Reducing inequalities in health

By Helen Roberts

This overview addresses sub-objective 4 of the Children's Fund i.e. to reduce child health inequalities among those children and young people aged 5-13 who live within the area.

Introduction

Inequalities in health show us that ill health does not happen at random. If children and young people born into privileged backgrounds live longer and have better health than their poorer neighbours, then there is no reason to accept that things are the way they are. We can reduce inequalities in child and adolescent health.[1] But if we are to intervene in children's lives in a way which does more good than harm, we need to understand that some things work better than others; we need to know which these things are, and we need to know how to go about implementing the things that work best.

The purpose of this overview is to describe some of the context and content to interventions to reduce inequalities in child and adolescent health. We need to know where some of the big areas of inequality in health lie, what we know about effective (and ineffective) things that can be done about them, and we need to make judgements about whether we target our interventions or whether we may have more of an effect through services provided to all. We also need to understand that some of our activities, however well intentioned may do harm, or may do good overall, but increase inequalities in health.

Our intention in producing overviews on research evidence for Children's Fund sub-objectives, and the associated 'Evidence Nuggets' on particular interventions, is to provide planners and practitioners with information to enable them to make decisions based on research evidence. In order for us to learn more about implementation, we shall be seeking regular feedback from planners, practitioners and end-point users, on the scope and content of these. Are we providing the kinds of information needed in a form which is easily accessible and makes sense ?

In health care, the Cochrane Collaboration[2] and the NHS Centre for Reviews and Dissemination (CRD)[3] have played an important part in ensuring that reliable evidence is found, synthesised and disseminated to users.

More recently the Campbell Collaboration has established a similar service on the effectiveness of interventions in education, criminal justice, social policy and social care.[4] While the decade or more that it will take to start to have a strong library of research evidence in these fields is a short time in the history of science, it is a long time in the life of a child. We intend to start to fill this gap, working with others, and drawing on their research and their reviews.

Those who provide services will often be required to provide funders with evidence that the proposed service is an important one, and will improve the well-being of people on the receiving end. The problem is that as well as sound research supporting particular interventions, there is some very poor research, and some research which makes claims greater than can be justified. Research can be used for support rather than illumination, as every decision maker knows. This damages the interests of service users.

Practice messages

- Not all research helps us understand what works. Knowing what users, or politicians, or professionals think about a service is important, and can help us to understand how it works, or whether it is acceptable to people on the receiving end, but it doesn't help us know *whether* it works.
- The first step in thinking about designing interventions for children is to find, commission or conduct a systematic review.[5] What do we already know from well-conducted studies about intervening in this particular problem ? Can we use this research evidence, and if so, how ?

Background to inequalities in child health

Children and young people from poorer backgrounds are doubly disadvantaged. However loving and resilient their families, they tend to live in poorer housing, attend schools with poorer educational results, and be at greater risk of illness and death in early life and later.

There is compelling evidence linking health and wealth.[6] [7] For us to make a difference to inequalities in health, we need to tackle not just health problems but the factors which lie behind those problems.[8]

Children born into poverty are more likely than their better off neighbours to:

- be born small, be born early, or both[9]
- be bottle fed[10]
- have a parent who smokes and in due course, become a smoker[11]
- have or father a child sooner than they would like to[12]

Moreover

- a child in the lowest social class is twice as likely to die before the age of 15 as a child in the highest social class[13]

- the gap between the most and the least disadvantaged children in terms of the main cause of child deaths in the UK - accidents - has widened in the last decade[14]
- there is a steeper social class gradient for child accidents than for any other cause of death[15]
- a child from the lowest social class is sixteen times more likely to die in a house fire than a child from a well-off home[16]
- while mortality has markedly decreased over the last century, reported ill health among children is rising, with particular increases in respiratory diseases, including asthma, and emotional problems[17]
- families with disabled children have only 78% of the resources of all families with children[18]
- it costs three times more to bring up a child with a disability than a child without disabilities[19]
- children looked after are very much less likely to be protected from infectious disease through immunisation than other children and have poorer health chances overall[20]

Intervening to reduce health inequalities

The biggest differences to inequalities in child health will not be made by the NHS, but by interventions in other sectors. The post war period has seen a sharp decline in deaths in childhood in the UK. But despite medical and welfare advances, inequalities remain stark. The most effective time to reduce inequalities in health is in early life. Child public health is potentially the most important – and most effective - activity in health and social care, encompassing as it does interventions in health, education, housing and public policy.

Different kinds of research can be helpful in addressing different kinds of questions

In order to understand *cause and effect* - the relationship between a particular intervention and a particular outcome - **randomised controlled trials (RCTs)** have the edge over other methods, and have been carried out in relation to day care, home visits, accident prevention schemes, and a range of other childhood interventions. It is sometimes suggested that RCTs are inappropriate for complex interventions, but the reverse is true. It is only through a trial that we can get a grip on which part(s) of a complex intervention actually work.[21]

Cohort studies, such as the National Child Development Study (NCDS) enable us to see who does well after a poor start in life, and understand what factors may lead to doing well after a poor start in life.[22]

It is also crucial to understand **the views of children and young people** if we are to design more effective services, anticipate likely effects on their behaviour, and make sure that services will be acceptable to the people who use them. The UK has a good record in user studies, including listening to

children. However, we need to do more to understand the ways in which listening to children may affect end point outcomes and the extent to which it is a benefit in itself. It may, after all, represent a cost to children, by drawing on one of the few resources over which they have some control, that is their time.

What do health inequalities mean for children ?

If we listen to **children's views**, we often find that 'the environment,' 'play' and 'being safe from traffic' are close to the top of their agendas.

'That my family could be safe all their lives in a safe street' (Boy,11)[23]

For **disabled children and young people**, health inequalities may mean the difference between being able to attend a mainstream school or youth club or not, or interruptions to their education:

'If you are going to be disturbed from your maths class to go to physiotherapy, that's wrong. Physiotherapy and hydrotherapy should be a separate thing from school. It shouldn't affect your education … It's bad enough being disabled but to have no qualifications either, then you're going into the world of work with nothing.'[24]

For **refugee and asylum seeking children**, it may mean fundamentally misunderstanding some of the basic issues, such as how to make a 999 call.

A bright child, interviewed for a study of smoke alarms intended to look at how fire deaths can be reduced, was asked what he might do if the alarm went off:

[Boy] *I take a 50p and then I just put the 50p in the phone box and then call the fire engine.*

[Interviewer] *You don't need money to call the fire engine. You just dial 999. It's free.*

[Boy] *But if you don't have money you can't call*.[25]

For children with chronic conditions which affect mainly minority ethnic groups, such as **sickle cell anaemia or thalassaemia**, it may mean a lack of access to appropriate services.[26]

For children **looked after by the state**, it may mean poor continuity of care, and a lack of access to immunisation or to the kind of stability in care that enables them to have a sense of belonging, to have educational stability, and to retain friendships and a sense of place.[20]

What can be done for the age group addressed by the Children's Fund?

- Some of the most important things to reduce health inequalities will be effected through fiscal and welfare policies. A secure family income is one of the most important elements in enabling children to be healthy, to gain a good education, to live in a safe environment and to make choices about their future.
- The investment required to eliminate child poverty is relatively small, amounting to 0.48% of GNP in the UK.[7]
- Adequate income, adult employment opportunities, an inclusive education system and accessible health, leisure and transport facilities are essential for the prevention and eradication of inequalities in child health.

These are not issues which individual practitioners can bring about. However, ministers have pledged to take one million children out of poverty by the next election, and to eradicate child poverty by 2020. As citizens, this may be something we want to promote.

General practice messages

The pointers below will in due course form the scaffolding for our evidence nuggets, some of which are currently in draft and are available for user comment, after which they will be peer reviewed by researchers.

Education

Data from the National Survey of Health and Development, one of the UK cohort studies, indicate that the most important protective factors for children from poor socio-economic circumstances appear to be:

- Parental interest in, and enthusiasm for, their education. Children fortunate enough to have this help display a strong tendency to do better in cognitive tests, and in educational attainment.[27] In due course, such children, as adults, were more likely than were others to be enthusiastic about their own children's education.[28]
- Parental enthusiasm also helps to fend off the risk to educational attainment presented by parental divorce and separation. [29]
- The importance of educational attainment is seen in all aspects of the findings on adult life. Those who gained qualifications at 'A' level (or training equivalents) or above had much better chances in health[30] [31] [32]; [33] as well as in occupation and income.[34]

The ability to read is a liberating experience for children. Supporting parents - who may have had dispiriting educational experiences themselves - to enter their child's school without feeling intimidated, to value their child's attainments, and to be in a position to give their child a hand with school work, is likely to be beneficial to children's well-being and have positive long term outcomes.

Social support

There is some evidence that social support of various kinds is helpful to a range of outcomes for parents and children in younger age groups[35] [36] and home visiting services have been shown to reduce negative outcomes for parents, children and families.[37] [38] [39] The Acheson report[40] concluded that the research evidence supports the general efficacy of parent support services but that research issues remained unresolved concerning the nature of support, the recipient of the support, at what point in time, and for what length of time. The strongest research evidence comes from a 15 year follow up of a randomised controlled study of directive home visiting support for socially disadvantaged mothers. The study found significant effects on maternal and child functioning including child abuse and neglect, maternal welfare dependence, adult and child alcohol and drug misuse problems, and child anti-social behaviour and criminality.[41]

Nutrition

The movement (probably best developed in Scotland)[42] to promote cheap food in the community, and community cafes, appears to be a promising approach, promoting as it does general well being and social cohesion (sitting at the same table), stress reduction for those who purchase and prepare food in the household as well as improved diet. Nutrition education by telling people to change their diets does not appear to have the desired effect.

Keeping children safe

Pamphlets, and safety education appear to be ineffective in reducing child accidents,[43] and may increase parental anxiety,[44] without addressing the core issue of providing a safer environment. We can learn from children on how they keep themselves safe, and from parents on how they keep their children safe. Treating children and parents as defective in child safety matters is as ineffective as treating airline passengers as defective in air safety matters. Smoke alarms are likely to be effective in the reduction of injury in house fires,[45] but only if they are installed and working well. Traffic calming and speed reduction are associated with lower morbidity and mortality,[46] and are likely to lead to environments which are more child friendly. Some apparently sensible courses of action are *in*effective. Teaching young people to drive earlier for instance may have an effect on driving skills, but will increase the number of young people on the roads, and thus is likely to lead to an increase in road traffic accidents among the young, who are more likely to take risks.

Sex education and unplanned teenage pregnancy

Although the majority of teenage pregnancies in the UK take place outside the age group covered by Children's Fund work, there are some teenage pregnancies in young people of 13 and below.

The UK has the highest rate of teenage pregnancy in Western Europe, although it has been relatively stable for some decades. What has changed has been the numbers of young women giving birth to children outside marriage. Among the reasons are:

- low expectations (no reason not to fall pregnant). In the UK, only 75% of 15-19 year olds are in education or training; and

- mixed messages (it sometimes seems as if sex is compulsory but contraception illegal).[47]

The report from the Social Exclusion Unit on teenage pregnancy[48] indicates that teenage pregnancy is not just about a lack of sex education.

Reviews in this area suggest that universal interventions may be more useful than individual ones in bringing about change.[49] While 'health education' or 'sex education' is sometimes seen to be the key, there is stronger evidence that good basic education is protective, providing as it does a route into different life choices for young women.[50]

We have a good deal to learn about the effectiveness of sex education. A large Scottish trial of sex education in schools is about to report findings, and we shall incorporate these into an Evidence Nugget.

Significant reductions in sexual activity (especially unprotected sex) have been described when pupils were involved in community service, compared with those in a matched school.[51] Results were significantly greater in those school classes randomised to greater community involvement.[52].

Mental health

More needs to be known (and used) about the effectiveness of services to children and young people with emotional problems and/or challenging behaviour. The NHS CRD,[3] Focus[53] a multi-disciplinary group on child and adolescent mental health services based at the Royal College of Psychiatrists Research Unit, provide useful material[54]. For some problems, cognitive behaviour approaches (CBT) appear to be helpful, and the workforce capacity in this area needs to be strengthened.

Looked after children and young people

Looked after children tend to have poor health outcomes. There is a (potentially) known denominator for these vulnerable young people parented by the state. If we are to intervene where the risks and potential rewards are greatest, looked after children can be a good place to start. The Quality Protects initiatives offer a way to start to monitor and improve the looked after experience for children.[20]

The state of the evidence base and what we still need to know

The research evidence base for reducing inequalities in child health is growing, but there are considerable methodological problems to be addressed. Firstly, the more robust the research design, the more we are likely to find that things we 'know' to work are not quite as effective as we thought, and may have the reverse of the desired effect. Secondly, unless complex interventions are set up in a way which enables good evaluation to take place, we don't know which 'bit' is being effective (or ineffective). Finally, research on the same issue may come up with different results, This makes it all the more important to produce systematic reviews which can give an overview of findings, and draw together the results of different studies. This kind of research evidence needs to be provided at a national and international level. Meanwhile, at a local level, it is important to monitor local

implementation and impact. This involves considering ***structure*** (are the conditions in place for research-evidence based interventions to happen i.e. are the funds, people and training in place; ***process*** i.e. is the intervention happening, are children and parents coming to the project and so on, and (which is more difficult at a local level); ***outcomes*** what happens to these children and young people in a week, 3 months, a year, or twenty years ?

And when there is no evidence?

Interventions which we carry out without good evidence that they will be effective are, in effect, uncontrolled experiments with people's lives, though we may be loath to see it that way. The impulse to want to 'do something' is strong. And while the default position should be to build services on good evidence of what works, there will also be situations where new challenges are faced, and rapid action needed. When unaccompanied refugee children arrive from Kosovo for instance, there may be little we can draw on in terms of direct research evidence, but we cannot wait to generate good research. There may be 'near' evidence – for instance evaluations of child refugees from other cultures, and studies on refugees and resilience. We do not, in the UK, have a good record of learning the lessons from work on the strengths of refugees, or the problems created by the thin dispersal of refugee groups.[55]

The ethical position in the meantime, where services are urgent, is to deliver services on the basis of the best of current knowledge; to acknowledge that innovation can be another word for experimentation, and to put pressure on national agencies to ensure robust evaluation of both outcomes and process.

What makes for a successful intervention?

It is not just good evidence of the effectiveness of an intervention which makes for success. We need to consider how to implement it in the best possible way. The box below[56], gives a checklist of points to consider. There is a growing evidence basis on effective service delivery, as well as effective interventions.[57]

The intervention

- Would an assessment of the target group's needs help shape the interventions appropriately?
- Are the intended interventions acceptable, and culturally and educationally appropriate to the target group?
- Will members of the target group be involved in the design or the development of the interventions?
- Will the interventions be fixed (delivered in the same way to everyone) or flexibly delivered?

Setting and participants

- Is the setting accessible to, and accepted by the target group?
- Would it be more appropriate to deliver the intervention to individuals or to groups? If to groups, what might be their best composition and size?

Delivering the intervention

- What does the research evidence say about the most appropriate people to deliver the intervention (e.g. health professional, teacher, community volunteer, trained peer)?
- How credible are these people to the target group? How readily does the target group identify with them, and what personal skills, training and support might they need?

Support materials/resources

- If the intervention requires the use of written or audio-visual materials, what are the most appropriate materials given the language abilities, literacy skills and preferences of the target group?
- Would the provision of assistance with transport and/or childcare make it easier for members of the target group to attend the health care intervention?

Finally …

Improving the prospects of children and young people is an investment rather than an expense. Minimum income standard is needed to maintain good health and the well-being of children. For sustainable impact of initiatives of known effectiveness, long term mainstream funding is needed. Improving the health of children and young people needs to be a key R&D priority, with an emphasis on the 'D' and we need to work with practitioners and end point users to ensure that the best research evidence we have is used well, and improved in the light of practice.

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[2] www.cochrane.org
[3] http://www.york.ac.uk/inst/crd
[4] www.campbell.gse.upenn.edu
[5] The systematic review is a method of critically appraising, summarising and attempting to reconcile the evidence on a particular problem. The value of systematic reviews is that they provide a synthesis of reliable studies in a particular field of work which no practitioner, however diligent, could expect to read themselves. Systematic reviews differ from traditional narrative reviews in a number of ways including clearly specifying the objectives of the review and the methods used, the reasons for including or excluding studies, attempting to identify and review *all* relevant studies and not just those which support a

particular position. They assess the methodological soundness of the studies they include and the review can be replicated by others addressing the same objectives using the same materials and methods. They are more reliable than other kinds of reviews and are based on the most methodologically sound research.

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[56] Adapted from Arblaster L. et al. (1996) A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research and Policy*, **1,**(2), 93 - 103, p.100.
[57] The Cochrane Effective Practice and Organisation Care Group has as its focus reviews of interventions designed to improve professional practice and the delivery of effective health services. This includes various forms of continuing education, quality assurance, informatics, financial,

organisational and regulatory interventions that can affect the ability of health care professionals to deliver services more effectively and efficiently. Organisational interventions are those which involve a change in the structure or delivery of health care. In other words, an intervention is a change in who delivers health care, how care is organised, or where care is delivered. Examples of relevant organisational interventions include case management, revision of professional roles, use of multi-disciplinary teams, formularies and changes in medical records systems. Examples of relevant financial interventions include changes in how professionals are reimbursed, incentives and penalties. Examples of relevant regulatory interventions include changes in liability, management of complaints and peer review. www.abdn.ac.uk/public_health/hsru/research/epp/epoc/epocab.htm