

What Works for Children?

WHAT WORKS FOR
CHILDREN?

Evidence Guide:

An introduction to finding, judging and using research findings on what works for children and young people



By making research work better for you, your organisation can:

- Enhance accountability to stakeholders
- Enhance accountability and fairness in decision making
- Increase confidence in the quality of decisions
- Enhance outcomes for children and families

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Introduction

What is evidence-based practice?

Evidence-based practice is the integration of best research evidence with practice expertise and the values of service users and carers.³

Evidence-based practice (EBP) is not simply about searching for the 'right' answer. There is rarely one 'right' answer to any of the problems that children and their families, or health, education or social workers face. We need to understand the options available and, with children and young people or their carers, choose the course of action most likely to lead to a good outcome. (*By an outcome, we mean something that happens as a result of a policy, programme or service*). EBP involves a number of skills (see Table 1) and the development of a process whereby new evidence can be found, assessed and applied to the provision of services to populations and the care of individual children and their families.

Table 1: Skills needed for evidence-based practice.

- Formulating an answerable question from a practice situation or service issue
- Searching using databases and finding short cuts to good quality evidence
- Confidently critically appraising research findings
- Interpreting the results and applying the results to your own practice
- Evaluating your own practice.

Evidence-based practice is not a magic bullet. It is about trying to increase good outcomes by using good research evidence.

Why is it important to children and parents using services?

Children and families have the right to services based on the best available evidence. We have a good record in some areas of health, education and welfare, but throughout history, and despite the best of intentions, some of the things done by experts have made people sicker, unhappier or poorer.

An evidence-based approach to practice involves critically questioning claims to authority. Claims to authority may come from experts, practitioners' experience, personal experience or from the beliefs of interest groups. Questioning views that claim to be right is important. This is true whether the view comes from a practitioner, a researcher, a policy maker or a user.

What kind of research evidence is most useful?

The most appropriate research design depends on the question that you are asking. For example, if the question is one about the effectiveness of an intervention - i.e. 'does this work?' and, 'does this work better than that?' - a systematic review, based on randomised controlled trials (RCTs) is likely to be the best way to answer the question (see Table 2 below). This is because a good systematic review looks at all available good-quality trials on a question and provides an overall assessment of how well an intervention works.

A systematic review would be appropriate, for instance, if we were to ask the question: "what is the evidence for the effectiveness of parenting programmes in reducing behavioural problems in young children?" However if your question is "why do many of the parents offered parenting programmes never turn up at all or drop out of the programme at an early stage?" then a qualitative approach, which looks at the views of parents, would be more appropriate.

In social and public health interventions, it is often necessary to look at both randomised controlled trials (to provide good evidence about outcomes) and other types of research, such as qualitative studies, which can provide evidence about the process by which these outcomes are achieved, the quality of the implementation of the intervention, and the context in which the original studies took place.⁴

Table 2 gives a description of a range of possible research designs and tools and what they can tell us. For some subject areas there may be little research which directly answers your question, particularly if it is of the kind which asks ‘Will I do good or harm with this intervention.’ In this case, you may have to look at other types of resources and limit the conclusions you can draw.

Table 2: Research designs, other tools and their uses.

Study types	Description	Can tell us
Systematic review	<p>A systematic review (SR) is a critical assessment and evaluation of research that attempts to address a focused question using methods designed to minimise the likelihood of bias.</p> <p>SRs provide strong evidence when the quality of included study designs is good and sample sizes are large; they provide weaker evidence when study designs are poor and sample sizes are small.</p> <p>When a systematic review pools data across studies to provide a quantitative estimate of overall treatment effect, we call it a meta-analysis.^{5,6}</p>	<p>Effectiveness of interventions</p> <p>e.g. does volunteer mentoring for young offenders reduce their likelihood of re-offending?</p>

Study types	Description	Can tell us
Randomised controlled trials	An experiment in which individuals are randomly allocated to receive or not receive an intervention (or to receive a different intervention) and then followed up to determine the effect of the intervention. ^{5,6}	Effectiveness of interventions.
Quasi-experimental designs	Random allocation is not always possible and quasi-experimental studies use 'naturally occurring' control groups who are not receiving the intervention, or are receiving a different intervention. These are matched on key characteristics with those receiving the intervention. Without randomisation it is not possible to take account of all factors which may affect the comparison. ⁷	Effectiveness of interventions e.g. are children in an area using concurrent planning in adoption placements likely to achieve a permanent placement sooner than those where traditional planning is used?
Evaluation studies with non-experimental designs	Interventions are evaluated but without pre-intervention matching of groups, or with no comparison group at all. There is no way of telling if the intervention is responsible for any change in outcome. However, if many studies find similar results, there may be an indication of effectiveness. ⁷	Effectiveness of interventions e.g. does a mass media anti-drugs campaign effect levels of drug use among teenagers compared to pre-campaign levels?

Study types	Description	Can tell us
Case-control studies	Individuals with a particular problem are 'matched' with controls without the problem. The exposure of the two groups to possible causes is then compared. ⁶	Risk factors e.g. what are the risk factors for suicide in adolescence?
Cohort studies	These collect information from children at intervals, often from shortly after birth into adulthood. ⁷ A limitation of both case-control and cohort studies is that there may be other factors not measured which are responsible for the differences between the groups.	Associations between early development and experiences, and later outcomes, e.g. who are the children born into disadvantage that do well in later life?
Population surveys	A sample of the population, or the whole population in the case of the UK census, is asked to provide responses to questions on the subject of interest. ⁶	Prevalence of problems e.g. how common is depression?
Qualitative research	Concerned with the meanings people give to their experiences and how they make sense of the world. Often studies people in their natural settings. A range of methods can be used including participant and non-participant observation, talking with people (interviews, focus groups) and reading what they have written. ^{8, 9}	About social processes and what matters to people, how these vary in different circumstances, and why? ⁸ e.g. what do participants value in mentoring relationships?

Study types	Description	Can tell us
Practice guidelines	These consist of systematically developed statements to assist practitioners and service users in making decisions about services. Good guidelines are based on high quality research and incorporate the views of practitioners and children or families.	

How can adopting an evidence-based approach to practice make a difference?

Example: Problems in parenting and family relationships can be associated with antisocial behaviour in children, accounting for as much as 30 to 40% of the variance.^{10 11} Longer-term outcomes may include criminal behaviour, drug and alcohol misuse, mental health difficulties, relationship breakdowns, and poor work histories.¹²⁻¹⁴

Given the relationship between parents' and young people's behaviour, our question might be: Can a parenting programme divert young people from crime and anti-social behaviour?

Using this scenario you would ideally need to find a high-quality systematic review as you are looking for information which tells you about the effectiveness of an intervention (parenting programmes). The Woolfenden systematic review (see below) has combined the findings from eight individual studies.

Woolfenden, S.R., Williams, K., & Peat, J. Family and parenting interventions in children and adolescents with conduct disorder and delinquency aged 10-17 (Cochrane Review). In: *The Cochrane Library*, Issue 4, 2002. Oxford: Update software.

The authors looked at well-conducted studies of parenting interventions, involving the carers of 10-17 year old delinquents. The parenting programmes ranged from multi-systemic therapy and multidimensional treatment to parent training including family therapy. The review describes follow up at one to three years indicating a significant reduction in the average time juvenile delinquents spent in institutions. The risk of being rearrested, and the rate of subsequent arrests also seemed to be reduced. One of the studies found that offenders whose carers received parent training ran away from home less than those who didn't (30% vs. 58%).¹⁵ These young people spent twice as much time staying at their parents' or relatives' houses than those who did not receive the intervention. There is insufficient evidence from this review to conclude that parenting interventions have a beneficial effect on problem behaviour, parental mental health, family functioning and peer relations.

This is a high-quality systematic review using an explicit search strategy and reviewing eight studies with the strongest research design for telling us whether an intervention is effective (RCTs). It suggests that parenting programmes can reduce the amount of time young people spend in institutions. If you are seeking to divert young people from crime, it is likely, on the basis of this information, that you might want to explore the possibility of setting up parenting programmes in your area.

The systematic review provided in this example is found on the Cochrane Database for Systematic Reviews <http://www.nelh.nhs.uk/cochrane.asp> which provides high quality systematic reviews. The next section shows you how you can identify such studies and evaluate their importance as far as your practice is concerned.

Finding and using the evidence

Traditional ways of keeping up-to-date with information relevant to your practice will include asking your colleagues, seeking advice from experts or reading articles in books or journals. All of these, although useful and worthwhile, are *ad hoc* and potentially biased ways of ensuring that you base your practice on the best evidence. This section describes a step-by-step approach that will allow you to find and interpret research evidence.

Step 1: Formulate an answerable question

This allows you to prepare your question in such a way that will enable you to interrogate your chosen database to find relevant information. Developing a question in the style outlined below will allow you to list the key terms for your database search.

The four part question:

1. The **target group or problem** being addressed. Define the group or issue of interest. This may be in terms of age, sex, ethnic group and/or the type of problem you are interested in. This step helps you to clearly identify what type of child or issue you are dealing with.

Example: CHILDREN AGED 5-10 WITH BEHAVIOUR PROBLEMS

2. The **intervention**. Think about what constitutes an intervention. It covers any activity you wish to do or are doing at the moment and want to assess.

Example: GROUP-BASED PARENT TRAINING PROGRAMMES

3. The **comparison intervention** when relevant.

Example: ONE-TO-ONE PARENT TRAINING PROGRAMMES

4. The **outcome** of interest. Think about what outcome you want to know about. You may want to look at negative outcomes such as side effects of interventions, or positive outcomes such as the improvement in educational attainment that you may hope to achieve. Other possible

outcomes may be child or parent satisfaction or compliance with an intervention.

Example: REDUCED BEHAVIOUR PROBLEMS, PARENT SATISFACTION, ACADEMIC ACHIEVEMENT

Table 3 (p 13) provides some examples of how questions can fit this structure and how appropriate search terms (keywords) can then be chosen.

Once you have broken your question down into four parts you will be able to move on to Step 2, which addresses searching for evidence.

Step 2: Search for Evidence

Searching for evidence is much easier if you have worked out exactly what you are looking for by giving careful consideration to the question you are asking. There are basically two ways of searching for material that can help you answer a practice problem:

- ask somebody to do it for you
- do it yourself

Asking someone to search for you:

The ability to search databases is a valuable skill, but many practitioners may feel that they need to use their time in other ways. If access to a library service is available within your organisation, agency or area, we strongly recommend consulting librarians. Even if they can't help you search themselves, they are specialists on finding information and can tell you where to look.

You need to tell the librarian as clearly and precisely as possible what you are looking for. Unclear requests will (usually) result in a vast amount of material, much of which will be irrelevant to your question. All search strategies are compromises between breadth and depth - the task is to acquire the minimum number of items that can answer the question adequately.

Trying to search yourself:

1. Identify relevant databases:

Some databases and websites will provide you with pre-appraised research. More frequently you will need to search for relevant research and appraise the findings yourself. **The appendix gives you a list of useful databases that are available free on-line.** The ones you choose to look at first will depend on your subject area. Unfortunately, different databases will vary slightly on what terms they use. It is therefore a good idea to always read introductory information on how to use a database.

2. Identify search terms for each component of the question:

Most databases will retrieve an article if your search term is included in the title, abstract, authors' names or institute where the research was carried out. The following might be worth noticing:

- *Search for more than one term.* For example, if you are looking for information about challenging behaviour you should include terms such as “conduct disorder”, “behavioural problem”, “educational and behavioural difficulties” or perhaps “young offenders” (see Table 3).
- Use *inverted commas* to include records where a whole phrase is used, e.g. “young offender”. Note that this is not possible in all databases, but particularly useful for internet searches.
- *Truncation* means that you take out the ending of a word and put an asterisk in its place. This ensures that all words with the same beginning are included. For example child* will include child, childhood and children. Remember to try alternative (especially American) spellings, e.g. for behaviour “behavior” will usually generate more hits. Truncating to behavi* will include both spellings.
- A *thesaurus* will tell you headings under which various terms are grouped, and this is available in some databases. For example, you may be able to use the term ‘single parent’ to also include articles which use the terms ‘lone parent’ or ‘single mother’.

- A thesaurus is usually optional, however a few databases, such as CareData, ask you to choose from pre-selected keywords rather than letting you put in any word you like. Using pre-selected keywords from a thesaurus can be helpful as you do not have to think of alternative phrases or spellings for a particular term. However, the indexing is not always very good and you may miss articles that have not been assigned the appropriate heading.

Table 3 gives some examples of how search terms can be chosen to fit your question.

Table 3: Formulating questions and choosing appropriate keywords.

	Target Group or Problem	Intervention	Comparison Intervention (if necessary)	Outcomes
Example 1	"For young children with behavioural problems	...are parenting programmes...		... effective at improving the child's behaviour?".
Possible search terms:	child*, behavio*, conduct disorder	Parent, training, program*, intervention		
Example 2	"For children on the child protection register...	...are family group conferences..	...compared to traditional child protection conferences..	...more or less likely to lead to the child remaining at home?"
Possible search terms:	child protection	family group, conferenc*		
Example 3	"For a programme of short-term breaks for a disabled child...	...is a residential home...	...or a foster family...	..more likely to ensure she can use as many ordinary community facilities as possible?"
Possible search terms:	disab*, child*, break, respite	residential	foster	community, facilit*

Example 4	"For an adolescent male juvenile offender..."	...is a week long outward-bound course...		...likely to successfully divert him from offending behaviour?"
Possible search terms:	adolescen*, teenager*, juvenile, young, offen*, delinquen*	outward-bound, diversion*, recreation*, wilderness, challenge		

3. Determine your search operators (combining search terms):

Search terms can be combined by using the database's terms for 'and', 'or' and 'not'. These are known as Boolean operators. Most commonly the correct terms are simply AND, OR, NOT but in some databases different symbols are used. For example, in CareData, &, /, ! are used respectively.

- **AND** links together different search terms. If you search for: “behavioural problems” AND “parent training” you should only identify papers which address both issues together.
- **OR** allows you to broaden your search. If you search for: “behavioural problems” OR “parent training” you will identify papers which address either behavioural problems or parent training or both issues.
- **NOT** separates terms. If you search for: “behavioural problems” NOT “parent training” you will exclude parent training out of your search. NOT should be used with care.
- Brackets are used to combine the various operators in one search. For example "behavioural problems" AND ("parent training" OR counselling) should find papers which mention behavioural problems as well as either parent training or counselling.
- **NB:** Boolean operators *limit* your search. It is always best to start off with only one or two keywords and if you get too many hits (more than 100), narrow it down by introducing more keywords and using AND/OR/NOT.

In Table 3 the columns (different parts of the question) can be combined by using AND, while alternative words for the same concept are combined by using OR. You should try not to restrict your search to records using a particular terminology that may not be used universally.

4. Adjust your search strategy to refine the search

You will probably not want to use all possible parts of your question at first. If your search returns a large number of hits, many of which seem to be irrelevant, you can use a number of techniques to limit the results. Try adding more terms from your four-part question or consider whether there is a more specific term for the intervention or problem. You might also want to limit your search to certain types of research (see Table 2), for example, reviews or meta-analyses.

Databases all work slightly differently and it is always worth looking at the help page to see the best way to carry out your search and which search operators the database uses.

Step 3: Appraise the evidence

There is no guarantee that the papers that you have identified are of high quality, although you can be more confident if they come from a pre-appraised source such as the Cochrane Database of Systematic Reviews, so the next step is critical appraisal - weighing up evidence to see how useful it is in making decisions.

Human nature being what it is, we all tend to give more credence to viewpoints that are close to our own, and are more sceptical of information that conflicts with our views.

You need to appraise the paper against a set of criteria which will help you to judge the quality of the research and its applicability to your practice. Training can be useful in learning how to critically appraise research. However, all

practitioners can improve their ability to critically appraise research by asking themselves the following:

Questions about methods used in the study

- Are the methods of the research appropriate to the question asked? (see Table 2)
- Have the authors clearly explained the purpose of the study, how it was carried out, and the results?
- Have the authors any reason to be biased (e.g. was the study funded by an organisation that could have a financial interest in the outcome)?
- If a comparison group was used, was it really comparable to the group receiving the intervention?
- Did some people 'drop out' of the study, and if so, have the authors accounted for this in their conclusions?
- Have the authors shown how their findings were 'worked out'?

Questions about results

- How large is the effect of the intervention, if there is one?
- How precise is the estimate of the effect? (Is it likely that the result was due to chance?)
- Do the conclusions match the findings?

Questions about relevance

- Is your target group so different from the one in the study that the results may not apply?
- Are the claims made by the study plausible?
- Have the authors addressed all outcomes that may be of interest?
- Does the study add anything to what we already know?

Critical appraisal workshops are recommended for practitioners who need this skill. Information about workshops is available from the NHS Critical Appraisal Skills Programme (CASP), which can provide workshops tailored to the needs of particular professional groups. Website address:

<http://www.phru.org.uk/~casp/>. CASP also has information on-line to help with making sense of research.

Step 4: Apply the evidence to your practice

Once you have identified research which is relevant to your practice (i.e. after you have searched for evidence and critically appraised the findings) you will need to summarise the key issues and discuss the findings with colleagues, managers or the child and family.

There are a number of questions you might need to think about when considering whether and how an intervention should be implemented in your practice:

- Are there any local context issues that should be considered? How will these be addressed?
- Who are the key people in your own organisation or in other agencies who need to be involved or consulted? How will you do this?
- What are the likely resource implications (e.g. staff, time, training)? How can these resources be accessed/released?
- What is the potential for consultation with children, young people and families on the development of the service? How can this be done?
- What are the key decision-making forums where agreement needs to be sought? What steps need to be taken by whom and by when to get the relevant item on the agenda?¹⁶

Step 5: Evaluate your practice

Evaluating your practice allows you to learn from your experience, to improve practice, to develop and share good practice and to demonstrate how you have met objectives. A range of approaches can be taken depending on what you are trying to do. If, for example, you are planning to develop or improve an outreach or drop-in service (e.g. a family centre) you may need to collect baseline information on the number and the profile of the people who used the service before changes were made and compare them to the number and profile of people who attend the new service. You are also likely to want to interview or provide questionnaires for the children and their families to obtain their views about changes in service.

Audit and evaluation can help to make it more likely that your service is creating benefits and working towards the desired outcomes:

Audit provides a method for systematically reflecting on and reviewing practice. It aims to establish how close practice is to the desired level of service. This is achieved by setting standards and targets and comparing practice against these.

Service evaluation may be defined as a set of procedures to judge a service's merit by providing a systematic assessment of its aims, objectives, activities, outcomes and costs. Audit may be one activity which takes place during a service evaluation, alongside other activities such as routine data gathering, incident reporting and interviews with staff and service users.

Some worked examples

Example 1: Sensory Integration Therapy

A family centre supporting families with autistic children is being encouraged to invest in a training programme for sensory integration therapy (SIT), which, staff are told, is showing highly successful results in other settings. You are the project leader, and you have a meeting arranged with the consultants offering the training. You are a bit unsure of the pros and cons of this approach, and want to make sure you are not disadvantaged in this discussion by lack of knowledge.

1. Formulate a precise question:

For children with autism, does sensory integration therapy, compared to no treatment, improve behaviour, language and motor skills (or other outcomes)?

2. Think about appropriate search terms and databases:

Search terms: child* (this will cover child and children etc.), autis* (this will cover autism and autistic), "sensory integration" (this will cover sensory integration therapy and sensory integration treatment), and behavi* (the star here will allow for different spellings and include behavioural), language, motor, or education*.

child* AND autis* AND "sensory integration" AND behavi* AND (language OR motor OR education*)

This question is looking at the effectiveness of an intervention and so we would first look for a randomised controlled trial or systematic review. We would first look in the Cochrane Database and if we did not find anything we would look on Medline.

3. Search for information:

(Search undertaken on 3rd February 2003)

1. Log on to the Cochrane Library via the National Electronic Library for Health <http://www.nelh.nhs.uk/cochrane.asp>. Click on 'Enter the Cochrane Library'.
2. Your search terms are child* AND autism* AND "sensory integration" AND behavi* AND (language OR motor OR education*) Of these you pick: **sensory integration** (as this is quite a specific subject) and click on 'go'.
3. One Cochrane Review is found as well as 4 references from DARE (The Database of Abstracts of Reviews of Effects, and 27 from the Cochrane Database of Controlled Trials. You can click on each reference. The Cochrane Review is only in protocol form (which means it is not completed yet) and is about auditory rather than sensory integration. Of the DARE references, two concern dementia but the other two look relevant. One is a 1999 meta-analysis of all impact studies of sensory integration therapy since 1972. The abstract states that the majority of studies looked at children with learning disabilities. The other is a systematic review of research on the efficacy of neuro-developmental treatments in children, including sensory integration therapy.

The records from DARE consist of structured abstracts written by reviewers from the NHS Centre for Reviews and Dissemination (CRD). The original papers have met a set of quality criteria and been reviewed by the CRD.

These were the relevant references:

Vargas, S. and Camilli, G. A meta-analysis of research on sensory integration treatment. *American Journal of Occupational Therapy* 1999; 53(2): 189-198.

The meta-analysis compared SIT with no treatment, and with alternative approaches. Benefits were found when compared with no treatment, but there was no evidence that SIT was markedly superior to other approaches. Moreover the benefit over no treatment was only shown for earlier studies. Later studies did not show overall positive effects. The review seems to have

been well-conducted, with a clear search strategy and inclusion criteria; the way research results were put together is well presented and the authors' conclusions are in accord with the evidence presented. Weaknesses were the absence of information on how decisions of which studies to include were taken (e.g. how many people made the decision?), how the methodological quality of the studies was assessed and how data extraction was done.

Brown, G. T. and Burns, S. A. The efficacy of neurodevelopmental treatments in children: a systematic review. *British Journal of Occupational Therapy* 2001; 64(5): 235-244.

The subjects of this review were children who had been diagnosed with or suspected to have cerebral palsy, or were considered to be at high-risk of having cerebral palsy. Thus it is not exactly the target group you are interested in. In addition different types of therapy were included as well as sensory integration therapy and duration and frequency of therapy were very variable. Results were inconsistent and the authors state that the research does not clearly demonstrate whether or not these therapies have a beneficial effect.

You could order the full papers from the library. However, you will need much more information before deciding whether an expensive training programme is warranted. On the basis of these quality-assessed reviews, you will need to be persuaded that SIT has significant benefits over the approaches your staff are currently using.

Example 2: Sleep problems in children with disabilities

You are working in an area in which services for children with learning disabilities are scarce. A voluntary organisation offers support for families, including some holiday time and weekend care in children's clubs. You visit the group and talk to volunteers and parents and it seems that a frequent complaint is that many children have problems sleeping. Everyone feels this is a problem for children and an extra stress for parents. Is there any service that you could offer families that might have an impact on sleep problems?

1. Formulate a precise question:

What interventions have been successful for treating sleep problems in children with learning disabilities?

2. Think about appropriate search terms and databases:

Search terms: Sleep; sleep disorder*; sleep problem*; night waking; child*; learning disab*

(sleep OR sleep disorder* OR sleep problem* OR "night waking") AND child* AND learning disab*

This question is looking at what interventions might be effective so ideally we would like to find a systematic review of relevant interventions. We would look first in the Cochrane Database and then on Medline.

3. Search for information:

(Search undertaken on 5th February 2003)

1. Log on to the Cochrane Library via the National Electronic Library for Health <http://www.nelh.nhs.uk/cochrane.asp>. Click on 'Enter the Cochrane Library'.
2. Your search terms are (sleep OR sleep disorder* OR sleep problem* OR "night waking") AND child* AND learning disab* You don't want to start with such a narrow strategy so, to see what there is, in the search phrase box type: **sleep AND learning disab***. Click on 'go'.
3. You get 13 hits. You click on each database title to see the references. Those from the Cochrane Database of Systematic Reviews don't seem to be relevant. However, one reference from DARE is relevant as is one trial from the Cochrane Central Register of Controlled Trials.

Ramchandani, P., Wiggs, L., Webb, V. and Stores, G. A systematic review of treatments for settling problems and night waking in young children. *British Medical Journal* 2000; 320: 209-213.

This review includes a summary of the CRD critical appraisal. The review found some behavioural interventions to be successful in reducing sleep problems. The methodology of the review is good, however, the methodology of the included studies is not always good and sample sizes are small so conclusions must be treated with caution.

Wiggs, L. and Stores, G. Behavioural treatment for sleep problems in children with severe learning disabilities and challenging daytime behaviour: effect on daytime behaviour. *Journal of Child Psychology & Psychiatry & Allied Disciplines* 1999; 40(4): 627-35.

This RCT found that improvements were noted in both the control and treatment groups.

Finding these is a good start, but you decide to search a little further.

4. Your next stop is PubMed (Medline).

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed>

5. In the search box type in: sleep AND child* AND disab*. You get 24 hits. Scanning through the titles you can see that 6 look relevant. You can read the abstracts and download them.

It is not a good idea to make recommendations about interventions on the basis of reading abstracts alone, but you can identify whether there are studies likely to be useful to you and try and get copies of these.

You may be tempted to access material more widely available through a general search on the internet. BE VERY CAREFUL ACCEPTING EVIDENCE AVAILABLE ON THE WEB. There is no system of “quality control” so you need to think about where the information comes from. You should not accept recommendations without examining the evidence and

must ensure that any recommendations are based on robust research using appropriate methods.

6. Go to Google (www.google.com) and type in sleep problems children disability. A total of 111,000 hits are returned, but since they are ordered by relevance you just look at the first 30 hits. Two relevant studies are found:

Research at The Down Syndrome Educational Trust - Sleep

www.downsed.org/research/projects/sleep/

Managing children's sleep problems <http://www.down-syndrome.info/library/periodicals/pdst-news/06/3/001/pdst-news-06-3-001-EN-GB.htm>, both of which turn out to be by the same author.

Summary of Findings:

From the reviews and individual studies it is clear that sleep problems do indeed represent a significant problem for children with learning disabilities and their families, just as your contacts told you.

There is no review of the best intervention for your target group, but reviews of interventions with younger, non-disabled children suggest that behavioural treatments improve sleep problems. The evidence suggests that providing parents with information and training on behavioural management techniques is likely to be helpful. These techniques should include positive bedtime routines (enjoyable, calm, routine bedtimes), sleep scheduling/scheduled awakening (using fixed sleeping and waking times), gradual distancing from parents (either by slowly withdrawing bedtime support, or by increasing crying times), bedtime fading (beginning with late bedtime and slowly bringing it forward). A structured review of the evidence in this area, based on a more extensive search, has been published.¹⁷

In setting up a service to provide advice and support to parents you will be able to look to some of the expert advice available on the websites located and from the authors of the research papers found.

Example 2: Nurture groups

As manager of the local Children's Fund you have received a funding application for setting up "nurture groups" in schools experiencing raised levels of social, emotional and behavioural difficulties in the early years' classes. It has been suggested that nurture groups may be helpful to those children having difficulty adjusting to school and that this might have long term benefits for the whole school. Under the nurture group scheme a number of children with difficulties are taken into a small class, where they spend most of their time, with a higher staff:pupil ratio and a nurturing approach. You want to find out if there is any research to show that the investment would be worthwhile.

1. Formulate a precise question:

For children in the early primary school classes with social, emotional and behavioural difficulties, do nurture groups reduce levels of these problems when the children return to mainstream classes?

2. Think about appropriate search terms and databases:

Search terms: nurture group*, school*, behavio*.

nurture group* AND school* AND behavio*

You decide the best place to search will be the Education Database ERIC. As this database deals specifically with education it will probably be enough to put in "nurture group*" as your search term, as the search will already be narrowed to the education field.

3. Search for information:

(Search undertaken 8th April 2003)

1. Log onto ERIC <http://askeric.org/Eric/>

2. Chose the main key word in your search strategy (nurture group*). In the search box type: 'nurture group*' (single quotation marks are used in ERIC) and click Submit. The next page invites you to confirm your query. Do so by clicking Submit.

3. 5 records are returned. You can click on the reference numbers to read the abstracts. The first **Bennathan, M. and Boxall, M. Effective Intervention in Primary Schools: Nurture Groups, 1996** is, you discover, co-authored by the originator of the nurture group idea. The book looks as though it contains useful information on implementing and evaluating a nurture group and would probably be worth ordering from a library. However for an evaluation of how well they work it would be a good idea to look for a more independent source.

One of the references is not relevant. Another, **Doyle, R. Using a Readiness Scale for Re-integrating Pupils with Social, Emotional and Behavioural Difficulties from a Nurture Group into Their Mainstream Classroom: A Pilot Study, 2001**, is to do with how to assess children's readiness to re-enter mainstream classes, which could be useful but isn't an evaluation, dealing instead with two case studies. Unfortunately none of the papers is a review but the other two look as though they might be evaluations so you order them to appraise.

Cooper, P. Arnold, R. and Boyd, E. The Effectiveness of Nurture Groups: Preliminary Research Findings. *British Journal of Special Education* 2001; 28 (4): 160-66.

Although not an RCT (which would be the ideal design when looking for the effect of an intervention), the study did include various comparison groups and looked at a number of different schools. Children attending nurture groups were compared with those with similar problems but not attending nurture groups. Children in the nurture groups were significantly more likely to

be rated as having normal levels of the difficulties after the intervention. In addition interview data revealed that teachers were very positive about the impact of the nurture group on the whole school. Children also gave positive responses and the majority of parents were positive. However, these are only preliminary results and it remains to be seen if improvements were maintained when the children returned to mainstream classes.

It would be a good idea to contact the author to find out if the completed study had yet been written up. This may result in more information about how the study was carried out and details about programme implementation.

O'Connor, T. and Colwell, J. The Effectiveness and Rationale of the 'Nurture Group' Approach To Helping Children with Emotional and Behavioural Difficulties Remain within Mainstream Education. *British Journal of Special Education* 2002; 29 (2): 96-100.

This was a small-scale study which showed a clear improvement in emotional and behavioural difficulties for children attending a nurture group. However there was no comparison group and therefore no way of knowing if the improvements would also have occurred in mainstream classes.

You decide to also run a quick search on Google.

4. You go to Google at <http://www.google.co.uk/>

5. Type in "nurture group" or "nurture groups" (you cannot use truncation in Google so you need to search for both options.

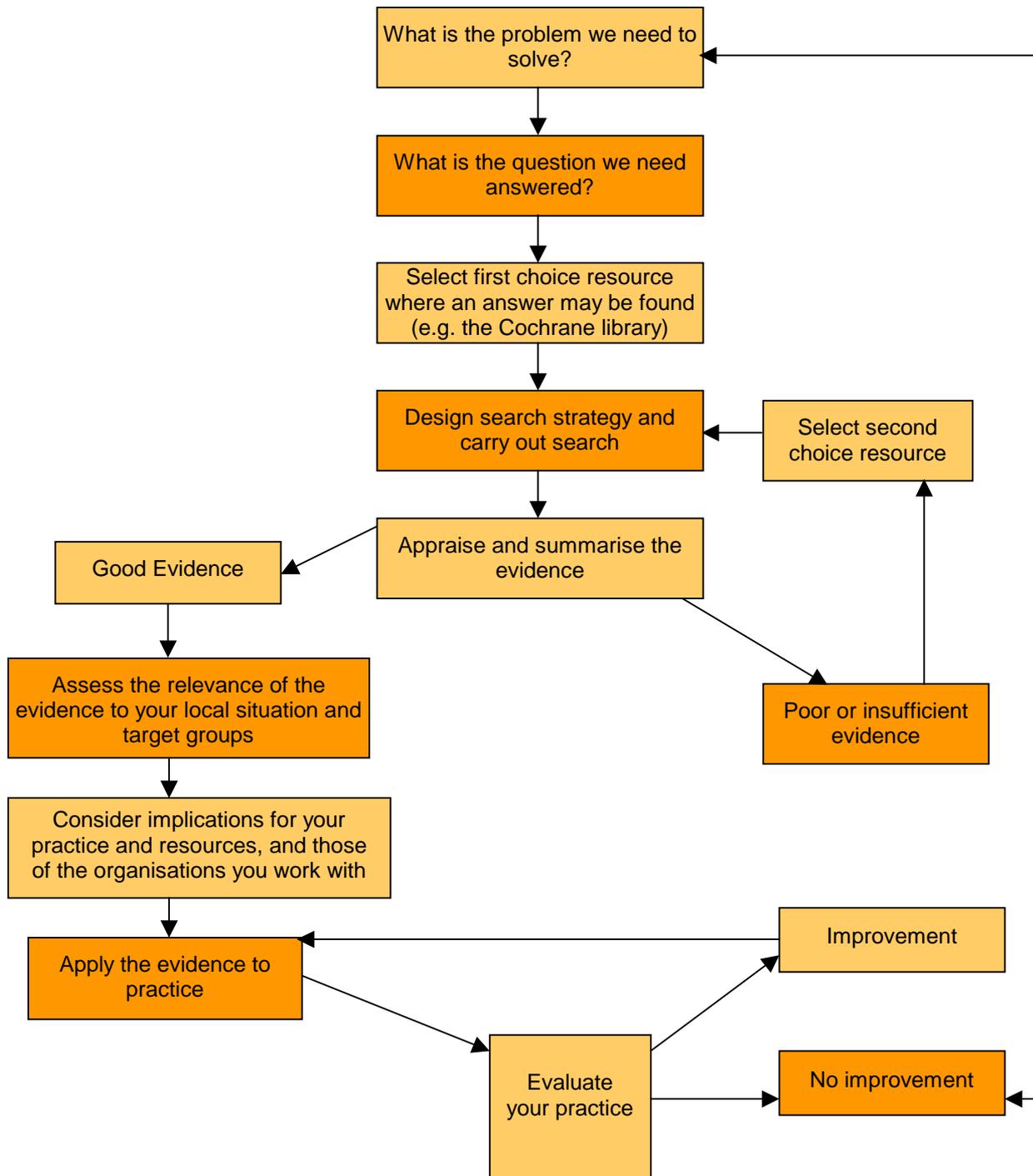
Truncation is when you cut the ending and put * in its place e.g. nurture group*)

6. There are a large number of hits, and it may be worth browsing through the first two pages. The first hit is for the website of Nurture Groups UK <http://www.nurturegroups.org/>. The site doesn't appear to contain any reference to a thorough evaluation. However, there are extensive links to setting up and running a nurture group. The site reports that nurture groups are mentioned in two recent government documents, **Intervening Early: A snapshot of approaches primary schools can use to help children get the best from school** – and last year's **Promoting Children's Mental Health in Schools**. Details of how to obtain the documents are given. However, they are not evaluations.

Although the information available was far from conclusive, there are some grounds for optimism and some leads to follow up for more information. From the limited information available you might want to consider introducing nurture groups. You would want to look carefully at how the groups had been implemented elsewhere and which factors seemed to lead to success and you would want to carefully evaluate your practice to ensure that you are achieving your aims. You would also want to look for possible negative outcomes, for example stigma that might be attached to attending a nurture group.

Implementing evidence-based practice in your service

This figure summarises the evidence-to-practice process.¹⁸



Many organisations would like to make better use of research, but aren't sure where to start. Others feel they're doing well, but would also like to know if they are making the best use of their resources, or if there are areas they could improve.

Putting together a cross-organisational group to assess how you are doing can be helpful. Here are some questions to ask:

1. Can we acquire research evidence?
 - Do we know how to find research?
 - Are we looking in the right places?
2. Can we assess the validity, quality and applicability of research evidence?
 - Can we tell if the research is reliable and high quality?
 - Can we tell if the research is relevant and applicable?
3. Can we adapt the format of the research results to provide information useful to our decision-makers?
 - Can we summarise results in a user-friendly way?
 - Do we provide results to decision-makers?
4. Can we apply the evidence in decision making?
 - Do we lead by example and show we value research use?
 - Do our decision-making processes have a place for research?¹

We still don't know enough about how to get research knowledge into practice, and research programmes are insufficiently based on the priorities of service users and the knowledge needs of practitioners. Knowledge transfer is interrupted by organisational change and insufficient investment is made in training staff how to find and use evidence. However, the basic processes that can lead to more practice being based on the most up to date knowledge about effectiveness are clear.

Staff groups will be more likely to succeed in adopting a more evidence-based approach if they:

- Are clear about what they are doing and why they are doing it
- Start with a limited agenda - small successes are better than big failures
- Recognise that progress may be slow
- Identify and work on a specific and manageable topic
- Work on an issue that arises regularly
- Work on an issue that is important to children and families
- Make the development of evidence-based practice a core activity not something 'bolted-on'
- Spread the load - don't just have one 'evidence-based practice' expert in your team
- Fit in with current organisational priorities, for example in relation to Quality Protects or Best Value
- Identify administrative support, especially from someone with search skills, such as a librarian. Support for practitioners to "try out" research findings and to conduct their own research also helps
- Enlist the support of line managers and higher level leadership to help provide motivation, authority and organisational integration^{19 20}

Conclusion

Practitioners working with children need to know about what works so that they can ensure that services provided are as likely as possible to improve outcomes for children. There are cases throughout history where interventions have done more harm than good. For example, 'Scared Straight' programmes aim to deter children and young people at risk of offending from crime through first-hand observation of prison life and interaction with prisoners. However, a systematic review showed that in all the Scared Straight-type programmes evaluated, those who took part in the programme were more likely to re-offend than those who did not.²¹ Programmes similar to

these are still being run and the reviewers conclude that any such programmes must be rigorously evaluated to make sure that they really are helping to prevent crime and are not causing harm.

Making use of research can help identify those methods of working with children which will make a positive difference to their lives. However, good quality evaluations of interventions are not always available and local conditions may mean the lessons from research elsewhere are not transferable to different local contexts. New services need to be carefully evaluated so that impact can be assessed and local knowledge developed.

This guide provides an introduction to finding, judging and using research regarding the management and care of children and young people. Following the approach outlined here practitioners can take steps towards ensuring that services offered to children, young people and their families are based on the best available research evidence.

By making research work better for you, your organisation can:

- Enhance accountability to stakeholders
- Enhance accountability and fairness in decision making
- Increase confidence in the quality of decisions
- Enhance outcomes for children and families

Appendix: Brief guide to websites useful for finding evidence in child public health and welfare

There is a large and growing body of information on children and young people in the fields of social care, education, health and policymaking. Resource lists can become out of date almost as soon as they are written. However the internet allows access to databases which are regularly updated and is therefore the best place to start looking. There are many websites which allow access to useful resources. These may be databases where you can look for research on particular topics, or organisations' lists of publications relevant to practice.

Many of the relevant websites will link you to the same resources and most contain extensive links to other sites. Some sites contain the full text of articles, others have summaries or abstracts. Many cover more than one area. Some sites will email you new material that falls within your field of interest. You can also find information about evidence-based practice in general and access guides to using the internet for research.

Busy professionals involved in practice have limited time to absorb information. This means that the kinds of databases they are likely to access need to:

- Be easy to use
- Be quick to access
- Contain brief and focused abstracts
- Be screened for quality
- Have full search facilities
- Contain links to other relevant publications and material

The quality of dedicated social care databases is still poor, and none yet meet all these criteria adequately.

The National Electronic Library for Health <http://www.nelh.nhs.uk/> can be a good first stop for searches on many subjects as it links to a variety of research databases and other resources, for example the Electronic Library for Social Care (eLSC), the Public Health Electronic Library, the Cochrane Library, Clinical Evidence and the Department of Health. These individual sites are described in more detail below.

Sites are listed under the following headings: **Training, Social care, Health, Education** and **Topic-related sites** for sites with narrower subject content. All the sites can be accessed free, although a few may have sections which are only open to subscribers.

Training in research skills

Critical Appraisal Skills Programme (CASP)

<http://www.phru.org.uk/~casp/> Offers training and resources related to learning critical appraisal skills.

FOCUS

<http://www.rcpsych.ac.uk/cru/focus/index.htm> Provides resources relevant to promoting effective practice in child and adolescent mental health, including guides on searching and critical appraisal tools.

Introduction to Database Search Skills

www.lib.gla.ac.uk/Docs/Guides/searching.html An excellent on-line guide to searching on the Internet prepared by the library services at the University of Glasgow.

Making Research Count

<http://www.uea.ac.uk/swk/research/mrc/welcome.htm> A national initiative providing a bridge between social care practice and research. Provides research-based support to those working in the personal social services and the NHS – across adult and children’s services. Subscribers are offered seminars, workshops, conferences and publications to assist staff in becoming research literate and able to evaluate their own practice.

Research Mindedness

<http://www.sws.soton.ac.uk/rminded/default.htm> At the University of Southampton this site provides an online guide, including some case studies, on how social care practitioners can use research in their work.

Resource Discovery Network (RDN) Virtual Training Suite

<http://www.vts.rdn.ac.uk/> Based at SOSIG, an internet gateway for the social sciences, this site has guides to research using the internet, including one for social workers: <http://www.vts.rdn.ac.uk/tutorial/social-worker>

Social care

The Campbell Collaboration (C2)

<http://www.campbellcollaboration.org/> Aims to do for social care what Cochrane has done for medicine. In the future the C2 library will contain the C2 RIPE Register of Systematic Reviews of Interventions and Policy Evaluation. At present the library contains the Campbell Social, Psychological, Education and Criminological Trials Registry (C2-SPECTR), which can be searched for abstracts of randomised trials.

Centre for Evidence Based Social Services

<http://www.ex.ac.uk/cebss/> Based at the University of Exeter. Provides access to various useful databases including CareData, Pubmed, Campbell and those at the NHS Centre for Reviews and Dissemination (CRD). It also provides training tools and information on using the internet to locate research, such as the Internet Social Worker tutorial.

Department of Health Publications

www.doh.gov.uk/scg/publist.htm This website has many full text articles and publications from the Department of Health Social Care Group

The Electronic Library for Social Care (eLSC)

<http://www.elsc.org.uk/> This site links to **CareData** <http://www.elsc.org.uk/caredata.htm>, a social care database which indexes books, reports, articles and research papers relevant to social work and social care published in English around the world. Although CareData contains useful information, the information is not very easy to access. For example, there is a limited list of keywords from which you have to choose. The search operators are & (for AND), / (for OR) and ! (for NOT). The eLSC also has access to the Practice, Guidance and Standards Database, SCIE best practice guides (currently under development), and other social care resources.

ESRC Evidence Network

www.evidencenetwork.org A programme funded by the Economic and Social Research Council, this site contains a wide variety of material on evidence-based policy and practice in the social sciences, including a list of research databases.

Home Office

<http://www.homeoffice.gov.uk/rds/pubsintro1.html>

The Home Office website publications pages contain summaries and full text of studies related to crime and the criminal justice system (including youth offending), substance abuse, homelessness, asylum seekers and other Home Office issues.

Joseph Rowntree Foundation

www.jrf.org.uk Provides summaries of all their funded studies through their 'Findings' series.

Research in Practice

www.rip.org.uk A Department of Health/Association of Directors of Social Services funded organisation set up to promote evidence-based practice in social care. Searchable evidence including summaries (brief appraisals) of key reviews.

Social Care Institute for Excellence (SCIE).

www.scie.org.uk Provides access to eLSC, the electronic Library of Social Care, which includes CareData, a searchable database of social care abstracts.

Social Policy Research Unit

www.york.ac.uk/inst/spru/pubs/researchwks.htm at York University provides details of studies conducted in the related fields of social security, social care and health care with many studies concerned with disabilities.

Wales Office of Research and Development for Health and Social Care

<http://www.word.dial.pipex.com/> This site contains summaries of all research studies funded by the Wales Office of Research and Development.

Health

Archimedes

<http://adc.bmjournals.com/cgi/collection/archimedes> **Archives of Disease in**

Childhood focuses on all aspects of child health and disease from the perinatal period through to adolescence. Published monthly, and with international coverage, *ADC* includes peer-reviewed material.

Bandolier

www.jr2.ox.ac.uk/bandolier The *Bandolier* website provides a wide range of accurate and pre-screened information on most aspects of health care services from an evidence based perspective.

British Medical Journal (BMJ)

www.bmj.com All articles published in the journal since 1994 may be viewed on-line. The journal may be searched by subject or author.

Clinical Evidence

<http://www.evidence.org/> This compendium provides a summary of the best available evidence on a range of common clinical interventions.

The Cochrane library

<http://www.nelh.nhs.uk/cochrane.asp>. The **Cochrane Database of Systematic Reviews** provides summaries of systematic reviews that have been checked for quality. Although mainly on health topics, reviews carried out by the Developmental, Psychosocial and Learning Problems Group <http://www.bris.ac.uk/Depts/CochraneBehav/pubpro/pubhome.html> are relevant to social care, covering developmental and psychosocial problems of childhood and adolescence.

Cochrane Consumer

www.cochraneconsumer.com The purpose of the Cochrane Collaboration is to help people make better-informed decisions in health care. This site provides short summaries in layperson's language on the effectiveness of a wide variety of medical interventions and remedies.

Consumers in NHS Research

<http://www.conres.co.uk/> Site of an organisation that aims to promote the involvement of consumers in health care research studies. Links with user involvement in social care are currently being made.

Health Development Agency (HDA)

<http://www.hda-online.org.uk/index.html>

Provides summaries of HDA research on specific topics, some of which are relevant to children. Includes effectiveness reviews. Also links to the Evidence Database HealthPromis <http://www.hda-online.org.uk/html/research/evidencebase.html>, a searchable database of systematic reviews relevant to public health. This database is still being developed.

King's Fund

<http://www.kingsfund.org.uk>. The site for an independent health care charity, this contains information on health systems, public health, community care, primary care, effective practice, including access to the abstracts of a number of King's Fund publications.

NHS Centre for Reviews and Dissemination (CRD)

<http://www.york.ac.uk/inst/crd/> Hosted by the University of York this contains links to DARE and the NHS Economic Evaluation Database (NHSEED).

Our Healthier Nation

<http://www.ohn.gov.uk/ohn/ohn.htm>

A gateway to information on Saving Lives: Our Healthier Nation, the government-wide health strategy for England. Includes a database of local projects.

Pilot Search at the National Electronic Library for Health

<http://www.nelh.nhs.uk/>

This search facility, currently in an experimental phase, enables you to search several of the databases included in the Library at once for reviews and practice guidelines, including Cochrane reviews. Only titles are searched, to limit the number of hits.

Public Health Electronic Library

<http://www.phel.gov.uk/>, developed by the Health Development Agency, aiming to provide knowledge on promoting health, preventing disease and reducing health inequalities. It can also link you to HealthPromis (see under HDA).

Pubmed (health) <http://www.pubmed.gov>

The internet version of Medline, the best-known biomedical database. References 4000 international journals. Coverage includes nursing and allied health.

TRIP (Turning Research into Practice)

<http://www.tripdatabase.com> Searches over 55 websites of high-quality 'evidence-based' health information such as the journals BMJ, NEJM, Bandolier, and sites such as CRD.

Education

Centre for Evidence Informed Policy and Practice in Education

<http://eppi.ioe.ac.uk/EPPIWeb/home.aspx>. Links to a searchable database of systematic reviews and studies used in systematic reviews.

Eric

<http://askeric.org/Eric/>

Administered by the US National Library of Education, Eric provides bibliographic information about journal articles and other publications in the field of education and related disciplines. World-wide coverage.

The Research Informed Practice Site

<http://www.standards.dfes.gov.uk/research>

This site from the Department for Education and Skills is designed for busy education practitioners, aiming to make sure that policy and practice are informed by good and up-to-date evidence. The site includes downloadable summaries of research (called research digests) including some appraisals of research.

Topic-based sites

There are a great number of internet sites on topics relevant to public health and child welfare. A selection of these are listed below. Others can be found by searching via an internet search engine such as Google

<http://www.google.com>. Google's UK site <http://www.google.co.uk> allows you to choose UK sites only. Topic-related sites can also be found by using

Gateways. 'Gateways' are central websites, which offer access to selected sites in specific areas. The following are the major UK gateways in the fields of social science, education and health:

<http://www.sosig.ac.uk/> (Social science)

<http://www.niss.ac.uk/lis/> (Education)

<http://www.biome.ac.uk/> (Medicine)

ADDNet UK

<http://www.btinternet.com/~black.ice/addnet> Information about Attention Deficit (Hyperactivity) Disorder (ADHD) including an information library and information about UK support groups.

Bullying On-line

<http://www.bullying.co.uk> Offers a range of relevant resources and guidelines plus on-line help and advice for parents and children, including legal advice.

Centre for the Study of Autism

<http://www.autism.org>. Aimed at parents, carers and health care professionals, this site provides information related to or about autism and related disorders.

Dyslexia

<http://www.dyslexia.com> Contains on-line bookstore and library plus links, training information and a discussion board.

Eating Disorders Shared Awareness (EDSA)

<http://www.eating-disorder.com> Includes information on definitions, causes, treatment plus links and on-line support.

Kids Link

<http://sargon.mmu.ac.uk/welcome.htm> Aims to provide information, relevant links and support for parents of children with special needs

National Data Archive on Child Abuse and Neglect

<http://www.ndacan.cornell.edu> Offers access to relevant data sets and publications. Also information on training and a discussion group.

SleepNet

<http://www.sleepnet.com> Aimed at parents, carers and service users this site contains information about sleep disorders, sleep deprivation, support groups, research centres, organisations and other links.

Systematic Reviews of Childhood Injury Prevention Interventions

<http://depts.washington.edu/hiprc/childinjury/> An easy-to-use website with evidence on child *accident prevention*. Focus on both intentional and unintentional injuries.

Web of Addictions

<http://www.well.com/user/woa> Aims to provide accurate information about alcohol and other drug addictions.

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