

Introductory Essay to Volume 5 of International Library on Child Development and Children's Services: Effective Interventions for Children in Need

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As first volume in this series demonstrates, there has been a revolution in our understanding of the potential causes of impairments to children's health and development. There is now much greater differentiation between the types of disorders that affect children. As a result, much more is known about the development of those disorders. Knowledge has gradually accumulated on the relative contributions of genes and environment to child development, and in recent years the effects of the interaction between the two has become a focus. There have been leaps in comprehension about how the brain works, and the influence of families, schools, peers and neighbourhoods on its development. There is now pretty reliable evidence on the numbers of children suffering impairments and disorders, on how these problems overlap and how they are manifest in subpopulations. Consistency in the scientific approach means that it is now possible to get a sense of patterns of impairment to development over generations, and there are emerging insights into differences in prevalence between countries and cultures. Much of this knowledge is rooted in reliable empirical evidence, using good measures and methods designed to answer specified questions. This is a stronger basis for action than opinion or conceptual speculation.

Of course knowing why something goes wrong does not always indicate how to put it right. Nonetheless progress in getting this evidence into policy and practice has been slow. It is only in the last two decades that the idea of an 'evidence base' for policy and practice, distinct from the wisdom of clinical training, has emerged. As the article by Hoagwood and colleagues illustrates, much evidence appears opaque to policy makers and practitioners, who understandably develop a healthy scepticism about its relevance to the real world. This is to a greater or lesser extent true across the fields of health, education, social care and youth justice that make up children's services. In some areas, social work for instance, links between practice and science are historically tenuous and practitioner scepticism about evidence is at its strongest.

The potential connection and disconnection between evidence and practice is exemplified by challenges to the use of experiments, or more specifically, to the random allocation of children with impairments to intervention or control groups. This method of uncovering the contribution of an intervention to child outcomes should be fundamental to what some describe as 'evidence-based practice'. As Oakley's article demonstrates, the idea of experiments produces a variety of emotional reactions in researchers, policy makers and practitioners.

The denial of provision to a group of children -to find out if that provision works- produces a strong anti-body reaction in a large part of the clinical community. Strangely, the idea that services should be provided without a robust estimate of their impact on children's lives does not, as yet, produce the same reaction. Armed with an ethic from

poor law times that doing something has to be better than doing nothing policy makers and practitioners tend to overlook the potential for their actions to harm to children. Experiments are threatening because as often as not they reveal that services are ineffective. When obstacles to getting a randomised control trial started are overcome, as Oakley demonstrates, responses to results of the evaluation are variable. Some extremely ineffective programmes maintain strong support from policy makers and practitioners.

Experiments are becoming more widespread in some countries but not others, creating perverse effects on practice. The United States leads the way meaning that many programmes designed there are being implemented in Europe and Australasia.

Even when widely used, the value of experiments for policy and practice is seldom fully realised. Findings about programmes that do not work are crucial to better policy and practice but mostly go unreported, never mind unused. One consequence is the uninterrupted provision of some popular practices known to be ineffective, such as counselling and providing information about risky behaviour to adolescents. Another has been the preparation of systematic reviews. These bring together published evidence from reliable trials, painting an overly positive picture due to the absence of data from unpublished trials.

Too few experiments are set up to find out *why* an intervention works concentrating instead on *if* it works. Policy and practice depend more on the former than the latter. For example, the PATHS curriculum, described in the article by Domitrovich and colleagues, uses an early years and school-based curriculum to alter children's social and emotional regulation at sensitive periods in the development of the brain. When teachers understand this mechanism they are more likely to implement PATHS well. When policymakers understand the mechanism they can begin to explore a range of options to achieve similar effects. For scientists the understanding permits the investigation of less intrusive and more efficient ways of achieving the same result.

Too few experiments describe in ways meaningful to clinicians the size of an intervention's impact. As the article by McCartney and colleagues shows, representations of the amount of risk, or the extent to which an intervention can prevent a risk, are useful to practitioners. This can be achieved by using a standard measure, such as Cohen's *d* or in monetary terms using cost-benefit analysis. But practitioners need a little more explanation. For example, effect sizes measured using Cohen's *d* generally range from between 0.2 -considered by Cohen¹ to be a small effect- to 0.5 -which he counted as a medium effect. But a small effect with a lot of children, achieved at low economic cost and without any negative side effects can be extremely powerful. The medical analogy is giving aspirin to middle-aged men to reduce heart failure. The effect size is a measly 0.06 but the benefit to the few is literally lifesaving and the costs to non-beneficiaries are negligible. Similarly, modest effects with high-risk groups, such as persistently antisocial adolescents, might disappoint academics but be

¹ Cohen, J. (1988) *Statistical Power Analysis for the Behavioural Sciences* (2nd ed), Hillsdale, NJ, Lawrence Erlbaum Associates.

welcomed in the world of practice.

At present, the producers and consumers of evidence largely inhabit separate worlds. Attempts are beginning to be made at methodologies that better connect policymakers and practitioners with local and international evidence. The Communities that Care² approach, developed by Hawkins and Catalano, and the PROSPER³ method, emerging from a collaboration between Penn State and Iowa State universities, are reasonably well known examples. Some, such as the Common Language approach described in this volume by Little and Abunimah with respect to their work in Ireland, also promote the experimental evaluation of innovation emerging from researchers' and practitioners' collective action. This method asks communities or multi-agency groups to engage with several sources of evidence including epidemiology about the health and development of local children, and international databases and reviews about what works, for whom, when, and why. By asking participants in the method to treat every innovation as a hypothesis to be tested by experiment, a further connection between evidence and practice is forged.

As Zigler's article reminds us, the journey to better connect policy, practice and evidence has been long and there is much ground still to cover. Most scientists now at least recognise the value of the application of findings to real world settings. Most practitioners have to pay at least lip service to the worth of evidence. This relationship will remain sterile while it involves one group merely tipping their hats towards the other. Progress will depend on finding approaches that encourage researchers and clinicians to change each other's behaviour and build collective projects to solve collective problems, without undermining the integrity of scientific and clinical methods.

Real World Challenges

However much we know about the aetiology of impairments to children's health and development, and however skilled we become in developing effective programs, progress will remain slow if, as at present, most children in need do not get help, or fail to get to the intervention that can best help them. There are surprisingly few studies of service take-up. The article by Farmer and colleagues is particularly valuable because it includes longitudinal information on children's mental health and their use of mental health services. Similar proportions of children -about a fifth- have mental health problems, or get services to support their mental health, but the two groups do not match up. Some but not all children in need get help; some with no identified needs get help too. The nature of that help is varied, including education and community-based supports. Some of it is intensive and enduring, a characteristic that parents associate

² Fagan, A., Hawkins, D., and Catalano, R. (2008) 'Using community epidemiologic data to improve social settings: the Communities That Care prevention system', in M. Shin (Ed.) *Toward Positive Youth Development: Transforming Schools and Community Programs* (pp. 292-312), Oxford, Oxford University Press.

³ Spoth, R., Greenberg, M., Bierman, K. and Redmond, C. (2004) 'PROSPER community-university partnership model for public education systems: capacity-building for evidence-based, competence-building prevention', *Prevention Science* 5 (1), pp. 31-39.

with effectiveness, and some is short-term.

The process of deciding who gets help, what would be called triage in a medical context, frequently borders on chaos in most jurisdictions and, as McAra and McVie demonstrate, is potentially counter-productive to children's health and development. When police arrest young people in Scotland, they have to make decisions about whether to engage the broader youth justice system. These decisions are far from evidence-based. The deeper the young person is thrust into the system, the less likely it is that he or she will desist from offending behaviour. It is ironic then that most young offenders are unknown to the police. The great majority of young people that do come into contact with the police receive a light touch. Often it is children on the margins of the criminal justice system who are most likely to desist from offending behaviour. Similar patterns emerge with respect to special education, mental health and child welfare provision.

The necessity of matching needs and provision extends to programmes as well as youth justice and other processes. Long-term, serious conduct disorders have been resistant to early intervention programmes. The Fast Track evaluation described by Bierman and colleagues offers promising results. But the largest impact is found for the three per cent of children who posed the greatest risk at the beginning of the intervention. The benefits to moderate risk children are found to be minimal. Fast Track is an expensive programme with a focus on cognitive and non-cognitive skills. It offers support to children, families, schools and neighbourhood. To provide value for money, it has to be accompanied by strong screening methods that reliably pick out high-risk cases whose response to the intervention justifies the expenditure.

Selecting the Evidence on What Works

With a few exceptions this book draws on articles in leading peer-reviewed journals. But when it comes to searching for evidence on what works, for whom, when and why, there is a need to look more widely. Why so? The explanation requires a brief introduction to current thinking on standards of evidence used to decide whether or not a programme is effective.

There is no agreed definition about what works. Increasingly, however, two related but separate criteria have begun to emerge. First programmes that have been evaluated using experimental methods several times over, including at least one study not undertaken by the programme developer, are viewed with greater confidence. One trial may get it wrong, but several reporting broadly similar results do not. Second, systematic reviews play a major role in giving programmes a clean bill of health. A systematic review is essentially a meta-analysis in which the results of several studies are combined to produce an average effect size. Some reviews look at individual programmes evaluated in several locations, others at types of programmes, home visiting for example. A critical element of a systematic review is the inclusion criteria that decide which evaluations should be entered into the meta-analysis. It is reasonable to have more confidence in those limited to experimental studies. Two international organisations, the Cochrane Collaboration -which has a broad remit to improve health-

and the Campbell Collaboration -which focuses on social, behavioural and educational arenas- commission and catalogue systematic reviews.

So it is not possible to tell whether a programme is effective from a single evaluation. It is necessary to look at the results from several in many journals or at systematic reviews. Many of the latter, however, are published only on the Campbell or Cochrane websites. The Internet has, therefore, become the primary repository for information on what works. In addition to the Campbell and Cochrane Collaborations, there are several organisations describing and indicating the effectiveness of individual programmes, such as Blueprints for Violence Prevention, Promising Practices Network and the What Works Clearinghouse -in the United States- and the Best Evidence Encyclopaedia and Prevention Action in the United Kingdom.

This book does not, therefore, purport to provide a comprehensive guide to effective practice. Instead we have tried to provide an indication of the range of proven models, and to draw out what we feel is important in interpreting and applying this evidence. So, for example, we have included Johnson and colleagues study of Community Mothers, a programme that supports experienced mothers from disadvantaged communities coming to the aid of first-time mothers in similar circumstances. But we could have easily drawn from articles on half a dozen similar models. (Similarly, we selected just one of several articles on Community Mothers, trying to get the right balance between a description of the programme, its impact on children and the challenges of implementation).

Our next decision regarding selection of articles was to look for a balance between those that focus on universal populations -all children in a state, in a school or neighbourhood- and those that target children at risk of, or suffering an impairment to their health and development -such as those with special educational needs, psychiatric disorders or displaying extremely antisocial behaviour. We particularly wanted to draw attention to programmes that have public health benefits, using changes in the behaviour or emotions of *typical children* as a mechanism, over time, to reduce the overall incidence of impairments to development. Or, put another way, programmes that focus on ordinary children with the goal of improving not only their development but reducing the incidence of impairments to health and development in future generations.

Within each category we then tried to capture several plausible locations for effective interventions. There are examples of programmes that alter what parents do, community dynamics and school curricula. There are evaluations of the effects of reducing poverty in disadvantaged communities, or pushing people back into the labour market by altering the entitlement to benefit. There are studies of programmes that move families from one neighbourhood to another. Then there are the interventions targeted at aspects of child development, such as home visiting by nurses or para-professionals during the first months of life, therapeutic help for dysfunctional families, youth development and mentoring.

Our selections were also influenced by the opportunity to illustrate themes or challenges in the design, implementation and evaluation of activities to improve

outcomes for children. Rutter's article, for example, reflecting on a major evaluation of the UK's flagship prevention programme Sure Start, roughly modelled on the United States Headstart programme, indicates how big 'P' and small 'p' politics can handicap the design process, the set-up of the evaluation, the analysis and the dissemination of results. The experience with Sure Start in England is juxtaposed with that in Wales, where Hutchings and colleagues combined it with another proven model, Incredible Years. They undertook a more robust evaluation method and found much better results. Another article from the Great Smoky Mountains Study of Youth is included to demonstrate first the value of natural experiments and second for its estimate of the impact of people being lifted out of poverty as a result of changes in gaming laws. The *Moving to Opportunity Demonstration* described by Levanthan and colleagues is of interest, not only because of its rather disappointing but highly instructive results, but also because of the breathtaking scope of the intervention, giving people the means to move from disadvantaged, dysfunctional communities.

A reader new to this field could be forgiven for thinking that experts will be *au fait* with this range of models. They should not be deceived. It is rare for people working with parents to collaborate with those seeking economic changes or developments in school, or to cross any of the other boundaries erected within the world of intervention science.

What then is missing? We have few examples in the following pages of programmes that do not work. There are too few published articles with negative findings. The breadth of our interest has meant the exclusion of leading experts who have written many systematic reviews about relatively narrow interventions but no broad overview of a category of interventions. There has not been space to include studies that show how proven models work in different conditions. We have not found room for articles that explore how combinations of programmes work in communities or states, such as in the aforementioned PROSPER experiment in Pennsylvania and Iowa. Scientific method has led us towards major policies or programmes that are susceptible to experimental evaluation. Other than what has been referred to already, there is much less on how processes -child protection systems, state care arrangements and the organisation of child and adolescent mental health- influence children's health and development. There is not a word on the impact of clinical practice -the contribution to outcomes made by individual teachers, police officers, social workers and psychiatrists- over and above the programmes that they find for the children that make up their caseload. Every model covered in this volume has been proven or unproven in economically advantaged countries, mostly the United States. There is a body of knowledge from the Global South, but we have left this to Kaoukji and M'jid in volume six in this series on child development in the economically developing world.

Public Health Programmes

In making decisions about what to include and omit a crude distinction was made between public health and targeted prevention programmes. The idea of public health style prevention for children has been introduced. It is premised on its potential to change the normal range of distribution for dimensions of health and development. A

practical example might be improving the behaviour of every child in a class with the goal of reducing the rate of highly antisocial young people.

There is strong empirical support for these ideas, beautifully described in Rose's *The Strategy of Preventive Medicine*⁴, with regard to some aspects of health and development. Better hygiene to reduce the transmission of infection, use of condoms to reduce sexually transmitted diseases and fluoridation of water to improve dental health are all familiar examples. In the context of child development the scope and limitations of the concept are still being researched.

All attempts to reach wide populations are politically charged, and politics shape a programme's potential success. Sure Start is a good illustration of the tensions. The appeal of prevention programmes for politicians is broader than their scientific underpinnings. Sure Start was aimed at *all* children in disadvantaged communities, indeed the programme's successor Children's Centres will eventually be provided in every disadvantaged community in England. The ability to benefit poor families without stigma via what has been labelled progressive universalism is clearly attractive to politicians and, in some respects, meets the scientific criteria for public health prevention. But is it effective?

As Michael Rutter's article explains, it is difficult to know. Political decisions have potentially undermined the programme design. There was a lack of specificity in what was expected of Sure Start programmes, and consequently a wide variation in provision from one place to another. There were also considerable differences in the types of families using Sure Start. Politics also influenced the evaluation design. The impact of Sure Start was estimated using a quasi-experimental design, a step short of the recommended randomised controlled trial. Initial results have been less than promising. The net effect is disappointment. Crucially, it is not possible to know whether the programme or the evaluation method is responsible for the negative results. Rutter does his best to draw what conclusions he can.

The early Sure Start results are consistent with other evaluations of broad and widely applied centre-based initiatives for children in the early years. Initially, there appear to be few benefits in terms of children's health and development. The positive effects take time to show, as confirmed by reports on Sure Start published after Rutter's article⁵. However, the attempt to reach wide populations will create challenges for consistency of response. A *laissez faire* approach such as a manualised programme delivered with low fidelity will produce variable impacts on child well-being. In addition, major capital and staff investments to get programmes like Sure Start off the ground often outstrip the financial benefits that accrue from their modest contributions to children's health and development. Since such programmes are popular with politicians, policymakers and people living in disadvantaged communities, they are seldom stopped once initiated.

⁴ Rose, G. (1992) *The Strategy of Preventive Medicine*, Oxford, Oxford University Press.

⁵ NESS (The National Evaluation of Sure Start) (2008) *The Impact of Sure Start Local Programmes on Three Year Olds and Their Families*, NESS Report 027, Nottingham, DfES Publications.

The challenge then becomes how to make the most of this, and other types of provision, that reach large parts and sometimes the great majority of the child population. In Wales, where Sure Start was also available, the population wide approach was combined with a targeted prevention programme, Incredible Years, offered to the parents of children whose emotional or behavioural development met a pre-defined threshold. Incredible Years has many manifestations, but in Wales it involved a 12-week programme that helps parents better understand and respond to the demands of their pre-school children.

The project, described in the article by Hutchings and colleagues, received a lot of attention because it was delivered within Sure Start Centres but, in contrast to the situation in England, involved targeted prevention activity, was evaluated by randomised controlled trial and achieved positive results. Incredible Years in Wales was aimed at children displaying significant risk of conduct disorders as measured by the Eyberg Child Behavior Inventory⁶. Highly promising effect sizes of between 0.63 and 0.88 were found for both conduct problems and attention deficit. Hutchings and her team point towards potential benefits with respect to early onset personality disorder.

Home visiting provides another illustration of the challenges of variation in the delivery of universal and public health prevention programmes. Sweet and Applebaum's systematic review of over 60 home visiting programmes demonstrates the same mix of programme types and variation in results associated with the English Sure Start experiment. Some home visiting programmes impact negatively on children's well-being, while the best achieve effect size scores in the region of 0.3. No single programme reviewed by Sweet and Applebaum stuck out as an exemplar. A few programmes (7%) were universal, some were for low-income families (55%) and others for families at risk of child abuse and neglect (10%). No single programme type achieved the best results.

Because the evidence on home visiting is not clear cut, politics and unreasonable assumptions inevitably influence the investment of resources. For example, in England some commentators pit well established, truly universal but unevaluated health visiting programmes against new, targeted, rigorously evaluated programmes like Nurse Family Partnership⁷. In fact the comparison is false. The targeted programme would be wasted on typical families and most health visitors acknowledge their limitations with the young, high-risk mothers with whom Nurse Family Partnership excels.

Some of the best examples of public health programmes aimed at children's mental health are school-based and come in the form of curricula taught alongside other school lessons. The approach is illustrated in the aforementioned article by Domitrovich and colleagues on the PATHS programme, versions of which are delivered in pre- and

⁶ Eyberg, S. and Ross, A. (1978) 'Assessment of child behavior problems: the validation of a new inventory', *Journal of Clinical Child Psychology* 7, pp. 113-116.

⁷ Olds, D. (2006) 'The Nurse-Family Partnership: an evidence-based preventive intervention', *Infant Mental Health Journal* 27 (1), pp. 5-25.

elementary school settings. Roughly an hour a week of classes delivers alterations in pupil's social and emotional regulation, which then impacts social competence, behaviour and schooling.

There are many other illustrations of school-based curricula not included in this volume. The Olweus⁸ Bullying Programme has school-wide effects. Life Skills Training⁹ uses lessons with adolescents to prevent the use of drugs, alcohol and other substances. The Good Behaviour Game¹⁰ offers a classroom management system for elementary school students. A variation of the Incredible Year's programme¹¹ helps teachers to better manage the behaviour of all students.

The potential of such programmes remains largely untapped. Despite strong evidence about impact, and extremely good financial returns on small investments, only a small minority of schools around the world deliver any of the programmes just described. Moreover, unlike the educational curriculum, their status never rises above 'programme'. It is well within the means of education systems in the economically developed world to give one hour in every school week to models like PATHS, LST and other public health type approaches with the aim of benefiting the health and development of students aged five to 18 years. If these approaches were to become mainstream, lessons would be built into teacher training courses and the intervention embedded into schools, largely indistinct from other lessons. As well as the potential benefits to student educational achievement by way of improved emotional outcomes, an embedded approach would save the programmes from the vicissitudes of funding, the career aspirations of their champions and political whim.

Arguably, public health approaches have their greatest impact when they facilitate a voluntary response on the part of children and families rather than seeking to directly influence a course of action. Encouraging parents into work with the goal of boosting income and providing more choices for families is one example. The Minnesota Family Investment Program or MFIP, described in the article by Gennetian and Miller, is an exemplar of what were called 'welfare reform' programmes in the United States, beginning in the mid 1990s. These programmes sought to ease families away from dependency on state benefits towards self-sufficiency. MFIP was evaluated by randomised controlled trial and was found to result in increased employment rates, reduced poverty, better child behaviour and better school results.

The benefits of lifting families out of poverty is born out in the remarkable natural experiment from the Smoky Mountains longitudinal study, described in the article by Costello and colleagues. Halfway through their longitudinal investigation -of 1,420

⁸ Olweus, D. (1993) *Bullying at School: What we Know and What we Can Do*, Oxford, Blackwell.

⁹ Botvin, G. and Griffin, K. (2002) 'Life skills training as a primary prevention approach for adolescent drug abuse and other problem behaviors', *International Journal Emergency of Mental Health* 4 (1), pp 41-47.

¹⁰ Embry, D. (2002) 'The Good Behavior Game: a best practice candidate as a universal behavioral vaccine', *Clinical Child and Family Psychology Review* 5 (4), pp. 273-297.

¹¹ Webster-Stratton, C. and Reid, J. M. (2002) *The Incredible Years Classroom Management Teacher Training Program: Content, Methods, and Process*, Washington, Seattle, Incredible Years.

children, aged nine to 13 years, in 11 disadvantaged communities in the west of North Carolina in the United States- American Indians in the sample began to benefit from income generated from the building of casinos. Casino operators agreed to pay every adult and child (funds for children were held in trust) a percentage of profits, amounting to \$6,000 each at the turn of the century. Consequently, 14% of American Indians in the sample were lifted out of poverty. Costello's team monitored the impact on children and found extra family resources translated into fewer symptoms of conduct disorder. The impact on anxiety and depression was less clear-cut. Similar results were found for non-Indian children moving out of poverty for other reasons.

Such results are informative in so many ways. They act as a reminder of the consistent association between poor socio-economic circumstances and inequalities in wealth, and poor child health and development. They point towards the potential impact of government taxation and benefits policy on child well-being, often much greater than that of programmes that directly target child or parental behaviour. They also act as a reminder of the limits of current knowledge to mainstream children's services. The distal processes that link socio-economic status to poor outcomes and improved financial status to better outcomes remain largely uncharted. Why is it, for example, that the economic benefits to American-Indians in the Smoky Mountains had greater impact on conduct than emotions?

The final article in the section dealing with public health approaches combines several of the themes in this commentary. Zoritch and colleagues systematic review of approaching 1,000 publications uncovered eight high-quality randomised controlled trials of day care, places for children to stay while their parents go to work. All were in the United States. They find that, in the short-term, good quality day care promotes children's intellectual development and school achievement. In the long-term, it leads to lower teenage pregnancy and better employment prospects. The combination of a nurturing place for the child to stay and training for the parent, usually the mother, is the most effective variation on the model.

As with other aspects of prevention, however, political, economic and practical challenges complicate taking action on results from studies, such as those by Zoritch and colleagues on day care. Regardless of the evidence concerning programme effectiveness, the primary impetus for Western governments in increasing the supply of day care has been to free up parents for the labour force, and so boost the economic strength of the nation state. The economic argument often permits the provision of low or variable quality day care. But poor day care, or any day care for parents who would rather stay at home and look after their children, tends to have negative effects. Too often, the net result is economically better off parents having the most choice about whether to use day care and, for those that choose to do so, having the means to buy the best. Poor families are compelled to choose and make do with what little they are offered, or can afford.

Targeted Prevention

Most attempts to improve children's well-being target children who display the

symptoms of significant impairments or disorders. Most targeted prevention concentrates on the major environmental risks to health and development. Largely absent from the literature are examples of biological interventions for disorders that have a strong genetic influence. Indeed, the best illustrations of effective interventions for largely genetic disorders involve an environmental mechanism. For example, the Mendelian disorder, phenylketonuria, that left untreated leads to problems with brain development, responds to dietary restrictions (eliminating foods high in phenylalanine). There are many studies about the effectiveness of pharmaceutical interventions that target the biological processes that underpin some impairments to mental health. For example Methylphenidate, better known by the brand name Ritalin, is a stimulant effective in treating attention-deficit hyperactivity disorder. However, the pharmaceutical literature is mostly beyond our expertise and examples have not therefore been included in this volume.

To balance the preceding focus on schools, neighbourhoods and macroeconomics the section on targeted prevention programmes includes examples of models that use parenting, family relations and adolescent transitions to adulthood as their locus for intervention.

When placed under sufficient stress parents can, usually unknowingly, be a threat to their children's well-being. Many prevention programmes have attempted, with varying degrees of success, to target this risk. One class of interventions use experienced - sometimes trained- mothers to support expectant inexperienced mothers. Community Mothers, a programme described by Johnson and colleagues, is one of several examples of programmes in this class. The experimental evaluation demonstrates benefits for high-risk families. The intervention leads to greater parental involvement in education - checking on homework, accompanying the child-, less unhelpful discipline -such as smacking- and more enjoyment in being a parent.

Not all programmes in the Community Mothers mould have been successful. A rigorous evaluation of the UK HomeStart programme, for example, revealed negligible impacts on children's health and development¹². Moreover no interventions that build on natural community processes by getting mothers to help each other have been taken to scale, sustained over a long period or become embedded in community practices.

The success of Incredible Years in the context of the population-based approach taken by the Welsh Sure Start Centres has already been discussed. Scott's article considers the application of the same programme delivered under the auspices of child and adolescent mental health services in inner city London. This small experiment offering the intervention to groups of parents of children, aged three to eight years, shows healthy effect sizes with regards to antisocial behaviour, with the highest risk children getting the most benefit.

¹² Asscher, J., Hermanns, J. and Dekovic, M. (2008) 'Effectiveness of the Home-Start parenting support program: behavioural outcomes for parents and children', *Infant Mental Health Journal* 29 (2), pp. 95-113.

The potential of parenting programmes to prevent children's mental health problems is confirmed in the meta-analysis described in the article by Woolfenden and colleagues of eight experiments, involving the parents of over 700 children, aged 10 to 17 years. Once again, effect sizes are good and appear to extend beyond mental health into the process outputs that interest policymakers. They find, for example, that good parenting programmes have the potential to reduce re-arrest rates and the time young people spend in custody by over 50 days on average.

The underlying logic for most effective parenting programmes focuses on parents' lack of skills in negotiating normative family conflict. Most interventions model successful strategies for dealing with such conflict. Parents who learn techniques taught in the programmes are rewarded by rapid improvements in their children's behaviour, which re-enforces effective parenting. Unfortunately the logic has been restricted to a small number of proven models, such as Incredible Years and Triple-P, that are used in many countries but, so far, with a tiny proportion of parents. Progress is handicapped not only by the limited availability of these programmes but also by the fact that they appear to have sponsored a rash of central and local government initiatives that ignore the logic, tell parents what to do and punish them when they get it wrong.

What happens when things go badly awry and the child no longer wants to live with parents, or vice-versa? In these contexts poor families have to rely on the safety net that is provided by state care. Little is known about the effectiveness of the range of interventions that are covered by the label 'state care'. But there is a suspicion that too often they lead to the child being harmed and too infrequently do they target known risks, such as the breakdown in relationships between child and parents or poor adolescent mental health. Programmes such as Functional Family Therapy, or FFT, described in the article by Barton and colleagues, offer a viable alternative to separation into foster and residential care. The study shows the generalisability of FFT across risk groups and delivery modes. Other programmes not covered in this volume, such as Multidimensional Treatment Foster Care¹³ provide the intervention while the child is separated from home.

The use of empirical studies of the aetiology of impairments and disorders, as the basis for the design of models like FFT and Incredible Years, produces a practical interpretation of previously competing theoretical ideas about how best to help children in need. For example, there has been an historical rivalry between advocates for behaviour modification and psycho-therapeutic approaches. Faced with the challenge of a rigorous evaluation of impact on child outcomes, programmes like Incredible Years and FFT have strong elements of both behaviour modification -to reward successful parenting strategies- and psycho-therapeutic support -to help parents and children understand the roots of conflict.

Similar themes occur with respect to programmes that target positive youth

¹³ Fisher, P. & Chamberlain, P. (2000) 'Multidimensional Treatment Foster Care: a program for intensive parenting, family support, and skill building', *Journal of Emotional And Behavioural Disorders* 8 (3), pp. 155-164.

development. Roth and colleagues review of 15 youth development programmes suggests that connecting adolescents to healthy groups of people in school, neighbourhoods and civil society; giving them the competencies and knowledge to contribute meaningfully to these groups; and rewarding good behaviour while sometimes turning a blind eye to negative behaviour, produces gains for low and high-risk groups. Once again, the need and difficulty of tapping into normal processes within society is stressed.

In terms of going to scale, one of the most successful examples in this class of intervention is Big Brothers Big Sisters, described in the article by Grossman and Tierney. Established in 1904 in New York City, this mentoring programme was based not on evidence but on the impassioned and commonsense response of a court clerk, Ernest Coulter, to the problem of boys getting into trouble with the law. Within a decade BBBS had spread to over 90 cities. As evidence emerged as a criterion for the purchase of mentoring programmes, BBBS was subject to experimental evaluation. It has modest impact, reflecting its modest aspirations to improve behaviour and reduce drug, alcohol and substance misuse. Cost-benefit analysis shows the programme only just pays its way. The results of evaluation have led to more investment in screening, training and matching mentors.

The section on targeted prevention ends with another audacious experiment from the United States, the Move to Opportunity programme described in the article by Leventhal and colleagues. Families living in public housing in high-risk communities were given vouchers to allow them to move to new neighbourhoods. Such a move, initiated by parents, has the potential to transform neighbourhood, family and school risks to child development. The programme was evaluated using experimental methods. The results are mixed. The losses -connection to family and friends- appear to get in the way of the gains -less exposure to violence, drug, alcohol and substance misuse and poor education. The Move to Opportunity programme illustrates how well intentioned interventions can make already messy causal pathways more complex.

What Works

The interventions described in this volume should not be taken as a template for the development of children's services. But common themes are identifiable in several of the articles that may be helpful for policymakers seeking to improve provision. The effective interventions described in this volume tend to be clear about their target group and realistic about amount of impact that can be achieved. This improves the match between the type and amount of service, and the needs of the children. These models are usually underpinned by a strong logic model or theory of change setting out why the intervention is likely to have an impact. A robust evidence base supports all of the interventions. Proven models pay attention to ethical considerations such as the potential for unintended effects and harm. By default, effective interventions described in this volume have been rigorously evaluated.

Most of the effective services included in this volume are community-based. They support the child living at home, usually living with birth parents, and occasionally with

foster or adoptive parents. The intended beneficiaries continue to attend mainstream schools. All of the programs are multi-modal reflecting the complexity of causal pathways that produce impairments and disorders, reviewed in Maughan and Little's volume on child development that starts this series of books. For the same reason proven models are nearly always intensive, enduring and focused, in contrast to the majority of 'thin' children's services, such as the provision of information or a listening ear. It is noticeable that effective services are appropriately resourced and use well-trained, highly motivated staff.

The evidence shows that there are many effective policies and programmes from which policymakers and practitioners can select. This situation contrasts favourably with pessimistic reviews of the evidence base in the early 1970s that led several commentators to conclude that 'nothing works'. At the same time, none of the interventions covered in this volume are sufficient single-handedly to tackle the common impairments to children's health and development that tax children's services. Combinations of models hold the key, and finding a way to shelter programmes within established systems crucial.

The Costs of Not Intervening

The final two chapters in the book deal with continuities and discontinuities between childhood and adult development. The idea of heterotypic continuities runs through these articles. In childhood impairments and disorders are generally assessed in terms of behaviour, drug, alcohol and substance misuse and emotional problems. In adulthood the focus switches to schizophrenia, neurodevelopmental problems and depression. Having an impairment to health and development in childhood increases the risk of these adult problems. But the difficulty in adulthood frequently manifests itself differently than in childhood. And the majority of developmental setbacks in childhood do not persist into adulthood.

Lifespan patterns are important to scientists. Children predicted to do badly who turn out well offer opportunities to better understand resilience and the way in which genes, biological processes or contexts such as neighbourhoods, families and schools mediate and moderate risks to healthy development. The articles at the back of the book are among many that have sponsored studies into the interaction of genes and environment; the reasons why some children appear in certain contexts to be resilient to risk due to, for example, different coping strategies or different cognitive processing.

The relevance of this emerging evidence base for policy and practice is not yet properly understood. But some pointers are already apparent. Impairments to health and development that persist into adulthood are more resistant to change and demand expensive responses. Prison, mental hospital and intensive community health services provide for people whose problems were manifest in childhood. A disproportionate amount of state benefits are awarded to people whose difficulties span the life course. Children and adolescents with intellectual, emotional, behavioural and social impairments to development will, on average, earn less and contribute less to the tax burden in adulthood.

These calculations have urged greater investments in cost-benefit analysis. Typically, an evaluation of a programme or policy designed to improve children's health and development will be measured using standard statistical procedures such as Cohen's effect size, mentioned above. Economists can now monetise some of these effects by calculating how much less demand there will be on services such as prison and hospitals, and how much more programme recipients will earn, and therefore contribute to the economy over a lifetime. The results are striking. For example, some programmes like Early Headstart, that resemble in many ways the UK Sure Start project described above, have modest impacts on children's health and development achieved at high financial costs attached to buildings and staff. Other programmes, such as Scared Straight¹⁴ - which frighten young people starting out on a criminal career by exposing them to the horrors of prison- are popular with policymakers, extremely cheap to deliver but increase offending behaviour by such an extent that the intervention becomes a drain on government coffers. Then there are public health type interventions such as Life Skills Training, delivered as part of the school curriculum at low cost to all students and reaping modest per pupil financial savings that add up to impressive population-wide savings¹⁵.

Better Connecting Developmental and Intervention Science

This fifth volume in the series considers the effectiveness of children's services. Progress in this area is increasingly dependent on improved scientific understanding, summarised in the opening volume on child development. Are there benefits to primary science from studies of the effectiveness of services? The answer is yes but not as much as found in other areas of human development, disease prevention for example. The chapter closes with three pointers on how intervention science could better contribute to understanding the aetiology of child development.

First, too much evaluation has focused on whether a programme has improved children's well-being without fully exploring *why* the impact has occurred. The key to developments in this area is the specification and evaluation of the logic that underpins good programmes. More faith can be placed in evaluations that test all elements of a logic model hypothesised ahead of the study. Second, much more could be done to estimate all of the effects of interventions on children's health and development, and to move away from the idea that something is a success or failure. Third, too little attention is paid to negative results. As much, if not more, can be learned from what does not work as from what does.

Finally, to make the most of the evidence presented in this volume, it will be necessary to learn how to be more effective in translating programmes evaluated in micro or

¹⁴ Petrosino, A., Turpin-Petrosino, C. and Buehler, J. (2003) "'Scared Straight" and other juvenile awareness programs for preventing juvenile delinquency: a systematic review of the randomized experimental evidence', *The Annals of the American Academy of Political and Social Science* 589 (1), pp. 41-62.

¹⁵ Aos, S., Phipps, P., Barnoski, R. and Lieb, R. (2001) *The Comparative Costs and Benefits of Programs to Reduce Crime*, (Version 4.0), Olympia, WA, Washington State Institute for Public Policy.

laboratory type settings to the real world. Very little of what is known to work on a relatively small scale has yet been shown to work at a large scale.

Volumes in the Series

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Vol 3: The Law and Child Development (Emily Buss and Mavis Maclean)

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