	evaluation nationally funded
Dissemination		
reproduction elsewhere	in several municipalities in (n=5) and outside West-Brabant (n=2)	in several municipalities in (n=7) and outside West-Brabant (n=12)
	accompanying local evaluations to intervention performance	accompanying local evaluations to intervention performance
	evaluations locally funded	evaluations locally funded
	accompanying dissemination research to replicability	no research particularly to replicability
	dissemination research nationally funded	-
intervention transfer	intervention guidebook available with active elements and working methods, elements to be adapted locally and a blueprint for implementation	intervention guidebook available with active elements and working methods, and preconditions for implementation

8.2.1 Intervention stages

Poverty and children's health

The research projects reported in chapters 2 to 5 reveal that the intervention Poverty and children's health passed through several stages. The very first idea for this intervention emerged from the practice of PCH in one municipality of the Regional Public Health Service (RPHS, in Dutch: GGD) in the West-Brabant region. In their routine contacts with parents and children, PCH staff perceived increased poverty-related health risks in children. The staff concerned consulted the department for epidemiological research, part of the same RPHS. In collaboration with the Local Authorities epidemiological research was initiated to verify the signals of PCH (see § 8.2.2). During the next school year (1998-1999), after publication and presentation of the research findings, the first implementation of the pilot intervention started in the municipality involved. The intervention was a natural continuation of the foregoing research. In fact, one of the research recommendations was to carry out such an intervention. This recommendation was designed in consultation between the RPHS and the Local Authority, more specifically the SBS. It consisted of the concerted action of PCH and the SBS as described in the introduction of chapter 3. The first implementation was funded by the RPHS.

In later years (2000-2009), three developments could be distinguished, namely refinement of the intervention, dissemination of the intervention within the region of West-Brabant and adoption of the intervention elsewhere in the country. The refinement of the intervention resulted from increased numbers of detected children and repeated appeals for financial support of a part of the target group reached. This occurred in both municipalities that had implemented the intervention at that time: the municipality of origin (since 1998) and a municipality situated next to it (since 1999). Consequently, the feasibility of the intervention became threatened at both locations because human and financial resources became inadequate. To improve the practicability of the intervention additional research was carried out aiming to provide better insight into the families who repeatedly returned (2001/2002). Later on, the RPHS and the Local Authorities concerned entered into negotiations and agreed on a refinement of the intervention model (2003), consisting of a different division of tasks between PCH and the local SBS. Furthermore, part of the PCH tasks was categorised in product packages of the RPHS that were additionally funded by the Local Authorities.

The refined intervention, now part of the additional funded package and consequently offered to Local Authorities on a yearly basis, was adopted by several other Local Authorities (n=5) in the RPHS-region. A notable characteristic was that, although the RPHS adhered to the refined model, every Local Authority devised to a certain extent its own version of the intervention, especially regarding the contribution of the SBS to the

intervention. In some cases this resulted in a failure of the intervention because essential intervention steps had been dropped (in particular the provision of extra finances for health-promoting purposes).

The third development was adoption of the intervention outside West-Brabant. The intervention won a national award in the field of systematic development of new programmes (2000) and a nomination for the innovation award in PCH (2004). Implementation took place in a municipality in the region of the neighbouring RPHS and in a distant municipality. Different intervention names were chosen (respectively 'Money and Health' and 'Children's fund Poverty and Health') and one municipality implemented the original intervention model (model before refinement). At the invitation of two national umbrella organisations (the National Institute on Health Promotion (NIGZ) and the Union of Dutch Local Authorities (VNG)) the RPHS West-Brabant participated in two projects aiming to disseminate interventions in the field of socio-economic health inequalities. This participation consisted of some workshops for Local Authorities, RPHS's and other organisations that showed their interest for the intervention (2003 and 2005). Furthermore, presentations on the intervention were given at regular national conferences in the field of public health, preventive child healthcare and social welfare (a few times per year).

In the process of knowledge transfer outside West-Brabant the RPHS West-Brabant experienced that systematic information on the intervention and its implementation was lacking and that acquired knowledge was not easily accessible. Therefore, a project was started to develop an intervention guide (2006-2009). This project resulted in an intervention guidebook and courses that were made available by national umbrella organisations in the field of health promotion, youth welfare and social welfare [11].

A final development was the admission of the intervention to the national interventions databases (i.e. the I-database and the Database Effective Youth Interventions). In recent years, these databases have been established by the National Institute for Public Health and the Environment (RIVM) and the Netherlands Youth Institute (NJi). The databases and the associated websites make scientific findings on the effectiveness of interventions accessible. Submitted interventions are assessed by an independent committee for approval which can accord three types of recognition to interventions: theoretically well-founded, probably effective and proved effective, based on the design of the underlying research [12]. The intervention Poverty and children's health has been judged and admitted to the databases (2008), on the first level of evidence (theoretically well-founded) which means that a clear description and solid theoretical foundation make it plausible that the intervention works.

Assertive outreach care

For the intervention Assertive outreach care several successive stages can be distinguished as well. Similar to Poverty and children's health, the first idea for an intervention like this one emerged from the experienced need in the practice of PCH. Partly due to the controversial elements in this intervention, especially the assertive aspects, the RPHS West-Brabant started with the publication of an article in a national professional journal (2002) [13]. In this article the intervention concept was introduced, together with some preliminary experiences (case descriptions). Although the support within the field of PCH seemed limited because of the perceived paternalistic elements of the intervention, the RPHS continued with its development. Working procedures were conceived and the pilot intervention was implemented in one municipality funded by a national fund to stimulate innovation in local public health practice.

Since 2004 the intervention has been adopted in several other municipalities within and outside West-Brabant. Various developments contribute to the adoption of the intervention. The intervention won three national awards for innovation in PCH and public mental healthcare (2003, 2004), reflecting that the public acceptance of the use of assertive approaches has increased. One award was accompanied by a fund for further dissemination of the intervention, facilitating the RPHS to write a chapter in a national handbook for PCH [14] and to give presentations at conferences on preventive child healthcare and youth welfare. Furthermore, dissemination was strongly encouraged by a national programme of the ministry of Public Health and the ministry of Justice aiming to trace problem families and enhance care. This programme consisted of a grant scheme running from 2004-2008. Big and medium-sized cities (n=4+47) could apply for grants to locally implement promising interventions that contributed to the programme goals. In this way core elements of assertive outreach care as developed in West-Brabant have been implemented in 12 municipalities. In West-Brabant the intervention has been categorised in the additionally funded product packages and offered to Local Authorities annually. Seven Local Authorities have adopted the intervention.

In 2006 Assertive outreach care was judged for admission to the I-database and the Database Effective Youth Interventions. Like Poverty and children's health, the intervention was approved on the level 'theoretically well-founded'.

The final intervention stage was the development of an intervention guide for Assertive outreach care [15]. The broader aim of this project was to gain insight into the potent components of the intervention and to enhance its transferability. This project resulted from the national programme of the two ministries mentioned above and was part of the research reported in chapters 6 and 7 of this thesis (see § 8.2.2 for details). In 2009 the intervention guidebook was delivered and made available by national umbrella organisations in the field of health promotion and youth welfare. Together with the project

on the dissemination of the intervention Poverty and children's health, the development of this guidebook was nominated for the PCH innovation award 2009, providing the opportunity to broadly disseminate the intervention guidebooks into the field of PCH nationwide.

8.2.2 Research stages

Poverty and children's health

For the intervention Poverty and children's health, five types of research were conducted, namely epidemiological research, evaluation of the pilot intervention, additional research aiming to gain insight into a specific part of the target group (i.e. families who repeatedly returned), repeated local evaluations and dissemination research. The establishment of these research projects, the applied designs and the findings have been summarised below.

Initially an epidemiological survey was carried out assessing how often schoolchildren have to deal with material and social deprivations due to poverty, as well as how often these deprivations entail health risks in schoolchildren. This research resulted from signals from the practice of PCH, and was conducted and funded by the research department of the RPHS West-Brabant. The research consisted of a survey amongst parents of schoolchildren on poverty and the way it afflicted their children's health, combined with an assessment of the child's health status by PCH staff. Initially the investigation took place in one municipality. In the next school year the neighbouring municipality participated in this research as well. The findings were reported in chapter 2 of this thesis. It was concluded that poverty-related deprivations involved health risks for 6.2% of the schoolchildren.

The second research consisted of an evaluation of the pilot intervention conducted in the municipality of origin. This research was part of a national research programme to evaluate interventions that aim to reduce socio-economic health inequalities [16]. After consultations between the management of this programme and the RPHS West-Brabant on the intervention and possible study designs, it was decided to fund the evaluation by the research programme. The national programme also provided scientific supervision as well as exchange with other researchers within the programme. The research consisted of an observational evaluation of the first year of delivery of the pilot intervention (reported in chapter 3). Feasibility, reach, acceptance, parent satisfaction, direct intervention outcomes and side effects were studied using a one-group design. Strengths and weaknesses of the intervention were identified. The stronger points concerned client satisfaction and the direct way of decreasing health-related deprivations. The weaker points were the limited reach during the first year of delivery, the incidental character and the labour intensiveness.

The third form of research resulted from increased numbers of detected children and repeated appeals for financial support of a part of the target group reached in the years following the pilot intervention. These processes threatened the feasibility of the intervention. Hence, additional research was carried out into these processes. The research consisted of a consultation of Dutch literature on the determinants of the use of financial provisions, supplemented by interviews with PCH staff and SBS policymakers. The project was funded by a national fund to stimulate innovation in local public health practice. It was shown that a part of the target group had to deal with a chronic complex of material and immaterial problems, and that they encounter several barriers in the use of available provisions. Several follow-up activities were initiated as a result of this research (e.g. additional training of PCH staff). The findings induced the collaborating partners to refine the intervention model in order to sustainably improve the practicability (a different division of tasks was agreed on).

The fourth form of research consisted of evaluations of local deliveries of the intervention. The evaluations were part of these deliveries and as such commissioned by the Local Authorities. From 2000-2009 19 local reports were written by the RPHS research department regarding the performance and direct results of the intervention in the municipalities concerned (part of the findings were presented in chapter 4 and 5). The findings were discussed and subsequently used to improve the quality of intervention delivery. For example, when it emerged that the interventions' reach was lower than expected, possible causes were identified and agreements were made to improve the number of children reached.

The final type of research was dissemination research. This research was part of the project to develop an intervention guidebook (see also § 8.2.1) [11]. The reason to start this project was the interest shown from outside the West-Brabant region. However, it was unknown whether and how the intervention, as developed in West-Brabant, could be transferred to other PCH departments and other local SBS's. Furthermore, the information available on the intervention was not easily accessible because it was fragmented and partly stored in the minds of policymakers and practitioners. The dissemination project was incorporated within the Academic Collaborative Centre Public Health Brabant (established in 2003/2004). In this centre three RPHS's in the province of Brabant, Tilburg University and the RIVM maintain formalised and structural collaboration to strengthen the local and regional knowledge infrastructure on public health [17]. Funding was acquired from the Dutch organisation for Health Research and Development (ZonMw). The research consisted of a process evaluation of the way the intervention was replicated in two municipalities outside West-Brabant. This evaluation had been based on a draft of the intervention guidebook built on current literature on dissemination of innovations in (preventive) healthcare and a systematic inventory of the experiences in West-Brabant. In

one municipality replication failed because an essential part of the intervention had been dropped. In the other one the implementation succeeded.

Assertive outreach care

The development and implementation of Assertive outreach care for problem families has been accompanied by three forms of research, including evaluation of a first pilot, research to refine the intervention and enhance its transferability, and repeated local evaluations. The first study was funded by a national fund to support local innovations in public health practice. It consisted of the evaluation of a first pilot in the municipality of origin in West-Brabant. In this pilot the application of a predetermined definition of the target group and working procedures were tried out in practice. The accompanying evaluation concerned the number of children reached, characteristics of the target group reached, the feasibility of the working procedures, and an inventory of intervention activities and related policy issues. It was concluded that the extent of the target group varied per neighbourhood, ranging between 0.6% – 7.0% of all children and adolescents (aged 0-19). Intervention activities concerned particularly liaising between traced families and a variety of services and healthcare providers. An important policy issue identified was how to demarcate regular PCH from assertive outreach care because these two follow each other naturally. The national programme of the ministry of Public Health and the ministry of Justice to stimulate local interventions to improve access to hard to reach problem families led to research aiming to refine the intervention and enhance its transferability (reported in chapter 6 and 7 of this thesis). This research was funded by the Dutch organisation for Health Research and Development (ZonMw) and resulted from the desire of the two ministries to gain insight into the effectiveness of their incentives policy. ZonMw invited the RPHS West-Brabant to develop a research proposal and after this top-down procedure the funding was acquired. The research was embedded in the Academic Collaborative Centre Public Health Brabant. The main goal was to strengthen the underpinning of the intervention by investigation of the target group, the intervention methods used, the direct intervention outcomes and the way these three elements were interconnected. Three municipalities were selected to participate in the study (one inside West-Brabant and two elsewhere in the country). The study had an observational one-group design using several quantitative and qualitative research methods. The findings reveal that intervention staff came into contact with families facing a high level of risk, including psychosocial problems in the children on a level well above the (inter)national average. Linking to care and services was attained in the majority of the cases and parents expressed satisfaction. Furthermore, it emerged that two different models were used to fit Assertive outreach care in PCH structures, namely Assertive outreach care as a speciality or as a generic area of work. Strengths and weaknesses of both models were identified.

The findings of the research project were reported in two scientific articles (chapter 6 and 7) and in an intervention guidebook [15] as discussed in § 8.2.1.
Similar to the intervention Poverty and children's health, the adoption of Assertive outreach care by other Local Authorities in West-Brabant was accompanied by local evaluations. From 2004-2009 20 local reports were produced on the performance of the intervention in the seven municipalities involved by the research department of the RPHS. The design of these evaluations was basically the same as the evaluation of the first pilot, except from the main policy issues. By then, these issues were addressed by policy decisions. The RPHS and the Local Authorities agreed on the distinction between regular PCH and assertive outreach care. The findings of the local evaluations were used to improve the delivery of the intervention such as more detailed agreements with services and healthcare organisations on tracing unreached problem families and broadening of linking options.

8.2.3 Locally relevant knowledge

Our third research question was what kind of locally relevant knowledge practice-driven intervention research yields. Practice-driven intervention research is expected to produce locally relevant knowledge because locally devised interventions are studied which address problems as experienced by local stakeholders. Furthermore, the process and outcome variables measured cover the interests of the stakeholders involved. Important stakeholders include policymakers with responsibility for implementation decisions, the target group affected by the intervention and practitioners who deliver the intervention [6]. A goal of the evaluations is to inform the stakeholders and to assist them to make better informed decisions.
The knowledge yielded in the two case-studies that locally has been produced and utilised concerned three main topics. First, the evidence has regarded the scale and characteristics of a health problem on the level of a municipality or group of municipalities. For Poverty and children's health this epidemiological research preceded the start of the intervention and provided information on the extent of the target group. Data on the target group of Assertive outreach care was gathered during intervention delivery because the target group of assertive outreach can only be reached by delivering the intervention. The second kind of knowledge has been related to the content, acceptance and applicability of the interventions. A main issue here regarding Poverty and children's health was the collaboration between PCH and local SBS's. By nature, these organisations rather differ in their working methods and approach of the target group. For this intervention they are interdependent for a successful implementation because both organisations carry out core elements of the intervention. Similar issues apply for Assertive outreach care, although the collaborative agencies are in general more closely related, and more or less used to their interagency working. For both interventions a learning process was to gain

insight into appropriate methods (attitudes, counselling techniques, practical tools) to get in touch with the target group. For example, how to talk with parents about a touchy topic like poverty and how to interfere in troublesome educational circumstances. Which methods arose from practice and from literature, and was the intervention staff able to develop and apply these methods? Third, the knowledge yielded has consisted of data on the direct intervention outcomes, based on one-group post-test-only designs. It was assessed to what extent the goals were achieved that were set in advance by intervention staff and policymakers. Also parent satisfaction was examined by interviews and a survey, including the effects for the children as seen by the parents. In addition, the standard and repetitive local evaluations in West-Brabant monitored the performance of the interventions (number of children reached, number of children receiving extra finances, use of extra finances, liaising between families and agencies that offer support and assistance). The performance indicators and the achievements to be expected have been identified in the several foregoing research efforts.

8.2.4 Transferable knowledge

Because practice-driven intervention research is focused on interventions that are shaped by multiple local stakeholders an important question is whether these interventions and the locally generated evidence on these interventions are transferable to other local communities [18]. The interventions studied in this thesis were adopted outside the region of origin. These adoptions largely resulted from local and national incentives outside the system where the interventions originated (i.e. the RPHS West-Brabant). The implementation in other settings has offered the opportunity to gain insight into the broader applicability of the interventions. By accumulation of practical experiences and accompanying research in different local settings a profound understanding was achieved into the content of the interventions, the active and essential components, the delivery modes (components that can vary due to local policy and practice decisions), the requirements for implementation and the routes to implementation. This knowledge is captured in the two intervention guidebooks which cover all the mentioned aspects (Appendix 1 shows the content of both guidebooks) [11, 15]. For Poverty and children's health four essential components were identified and ten aspects of the intervention content that can vary. The latter can be used to tailor the intervention and to create a sense of ownership. The essential components should be implemented in any case in order to reach the desired results. The final chapter provides a blue print for a successful implementation. Likewise, the guidebook for Assertive outreach care has been assembled. More attention was paid to counselling techniques because the study findings showed that these techniques were of utmost importance for building working relationships with the target group of Assertive outreach care. Because the routes to implementation

were not studied profoundly, the final chapter consisted of some important guidelines for implementation and the two main models to embed Assertive outreach care into the PCH system.

Although the actual and final use of the intervention guidebooks was beyond the scope of this thesis, our findings allow some conclusions on the transferability of the evidence delivered by practice-driven intervention research. It can be concluded that by examination of the interventions in different local settings, within and outside the originating system, the interventions have become increasingly stable. After finalising the intervention guidebooks the interventions constitute discernable entities, based on a sound rationale and supported by preliminary evidence showing that the interventions indeed lead to the desired outcomes. Furthermore, the circumstances in which the desired outcomes appear were specified. A sound rationale, also referred to as intervention theory, provides a logical relation between target group, activities and goals as well as evidence that the intervention suit the needs of parents and children [19]. Knowledge on the circumstances in which desired outcomes occur, is essential to asses the feasibility and quality of the implementation (is the intervention implemented as planned?). Both pieces of evidence are a marker of the quality of evidence on public health interventions [6]. They are essential for policymakers and practitioners to make decisions on the relevance and applicability of the interventions in a different setting at a different time. For researchers this kind of evidence is essential to move forward to formal effectiveness studies (see § 8.4).

8.3 Strengths and limitations of this study

In this section we reflect on the quality of the embedded two-case design that we have used to explore the processes and potential of practice-driven intervention research. To asses the quality of the case study method the internal validity and external validity should be considered. In exploratory case studies, such as the one conducted in this thesis, internal validity deals with the general problem of making justifiable inferences. It concerns the soundness of the arguments and the line along which reasoning has developed [20, 21]. To deal with concerns regarding internal validity, a theoretical framework was developed and the units of analysis (i.e. intervention stages and research stages) were identified. Ideally, the theoretical framework and the units of analyses should be developed prior to data collection. In our study however, this was done halfway the investigations (represented in chapter 7 that has linked the findings regarding Poverty and children's health to Nutbeam's 'six-stage development model for the evaluation of health promotion programmes' [22]). Without prior definition of the theoretical propositions there is a risk that the theoretical framework was chosen just to accommodate the case study findings. We addressed this

threat by broadening the theoretical framework (several staged models were reviewed and aggregated in one framework) and by the comprehensive case reports provided in the foregoing section (§ 8.2). Furthermore, serious threats to the internal validity were prevented because the researcher had good access to the interventions studied and to the potential data needed to address the factors relevant for making legitimate inferences.
More than the internal validity, the external validity has been considered a barrier in case study research [20]. External validity refers to whether the study findings can be generalised beyond the immediate study. To judge the transferability of public health interventions information is needed about the intervention itself and the social, organisational and political setting in which the intervention is implemented [6, 18]. As discussed in § 8.2.4 we collected in-depth information on these aspects making it possible for Local Authorities and PCH organisations to judge whether or not the interventions could be applicable in their specific context. Although we have tried to cover relevant contextual aspects, it cannot be assured that all contextual factors that have influenced the development of our cases were addressed. Context is an elusive concept having many dimensions [23, 24]. In our case studies, little attention has been paid to the political environment and the roles of opinion leaders and key players. Examination of these factors could have provided a deeper understanding of the contexts thereby contributing to the assessment of the transferability of the interventions.
Another question regarding the external validity is to what extent practice-driven intervention research to other public health interventions would show the same findings. In this thesis two intervention cases for specific at risk target groups were included. The interventions were community-based although they targeted individual children. We found similar results in both cases, although the route to these results differed slightly per case (e.g. refinement of Poverty and children's health took place within the region of origin while refinement of Assertive outreach care was achieved by research in and outside the region of origin). However, our findings regarding practice-driven intervention research in public health need to be substantiated with further empirical research to support more general propositions on practice-driven intervention research.
To assess validity the role and position of the principal investigator should be considered in detail. Anyhow, it is clear that this is an issue in practice-driven intervention research because of the close collaboration between practice and research. The author of this dissertation has participated in the two intervention cases for the greater part of the researched period (since 1999). More specifically, she conducted the evaluation of the pilot of Poverty and children's health and the dissemination research regarding this intervention. With respect to Assertive outreach care, she conducted the study to refine the intervention and enhance its transferability. The other studies summarised in § 8.2.2 were conducted by other researchers employed at the research department of the RPHS West-

Brabant. The role of the principal investigator was focused on making the interventions more explicit and on clarification of the rationale underlying the interventions. In other words, how do the target group, the intervention activities and methods, and the (direct) intervention outcomes interrelate so that these aspects hang together? Furthermore, the circumstances in which the desired processes and outcomes occurred were identified by studying the interventions in several local settings within and outside the originating system. Understanding experiences and perceptions of PCH policymakers and practitioners, as well as that of policymakers within the Local Authorities (e.g. local SBS's) and the target groups, was an important part of the investigations. In this way, evidence was gathered that helped the stakeholders to judge the value of the interventions. Since the investigator didn't work in PCH herself, input by the practice field was the major source in the design and development of the intervention. Provoking the practice field to clarify their activities and decisions, and supporting practitioners and policymakers to make these systematically manifest and measurable was the major role of the investigator.

This kind of research and evaluation stands within the developmental perspective of evaluation research, bringing into focus the perceptions of stakeholders about the intervention processes and the changes achieved, and using a variety of social scientific research methods [25]. Within this perspective evaluators can choose to keep a 'respectful distance' from the intervention or to draw on action research. The latter aims to deliberately change the intervention while carrying out the intervention in order to evaluate this change (in other words, the evaluation itself is an intervention). In the research presented in this thesis the investigator was not engaged in action research: the research was not aimed at designing the interventions themselves or at intervening in the interventions evaluated. Furthermore, feedback on the results was given after gathering and analysing the data.

Although the researcher took a more distant position compared to action research, she can not be characterised as a purely external evaluator. The position that the investigator took, can be understood by referring to 'critical subjectivity', used in the constructivist paradigm on the creation of knowledge [26]. In this paradigm the personal involvement of researchers, provided it is used intelligently, is considered a valuable aspect as it stimulates access to the object of study and creates opportunities for learning. However we do acknowledge that subjectivity on the part of the researcher can compromise the validity. Researchers could become too committed and uncritically take on the practice perceptions due to their active involvement and frequent interactions with the practice field. Because of this threat, we tried to improve the methodological objectivity by using a theoretical framework, describing the methods in order to clarify how the findings were arrived at, and structural reflection on the research in academic settings. Reflection on the role of a theory-based approach in the separate intervention studies, especially during the pre-implementation stage, is provided in the next section (§ 8.4).

8.4 Reflections on the main findings

This section reflects on the findings of this study by using the theoretical perspectives on intervention research presented in chapter 1. As elaborated in that chapter, the theoretical models on intervention research share a common understanding of a staged approach of intervention research. The key stages involved concern intervention development, intervention implementation and intervention dissemination [10, 22, 27-30]. The models sketch out the big picture of intervention research and offer an understanding of all the evaluation pieces needed to build up a sound knowledge base for public health interventions, based on the distinct developmental stages of interventions. From the summary of our findings in paragraph § 8.2.1 and § 8.2.2 it emerged that the main intervention stages and accompanying research likewise apply for practice-driven intervention research. A phase of problem definition and intervention design is followed by implementation and dissemination of the intervention. Our results confirm that each stage is separated by the different research questions being asked.
In practice-driven research progression from one phase to another may not be linear. In our intervention cases an iterative process occurs. For Assertive outreach care problem definition, especially extent and characteristics of the target group, was necessarily part of the implementation stage as this target group could only be described after intervention delivery. Furthermore, results of the various formative evaluations (for example regarding the feasibility of the interventions or the adoptions outside West-Brabant) contributed to adjustment and refinement of the interventions. In this way active components were identified which in turn contributed to the theoretical basis of the interventions as formulated in the intervention guidebooks. For Poverty and children's health this refinement and redesign mainly took place within the system where the intervention originated (i.e. the RPHS West-Brabant). For Assertive outreach care the development of the optimum intervention took partly place outside the originating system, and was part of a broader study including aspects of transferability. Some authors have acknowledged the iterative process of intervention development and evaluation, in particular with regard to preliminary work to establish an intervention [10, 29].
By further reflections per stadium, four issues can be identified that warrant further attention. These concern the role of theory in intervention development (before implementation), the timing of process evaluation and effect evaluation, the potential of practice-driven research to blossom into effect studies, and opportunities and threats of unplanned dissemination. These topics are now being discussed.

Theory-based preparations during the pre-implementation stage
In the stage of intervention development the models of intervention research appoint

a theory-based approach to elicit the key assumptions and linkages underlying the proposed intervention, i.e. understanding the 'logic' of how the programme is supposed to operate to achieve the desired outcomes. Although it is recognised that the intervention's rationale can be narrowed and refined by pilot implementations, the development of an intervention theory starts at the pre-implementation stage. It draws upon social and behavioural research to improve understanding of target populations and the range of personal, social, and organisational characteristics which may be modifiable to form the basis for intervention. In addition, previous studies may have provided some empirical evidence, for example a similar intervention may have been found effective in another country with a different organisation of healthcare.

In our case-studies limited attention had been paid to such theory-based preparations. Although for Poverty and children's health preparatory epidemiological research was carried out and for Assertive outreach care preliminary information was collected on support within the field of PCH for such an intervention, the first designs of the resulting interventions built on practical approaches and procedures aiming to serve globally formulated and distant goals, like 'reducing socio-economic health inequalities between children' and 'optimise care for families where persistent problems threaten the development of the children'.

Considering the reasons behind the limited theoretical input in the first interventions' designs two causes can be identified. Firstly, the start of the interventions was generally driven by actual developments in Dutch society, specifically increased poverty rates in the course of the Nineties [31-33] and the so-called 'family-tragedies' (some fatal accidents within families caused by parents using force violence against their children) at the beginning of this century [34]. The influence of poverty on children gained political interest, and national and local policies were adjusted in favour of at risk children [35]. Likewise for our second case, PCH was expected to take a proactive role in gaining access to problem families [34]. The interventions were set up to provide practical and preferably quickly available answers to meet the needs of risk groups and the priorities of policymakers leaving little room for reviewing existing literature and accentuating the theoretical basis of the interventions. A second possible cause that can be identified is the increased demand for evaluation work to become more focused on outcomes and on demonstrating effectiveness. The emphasis on effectiveness comes with the pitfall that other stages of intervention development, like specification of the theoretical basis of the intervention, are in danger of being obscured. Several authors have been acknowledged this by pointing out the 'black box' use of epidemiology in which the intervention's content and its underlying assumptions are less clarified because more weight is placed on outcomes and corresponding methods [6, 36, 37]. Although theory-based evaluation approaches have been developed and thoroughly reported in scientific papers [19, 38,

39] the uptake of these approaches by academics and practitioners seems in its infancy.
Looking back on the process of practice-driven research presented in this thesis it can be concluded that specification of the theoretical basis of the interventions has been interwoven in the process of intervention testing and delivery. The research has provided continuing feedback in order to adjust and refine the intervention focus and design, which in turn contributed to making explicit the mechanisms of change. Nevertheless, within practice-driven intervention research it is advisable to draw particular attention to key assumptions and linkages to understand the logic of how an intervention is supposed to operate in early stages of intervention development (i.e. before the first implementation). This assists practitioners and researchers in the stages that follow, and is an indicator of good quality in intervention development and accompanying research. Close collaboration between practice and research offers good opportunities to further develop this aspect of intervention research.

Timing of process evaluation and effect evaluation
In the implementation stage, current literature on the stages of intervention research reflects two alternatives. This regards the balance of importance between process and outcome evaluation. In sum of what we discussed in chapter 1, the first and scientifically dominant option is to examine intervention outcomes in the early stages of implementation, followed by a gradual shift to assessing processes. In contrast, the second but less developed alternative proposes a first evaluation focus on intervention processes (i.e. availability to the target group, acceptability to the target group and the providers, and practicability of the intended intervention). This contributes to the establishment of the intervention after which effectiveness can be assessed.
Regarding the practice-driven research reported in this thesis it is clear that this research suits the second way of reasoning. The research has covered a range of process factors regarding the target groups, the intervention's content and the basic conditions for a successful implementation (e.g. required competencies, staffing arrangements, stakeholders and agencies to be involved). Furthermore, direct intervention outcomes have been identified and assessed and insight has been gained in what outcomes and impacts are realistic for the interventions to achieve over a defined period of time and given the resources available. The research provided the basic building blocks resulting in a growing stability of the interventions under study (see § 8.2.4).
The underlying difference between the two alternatives is that the first alternative posits that preliminary testing of the intervention takes place under the best possible conditions for success. A well-specified intervention is made available in a uniform fashion within standardised contexts and to a specified target audience which completely accepts and adheres to the intervention (also referred to as efficacy studies). These

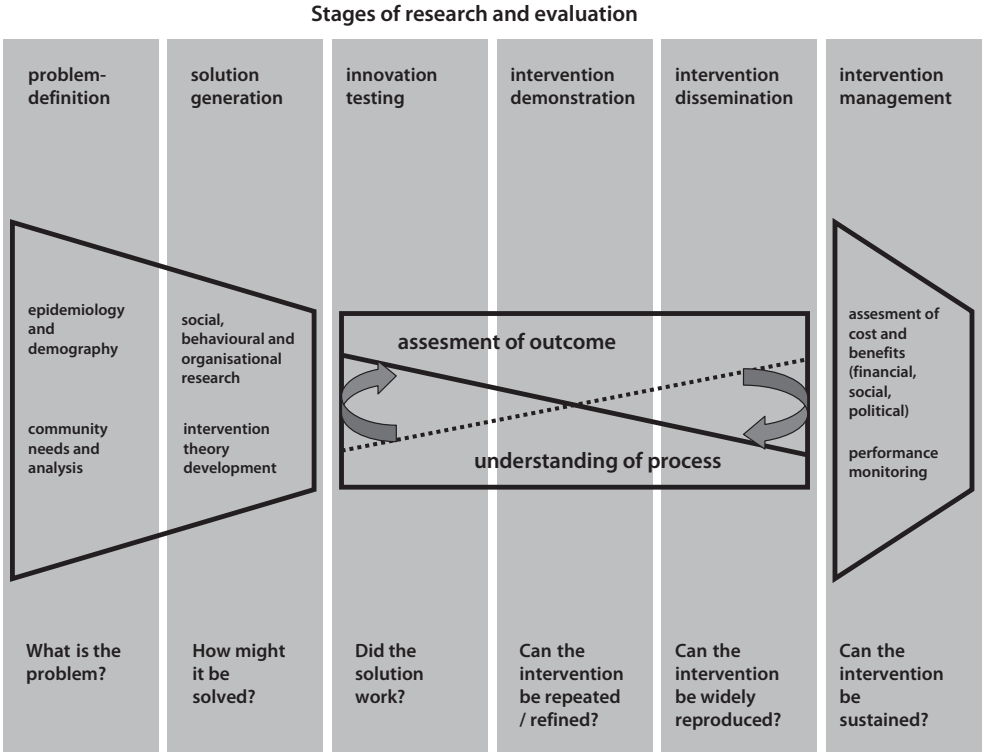
circumstances were not met in the practice of the interventions under study at the start of the implementations. The acceptability to the target groups was unknown as well as the feasibility of the intervention, especially with respect to the collaboration with SBS's (Poverty and children's health) and child and family serving agencies in general (Assertive outreach care). Furthermore, the precise content of the intervention (practical procedures, professional methods) had yet to be determined based on the results of practical experiences and formative evaluations in order to maximise its feasibility and potential effectiveness. Rather than studying the interventions in the best possible conditions for success, the practice-driven research was focused on identifying the best possible conditions for success. For example, it emerged that early involvement of several stakeholders within a SBS was a necessary condition as well as the willingness to broaden social welfare policies for the benefit of children at risk. Regarding Assertive outreach care various staffing arrangements, professional competencies and counselling tactics were identified. In this way it became apparent which conditions concerning the intervention and the requirements for implementation contributed to intervention results. In other words, the interventions have been made ´effective´ in that the circumstances in which intervention results could be maximised were identified in the course of the conducted research [40]. From practice perspective the models for intervention research should therefore be adapted in a way that preliminary studies concentrate on understanding the intervention content and preconditions as well as the underlying mechanisms of change. Once an intervention and its preconditions have become well-defined, a shift to assessing effectiveness can follow. This is illustrated in figure 8.1 using the 'six-stage development model of health promotion programmes' introduced in chapter 1 [22]. The arrows in the centre of the model show the suggested adaptation indicating a gradual shift from process evaluation to assessment of outcomes.

Potential of practice-driven intervention research to prepare effectiveness studies

At this point, an important question is whether practice-driven intervention research has the potential to blossom into effectiveness research using according research designs. A 'full' study design then requires the measurement, in one or more intervention populations and one or more control conditions, of changes over time in the magnitude of at least health-related risk factors. To answer this question we consider the interventions themselves, the target groups and the intended outcomes, although those three are hard to separate.

As for the interventions themselves the findings allow us to conclude that practice-driven research provides comprehensive data on the content of the interventions. This entails a specification of the intervention components, well-articulated preconditions to

Figure 8.1 Proposed adaptation of the timing of process and outcome evaluation for practice-driven intervention research



implement these components in daily practice of the Dutch PCH system as well as how these components lead to the intended changes in the target group and ways to adjust the interventions to elicit better outcomes. We may conclude that practice-driven research serves as a useful preparation for relevant and interpretable effectiveness research.

Within the constraints of daily practice natural variation regarding the actually implemented interventions will remain unavoidable, even when an optimal intervention model is available. However, this is not necessarily a barrier as long as all relevant variables can be identified and measured in order to support the interpretation of the study findings. Natural variation regarding the implemented interventions or preconditions can even be helpful because these variations can serve as control conditions in quasi-experimental designs. For example, regarding the Poverty and children's health intervention abbreviated forms of the intervention (with and without a broadening of SBS policy, or with and without follow-up contact) could be compared on their effectiveness. For Assertive outreach care

it would be relevant to find out to what extent the implementation of specific counselling tactics indeed contributes to intervention outcomes.

A more complicated issue concerns the target groups. In interventions for children and youth at risk carried out by PCH the target groups are not clear-cut. Although some more stringent inclusion criteria apply (income, duration of poverty, absence of care/services) and the developmental research has contributed to some specifications, generally the inclusion criteria are formulated in global terms (e.g. 'development of the child is severely threatened'). It also turned out that delineated criteria were undesirable. PCH is a preventive and community-based service for which accessibility in particular for disadvantaged groups is a core value. Practitioners adduce various arguments to start an intervention for a particular child rather than using clear-cut criteria. The problem of determining the required level of risk for linking a child to a selective or indicated preventive intervention remains a major issue in practice and research [30, 41]. For instance, a question such as the following would need to be addressed: how much internal or external problem behaviour should be required to start such an intervention? A complicating issue is that the uptake of the interventions partly depends on the motivation of the target group. This motivation is tied in with the target groups' beliefs in and insight into their problems, their valuing of these problems, their desire to alleviate them, and their understanding of the intervention and its potential benefits [42, 43]. This motivation as such can not function as an inclusion criterion for the intervention because it comes into being as a result of complex interaction processes during intervention delivery. In other words, the division between those who make use of the interventions and those who do not, becomes clear in a gradual process at the time of delivery. For services in the field of social welfare and poverty alleviation it has been proved that the use of such services depends on characteristics of these services and possible clients, as well as interactions between clients and service deliverers [44-46]. Likewise for Assertive outreach care, a lack of access to care and services results from a problematic interaction between the target group and current systems of care [47, 48]. For interventions such as the ones studied in this thesis, these interactions are viewed as essential to reach intervention effects, but are difficult to define and measure [49].
As a result of these complications regarding definitions, acceptability and accessibility the composition of reference groups and especially randomisation procedures are difficult to conduct. How to randomly assign parents and children to interventions for which they need to be motivated ("At random it will be determined whether you are motivated?"). Practitioners will argue that such procedures interrupt the intervention processes and compromise the effectiveness of the intervention. Furthermore, in the case of Assertive outreach care ethical aspects complicate randomisation procedures. From the perspective of PCH Assertive outreach care is deemed necessary to protect children

against further developmental risks. Because no 'alternative assertive outreach care' is available, randomisation is problematic.
A possible solution for difficulties regarding the composition of reference groups and randomisation might be the Community Intervention Trial (CIT) [50]. The CIT is the design in which groups of people form the unit of allocation to either the intervention or the control condition. CIT's could address the difficulties connected with individual randomisation, in particular the problems related to the role of individual motivation and possible objections of practitioners against randomisation. Also the barriers related to the less discrete nature and fluid boundaries of the intervention's target groups can be addressed. The PCH system is community-based and the interventions are in general targeted at groups making it possible to randomise on the level of schools, neighbourhoods or municipalities. The assumption here is that factors related to the less specified inclusion criteria are equally distributed in the study populations to be compared. Often, additional data collection will be required to find out whether this assumption is justified. Designs like this one require a considerable engagement of PCH and adjacent organisations. In their collaboration with schools, neighbourhoods or municipalities these organisations are dependent on policies and resources of these partners implying that possibilities to choose intervention or control conditions are limited. Furthermore, because the interventions are yet applied to a selection of individual parents and children within these groups (schools, neighbourhoods or municipalities), it will be required to match the groups to be compared in the phase of analysis on the relevant variables (dependent variables and possible confounders).

Finally the intended outcomes warrant consideration. This concerns not only which measures should be chosen but also who decides this, given the different stakeholder groups involved in the delivery of the interventions (policymakers of the Local Authorities, programme managers of PCH, practitioners, target groups and professional evaluators). The Dutch PCH system provides 'only' developmental screening and basic ambulatory support [51]. If deemed necessary, the main goal is linking to follow-up care and services. Hence, it should be questioned what outcomes are realistic to expect from these interventions, especially because the more distant outcomes are largely outside the control of PCH. For instance, is an intervention like Assertive outreach care finalised with a successful referral to follow-up help (participation in follow-up help included) or should the psycho-social child adjustment improve (assumed that the intervention was indeed focused on the child, which is not always the case because regularly only the parent is linked to care making child outcomes more distant)? Similar questions arise for Poverty and children's health. The final intervention result here is availability of extra finances (generally during 1-2 year) and spending of these finances to health promoting

goals (covering a broad range of purposes like sport activities, swimming lessons, nursery schools, safety or health aids). From the practice and local policy perspective realisation of this result is quite an achievement and a valued measure of success. However from scientific perspective preferably final health outcomes should be reached and determined, unless intermediate outcomes are available for which incontrovertible evidence has shown a causal relationship with health [50, 52].
Our intervention cases in PCH illustrate that the determination of outcome measures is a distinct challenge due to the diversity of expectations and interests. It is not always clear whose interest should be considered in the evaluative research and for whom the intervention is evaluated [53]. Given the social and political nature of these interventions ideally the outcome variables cover the interests of all important stakeholders, and especially policymakers with responsibility for implementation decisions as well as those affected by the intervention. Practice-driven research contributes to the identification of outcomes relevant to stakeholders to be incorporated in subsequent effectiveness studies. The principles of utilisation focused evaluation and evaluability assessment [54-56] could support pre-effectiveness research procedures to ensure that the measured outcomes are relevant to the target group and to those who have to act upon the results of the evaluation.

The general conclusion from our analysis in this section is that practice-driven research has the potential to serve as a preparation for effectiveness studies because it specifies the intervention's content and outcomes which is necessary for interpretable effectiveness studies. Due to the specific characteristics of PCH interventions for at risk children, it is clear that such studies ask for demanding and complicated designs. Nevertheless, it is worth the effort because these designs inform practitioners and policymakers on the added value of the interventions. Observational designs are less able to prove added value because comparisons to alternatives are not provided. In view of the considerable costs of effectiveness studies compared to observational studies, these studies should only be conducted for fully developed interventions that suit the needs of target groups and the priorities of practitioners and policymakers. Well-defined intervention theories and positive findings in observational studies should be considered as valued alternatives when effectiveness studies are not possible. One also cannot withhold interventions that have yet to be shown fully effective, from implementation when no other or better researched alternatives are available.

Opportunities and threats of unplanned dissemination
The final stage in the models of intervention research regards intervention dissemination. This is the diffusion or transfer of the intervention to other settings and populations.

Research questions in this stage include the replicability and sustainability of the intervention. The interventions examined in this thesis have been disseminated within the originating system of the RPHS West-Brabant. Furthermore, the interventions have been adopted by some other RPHS's and Local Authorities elsewhere in the country. The dissemination within the region of origin generally has been driven by the RPHS, getting experienced with the interventions and supported by the positive findings of the local evaluations. The RPHS has diffused the interventions throughout the existing collaborative structures with the Local Authorities. The external dissemination chiefly was an unplanned process characterised by unguided adoptions of the interventions (apart from incidental consultations of 'intervention specialists' of the RPHS West-Brabant) and self-selected adaptations. It is likely that the positive communication about the interventions generated by the prizes won has contributed to the dissemination as a lack of positive communication is seen as a barrier for diffusion and sustainability [18]. Dissemination activities for Poverty and children's health depended on incidentally funded projects by umbrella organisations aiming to disseminate interventions in the field of socio-economic health inequalities. Actual adoptions over time resulted largely from local policy choices without involvement of the RPHS West-Brabant or national organisations. Adoption of Assertive outreach care has been encouraged by a national programme to stimulate local interventions to improve access to care-avoiding families facing multiple risks. From scientific perspective it strikes that formal evidence on the effectiveness gathered with the more sophisticated research designs played no role in the diffusion and adoption of the interventions. At the time of dissemination activities and adoptions only preliminary data were available that the interventions were able to reach the target group and achieve the intended goals. This illustrates the phenomenon that scientific evidence on effectiveness plays a minor role in the decision-making process in policy and practice [57-59].

Unplanned dissemination processes and reinvention of interventions have been identified as barriers for the diffusion of evidence-based prevention programmes [18]. However, from the perspective of practice-driven research presented in this thesis the unplanned processes just summarised have offered opportunities for further development of both interventions. For example, for Poverty and children's health it emerged that implementation failed when local social welfare policies were not broadened to especially benefit children. Dropping this element of the intervention resulted in a lack of intervention results. Another example regarding Assertive outreach care was the identification of communication tactics addressing major pitfalls often encountered in working with the target group applied outside the region were the intervention originated. Furthermore, conditions for implementation that optimise the likelihood to achieve the intended intervention results were identified (e.g. case finding tools, structures required for

intersector and interagency working, staffing arrangements). Thus, the investigations into the interventions as implemented in several local settings inside and outside the region of origin have contributed to an increased insight into the core elements of the interventions and the preconditions for implementation. Difficulties in identifying the core elements of interventions and the necessary preconditions are viewed as main obstacles regarding intervention dissemination [27, 29]. Our findings show that practice-driven research offers the opportunity to address these issues appropriately.

According to the staged models of intervention research, the dissemination phase concludes with sustainable interventions. This means that the essential components of an intervention are implemented systemwide (e.g. an entire region) or across systems (i.e. nationwide). Evidence exists that good-quality implementation on a larger scale will not be sustained unless the social and political support is strong and the training and mentoring structures are adequate [30]. Considering the sustainability of the interventions examined in this thesis only preliminary conclusions can be drawn. Two intervention guidebooks are now available and disseminated into the field of PCH, social welfare and youth welfare [11, 15]. Also, training facilities are available in the routine training programme of a national umbrella organisation. Compared to the demands for the maintenance of interventions, the sustainability of the interventions could be questioned. This can be viewed as a threat of the practice-driven approach. Because the interventions are locally developed and researched, these interventions can not fall back on broader structures that disseminate and maintain the interventions. However, this is not specifically a barrier of the practice-driven approach but applies in general for interventions in the field of public health. The development and exploitation of nationwide systems to support good-quality implementation of preventive interventions as well as research to such systems are just now being developed [18, 30, 60, 61]. In this respect, the role of the national registries on health promotion interventions (I-database) and youth interventions (Database Effective Youth Interventions) should be considered. These databases are aimed at the dissemination of scientific findings on the effectiveness of interventions. The establishment of these databases has improved the availability and accessibility of information on interventions. Furthermore, the databases provide the opportunity for a quality assessment, especially from the perspective of the study design used to evaluate the intervention. It can be concluded that in this way the databases have enhanced the infrastructure for dissemination of interventions. This especially counts for locally/regionally developed interventions because organisations working on this scale do not have dissemination structures and resources themselves. However, a major issue remains whether the admitted interventions, including Poverty and children's health and Assertive outreach care, are in fact being used and disseminated. For many interventions in the databases it is unclear who is equipped and has the resources to assist

other systems in using a particular intervention. Furthermore, input and involvement of all stakeholders that carry out and use preventive interventions is essential to bring the interventions and underlying concepts into practice. In this respect the databases and support structures need further development. Sustainability of interventions systemwide is also an important issue for the research agenda. To examine sustainability, researchers need to follow-up the implementations to determine whether the support structures developed for the intervention can work to sustain interventions.

8.5 Implications

Policymakers, practitioners and researchers alike have a drive to 'bridge the gap' between science and practice in public health. It is widely supported that collaboration between these domains will result in more solid evidence and higher quality standards of interventions. However, due to the differences in underlying rationalities and interests, many gaps need to be bridged and this is quite a comprehensive enterprise. In her thesis on collaboration between practice, policy and research in local public health Jansen profoundly analysed these gaps and practical strategies to bridge them at an administrative, institutional and individual level [62]. One of her conclusions ran that real-life implementations of public health interventions offer the opportunity to gear the activities of the research, practice and policy domain, resulting in evidence that can be applied in practice and policy. The research presented in our thesis is in line with this conclusion. Practice-driven intervention research (i.e. research on interventions as they emerge in real-life settings) creates many chances for collaboration between the distinct domains and has the potential to deliver comprehensive evidence on the content and requirements of new interventions, which can set the stage for subsequent effect studies. In this concluding paragraph we discuss the implications of these findings per developmental stage of interventions because these stages also have their consequences for the roles of the distinct domains.

Intervention design and development

Practice-driven intervention research has its very starting point in the consultation rooms and communities of public health practitioners. They recognise a problem and have ideas for solutions which they believe are attainable and tractable. From our research in the practice of PCH it emerged that to reach the stage of a clearly stipulated and theoretically grounded intervention the input is needed of both practitioners and researchers.

The practitioners provide descriptive information on the elements of the intervention that they have in mind. Experienced field workers and other stakeholders (e.g. local policymakers of SBS's) may also have a 'private' theory that specifies why and how

intervention activities with a particular target group will lead to the desired outcomes. The type of knowledge of practitioners and other stakeholders is sometimes referred to as 'tacit knowledge' [63] meaning that this knowledge is only in the minds of practitioners. Our research has shown that it is the researcher's role to disclose tacit knowledge by close collaboration with practitioners and assisting them in clarification of their ideas. In a mutual process the interventions and underlying assumptions are specified. The second thing to do for a researcher in this stage is to see whether similar interventions have been tried before either in the same country or in other industrialised countries. For this goal strategies such as reviews of the research literature or expert consultations can be helpful. The resulting intervention design and underlying intervention theory should encompass the best of both worlds: the practice-based knowledge of practitioners, as well as the science-based knowledge of researchers. The activities in this stage are of major relevance for practitioners as well as for researchers. They produce intervention descriptions and underlying programme theory that can be easily communicated to target groups, colleagues, managers and other policymakers. Furthermore, these outputs form the foundation for any subsequent evaluation.

Nowadays other stakeholders besides scientists are hardly involved in this way of intervention design and development [64]. This hampers potent and practicable ideas to blossom into promising interventions. Enhancing practitioners' involvement in intervention development should be encouraged by the management of practice organisations and can stimulate practitioners to engage in the process of innovation. Traditionally, RPHS-organisations offer good opportunities for collaboration between practice and research because both disciplines are at hand within these organisations. Our research has shown that accessibility of researchers for practitioners and vice versa stimulates the development of new interventions. The establishment of Academic Collaborative Centres for Public Health has further improved the conditions for collaboration. Making more use of these chances would certainly support practice-driven intervention development.

Intervention implementation

Within the implementation phase of practice-driven intervention research it is useful to distinguish between different kinds of evaluation labour because this distinction has its consequences for the organisations involved and the resources required. An important distinction is between:

- developmental evaluation at project-level; and
- the more complex evaluations that give conclusive evidence on effectiveness.

In this thesis it has been shown that the first could provide the basis for the latter [1].

[1] Currently, a grant proposal is conditionally awarded (by ZonMw) in order to conduct an effectiveness study regarding Assertive outreach care in PCH.

Developmental evaluation assesses whether it is feasible to implement the hypothesised intervention and whether the intended outcomes can be achieved. Also, the implementation activities necessary to let this happen are clarified. Furthermore, developmental evaluation brings into view the target groups' and other stakeholders' perspectives which help to judge the value of an intervention. It builds on descriptive and non-experimental designs and a variety of data gathering methods.

Developmental evaluation in real-life settings requires collaborative partnerships between practice and research. Practitioners know where to look for outcomes and how to adjust interventions to elicit better outcomes. Researchers are involved in setting up measurements of relevant indicators for success regarding implementation activities and the intervention itself. The resulting data are likely to be of immediate use for practitioners because they are provided with systematic feedback on the results of their intervention in both the individual case and a group of cases. In this way practice-driven research encourages practitioners to participate in research activities by learning them that the research activities link up with their own interest. Yet, the implementation of research in real-life settings is an underdeveloped area in the field of public health. Many handbooks on research methodology omit general information about criteria for feasibility of research implementation in a real-life setting [62]. Recently, major progress has been made in this respect in the field of Dutch Youth Care which is of use for PCH as well [65].

Developmental evaluation on a local level gradually shifts from 'purely' developmental evaluation to the monitoring of an existing intervention. This shift runs from the first testing of innovative solutions to the maintenance of an intervention as a discernable entity producing the desired outcomes. As shown in our PCH cases, over time the evaluation efforts become more and more institutionalised (i.e. part of the regular activities of the PCH organisation). Intervention monitoring generally is defined as the examination of intervention delivery aimed at the maintenance of the expected outcomes [66]. Most of the information provided by the developmental evaluations is also relevant for setting up these monitoring systems for management purposes. Therefore, the developmental evaluations can be used to build a monitoring and review system for quality assurance purposes within the particular PCH organisation. Although this convergence of process evaluations and monitoring systems is described in the international evaluation literature [29, 66, 67], routine assessment of intervention deliveries and outcomes are generally underdeveloped in PCH and local public health interventions. The establishment of these systems within practice organisations may be of high interest to practitioners and policymakers, and used as an instrument for constant improvement of the services delivered.

If deemed necessary, especially when new interventions meet the needs of at risk families and the priorities of policymakers nationwide, the more complex evaluations that

give conclusive evidence on effectiveness should be encountered. Moving forward to effectiveness studies in the dynamics of daily practice implies methodological challenges and thus requires advanced evaluation capabilities in terms of professional skills and financial resources. Practice organisations are not generally in a position to produce thorough or repeated studies of intervention effectiveness. Furthermore, because such studies are expensive and time-consuming they should be adopted in conjunction with the aforementioned bottom-up and quality improvement approaches. Clearly there is little point in moving from pilot testing to effectiveness studies without reasonable evidence that interventions could be appropriately delivered to the intended target groups and produce the desired outcomes. Again, the direct relationships between practice organisations and researchers within Academic Collaborative Centres should be capitalised to undertake this part of the evaluation labour.

As mentioned before, the distinction between developmental evaluation research, intervention's monitoring and review systems, and effectiveness research is important because it helps to create realistic expectations among funding bodies and preferably according longitudinal funding lines. Our PCH cases showed that the interventions as well as the accompanying research were established by means of several local, regional and national (temporary) funds. Looking back, the funding can be characterised as chiefly an unplanned and more or less coincidental process. Adopting the opportunities of practice-driven research in accordance with the stages of intervention development requires a more 'joined-up' and planned approach to programme development and evaluation across the domains of policymaking, practice and research. At present there are too few research-practice linking mechanisms through which interventions that have been tried and tested in practice can be nominated for further implementation and outcome evaluation research. The Netherlands Organisation for Health Research and Development (ZonMw) is an important funding organisation for healthcare and public health sectors. Recognition of all evaluations pieces needed to build a sound knowledge base for public health interventions justifies an important role of ZonMw in the establishment of longitudinal funding lines. From our case studies it emerged that for developmental evaluation support by national funding bodies seems necessary, however such support is not easily obtained as long as the intervention is in a developmental stadium and less 'rigorous' designs are proposed.

Intervention dissemination

Despite repeated expressions of concern, both academic researchers and programme delivery practitioners have neglected the dissemination of public health interventions [68, 69]. Practice-driven intervention research has the potential to improve dissemination because the interventions under study are developed with community members and

fits the priorities of local policymakers [70, 71]. Furthermore, practice-driven research incorporates implementation conditions in actual practice in early stages of intervention development. This enhances the feasibility of the intervention in practice settings and thereby the opportunities for dissemination.

However, taking full advantage of the potential of practice-driven intervention research requires practice-research links, not only in the stage of intervention development and implementation but also in the stage of dissemination. Current literature indicates consistent ideas of what this should look like, however the currency and impact of these insights is lagging far behind [30, 69]. This is mainly due to hard to change structural and organisational barriers. For example, regional organisations like the RPHS's do not have a direct interest in dissemination of their interventions on a larger scale.

In the Netherlands recently progress has been made by the establishment of two collaborating national systems for registration and admission of interventions (I-database and Database Effective Youth Interventions). Especially for new interventions developed by local or regional organisations, such as the ones studied in this thesis, these systems provide the opportunity to diffuse information nationwide and to acquire a quality mark (i.e. the three levels of recognition used by the systems [12]).

The issue of improving dissemination warrants further development of these systems in several respects. First, as already mentioned in § 8.4, dissemination extends beyond circulating information and a passive process of diffusion. Therefore incentive structures are needed for public healthcare providers to actually use the registered and approved interventions. Second, for both research and practice organisations incentives and resources are needed to move interventions forward to the next level of demonstrated effectiveness. During the first years of existence of the systems it has been shown that a limited number of interventions was eligible for the first level of evidence and only very few interventions have been approved for the second and third level, especially in the field of public health. Third, from the research presented in this thesis a gap emerged regarding systematic comparisons of performance of interventions in different local and regional settings. For purposes of mutual learning and quality improvement the results of an intervention in one municipality could be compared to the results produced elsewhere, either in the region of origin or elsewhere in the country. This kind of benchmarking hardly ever took place but is of value to both practitioners and researchers because it produces knowledge on factors that could improve intervention performance. National dissemination structures can facilitate knowledge sharing in this respect. Fourth, because of the differences between intervention research in uncontrolled real-life settings and in environments controlled by academics in order to determine effectiveness, an improvement of the national systems will be to acknowledge these differences more systematically. More specifically, to what extent were the approved intervention and

the conditions in which the intervention was conducted and researched, influenced by academics and the conducted research? Or were the intervention and the accompanying research carried out in merely uncontrolled practice settings? Acknowledging this distinction helps to assess to what extent the admitted interventions (target groups, intervention methods, outcomes, and requirements) are representative for daily practice and fits to practice conditions. For example, is the intervention congruent with existing professional functioning and working standards and does it suit the existing networks of local healthcare and welfare organisations, or has the intervention yet to be translated to practice conditions taking the real-life context into account. These characteristics of the researched intervention could be systematically translated into assessment criteria and instruments used by the national systems. The current assessment criteria [12] and instruments are a bit confusing in this respect. On the one hand effectiveness research in practice settings is acknowledged by putting research in real-life settings as a criterion for 'proved effectiveness' (level 3). On the other hand research in real-life settings is not necessary for recognition on the preceding level 'probably effective' (level 2). Hence, to move 'method-driven' interventions (i.e. intervention initiated by academics with a focus on proving its effectiveness) forward from level 2 to level 3 actually a two-folded approach is required, namely to develop a practice-base to fit the intervention into professional functioning, local networks and healthcare structures, and to prove the intervention's effectiveness. Both steps need distinguishable efforts however this is in danger of being obscured. Acknowledging the practice-driven approach and the research-driven route systematically will support the assessment of generalisability and transferability of interventions, and also give room to practice-driven intervention research and consequently to bottom-up innovations in public health.

The fifth and final recommendation concerns research to dissemination and maintenance of interventions. These are critical components of the overall impact of an intervention. Although a range of factors influencing dissemination have been identified, research about the feasibility and effectiveness of different dissemination methods has not progressed very far and lacks the perspective of those involved in intervention delivery [30, 62, 69, 72]. The scarcity of research to methods of diffusion and adoption hampers the introduction of interventions on a lager scale. This kind of research has been identified as a current frontier in prevention research.

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Summary

Summary

The goal of this dissertation is to explore the process and potential of practice-driven intervention research in public health. Practice-driven intervention research in this study is defined as research on interventions that are carried out in real-life settings. The research is characterised by a close collaboration between research and practice. It binds together the activities of these two domains. The research questions to be addressed, the form of the investigations as well as the realisation of the research are shaped by the assembled efforts of practitioners and researchers.
Although there is an urgent need for studying public health interventions, especially for knowledge that suits the information needs of policymakers and practitioners, little progress has been made in a systematic development of practice-driven intervention research. This dissertation aims to fill this knowledge gap by studying practice-driven intervention research in detail. Two intervention cases in the field of Preventive Child Healthcare (in Dutch: Jeugdgezondheidszorg), as an important field of application within public health, are investigated. The interventions concerned are targeted at children who are at risk for (severe) developmental problems later in life.

Chapter 1 provides the introduction to this thesis. First, the theoretical perspectives on intervention research in public health are presented. Next, the current evidence for preventive interventions for at risk youth is considered, followed by the problem statement. After that, the potential of practice-driven intervention research is hypothesised. Against this background, the research questions and the study design are presented.

Theoretical background
In current literature a vast spectrum of approaches to intervention research appears. Despite this diversity, a common and well-accepted notion is the concept of phases. The main rationale underlying this concept is that public health interventions have distinct developmental stages. These range from a first idea for an innovative approach in order to address an emerging public health problem to maintenance of an intervention of proved effectiveness systemwide. Hence, it is argued that the stage of development of an intervention is a key factor in investigations to these interventions. Current literature distinguishes three main stadia:

- intervention development
- intervention implementation and
- intervention dissemination.

Each of these stages consists of a specific stage of the intervention and is paralleled by a different set of research and evaluation questions. This first stadium focuses on

problem definition and on designing a possible solution that could addresses this problem. Intervention implementation concerns the delivery of the intervention and its evaluation (i.e. research into intervention processes and outcomes). The final stage is the transfer of the intervention to other settings or populations, and accompanying research into transferability and sustainability of outcomes. Consequently, an evidence-based intervention results from a sequence of studies prudently tailored to the actual intervention stage. Each phase informs the next one and requires its own criteria for evidence and an according research design.

Regarding the stage of intervention implementation and accompanying evaluation research, current literature reflects two perspectives. This especially relates to the timing of process and effect evaluation. The first perspective assumes at first evaluation of outcomes and effectiveness. After that, a gradual shift to assessing processes takes place. The second perspective reasons the other way around. Preliminary evaluation focuses on evaluation of processes. Once the intervention project is well-established, the evaluation turns to assessing effectiveness. The underlying difference between these two alternatives can be understood by looking closer at the conditions and circumstances under which the intervention is implemented and studied. The first perspective assumes preliminary testing of an intervention under optimum conditions of implementation and scientific rigor. The intervention consists of a well-specified and standardised entity that is made available in a uniform fashion and completely accepted by its target group. These conditions are required to determine a causal relation between the intervention and its effects. Consequently, minimal variation is allowed that might interfere with interpreting results. The epitome of such studies lies in the various components of the randomised controlled trial (RCT): standardised interventions, randomisation, a control condition, and specific inclusion and exclusion criteria. The second perspective supposes the establishment of an intervention in less controlled real-life circumstances from the outset of the intervention's existence. At the start of the implementation the evaluation addresses the identification of key factors for success and failure, refining the intervention's design and agreeing with stakeholders on appropriate performance indicators and quality standards. When the intervention has become stable, project staff has gained experience, and early problems have been addressed, an evaluation that focuses on effectiveness can become feasible. In the realm of the nature of 'evidence' this perspective has a broad perception of what counts as evidence and the required research designs.

Current literature reflects that the usually assumed order is that from studies in controlled environments to studies in settings that represent real-life conditions. This means that interventions of proven effectiveness are subsequently tested in conditions that more typically reflect a real-life setting. Scientific literature on interventions that have followed the second perspective is scarce. It has been shown that in guides for appraising

interventions' effectiveness it is standard practice to define the levels of evidence in terms of study design and to treat this as the primary determinant of credibility.

Preventive interventions for children and youth at risk

The intervention cases in this thesis are focused on children and youth at risk for (severe) developmental problems. They have become a high priority target group in Dutch national and local policies. Two main reasons can be distinguished that account for this line of policy. First, there is increasing scientific knowledge about the links between childhood conditions and adult problems later in life. In research in this field the notion of 'risk factors' is a key concept. These factors are in some way related to later, undesirable outcomes. In scientific research many risk factors have been identified, like specific characteristics of the child (e.g. low intelligence), specific characteristics a parent (e.g. psychiatric problems, negative perceptions on parenting), the family (e.g. income below the poverty line), the broader environment (e.g. living in a deprived neighbourhood) or a specific life event (e.g. divorce). A reoccurring finding is that it is not a single risk factor that predicts a problem, but that especially the number of risk factors is important. It is estimated that the development of 2-5% of Dutch children is fundamentally threatened due to an accumulation of risk factors. The second reason to intensify policies is that in the last two decades progress is being made where early interventions address at risk children and adolescents, especially by international research. A central insight from this research is that interventions in early childhood are more effective than interventions later in life. In general scientists agree that effect sizes decline with ascending starting ages of targeted children. From economic perspective, intervening in early childhood is more cost effective than intervening in later years of a child's life. In the Netherlands, the Preventive Child Healthcare system (abbreviated as PCH) is an important care structure to implement policies regarding the early identification of developmental problems in order to prevent adverse outcomes later in life. Like in other industrialised countries the goal of PCH is to foster an optimal trajectory for growth and development in children and to provide anticipatory guidance. Especially when it comes to the application of standardised instruments for the identification of risks and problems, as well as the provision of or referral to appropriate interventions, PCH is considered to take a central position. The aim of the interventions is to alter identified risk factors and the later negative outcomes mend to be prevented for targeted children.

To inform Dutch policy on the state of the art regarding available interventions for children and youth at risk comprehensive review studies have been conducted. In these studies two distinct approaches have been chosen. The first and dominant one is characterised by the selection of scientific publications which meet methodological requirements for

determining intervention's effectiveness. The second approach takes the interventions that are available and carried out in actual practice as a starting point. Investigations of these interventions have been selected and reviewed. Considering the results of the studies two critical issues arise. First, from method-driven literature limited evidence is in stock to inform Dutch policymakers because the interventions studied are largely conducted in specialised settings specifically created for the studies. It is unknown whether and how the effects found in these studies can be generalised to real-life contexts. The second notable issue is that the number of different interventions employed in daily practice in the Netherlands exceeds by far the number of interventions that have been evaluated with an (quasi-)experimental research design. In general, the application of interventions in practice has not been accompanied by effectiveness studies and as a consequence these interventions have no empirical evidence on their behalf.

Problem statement

From this point, the question arises how to bring about more evidence-based practices in the field of preventive healthcare for children and youth at risk. Following the line of reasoning just discussed, two different pathways can be followed. The first one is implementation of interventions that have been shown to be effective in controlled research settings. Scientific literature usually assumes such a top-down approach. The second pathway is practice-driven intervention research aiming to underpin and evaluate promising interventions already being carried out in actual practice. This research addresses questions raised by the actors involved in the delivery of the intervention, aiming to build an evidence base for these interventions. It can be argued that this way has several benefits. First, it offers an approach to work towards the so badly wanted collaboration between research and practice in public health. Second, it could have the potential to generate the comprehensive evidence needed because in daily practice the various developmental phases of interventions could actually be discerned. Third, a specific benefit for the practice field is that practice-driven intervention research could contribute to a systematic and reflective approach to improving practice and performance. Fourth, a specific scientific profit is that practice-driven research can deliver evidence on the content of interventions and the real-life conditions in which outcomes occur. Subsequently, meaningful and interpretable effectiveness studies are becoming possible. When it comes to interventions as delivered by Preventive Child Healthcare for children and youth at risk, there are some specific, additional reasons to assume the possibilities of the practice-driven road.

Development of alliances with a broad range of stakeholders inherently is a part of these interventions. Practice-driven research may be able to appropriately address the factors of success and failure that are related to these collaborative processes. Furthermore, is

could be argued that the targeted at risk populations will favour from a shift the practice-driven intervention research. Engaging these populations in preventive interventions requires specific attention to enrolment strategies, and motivation and participation techniques. Just like the accumulation of risk factors in these populations, these target group characteristics are hard to cover in method-driven research because this research tends prefer single problem interventions (e.g. selecting samples for homogeneity) for groups that are easy to reach in a population. Finally, PCH interventions are implemented in specific social, organisational and political contexts. It is well-known that characteristics of the context influence the interventions content and effectiveness. Practice-driven intervention research could be able to include contextual variables and assess their impact on intervention outcomes.

Research questions and design

Based on these considerations regarding the possible strengths of practice-driven intervention research, the general research question of this dissertation is: How can practice-driven intervention research be developed in the field of preventive healthcare interventions for children and youth at risk and how does this research contribute to evidence that is locally relevant and transferable to other settings? This question has been subdivided into the following research questions:

1. Which intervention stages does this research address?
2. Which stages of research and evaluation characterise this research?
3. What kind of knowledge on an intervention does this research yield that is locally relevant?
4. What kind of knowledge on an intervention does this research yield that can be generalised to other settings?

A case study research design is adopted consisting of an embedded two case design. The cases selected for this thesis include two PCH interventions. The cases were selected because practice-driven intervention research was conducted that has accompanied the establishment of the interventions. The first case is an intervention called 'Poverty and children's health' and aims to reduce health-related deprivation in children living in low-income families. Adopting an intersector approach, the intervention builds on a close collaboration between PCH and the local Social Benefit Service (SBS). As a result of this intervention extra finances for specific, health-promoting purposes are made available. The second case is an intervention called 'Assertive outreach care'. This intervention is directed at families who experience a chronic complex of socio-economic and psycho-social problems, and do not make use of regular healthcare facilities or other services. The intervention consists of an active approach of the target group in their own environment to get in touch with them, motivate them to accept suitable support, and liaise between

them and resources in their environment (either formal care and services or social support). These interventions have been established by the Regional Public Health Service in the West-Brabant region during 1997-2009 (Poverty and children's health) and 2002-2009 (Assertive outreach care).

Chapter 2 to 5 concern the results of the first case. Several studies are presented that accompanied the intervention Poverty and children's health. Five types of research were conducted, namely epidemiological research, evaluation of the pilot intervention, additional research aiming to gain insight into a specific part of the target group, repeated local evaluations and dissemination research. Initially an epidemiological survey was carried out assessing how often schoolchildren have to deal with material and social deprivations due to poverty, as well as how often these deprivations entail health risks in schoolchildren (chapter 2). This research resulted from signals from the practice of PCH perceiving increased poverty-related health risk in their routine contacts with parents and children. The research consisted of a survey in two municipalities amongst parents of schoolchildren on poverty, combined with an assessment of the child's health status by PCH staff. It was concluded that poverty-related deprivations involved health risks for 6.2% of the schoolchildren. The second research consisted of an evaluation of the pilot intervention (chapter 3). This research was part of a national research programme to evaluate interventions that aim to reduce socio-economic health. The research consisted of an observational evaluation of the first year of delivery of the pilot intervention. Feasibility, reach, acceptance, parent satisfaction, direct intervention outcomes and side effects were studied using a one-group design. The stronger points of the intervention concerned client satisfaction and the direct way of decreasing health-related deprivations. The weaker points were the limited reach during the first year of delivery, the incidental character and the labour intensiveness. The third form of research resulted from increased numbers of detected children and repeated appeals for financial support of a part of the target group reached in the years following the pilot intervention. These processes threatened the feasibility of the intervention. Hence, additional research was carried out into these processes (chapter 4). The research consisted of a consultation of Dutch literature on the determinants of the use of financial provisions, supplemented by interviews with PCH staff and SBS policymakers. It was shown that a part of the target group had to deal with a chronic complex of material and immaterial problems, and that they encounter several barriers in the use of available provisions. The findings induced the collaborating partners to refine the intervention model in order to sustainably improve the practicability (a different division of tasks was agreed on). The fourth form of research consisted of evaluations of local deliveries of the intervention. The evaluations were part of these deliveries and as such commissioned by the Local Authorities (n=5). From 2000-

2009 19 local reports were written regarding the performance and direct results of the intervention in the municipalities concerned (partly presented in chapter 4 and 5). The findings were discussed and subsequently used to improve the quality of intervention delivery. For example, when it emerged that the interventions' reach was lower than expected, possible causes were identified and agreements were made to improve the number of children reached. The final type of research was dissemination research. The reason to start this research was adoption of the intervention outside the West-Brabant region. The research consisted of a process evaluation of the way the intervention was replicated in two municipalities outside West-Brabant. This evaluation had been based on a draft of an intervention guidebook built on the West-Brabant experience. In one municipality replication failed because an essential part of the intervention had been dropped. In the other one the implementation succeeded. The findings of this research were captured in an intervention guidebook covering the content of the intervention, the essential components, delivery modes (components that can vary due to local policy and practice decisions), requirements for implementation, and routes to implementation.

Chapter 6 and 7 presents the results on the second intervention case, e.g. Assertive Outreach care. This intervention has been accompanied by three forms of research, including evaluation of a first pilot, research to refine the intervention and enhance its transferability, and repeated local evaluations. Evaluation of the first pilot was conducted in the municipality where the intervention originated. In this pilot the application of a predetermined definition of the target group and working procedures were tried out in practice. The accompanying evaluation concerned the number of children reached, characteristics of the target group reached, the feasibility of the working procedures, and an inventory of intervention activities and related policy issues. It was concluded that the extent of the target group varied per neighbourhood, ranging between 0.6% – 7.0% of all children and adolescents (aged 0-19). After the pilot, Assertive outreach care has been adopted in several other municipalities within and outside West-Brabant. This dissemination of the intervention resulted in the second research project. The main goal was to strengthen the underpinning of the intervention by investigation of target group characteristics, the intervention methods used, the direct intervention outcomes and the way these three elements cohere (chapter 6 and 7). Three municipalities were selected to participate in the study (one inside West-Brabant and two elsewhere in the country). The study had an observational one-group design using several quantitative and qualitative research methods. The findings reveal that intervention staff came into contact with families facing a high level of risk, including psychosocial problems in the children on a level well above the (inter)national average. Linking to care and services was attained in the majority of the cases and parents expressed satisfaction. Furthermore, it emerged

that two different models were used to fit Assertive outreach care in PCH structures, namely Assertive outreach care as a speciality or as a generic area of work. Strengths and weaknesses of both models were identified. Next to the scientific publications, the findings of the research project were reported in an intervention guidebook. Similar to the intervention Poverty and children's health, the adoption of Assertive outreach care by other Local Authorities in West-Brabant was accompanied by local evaluations. From 2004-2009 20 local reports were produced on the performance of the intervention in the seven municipalities involved. The design of these evaluations was basically the same as the evaluation of the first pilot, except from the main policy issues. By then, these issues were addressed by policy decisions. The findings of the local evaluations were used to improve the delivery of the intervention such as more detailed agreements with services and healthcare organisations on tracing unreached problem families and broadening of linking options.

Chapter 8 contains a general discussion on the main findings and considerations regarding the methodological quality of this dissertation. Despite some limitations the strength of the present study was the long term follow-up of two interventions running from the first ideas that emerged in PCH practice about the perceived need for these interventions to the delivery of an intervention guidebook for both interventions which can be employed nationwide. Based on a predefined theoretical framework on intervention research, including the units of analysis (i.e. intervention stages and research stages), we were able to draw conclusions on the processes and potential of intervention research when interventions as they emerge in public health practice settings are taken as a starting point (in contrast to regular method-driven intervention research, which takes the methodological requirements for effectiveness studies as the first principle).
Paragraph § 8.2.1 and § 8.2.2 provide an extensive summary report of each individual case. The intervention stages and research stages that have been passed through are described with a focus on the collaborative processes between practice and research. From these summaries it emerged that the main intervention and research stages as presented in the theoretical framework, likewise apply for practice-driven intervention research. A phase of problem definition and intervention design is followed by implementation and dissemination of the intervention. Our results confirm that each stage is separated by the different research questions being asked. In practice-driven research progression from one phase to another may not be linear. In our intervention cases an iterative process occurs. Results of various formative evaluations (for example regarding the feasibility of the interventions or the adoptions outside the originating system) contributed to adjustment and refinement of the interventions. In this way active components were identified which in turn contributed to the theoretical basis of the interventions as formulated in the

intervention guidebooks.

Across cases, the locally relevant knowledge that the practice-driven intervention research has yielded concerned three main topics. First, the evidence has regarded the scale and characteristics of a health problem on the level of a municipality or group of municipalities. The second kind of knowledge has been related to the content, acceptance and applicability of the interventions. Main issues here were the collaboration between PCH and local SBS's, and the identification and development of appropriate professional methods (attitudes, counseling techniques, practical tools) to get in touch with the target group. The third type of knowledge has consisted of data on the direct intervention outcomes, based on one-group post-test-only designs. It was assessed to what extent the goals were achieved that were set in advance by intervention staff and policymakers. Also parent satisfaction was examined by interviews and a survey, including the effects for the children as seen by the parents. In addition, the standard and repetitive local evaluations in West-Brabant monitored the performance of the interventions. The performance indicators and the achievements to be expected have been identified in the several foregoing research efforts.

Because practice-driven intervention research is focused on interventions that are shaped by local stakeholders an important question was whether this research has the potential to yield knowledge that can be generalised to other settings. The interventions studied in this thesis were adopted outside the region of origin. It can be concluded that by studying the interventions in different local settings the interventions have become increasingly stable. A profound understanding was achieved into the content of the interventions, the active and essential components, the delivery modes (components that can vary due to local policy and practice decisions), the requirements for implementation and the routes to implementation. After finalising the intervention guidebooks the interventions constitute discernable entities, based on a sound rationale and supported by preliminary evidence showing that the interventions indeed lead to the desired outcomes. Furthermore, the circumstances in which the desired outcomes appear were specified. A sound rationale, also referred to as intervention theory, provides a logical relation between target group, activities and goals as well as evidence that the intervention suit the needs of parents and children. Knowledge on the circumstances in which desired outcomes occur, is essential to asses the feasibility and quality of the implementation (is the intervention implemented as planned?). Both pieces of evidence are a marker of the quality of evidence on public health interventions. They are essential for policymakers and practitioners to make decisions on the relevance and applicability of the interventions in a different setting at a different time. For researchers this kind of evidence is essential to move forward to formal effectiveness studies.

Reflections on the main findings

By further reflections on our findings four issues can be identified that warrant further discussion. These concern the role of theory in intervention development (before implementation), the timing of process evaluation and effect evaluation, the potential of practice-driven research to blossom into effect studies, and opportunities and threats of unplanned dissemination.

In the stage of intervention development the models of intervention research appoint a theory-based approach to elicit the key assumptions and linkages underlying the proposed intervention. In our case-studies limited attention had been paid to such theory-based preparations. The first designs of the resulting interventions built on practical approaches and procedures aiming to serve globally formulated and distant goals, like 'reducing socio-economic health inequalities between children' and 'optimise care for families where persistent problems threaten the development of the children'. Looking back on the process of practice-driven research it can be concluded that specification of the theoretical basis of the interventions has been interwoven in the process of intervention implementation and evaluation. Nevertheless, within practice-driven intervention research it is advisable to draw particular attention to key assumptions and linkages to understand the logic of how an intervention is supposed to operate in early stages of intervention development. This assists practitioners and researchers in the stages that follow.

Regarding the stage of implementation, the models on intervention research commonly assume that interventions initially are implemented under optimum conditions of implementation and scientific rigor in order to determine effectiveness. Rather than studying the interventions in the best possible conditions for success, practice-driven research as presented in this thesis was focused on identifying the best possible conditions for success. For example, it emerged that early involvement of several stakeholders within a SBS was a necessary condition as well as the willingness to broaden social welfare policies for the benefit of children at risk. Regarding Assertive outreach care various staffing arrangements, professional competencies and counselling tactics were identified. In this way it became apparent which conditions concerning the intervention and the requirements for implementation contributed to intervention results. In other words, the interventions have been made ´effective´ in that the circumstances in which intervention results could be maximised were identified in the course of the conducted research. From practice perspective the models for intervention research should therefore be adapted in a way that preliminary studies concentrate on understanding the intervention content and preconditions as well as the underlying mechanisms of change. Once an intervention and its preconditions have become well-defined, a shift to assessing effectiveness can follow.

At this point, an important question is whether practice-driven intervention research actually has the potential to blossom into effectiveness research using according research designs. To answer this question the intervention's content, target group, and outcomes are considered. Regarding content we can conclude that practice-driven research provides comprehensive data on intervention components, preconditions for implementation and delivery modes. Regarding the target group practice-driven intervention research involves specific challenges. These are related to the less discrete nature of the target groups. PCH is a preventive and community-based service for which accessibility in particular for disadvantaged groups is a core value. Practitioners adduce various arguments to start an intervention for a particular child rather than using clear-cut criteria. Furthermore, the interactions between target group members and PCH practitioners are viewed as essential to reach intervention results. Motivation comes into being as a result of complex interactions processes during intervention delivery. However, these interactions are difficult to define and measure. The Community Intervention Trial is available to address challenges related to the fluid nature of the target group. In this context, conducting a CIT requires additional measures to compose reference groups, and considerable engagement of PCH and adjacent organisations. Regarding intervention outcomes, practice-driven research contributes to the identification of outcomes relevant to stakeholders to be incorporated in subsequent effectiveness studies. Adequacy of outcome measures is a marker of the quality of evidence on public health interventions.
The final stage of intervention research is intervention dissemination. The dissemination of the interventions Poverty and children's health and Assertive outreach care outside the region of origin chiefly was an unplanned process characterised by unguided adoptions of the interventions and self-selected adaptations. This unplanned process has benefits as well as threats. Investigations into the interventions as implemented in several local settings offers increased insight into the core elements of the interventions and the preconditions for implementation. A threat concerns the long-term maintenance and sustainability of the interventions. Because the interventions are locally developed and researched, the interventions can not fall back on broader structures that disseminate and maintain the interventions. Both interventions are admitted for the I-database and the Database Effective Youth Interventions (level: theoretically well-founded). However, these databases and support structures need further development to stimulate the actual dissemination and use of the acknowledged interventions.

Implications

Practice-driven intervention research creates chances for collaboration research and practice. It has the potential to deliver comprehensive evidence on the content and

requirements of new interventions, which can set the stage for subsequent effect studies. This conclusion has several implications.

In the stage of intervention design and development the input is needed of both practitioners and researchers. In short, researchers disclose tacit knowledge stored in the minds of practitioners regarding access points for change, specified intervention components and intervention theory. They can assist practitioners in clarification of their ideas. Furthermore, researchers should verify whether similar interventions have been tried before. The resulting intervention design and underlying theory encompass the practice-based knowledge of practitioners and the science-based knowledge of researchers. Accessibility of researchers for practitioners and vice versa, as build up in Academic Collaborative Centres for public health, stimulates this way of intervention development.

Within the implementation phase of practice-driven intervention research it is useful to distinguish between different kinds of evaluation labour because this distinction has its consequences for the organisations involved and the resources required. An important distinction is between developmental evaluation at project-level, the monitoring of a mature intervention, and the more complex evaluations that give conclusive evidence on effectiveness. Developmental evaluation in real-life settings requires collaborative partnerships between practice and research. Practitioners know where to look for outcomes and how to adjust interventions to elicit better outcomes. Researchers are involved in setting up measurements of relevant indicators for success. Developmental evaluation gradually shifts to the monitoring of a mature intervention within a particular organisation that implements the intervention. However, routine assessment of intervention deliveries and outcomes are generally underdeveloped in public health. The establishment of intervention monitors within PCH and other practice organisations may be of high interest to practitioners and policymakers, and used as an instrument for constant improvement of the interventions delivered. Moving forward to effectiveness studies in the dynamics of daily practice implies methodological challenges and thus requires advanced evaluation capabilities in terms of professional skills and financial resources. Because such studies are expensive and time-consuming they should be adopted in conjunction with the aforementioned bottom-up and quality improvement approaches.

The distinction between developmental evaluation research, intervention's monitoring and review systems, and effectiveness research is important because it helps to create realistic expectations among funding bodies and preferably according longitudinal funding lines. At present there are too few research-practice linking mechanisms to connect these different forms of research and evaluation within the implementation stage. The direct relationships between practice organisations and researchers within

Academic Collaborative Centres should be capitalised too improve linking mechanisms. Furthermore, the implementation of research in real-life settings is an underdeveloped area in the field of public health. In general, handbooks on research methodology omit information about criteria for feasibility of research implementation in a real-life setting.
Taking full advantage of the potential of practice-driven intervention research requires practice-research links, not only in the stage of intervention development and implementation but also in the stage of dissemination. Although current literature indicates consistent ideas of how these links should look like, the currency and impact of these insights is lagging far behind due to structural and organisational barriers. In the Netherlands recently progress has been made by the establishment of two collaborating national systems for registration and admission of interventions (I-database and Database Effective Youth Interventions). Especially for new interventions developed by local or regional organisations, such as the ones studied in this thesis, these systems provide the opportunity to acquire a quality mark and to diffuse information nationwide. However, to stimulate actual use and maintenance of interventions these systems warrant further development. One point for improvement emerges from this thesis. Because of the differences between intervention research in uncontrolled real-life settings and in environments controlled by academics in order to determine effectiveness, an improvement will be to acknowledge these differences more systematically. More specifically, to what extent were the approved intervention and the conditions in which the intervention was conducted and researched, influenced by academics and the conducted research? Or were the intervention and the accompanying research carried out in merely uncontrolled practice settings? Acknowledging this distinction helps to assess to what extent the admitted interventions (target groups, intervention methods, outcomes, and requirements) are representative for daily practice and fits to practice conditions. This supports the assessment of generalisability and transferability of interventions, and also give room to practice-driven intervention research and consequently to bottom-up innovations in public health.

Samenvatting (Summary in Dutch)

Samenvatting (Summary in Dutch)

Dit proefschrift gaat over onderzoek naar interventies in de publieke gezondheidszorg (in het Engels aangeduid met 'public health'). De publieke gezondheidszorg is gericht op het bevorderen van de volksgezondheid, in het bijzonder de gezondheid van risicogroepen die een slechtere gezondheid hebben dan gemiddeld. Het uitgangspunt is daarbij steeds: voorkomen is beter dan genezen. Het initiatief tot het aanbieden van deze vorm van zorg ligt bij de overheid. Zij treedt actief en ongevraagd op via bijvoorbeeld het aanbieden van screeningen, vaccinaties en gezondheidsvoorlichting. Daarnaast brengt de sector publieke gezondheid het belang van de volksgezondheid in bij andere beleidsterreinen van de overheid (bijvoorbeeld wonen, welzijn, sociale zekerheid, onderwijs en milieu) om hiermee intersectorale interventies van de grond te krijgen. Ook community- en organisatie-ontwikkeling (bijvoorbeeld binnen een school of wijk) met als doel een bijdrage aan de gezondheid te leveren, behoren tot de publieke gezondheidszorg.
Centraal in dit proefschrift staat praktijkgestuurd interventie-onderzoek. Praktijkgestuurd interventie-onderzoek is gedefinieerd als onderzoek naar interventies die worden uitgevoerd in de dagelijkse praktijk van de publieke gezondheidszorg. Onderzoekers en praktijkprofessionals trekken hierin samen op. De onderzoeksvragen, het type onderzoek en de uitvoering van het onderzoek komen tot stand door gezamenlijke inspanning vanuit onderzoek en praktijk.
Hoewel in de publieke gezondheidszorg herhaaldelijk is vastgesteld dat er dringend behoefte is aan interventie-onderzoek, en in het bijzonder aan kennis die relevant is voor beleid en praktijk, heeft de systematische ontwikkeling van praktijkgestuurd interventie-onderzoek tot nu toe weinig aandacht gekregen. Dit proefschrift beoogt in deze lacune te voorzien door dit type onderzoek diepgaand te bestuderen. Het doel is het proces en de potentie van deze vorm van onderzoek te verkennen. Twee interventies uit het werkveld van de Jeugdgezondheidszorg staan hierbij centraal. Deze interventies zijn gericht op risicokinderen. Deze kinderen hebben te maken met een opeenstapeling van ongunstige factoren die hun ontwikkeling negatief beïnvloeden. Hierdoor hebben zij een verhoogd risico op nadelige ontwikkelingsuitkomsten later in hun leven.

Hoofdstuk 1 introduceert het onderwerp. Eerst wordt een theoretisch kader gepresenteerd over interventie-onderzoek in de publieke gezondheidszorg. Daarna wordt de bestaande wetenschappelijke kennis over preventieve interventies voor risicojeugd samengevat en de probleemstelling geformuleerd. Vervolgens komt aan de orde wat de mogelijke kansen zijn van praktijkgestuurd interventie-onderzoek. Dit leidt tot de onderzoeksvragen van dit proefschrift. Tot slot wordt de onderzoeksopzet gepresenteerd.

Theoretisch kader

De wetenschappelijke literatuur beschrijft een groot aantal benaderingen van interventie-onderzoek. Ondanks deze diversiteit is een algemeen geaccepteerd principe dat interventie-onderzoek een aantal fasen heeft. De belangrijkste reden hiervoor is dat interventies in de publieke gezondheidszorg een aantal onderscheiden ontwikkelingsstadia hebben. Deze lopen van een eerste idee om een bepaald probleem in de volksgezondheid aan te pakken tot de invoering en instandhouding van een interventie met bewezen waarde op grote schaal. De literatuur onderscheidt drie hoofdstadia:

- ontwikkeling van een interventie
- implementatie van een interventie
- disseminatie van een interventie.

Vanwege deze verschillende stadia heeft ook het interventie-onderzoek verschillende stadia. Sterker gezegd, deze drie fasen vormen de sleutel tot het op te zetten onderzoek en de bijbehorende onderzoeksvragen. De eerste fase bestaat uit het afbakenen en omschrijven van de problematiek, en het ontwerpen van een interventie die een oplossing kan bieden. Het onderzoek betreft het in kaart brengen van de aard en omvang van de problematiek en mogelijke aangrijpingspunten voor verandering. De tweede fase bestaat uit het daadwerkelijk uitvoeren en evalueren van de interventie. De laatste fase is de overdracht van de interventie naar nieuwe populaties en settings; het onderzoek dient de vraag te beantwoorden of de interventie overdraagbaar is en of de resultaten bij overdracht in stand blijven. Een 'evidence-based interventie' is dus het resultaat van een aantal opeenvolgende studies met een verschillende focus.

Binnen het tweede stadium laat de literatuur twee perspectieven zien. Dit betreft de timing van effect- en procesevaluatie. Het eerste en meest dominante perspectief gaat ervan uit dat eerst effectstudies worden uitgevoerd. Daarna vindt een geleidelijke verschuiving naar procesevaluatie plaats. Het tweede perspectief redeneert precies andersom: eerst proces- en daarna effectevaluatie. Het verschil tussen deze twee redenaties wordt duidelijk wanneer naar de condities en omstandigheden wordt gekeken waarin de interventies worden geïmplementeerd. De eerste mogelijkheid veronderstelt dat interventies plaatsvinden in optimale uitvoeringscondities. Met andere woorden, de interventie bestaat uit een gespecificeerd en gestandaardiseerd pakket van activiteiten dat volledig wordt opgepakt door de doelgroep. Dit is nodig om een causale relatie vast te kunnen stellen tussen de interventie en de uitkomsten. Het bepalen van een causale relatie tussen interventie en effect vereist dat er zo min mogelijk verstorende variabelen zijn die de interpretatie van de bevindingen zouden kunnen verstoren. De randomised controlled trial is *de* exponent van dit type onderzoek.

De tweede mogelijkheid gaat ervan uit dat een interventie van meet af aan wordt uitgevoerd in de dagelijkse praktijk van de publieke gezondheidszorg. Aanvankelijk richt

de evaluatie zich op het identificeren van succes- en faalfactoren bij de implementatie, het aanscherpen van de interventie-acitiviteiten en het verkrijgen van overeenstemming met betrokken partijen over prestatie-indicatoren en kwaliteitsstandaarden voor de interventie. Wanneer de interventie is 'opgegroeid' tot een goed omschreven en haalbaar pakket van activiteiten, wordt een effectevaluatie mogelijk. Deze manier van werken heeft in het algemeen een brede visie op wat 'evidence' precies is: allerlei typen onderzoek kunnen evidence opleveren.
In de literatuur wordt er meestal van uitgegaan dat interventie-onderzoek start met effectstudies in gecontroleerde omstandigheden. Daarna volgt onderzoek in de dagelijkse praktijk. Wetenschappelijk onderzoek naar het tweede perspectief, vanuit de dagelijkse praktijk een interventie opbouwen en vervolgens toewerken naar effectstudies, is schaars. Dit blijkt bijvoorbeeld ook uit handleidingen over effectiviteit van interventies. In deze handleidingen wordt standaard het onderzoeksdesign gehanteerd als de primaire norm voor effectiviteit. De vraag of het onderzoek ook volledig was (hoe ziet de interventie eruit en is deze geïmplementeerd zoals bedoeld) en of de opgedane kennis generaliseerbaar is naar de praktijk, komt niet aan de orde.

Preventieve interventies voor risicojeugd
Kinderen en jongeren die te maken hebben met meerdere risicofactoren zijn een belangrijke doelgroep van de publieke gezondheidszorg. In Nederland is er in toenemende mate aandacht voor deze doelgroep in het landelijke en lokale beleid. Hiervoor zijn twee redenen te noemen. Ten eerste is de kennis over het verband tussen omstandigheden in de kindertijd en problemen op latere leeftijd toegenomen. Het begrip 'risicofactor' is hierin een belangrijk concept. Risicofactoren hangen op enigerlei wijze samen met een latere, ongewenste ontwikkelingsuitkomst. In wetenschappelijk onderzoek zijn vele risicofactoren vastgesteld, zoals specifieke kenmerken van het kind (bijvoorbeeld een lage intelligentie), van een ouder (bijvoorbeeld psychiatrische problemen of negatieve percepties op het ouderschap), van het gezin (bijvoorbeeld een inkomen onder de armoedegrens), van de bredere sociale en fysieke omgeving (bijvoorbeeld het opgroeien in een achterstandswijk) of een specifiek 'life event' (bijvoorbeeld echtscheiding). In dit soort onderzoek is herhaaldelijk vastgesteld dat één enkele risicofactor geen goede voorspeller is van latere problematiek; met name de opeenstapeling van risicofactoren bij een kind is van belang. Geschat wordt dat de ontwikkeling van 2-5% van de kinderen in Nederland fundamenteel wordt bedreigd als gevolg van een clustering van risicofactoren.
De tweede reden voor de beleidsintensiveringen is dat in de laatste twee decennia de kennis over preventieve interventies is toegenomen, met name vanuit internationaal onderzoek. Een belangrijke bevinding is dat vroegtijdige interventies effectiever zijn voor het kind. Wetenschappers zijn het erover eens dat met het stijgen van de leeftijd waarop

een interventie wordt ingezet, de effectiviteit afneemt. Bovendien zijn vroegtijdige interventies ook kosteneffectiever.
In Nederland is de Jeugdgezondheidszorg (JGZ) een belangrijke zorgstructuur als het gaat om de uitvoering van het beleid gericht op het vroegtijdig signaleren van ontwikkelingsproblemen bij kinderen. Net als in andere Westerse landen is het doel van deze zorgstructuur een optimale groei en ontwikkeling te stimuleren en indien nodig preventieve zorg te verlenen.
In verband met de toegenomen beleidsinitiatieven is sinds het begin van deze eeuw een aantal omvangrijke studies uitgevoerd met als doel een overzicht te geven van beschikbare interventies gericht op risicojeugd. In deze studies worden twee onderscheiden benaderingen gehanteerd. De meest gebruikte methode wordt gekenmerkt door het selecteren van wetenschappelijke publicaties die voldoen aan de methodologische eisen voor effectstudies. Uit deze methodegestuurde overzichtsstudies blijkt dat er weinig kennis beschikbaar is die bruikbaar is voor het beleid. De oorzaak hiervan is dat de onderzochte interventies grotendeels zijn uitgevoerd in settings die speciaal gecreëerd zijn voor het effectiviteitsonderzoek. Hierdoor is het veelal nog niet bekend of en hoe deze interventies en de gevonden effecten van toepassing zijn in de praktijk. De tweede, minder gebruikte manier neemt de interventies die in de praktijk worden uitgevoerd als uitgangspunt. Uit het praktijkgestuurde onderzoek blijkt dat het aantal in de praktijk toegepaste interventies het aantal onderzochte interventies ver overtreft. Met andere woorden, de in de praktijk uitgevoerde interventies zijn in de meeste gevallen (90-95% van de interventies) niet op hun effectiviteit onderzocht.

Probleemstelling
De vraag rijst hoe gewerkt kan worden aan meer interventies in de praktijk van de preventieve zorg voor risicojeugd die met onderzoek zijn onderbouwd. De huidige overzichtsstudies volgend, zijn er twee routes beschikbaar. De eerste is de implementatie van interventies die effectief zijn gebleken in gecontroleerde onderzoekssettings. Zoals gezegd, gaat de wetenschappelijke literatuur in het algemeen uit van deze manier van werken. De tweede route is het opzetten van onderzoek naar interventies die reeds beschikbaar zijn in de praktijk met als doel het opbouwen van kennis over deze interventies. Deze werkwijze is nog weinig ontwikkeld maar heeft mogelijk een aantal belangrijke voordelen. Ten eerste biedt het de kans om te werken aan de zo felbegeerde samenwerking tussen wetenschap en praktijk. Ten tweede heeft deze aanpak de potentie om over alle interventiestadia kennis op te leveren omdat deze stadia zich in de praktijk daadwerkelijk voordoen. Een

specifiek voordeel voor de praktijk is dat dit onderzoek kan bijdragen aan een reflectieve en lerende praktijk en daarmee de kwaliteit en de prestaties van interventies positief kan beïnvloeden. Tot slot kan verondersteld worden dat ook de wetenschap profijt heeft van de tweede route. Praktijkgestuurd onderzoek kan kennis opleveren over de inhoud van interventies en over de omstandigheden waaronder positieve effecten optreden. Dit kan de basis leggen voor relevante en complete effectstudies.

Wat betreft de JGZ-interventies gericht op kinderen die risico's lopen in hun ontwikkeling, is er een aantal specifieke voordelen te verwachten. Het vormen van samenwerkingsverbanden met ketenpartners in de zorg voor jeugd is een inherent onderdeel van deze interventies. Praktijkgestuurd onderzoek is mogelijk in staat de succes- en faalfactoren van deze samenwerkingsprocessen inzichtelijk te maken. Daarnaast kan betoogd worden dat de doelgroep ervan zal profiteren. Het betrekken van risicogezinnen bij preventieve interventies vereist specifieke aandacht voor wervingsstrategieën en motivatie-, participatie- en verwijsmethodieken. Bestudering hiervan is moeilijk in te passen in het methodegestuurde onderzoek omdat dit onderzoek meestal is gericht op doelgroepen die goed te bereiken zijn en gemotiveerd zijn deel te nemen aan de interventie. Hetzelfde geldt voor het feit dat de doelgroep te maken heeft met een clustering van risicofactoren ('multiproblem'), omdat de methodegestuurde aanpak veelal gericht is op enkelvoudige problematiek. Tot slot worden JGZ-interventies uitgevoerd in een sociale context met specifieke kenmerken bijvoorbeeld betreffende de uitvoerende organisaties en de politiek-bestuurlijke omgeving. Het is bekend dat kenmerken van de context van invloed zijn op de inhoud en effectiviteit van interventies. Praktijkgestuurd onderzoek is wellicht in staat contextfactoren te betrekken in het onderzoek en meer inzicht te geven in de invloed van context op effectiviteit.

Onderzoeksvragen en onderzoeksopzet

Op basis van deze analyse over de potentie van praktijkgestuurd interventie-onderzoek, wordt dit type onderzoek in dit proefschrift verkend. Hoe ziet dit onderzoek eruit en welke soort kennis levert het op? De onderzoeksvragen zijn:

1. Welke interventiestadia komen in dit onderzoek aan de orde?
2. Welke stadia van onderzoek en evaluatie zijn kenmerkend?
3. Welk soort kennis levert dit onderzoek op dat lokaal relevant is?
4. Welk soort kennis levert het op die gegeneraliseerd kan worden naar andere settings?

Deze onderzoeksvragen worden beantwoord via twee case studies. Het betreft interventies van de JGZ die begeleid zijn met praktijkgestuurd onderzoek.

De eerste interventie, genaamd 'Armoede en gezondheid van kinderen', heeft als doel aan

gezondheid gerelateerde deprivaties[1] terug te dringen door nauwe samenwerking tussen de JGZ en de gemeentelijke sociale dienst. Kinderen met gezondheidsachterstanden die samenhangen met armoede in het gezin, worden actief gesignaleerd door de JGZ. De ouders leggen vervolgens contact met de sociale dienst. Op basis van een advies van de JGZ stelt de sociale dienst geoormerkte financiële middelen ter beschikking, vaak via de Bijzondere Bijstand. Deze financiële middelen worden besteed aan gezondheidsbevordering bij het kind (bijvoorbeeld sportclubs voor kinderen met overgewicht of gebruik van de peuterspeelzaal voor teruggetrokken en sociaal geïsoleerde kinderen).
De tweede interventie is 'Bemoeizorg'. Deze interventie is gericht op gezinnen die te maken hebben met een chronisch complex van sociaaleconomische en psychosociale problematiek die geen gebruik (meer) maken van de reguliere hulp- en dienstverlening. De JGZ beoogt met deze interventie bruggen te slaan tussen deze gezinnen en hulpbronnen in de omgeving van het gezin. De interventie bestaat uit outreachende methodieken met als doel in contact te komen met de doelgroep en in nauwe samenspraak met de ouders hulp op gang te brengen vanuit het informele dan wel formele circuit. Beide interventies zijn ontwikkeld door de GGD West-Brabant in de periode 1997-2009 (Armoede en gezondheid van kinderen) en 2002-2009 (Bemoeizorg).

Hoofdstuk 2 t/m 5 bevatten de resultaten van de eerste case study. Er worden vijf verschillende soorten onderzoek gepresenteerd over de interventie 'Armoede en gezondheid van kinderen'.
De eerste studie betrof een epidemiologische survey uitgevoerd door de onderzoeksafdeling van de GGD West-Brabant (hoofdstuk 2). De onderzoeksvraag was hoe vaak basisschoolkinderen te maken hebben met materiële en sociale deprivatie en hoe vaak deze deprivaties tot gezondheidsrisico's leiden. Aanleiding voor dit onderzoek waren signalen van de JGZ. Jeugdartsen en jeugdverpleegkundigen hadden de indruk dat de armoede in gezinnen toenam en dat dat zijn weerslag had op de gezonde ontwikkeling van kinderen. Het onderzoek bestond uit de afname van een vragenlijst bij ouders van basisschoolkinderen in twee gemeenten in de regio West-Brabant. Daarnaast werden gegevens over de gezondheid van het kind verzameld tijdens de reguliere preventieve gezondheidsonderzoeken van de JGZ. Op basis van de vragenlijsten en het gezondheidsonderzoek werd geconcludeerd dat bij 6,2% van de basisschoolkinderen sprake is van gezondheidsrisico's ten gevolge van armoede.
Het tweede soort onderzoek was de evaluatie van de pilotinterventie (hoofdstuk 3).

[1] Deprivatie is een begrip uit de literatuur over armoede. Het betreft de tekorten waarmee mensen te maken hebben ten gevolge van geldgebrek. Iemand is gedepriveerd als hij om financiële redenen bepaalde zaken niet heeft, niet kan deelnemen aan activiteiten of geen gebruik kan maken van voorzieningen.

Dit onderzoek was onderdeel van een nationaal onderzoeksprogramma (SEGV II) met als uiteindelijk doel sociaaleconomische gezondheidsverschillen terug te dringen. Het onderzoek bestond uit een observationele studie tijdens het eerste jaar dat de interventie werd uitgevoerd. De uitvoerbaarheid, het bereik, klanttevredenheid, directe interventie-uitkomsten en neveneffecten werden bestudeerd in een one-group design. De sterke punten van de interventie bleken de klanttevredenheid en de directe manier om aan gezondheid gerelateerde deprivaties te verminderen. De zwakke punten waren het beperkte bereik gedurende het eerste jaar, het incidentele karakter en de arbeidsintensiviteit.

De aanleiding voor de derde vorm van onderzoek was de sterke groei in het bereik van de interventie in de jaren na de pilotfase. Daarnaast bleek dat een deel van de doelgroep herhaaldelijk terugkeerde bij de JGZ met het verzoek om een vergoeding van uitgaven voor de kinderen. Deze processen zetten de uitvoerbaarheid van de interventie onder druk en daarom werd aanvullend onderzoek gestart (financier Fonds Openbare Gezondheidszorg) (hoofdstuk 4). Het onderzoek bestond uit het raadplegen van de nationale literatuur over de determinanten van het gebruik van financiële voorzieningen, aangevuld met interviews met sleutelfiguren die betrokken waren bij de uitvoering van de interventie (uitvoerders en beleidsmedewerkers van de JGZ en de gemeentelijke sociale dienst). De conclusie was dat een deel van de doelgroep te maken heeft met een chronisch complex van materiële en immateriële problemen. Daarnaast ondervinden deze gezinnen een aantal barrières in het gebruik van de bestaande voorzieningen. De bevindingen leidden ertoe dat de samenwerkingspartners het interventiemodel verfijnden met de bedoeling de uitvoerbaarheid duurzaam te waarborgen. Dit hield in dat de taken en verantwoordelijkheden van JGZ en Sociale Zaken werden herzien en op een andere manier werden verdeeld.

De vierde vorm van onderzoek bestond uit herhaalde lokale evaluaties. Deze evaluaties waren onderdeel van de interventie en werden als zodanig uitgevoerd in opdracht van de gemeenten die de interventie inkochten (n=5). Van 2000-2009 werden 19 lokale rapportages uitgebracht over de prestaties van de interventie door de onderzoeksafdeling van de GGD (gedeeltelijke gepresenteerd in hoofdstuk 4 en 5). De bevindingen werden besproken tussen JGZ en Sociale Zaken en indien nodig gebruikt om de kwaliteit van uitvoering te verbeteren. Wanneer bijvoorbeeld het bereik van de interventie lager was dan tevoren verwacht, werden maatregelen genomen om het bereik te verbeteren.

Het laatste type onderzoek was disseminatie-onderzoek. De aanleiding voor dit onderzoek was dat de interventie buiten de regio West-Brabant werd overgenomen. Het onderzoek bestond uit een procesevaluatie waarin werd nagegaan op welke manier de interventie werd overgenomen in twee gemeenten buiten de regio van herkomst (financier ZonMw). De evaluatie was gebaseerd op een concept van een interventiehandleiding die was

opgesteld aan de hand van de West-Brabantse ervaringen. In één gemeente lukte de implementatie van de interventie niet omdat een essentieel element uit de interventie werd weggelaten. De bevindingen van het disseminatie-onderzoek werden verwerkt in een definitieve versie van de interventiehandleiding. Deze handleiding beschrijft de inhoud van de interventie, de essentiële elementen, de variabele elementen (componenten die kunnen variëren afhankelijk van lokale voorkeuren), de randvoorwaarden en een blauwdruk voor de implementatie.

Hoofdstuk 6 en 7 gaan over de tweede interventie, te weten Bemoeizorg. Er zijn drie soorten onderzoek uitgevoerd naar deze interventie: evaluatie van de pilotinterventie, onderzoek om de inhoud van de interventie aan te scherpen en de overdraagbaarheid te bevorderen, en herhaalde lokale evaluaties.
De evaluatie van de pilotinterventie werd uitgevoerd in de gemeente waar het idee voor deze interventie was ontstaan (financier Fonds Openbare Gezondheidszorg). In de pilot werden een vooraf gedefinieerde afbakening van de doelgroep en praktische werkafspraken uitgeprobeerd. De begeleidende evaluatie bestond uit onderzoek naar de omvang van het bereik, de haalbaarheid van de werkafspraken en de ingezette interventie-activiteiten. Ook werd een inventarisatie van beleidmatige kwesties gemaakt. Geconcludeerd werd onder meer dat de omvang van de doelgroep verschilde per buurt en varieerde van 0,6 – 7,0% van de 0-19 jarigen.
Na de pilot werd de interventie door verschillende gemeenten binnen en buiten West-Brabant overgenomen. De verspreiding van de interventie vormde de aanleiding tot het tweede type onderzoek, gericht op versterking van de wetenschappelijke onderbouwing van de interventie (financier ZonMw). Het onderzoek richtte zich op kenmerken van de bereikte doelgroep, de interventiemethodieken, de directe interventie-uitkomsten en de wijze waarop deze drie elementen (doelgroep, methode, doelrealisatie) een coherent geheel vormen. Drie gemeenten werden geselecteerd om mee te doen aan het onderzoek (één in West-Brabant en twee buiten West-Brabant). De studie had een observationeel one-group design en er werden verschillende kwantitatieve en kwalitatieve methoden gebruikt. De resultaten toonden aan dat de JGZ via deze interventie in contact komt met families die wat betreft de gezinsproblematiek (basiszorg, opvoedingsvaardigheden, functioneren van het sociale netwerk) vergelijkbaar zijn met gezinnen die in aanmerking komen voor intensieve ambulante gezinsbehandeling. De psychosociale gezondheid van de kinderen in deze gezinnen bleek aanmerkelijk slechter dan gemiddeld in Nederland: 63% van de kinderen liet een verhoogde score op de Strengths and Difficulties Questionnaire zien. Deze score gaat gepaard met een veel grotere kans op blijvende psychische problemen, ook op heel lange termijn. Het doel van de Bemoeizorg, toeleiding naar formele/informele zorg, werd in de meerderheid van de gezinnen gerealiseerd en

de gezinnen leken tevreden te zijn met het aanbod. Verder bleek dat er twee modellen waren om Bemoeizorg in te passen in de JGZ-structuur, namelijk een generiek (alle artsen en verpleegkundigen voeren Bemoeizorg uit) en een specialistisch model (er wordt een specialistisch Bemoeizorgteam gevormd). Sterke en zwakke kanten van beide modellen werden in kaart gebracht. De bevindingen van het onderzoek werden vastgelegd in wetenschappelijke publicaties (hoofdstuk 6 en 7) en in een interventiehandleiding. De handleiding beschrijft de inhoud van de interventie, de werkwijze stap-voor-stap, methodische handvatten voor de bemoeizorger en de randvoorwaarden voor de implementatie.
Net als bij Armoede en gezondheid van kinderen werden voor Bemoeizorg lokale evaluaties uitgevoerd in de West-Brabantse gemeenten die de interventie bij de GGD inkochten (n=7). Van 2004 tot 2009 werden 20 lokale rapportages uitgebracht over de prestaties van de interventie. De opzet van deze evaluatie was vergelijkbaar met die van de evaluatie van de pilot, met uitzondering van de beleidsmatige issues omdat deze inmiddels afgehandeld waren. De bevindingen van de lokale evaluaties werden gebruikt om de kwaliteit van de interventie te verbeteren. Er werden bijvoorbeeld nieuwe samenwerkingsafspraken gemaakt met ketenpartners om de toeleiding naar zorg te verbeteren.

Hoofdstuk 8 bevat een algemene discussie over de onderzoeksresultaten, een reflectie op de methodologische kwaliteit van dit proefschrift en de implicaties ervan voor de samenwerking tussen wetenschap en praktijk in de verschillende stadia van interventie en onderzoek. Ondanks enkele methodologische beperkingen is de kracht van dit proefschrift gelegen in de longitudinale opzet waarin twee nieuwe JGZ-interventies gedurende meerdere jaren werden gevolgd (vanaf het eerste idee ontstaan in de praktijk van de JGZ tot de oplevering van een interventiehandleiding die landelijk bruikbaar is). Aan de hand van het theoretisch kader over interventie-onderzoek kunnen conclusies getrokken worden over het proces en de potentie van praktijkgestuurd interventie-onderzoek, waarin interventies zoals die zich in de praktijk voordoen als uitgangspunt worden genomen (dit in tegenstelling tot het reguliere interventie-onderzoek waarin de eisen van de onderzoeksmethoden voorop staan).
Paragraaf 8.2.1 en 8.2.2 geven een uitgebreide samenvatting, afzonderlijk voor elke interventie case. De interventiestadia en onderzoeksstadia worden beschreven met een focus op de samenwerkingsprocessen tussen praktijk en wetenschap. Uit deze rapportages blijkt dat de belangrijkste stadia die naar voren komen in het theoretisch kader, ook voor praktijkgestuurd onderzoek gelden. Een fase van probleemdefinitie en interventie-ontwerp wordt gevolgd door implementatie en disseminatie van de interventie. Bij praktijkgestuurd onderzoek zijn deze fases echter niet enkel lineair. Er is

sprake van een iteratief (zich herhalend) proces. Resultaten van initiële evaluaties van de interventie (bijvoorbeeld over de haalbaarheid van de interventie en de overname van de interventie elders) droegen bij aan de verfijning van de interventiemodellen. Op deze manier werden de werkzame componenten van de interventies geïdentificeerd, hetgeen weer bijdroeg aan de theoretische basis van de interventies zoals uiteindelijk vastgelegd in de interventiehandleidingen.

De lokaal relevante kennis die praktijkgestuurd interventie-onderzoek oplevert, blijkt te liggen op drie terreinen. Ten eerste betreft dit de omvang en aard van gezondheidsproblematiek in een gemeente of in een groep van gemeenten. Ten tweede gaat het om de inhoud, acceptatie en haalbaarheid van interventies. Belangrijke thema's waren de samenwerking tussen JGZ en Sociale Zaken, en de identificatie en ontwikkeling van geschikte professionele methoden (attitudes, gesprekstechnieken, praktische hulpmiddelen) om in contact te komen en in contact te blijven met de doelgroep. Het derde soort kennis betreft gegevens over de directe interventie-uitkomsten op basis van observationele one-group designs. Onderzocht werd in welke mate de doelen die tevoren gesteld waren door praktijk en beleid, daadwerkelijk werden behaald. Daarnaast werd de klanttevredenheid onderzocht via interviews en een survey, waarmee ook inzicht werd verkregen in de effecten op de kinderen zoals waargenomen door de ouders. De gegevens over de interventie-uitkomsten werden ook gebruikt voor het identificeren van prestatie-indicatoren. In de herhaalde lokale evaluaties werden de prestaties op deze indicatoren gevolgd en gebruikt voor een doorgaand proces van leren en verbeteren.

Omdat praktijkgestuurd onderzoek betrekking heeft op interventies die worden vormgegeven door meerdere lokale belanghebbenden, is een belangrijke vraag of dit onderzoek kennis oplevert die generaliseerbaar is naar andere settings. De interventies die in dit proefschrift zijn bestudeerd, werden overgenomen buiten de regio waar ze ontstonden. Geconcludeerd mag worden dat door het bestuderen van de interventies in onderling verschillende lokale contexten de interventies steeds stabieler werden. Er werd steeds meer inzicht verkregen in de inhoud van de interventies, de werkzame elementen daarbinnen en de omstandigheden waaronder de interventieresultaten gerealiseerd worden. Bij de oplevering van de interventiehandelingen bestonden de interventies uit een theoretisch en praktisch doordachte, systematische en doelgerichte werkwijze, aangevuld met kennis over de randvoorwaarden voor de implementatie. Beide soorten kennis (de inhoud van interventies en de omstandigheden waaronder ze gerealiseerd kunnen worden) zijn een kwaliteitskenmerk van interventies in de publieke gezondheidszorg. Ze zijn essentieel voor beleid en praktijk om beslissingen te nemen over de relevantie en toepasbaarheid van interventies in hun specifieke setting. Voor onderzoekers is het essentiële kennis voor het opzetten van effectiviteitsstudies.

Reflecties op de belangrijkste bevindingen

Reflecterend op de hierboven beschreven bevindingen zijn er vier issues aan de orde: de rol van theorie in de fase van interventie-ontwikkeling (voorafgaand aan de implementatie), de timing van proces- en effectevaluatie, de potentie van praktijkgestuurd onderzoek als basis voor toekomstige effectstudies, en de kansen en bedreigingen van ongecoördineerde en ongeplande disseminatie van interventies.

Het theoretische kader gaat in de fase van interventie-ontwikkeling uit van de inbreng van interventietheorie om de belangrijkste aannames en werkingsmechanismen waarop de interventie gebaseerd wordt, expliciet te maken. In de interventiestudies van dit proefschrift is beperkt aandacht geweest voor theoretische voorbereidingen op de implementatie van de interventies. De eerste interventie-ontwerpen bestonden uit praktische werkwijzen en procedures, en de doelen waren in algemene termen geformuleerd, zoals 'het verminderen van sociaaleconomische gezondheidsverschillen tussen kinderen' en 'het optimaliseren van zorg voor families waar weerbarstige problematiek de gezonde ontwikkeling van de kinderen bedreigt'. Terugkijkend op het proces van het praktijkgestuurde onderzoek kan geconcludeerd worden dat het ontwikkelen van de theoretische basis van de interventies deel uitmaakte van de twee andere fases (implementatie en disseminatie). Desalniettemin verdient het aanbeveling om in praktijkgestuurd interventie-onderzoek in een vroeg stadium expliciet aandacht te besteden aan de theoretische logica van de interventie. Het draagt met name bij aan de toetsbaarheid van de interventie: wordt in de praktijk gerealiseerd wat tevoren was bedoeld en verwacht?

Wat betreft de implementatiefase en het bijbehorende evaluatie-onderzoek naar effecten en processen, veronderstelt de literatuur dat een interventie in eerste instantie wordt geïmplementeerd onder optimale omstandigheden met als doel de effectiviteit van de interventie te onderzoeken. In plaats van de interventie te bestuderen in de best mogelijke condities, was het praktijkgestuurde onderzoek gericht op het identificeren van de meest gunstige condities. Het bleek bijvoorbeeld dat vroegtijdige betrokkenheid van verschillende belanghebbenden binnen de sector Sociale Zaken een noodzakelijke voorwaarde was, alsmede de verbreding van het beleid van Sociale Zaken ten gunste van risicokinderen. Voor Bemoeizorg werden bijvoorbeeld de benodigde competenties en gesprekstechnieken onderzocht. Op deze manier werd duidelijk welke interventiecomponenten en randvoorwaarden bijdragen aan de interventieresultaten. Met andere woorden, de interventies werden 'effectief' gemaakt in die zin dat de omstandigheden vastgesteld werden waarin de interventieresultaten gemaximaliseerd kunnen worden. Vanuit het perspectief van praktijkgestuurd interventie-onderzoek dienen de modellen van interventie-onderzoek dan ook aangepast te worden, in zoverre dat initiële evaluaties zich concentreren op de inhoud en randvoorwaarden van interventies

en het verkrijgen van inzichten in de onderliggende veranderingsmechanismen. Daarna kan een verschuiving naar formele effectiviteitsstudies mogelijk worden.
Een belangrijke vraag is vervolgens of praktijkgestuurd onderzoek daadwerkelijk de potentie heeft om uit te groeien tot effectiviteitsstudies met de daarbij behorende onderzoeksdesigns. Om deze vraag te beantwoorden dienen de interventies zelf, de doelgroep en de beoogde effecten in ogenschouw te worden genomen. Wat betreft de interventies zelf, kan geconcludeerd worden dat praktijkgestuurd onderzoek gedegen kennis oplevert over de interventiecomponenten, de randvoorwaarden voor de implementatie en de omstandigheden waarin de positieve resultaten optreden. Wat betreft de doelgroep ligt er een aantal uitdagingen doordat de doelgroepen van JGZ-interventies niet scherp zijn afgebakend. De JGZ is een preventieve en community-based zorgstructuur waarin toegankelijkheid en laagdrempeligheid, met name voor achtergestelde doelgroepen, kernwaarden zijn. JGZ-artsen en -verpleegkundigen hanteren uiteenlopende argumenten om een interventie voor een bepaald kind in te zetten. Het gebruik van vastomlijnde criteria is minder gangbaar. Daarbij komt nog dat de interacties tussen de JGZ-medewerkers en de doelgroep essentieel zijn voor het op gang brengen van motivatie bij de doelgroep en dus voor het bereiken van resultaten en uiteindelijke effecten. Deze interactieprocessen zijn moeilijk te definiëren en te meten. Een Community Intervention Trial kan tegemoet komen aan deze bezwaren omdat in dit design te voren afgebakende groepen met elkaar worden vergeleken. Aanvullende metingen om uiteindelijk de referentiegroepen samen te stellen en een groot commitment van JGZ-organisaties en JGZ-ketenpartners zijn nodig om dit type onderzoek tot een succes te maken. Wat betreft de interventie-uitkomsten tot slot, kan geconcludeerd worden dat praktijkgestuurd onderzoek bijdraagt aan het identificeren van interventie-uitkomsten die relevant zijn voor degenen die belang hebben bij de interventie en verantwoordelijk zijn voor de implementatie ervan. Dit type uitkomstmaten zijn een kenmerk van kwalitatief hoogwaardige kennis over public health interventies.
De laatste fase van interventie-onderzoek betreft de disseminatie van een interventie. De verspreiding van Armoede en gezondheid van kinderen en Bemoeizorg buiten de ontstaansregio was grotendeels een ongepland proces. Dit proces werd gekenmerkt door een tamelijk geringe inbreng van kennis vanuit West-Brabant wat onder meer leidde tot diverse aanpassingen van de interventie naar het inzicht van lokale partijen die de interventies overnamen. Een dergelijk ongecoördineerd proces heeft voor- en nadelen. Enerzijds bood het de kans de interventies in diverse lokale settings te bestuderen, hetgeen bijdroeg aan het inzicht in de kernelementen van de interventies en in de randvoorwaarden voor de implementaties. Een nadeel van deze wijze van disseminatie van interventies op de lange termijn is echter dat het onderhoud en de duurzame implementatie van de interventies niet gegarandeerd kan worden. Omdat de interventies

lokaal ontwikkeld en onderzocht zijn, kunnen zij niet terugvallen op een infrastructuur die de interventies verder verspreidt, onderhoudt en onderzoekt. Beide interventies zijn weliswaar erkend en opgenomen in de I-database (RIVM - Centrum Gezond Leven) en de Databank Effectieve Jeugdinterventies (Nederlands Jeugdinstituut) (erkenningsniveau: theoretisch goed onderbouwd), maar hiermee zijn het gebruik en de doorontwikkeling van de erkende interventies nog niet gewaarborgd.

Aanbevelingen

Praktijkgestuurd interventie-onderzoek biedt kansen om de samenwerking tussen beleid, praktijk en onderzoek vorm te geven. Het levert kennis op over de inhoud van interventies en over de randvoorwaarden en omstandigheden waaronder positieve resultaten te verwachten zijn. Deze kennis vormt de basis voor toekomstige effectstudies. In de laatste paragraaf van dit proefschrift worden de implicaties van deze conclusie besproken.

In de fase van interventie-ontwikkeling is de inbreng nodig van zowel praktijkwerkers als onderzoekers. Kort gezegd komt dit erop neer dat onderzoekers de kennis aanwezig in de hoofden van praktijkwerkers proberen te ontsluiten. Door het stellen van de juiste vragen assisteren onderzoekers praktijkwerkers om hun ideeën over aangrijpingspunten voor verandering, interventiecomponenten en interventietheorie (waarom zou een bepaalde aanpak kunnen werken?) te verhelderen en te specificeren. Verder dienen onderzoekers na te gaan of soortgelijke interventies al eens eerder zijn toegepast en onderzocht, en wat daarvan te leren valt. Het resultaat van deze samenwerking is een ontwerp voor een interventie en een onderliggende interventietheorie waarin praktijkkennis en wetenschappelijke kennis zijn gecombineerd. Toegankelijkheid van onderzoekers voor praktijkwerkers en vice versa, zoals opgebouwd in de Academische Werkplaatsen, is een belangrijke voorwaarde om deze wijze van interventie-ontwikkeling tot stand te brengen.

In de implementatiefase van praktijkgestuurd interventie-onderzoek is het van belang onderscheid te maken tussen drie typen evaluatiewerkzaamheden, namelijk ontwikkelingsgerichte evaluaties op projectniveau, het monitoren van een volgroeide interventie en complexe evaluatiestudies die uitsluitsel moeten geven over de effectiviteit van een interventie. Dit onderscheid is van belang omdat er verschillende organisaties en onderscheiden competenties voor nodig zijn. Ontwikkelingsgerichte evaluaties vragen om samenwerking tussen praktijk en wetenschap. Praktijkwerkers weten waar interventieresultaten en interventie-effecten optreden en hoe interventies of omstandigheden aangepast kunnen worden om betere of meer resultaten te behalen. Onderzoekers op hun beurt kunnen metingen opzetten om relevante succesfactoren en resultaten in beeld te brengen. Dit type evaluaties verschuift geleidelijk naar de monitoring van een volgroeide interventie. Dit is de taak van de praktijkorganisatie die de interventie aanbiedt en uitvoert, en houdt in dat met een aantal indicatoren gevolgd wordt of de

interventie nog wordt uitgevoerd zoals bedoeld en of de gewenste interventieresultaten optreden. Dit type werkzaamheden, het routinematig bijhouden van interventies en resultaten, is in het algemeen nog niet goed ontwikkeld in de JGZ. Het opzetten van systemen om interventies te monitoren biedt de mogelijkheid continu te leren en te werken aan kwaliteitsverbetering. Volgroeide interventies komen in aanmerking om aan een effectiviteitsstudie onderworpen te worden. Het uitvoeren van een effectstudie in de dynamiek van de dagelijkse praktijk brengt methodologische uitdagingen met zich mee. Het vereist senior onderzoekscapaciteit en aanzienlijke financiële investeringen. Omdat deze lang niet altijd aanwezig zijn of gerealiseerd kunnen worden, verdient het aanbeveling het streven naar effectiviteitsstudies te combineren met de andere typen evaluatiewerkzaamheden.

Het onderscheid tussen de verschillende soorten evaluaties in de implementatiefase is van belang omdat het helpt om realistische verwachtingen te hebben ten aanzien van het onderzoek: welke soorten zijn er, wat leveren ze op en wat kost het? Ook helpt het om de beschikbare fondsen voor interventie-onderzoek meer longitudinaal in te zetten. De verschillende soorten evaluaties zouden hierin een plek moeten hebben. Op dit moment zijn er nog onvoldoende linken tussen beleid, praktijk en onderzoek om de verschillende typen evaluaties te verbinden. De Academische Werkplaatsen kunnen benut worden om dergelijke verbindingen meer te ontwikkelen. Een andere witte vlek is de implementatie van onderzoek in de dagelijkse praktijk. Handboeken over onderzoeksmethodologie ontberen nog informatie over de wijze waarop interventie-onderzoek in een real-life setting geïmplementeerd kan worden.

Om praktijkgestuurd interventie-onderzoek ten volle te kunnen benutten zijn er ook in de disseminatiefase verbindingen nodig tussen praktijk en wetenschap. Hoewel de literatuur consistente aanbevelingen doet over de wijze waarop deze verbindingen tot stand kunnen komen, blijft de implementatie van deze inzichten achter vanwege structurele en organisationele barrières. In Nederland is recent vooruitgang geboekt door de ontwikkeling van twee samenwerkende systemen voor de registratie en erkenning van interventies (de I-database en de Databank Effectieve Jeugdinterventies). Met name voor nieuwe interventies die lokaal en regionaal ontwikkeld zijn, zoals de interventies in dit proefschrift, bieden deze databanken de mogelijkheid om een kwaliteitsstempel te verkrijgen en informatie over interventies te verspreiden. Om daadwerkelijk gebruik en onderhoud van erkende interventies te bevorderen, is echter meer nodig. Een verbeterpunt dat dit proefschrift aanreikt, is om in de criteria en de instrumenten die de databanken gebruiken meer systematisch onderscheid te maken tussen interventies ontwikkeld in de dagelijkse praktijk en interventies opgezet door onderzoekers met het oog op het aantonen van effectiviteit. Meer specifiek gezegd: in welke mate zijn de erkende interventies en de omstandigheden waarin de interventies zijn onderzocht,

beïnvloed door het onderzoek (met het oog op het aantonen van de effectiviteit) of zijn de interventies onderzocht in grotendeels ongecontroleerde omstandigheden zoals die zich in de dagelijkse praktijk voordoen. Het maken van dit onderscheid helpt de gebruikers van de databanken om in te schatten in welke mate de erkende interventies (doelgroep, interventiemethoden, uitkomsten, randvoorwaarden) representatief zijn voor de dagelijkse praktijk en aansluiten bij bestaande praktijken, professionele vaardigheden en zorgstructuren. Ook bevordert dit onderscheid dat er meer ruimte komt voor praktijkgestuurd interventie-onderzoek en zodoende voor bottom-up innovaties in de publieke gezondheidszorg.

Appendix 1

Overview of the content of the intervention guidebooks

Armoede en gezondheid van kinderen

Praktische handleiding voor interventie

Carin Rots-de Vries
Ike Kroesbergen
Ien van de Goor

Armoede en gezondheid van kinderen
Praktische handleiding voor interventie

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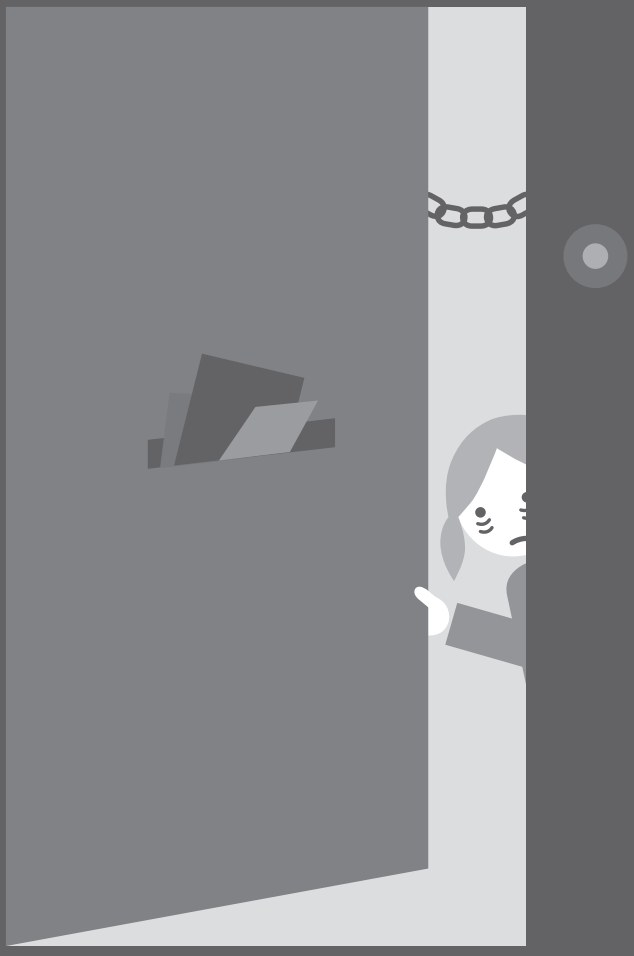
Handleiding voor interventie door de Jeugdgezondheidszorg



Carin Rots-de Vries
Ike Kroesbergen
Ien van de Goor

Bemoeizorg voor gezinnen
Handleiding voor interventie door de Jeugdgezondheidszorg

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Dankwoord

Dankwoord

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Met een verwijzing naar het gedicht van Alfred Schaffer voorin dit boekje: de beklimming zit erop. Het mysterie van wetenschap en praktijk is complex en kleurrijk. De wirwar een klein beetje ontrafeld. Tijd voor een nieuw gedicht.

Carin Rots-de Vries
14 september 2010

Curriculum Vitae

List of publications

Curriculum Vitae

The author of this thesis was born on February 11th 1972 in Bennekom, the Netherlands. She attended secondary school in Arnhem and Amersfoort (VWO, scholengemeenschap Guido de Brès) where she passed her exam in 1990.
From 1990 to 1995 she studied Health Sciences at the Maastricht University. Directly after finishing her study, she started as a junior researcher in the field of environmental health at the Erasmus University Rotterdam (department Epidemiology and Biostatistics) and TNO Quality of Life (department Environmental Health).
In 1998 Carin started working for the Regional Public Health Service West-Brabant (GGD West-Brabant) where she was appointed as an epidemiologist. After short-term research and health promotion activities related to the plague of processionary caterpillars, she joined the Preventive Child Healthcare department. She was engaged in the development and evaluation of several interventions in close collaboration with child health doctors and - nurses. During this period the foundation for this thesis was laid.
Since 2004 Carin also worked as a researcher at Tranzo, Tilburg University. At Tranzo, she became a science-practitioner in the Academic Collaborative Centre Public Health Brabant. Carin was engaged in the establishment and development of this centre which was the first of its kind in the Netherlands and aims to provides a long-term alliance between science and practice. In 2005 and 2006 she was awarded grants by ZonMw (the Netherlands Organisation for Health Research and Development) for part of the research projects presented in this thesis.
In addition to her professional activities, Carin is engaged in ecclesiastical work as a leader of the Alpha course, and in developmental work as a board member of a Dutch NGO. Carin is married to Egbert-Jan Rots, who is an entrepreneur in the building industry, and they live in the city centre of Arnhem.

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