

TREATING PROBLEM BEHAVIOUR IN CHILDREN

- *Disruptive behaviour in homes and schools*
- *How far medical treatment is of use*

CONTENTS

<i>What is problem behaviour?</i>	<i>1</i>
<i>Is problem behaviour increasing?</i>	<i>2</i>
<i>Underlying causes</i>	<i>4</i>
<i>Issues</i>	<i>5</i>
<i> The role of medication and other treatments</i>	<i>5</i>
<i> Implications for Health Services</i>	<i>7</i>
<i>Acronyms</i>	<i>8</i>

Various trends (e.g. rising expulsions and reports of disruptive pupils in primary schools) have helped fuel the impression that many young children are 'out of control'. Growing numbers are now being given medication to overcome behavioural problems, and there are different views over how far this is justified or risks becoming a palliative for more deep-rooted causes.

This note looks at emotional and behavioural problems in young children and their susceptibility to different forms of treatment.

WHAT IS PROBLEM BEHAVIOUR?

All young children behave badly from time to time, and occasional temper tantrums, aggression and defiance of authority are a normal part of growing up. Developing a consistent approach to diagnosis in the area of problem behaviour is thus fraught with difficulty and not without controversy, since many 'problems or disorders' are hard to define and assign to a single medical condition or 'syndrome'.

Some of the approaches to assessment and diagnosis are summarised in **Box 1**. Most problem behaviours lie in the 'grey area' between occasional naughtiness and extreme (e.g. psychotic) conditions, and diagnosis thus depends very much on the judgement of professionals (e.g. psychiatrists, psychologists). Such experts are guided by diagnostic 'bibles' - in the USA by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 1994 (DSM IV) and in the UK (and the rest of Europe), by the World Health Organisation's (WHO) International Classification of Diseases, 10th edition (ICD 10). These assist in assigning cases to the main categories of:

- phobias and anxiety states (thought to affect ~12% of children),
- conduct disorders (up to 10%),
- hyperkinetic disorder (~1% depending on the diagnostic criteria used),
- general (e.g. autism) and specific (e.g. dyslexia)



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Box 1 EMOTIONAL AND BEHAVIOURAL PROBLEMS AND DISORDERS

Where problem behaviour is persistent (e.g. lasts for 6 months or more) and severe (e.g. is very disruptive of life in the home or at school), then the child will be assessed to see if it may be suffering from one (or more) **problems** (any disturbance in emotions, behaviour, development or relationships serious enough to require professional help) or **disorders** (severe and persistent problems or the co-occurrence of more than one problem). The main categories of problems/ disorders used by professionals are:

- **emotional** (phobias, anxiety states, depression);
- **hyperkinetic** (overactiveness, impulsiveness, inattention);
- **developmental** - delays in acquiring skills, whether specific (e.g. social, educational, bladder control) or more general (e.g. more pervasive conditions such as general learning difficulties);
- **eating** (pre-school eating problems, anorexia nervosa, bulimia);
- **habit** (tics, sleeping problems, soiling);
- **post-traumatic** stress and **adjustment** (e.g. to major changes in life) disorders;
- **somatic** (chronic fatigue syndrome);
- **psychotic** (schizophrenia, manic depression).
- **conduct** - children exhibiting extreme (stealing, defiance, fire-setting, aggression, anti-social, etc.) behaviour, are usually classified under the general heading of conduct disorder if their problems cannot be attributed to any other diagnostic category.

The detailed diagnosis will depend on:

Severity - the level of distress caused to the child, or those around it;

Complexity - how many different signs or symptoms are present (including where the child suffers from more than one condition);

Persistence - how long the condition has lasted;

Secondary handicap - the extent to which the original problem is likely to lead to further difficulties (e.g. learning difficulty contributing towards a conduct disorder);

Child's stage of development - symptoms that are perfectly 'normal' at an early age may be indicative of more serious problems at a later age (e.g. bed-wetting);

Protective and risk factors - the presence or absence of factors likely to help (e.g. good relationships with family or others) or hinder (e.g. relationship conflicts at home);

'Stress' factors - other factors that may indirectly influence the situation (e.g. social or economic disadvantage).

Sources: DH, 1995. "A Handbook on Child and Adolescent Mental Health", DH, London. Kurtz, Z, 1996. "Treating Children Well", The Mental Health Foundation, London.

- educational / developmental difficulties,
- psychotic disorders such as schizophrenia.

Overall, estimates suggest that as many as 1 in 5 children may be affected by one or more of these disorders, although prevalence rates vary significantly with age and gender. In general, hyperkinetic and conduct disorders (both of which are more common in boys than girls) and developmental disorders tend to onset at an early age (e.g. pre-school). Emotional and eating disorders are most common in girls, and tend to be associated with adolescence.

The main focus of this note is on the more common problems of disruptive, aggressive, violent, defiant, etc. behaviour. Many of the disorders outlined in Box 1 can manifest themselves in this way - for instance, children with learning difficulties may vent their frustration or disguise their difficulties with unacceptable behaviour. Such behaviour is also associated with **hyperkinetic disorders**, where the diagnosis is based on impulsiveness, overactivity and inattentiveness, and affects around 1% of children under 10. Where problem behaviour is not so clearly a result of HD (or other specific disorders in Box 1), professionals tend to lump cases under the general heading of **conduct disorder**. This is a less specific diagnosis than HD and thus tends to be applied to more children - UK surveys assign CD to from 6 to 10% of primary school age children.

US and UK professional guidance differ in the criteria used to diagnose hyperactivity. Both agree that the three main strands of behaviour characterising hyperactivity are overactiveness, impulsiveness and inattentiveness. US criteria for **attention deficit/hyperactivity disorder** (ADHD) are satisfied if a child exhibits hyperactivity/ impulsiveness or inattentiveness (or both) in either the school or in the home (as long as some symptoms are present in both settings). In the UK and elsewhere in Europe, stricter diagnostic criteria for **hyperkinetic disorder** (HD) are used where children must show serious signs of **both** hyperactivity/ impulsiveness **and** inattentiveness, and these behaviours must manifest themselves **both** in the school (or nursery) and the home. The outcome is that ADHD 'affects' 5-10% of all primary school children in the USA, whereas HD 'affects' only 1% of UK children of similar age.

IS PROBLEM BEHAVIOUR INCREASING?

While there is a widespread perception that problem behaviour in young children has increased in recent years, it is not easy to quantify this. National figures on the number of young people suffering from most types of emotional or behavioural problems are **not routinely kept** by the Department of Health (DH) or by professional bodies such as the Royal College of Psychiatrists

Table 1 SUMMARY OF DETAILS OF CHILDREN INCLUDED IN THE SCOTTISH AUDIT OF CHILD AND ADOLESCENT PSYCHIATRY REFERRALS

Factor	Variable	% of referrals
Sex	Male	56%
Age	0-5 yrs	13%
	6-10 yrs	31%
	11-16 yrs	48%
	16+ yrs	8%
Living with	Both parents	45%
	Mother alone	26%
	Mother plus	16%
Diagnosis (disorder)	Conduct	22%
	Conduct + emotion	15%
	Adjustment	15%
	Emotion	8%
	Mood	4%
	Hyperkinetic	2%
	Anorexia / bulimia	2%

Source: Hoare, P et al, 1996. "An Audit of 7000 successive Child and Adolescent Psychiatry Referrals in Scotland", *Clinical Child Psychology and Psychiatry*, 1, 229-249

(RCP) or the British Psychological Society (BPS). The most comprehensive UK figures available come from a recent study conducted by the Scottish Child and Adolescent Psychiatry Audit Group. This audit gathered information on over 7,000 young people referred to psychiatric services in 10 of the 12 Scottish Health Boards from May 1993 to April 1994, and provides details of the children (age, sex, etc.), family circumstances (number of parents, whether married, etc.) and problems (diagnostic and clinical characteristics), as well as the treatments received. Some of the highlights are summarised in **Table 1**, and include:

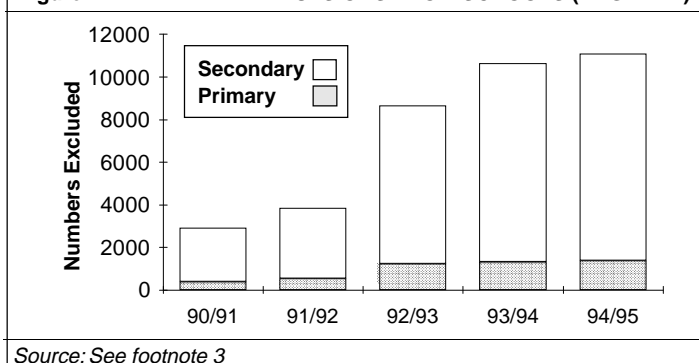
- 31% of referrals were of primary school age, 48% of secondary school age, and 13% under 5s;
- boys (56%) were a little more likely to be referred than girls (44%);
- 45% of referrals lived with both their natural parents; 26% lived with their mother alone;
- conduct disorders (22%), mixed disorders of conduct and emotion (15%), adjustment disorders (15%) and emotional disorders alone (8%) were the most common diagnoses, with hyperkinetic disorders being seen in just 2% of children referred.

While the Scottish audit provides us with a detailed snapshot, it does not allow any conclusions to be drawn on trends. Information here is only available from individual clinics and hospital departments. For instance, the London Borough of Tower Hamlets (which contains some 50,000 children) has seen a 100% increase in the number of children with emotional and behavioural problems referred to its clinics since the mid-1980s (from around 500 a year to ~1100 in 1994). More detailed information from one of these clinics¹ over the last 20 years shows:

- a fourfold increase in the number of referrals (from

1. Information for the Emanuel Miller Centre kindly supplied by Dr Alyson Hall, Director.

Figure 1 PERMANENT EXPULSIONS FROM SCHOOLS (ENGLAND)



Source: See footnote 3

134 in 1976, to 443 in 1994);

- referrals for emotional problems increased sixfold;
- behavioural problem referrals increased threefold;
- more younger children are being referred. For instance over the period 1976 to 1994, the proportion of under 5s referred rose from 2% to 11% and that of 5-10 year olds from 40% to 55%, while that of adolescents declined from 58% to 34%.

Of course such trends only apply to one particular inner city clinic, but there is a widespread view among experts that they are being repeated elsewhere. For instance, the Department of Child and Family Psychiatry at the Royal Hospital for Sick Children in Edinburgh has seen its referrals rise by over 50% in the last 20 years, from less than 900 in 1977 to over 1300 in 1995².

Another possible indicator of trends in behaviour is the number of children excluded from school. **Figure 1** summarises the figures that are available³, and shows that the number of children permanently excluded from schools in England rose significantly from just under 3,000 in 1990-91, to over 10,600 in 1993-94, although the most recent figures (just over 11,000 in 1994-95) suggest that this rapid rise may have levelled off.

Only ~12% of these permanent exclusions were from primary schools in 1994/95, a ratio that has remained more or less steady over the 1990s (see Figure 1). Less precise information is available on temporary exclusions, but the Institute of Education (IoE) estimates that these outnumber expulsions by around four to one. Research conducted by the University of Portsmouth largely confirms such estimates, with a survey of Local Education Authorities (LEAs) in 1992/93 giving an overall figure of around 5 to 1 (total number of exclusions ~54,000, of which ~8,600 were permanent).

This research also suggested that temporary exclusions may be more common in primary schools, where they

Table 2 REASONS GIVEN BY HEAD TEACHERS FOR EXCLUSIONS

Reason	% of cases
physical aggression	53.6
unacceptable behaviour	18.9
verbal abuse	17.4
disobedience	16.2
disruption	8.7
other / unknown	18.4

Source: Hayden, C. 1997. "Children Excluded from Primary School, Debates, Evidence, Responses." Open University Press, Buckingham.

outnumbered permanent exclusions by around 8 to 1 in 1992/93. The researchers at Portsmouth also conducted more detailed follow up studies in 3 LEAs on 265 excluded primary school children, to establish the reason for exclusion given by their headteacher (**Table 2**). More than half were for aggressive - and nearly 19% for unacceptable - behaviour, with the other main reasons being verbal abuse, disobedience, and disruption.

More detailed (case) studies of excluded primary school children identified by the Portsmouth researchers (see above) have revealed child, school and home factors commonly linked with exclusion, and these are shown in **Figure 2**. The child excluded from primary school is more likely to be a boy, often has special educational needs, is disproportionately likely to be black, and is likely to have problems at home (with some form of contact with Social Services or other agencies). Children are more likely to have been excluded from a school that has budget, staffing or space problems and which was directed by the LEA to take the child.

Drawing too direct conclusions from the exclusion figures may be dangerous in view of the possible contribution of the various factors unrelated to the child. Thus the IoE⁴ has pointed out that the increase in exclusions may be influenced by educational reforms such as increased competition between schools, the introduction of 'league tables', and an increased willingness to exclude troublesome pupils for economic reasons. Another factor may be uncertainties, following the Children Act, over the circumstances under which physical restraint can be used by teachers to deal with disruptive children⁵. Others have pointed to the effects of the integration of children with special educational needs into mainstream schools. The effects on a school of those with emotional and behavioural difficulties can be quite disproportionate to their number, and the Portsmouth study found them to be greatly over-represented in cases of exclusion (43% of cases were either stated or in the process of formal assessment).

2. Information kindly supplied by Dr Peter Hoare, Honorary Consultant Psychiatrist at this hospital.

3. These include data collected on an *ad hoc* basis by DfEE (for 2 years from summer term 1990), from a survey conducted by Portsmouth University for the 1992/3 school year, another by Christ College Canterbury (commissioned by the DfEE) in the school year 1993-4, as well as the first 'official' figures published by DfEE for 1994-5 in November 1996.

4. See Gillborn, D., 1996. "Exclusions from school", IoE Viewpoint No. 15, University of London.

5. A proposal to amend Section 550 of the Education Act 1996 is currently before Parliament, to clarify the circumstances under which teachers may use reasonable force to restrain disruptive children.

While not conclusive, the trends in exclusions are consistent with those in referrals and support the widespread perception that **more children are suffering from more serious problems at an earlier age**. Experts agree that this cannot be attributed to purely biological factors (genetics, neurology, food allergies, etc.). These trends are also consistent with the picture emerging from epidemiological research among older children and adolescents, which shows an increase in psychosocial problems (juvenile delinquency, adolescent emotional problems, etc.) in all European countries over recent decades⁶.

UNDERLYING CAUSES

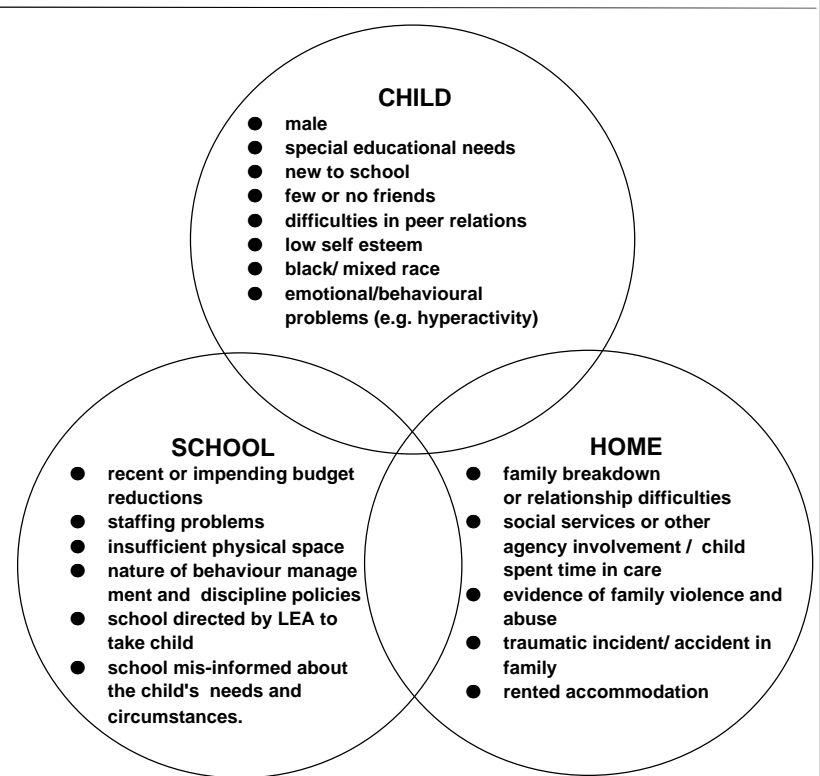
Only in a relatively small number of cases, are the causes of emotional and behavioural problems founded in medical conditions such as head injury, diseases such as encephalitis, or conditions such as epilepsy, thyroid disorders, chronic infections of the middle ear and visual impairments. In most cases, they are attributed to complex interactions between a range of different influences as illustrated for HD by **Figure 3**. While there is broad agreement on this long list of possible contributory factors, there is much more scope for debate over their relative importance, both in specific individual diagnoses and in the wider context.

Research in this area has tended to focus on 'risk factors' which increase the likelihood of a young person being affected by problems, and 'protective factors' which may confer some measure of immunity.

Risk Factors can be grouped into

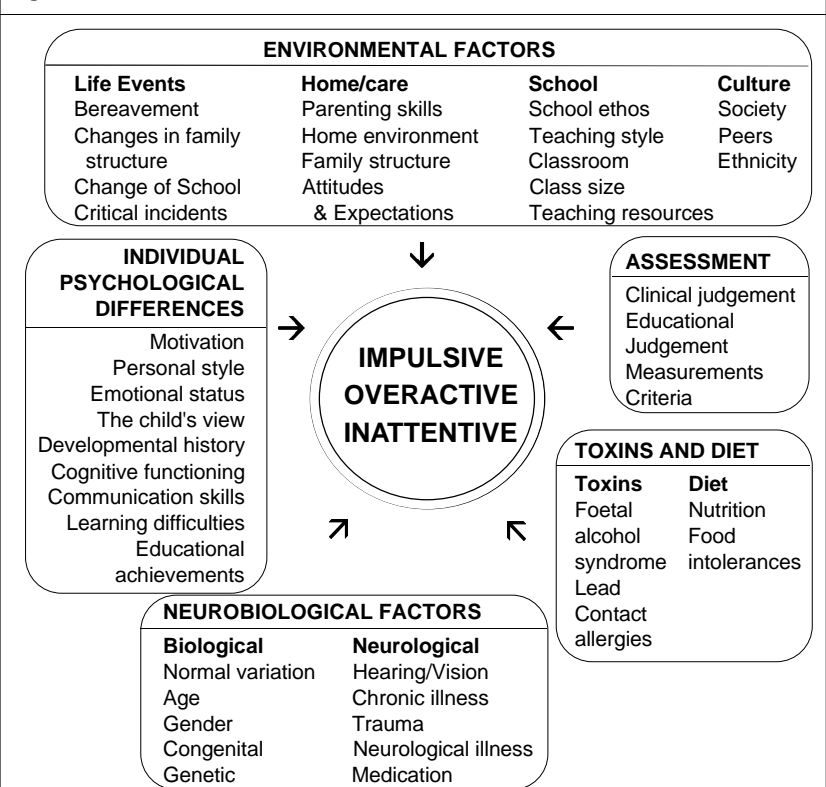
- **Child risk factors:** genetic influences, low IQ and learning disability, specific developmental delay, certain communication difficulties, difficult temperament, physical illness, academic failure, low self-esteem.
- **Family risk factors:** overt parental conflict, family breakdown, family composition (one or two parents), inconsistent or unclear discipline, hostile and rejecting relationships, failure to adapt to a child's changing developmental needs, physical sexual or emotional abuse, parental psychiatric illness, parental alcoholism criminality and personality disorder, death or loss of family or friends.
- **Environmental risk factors:** socio-economic disadvantage, homelessness, disaster, discrimination, other significant life events.

Figure 2 FACTORS COMMONLY LINKED WITH EXCLUSION FROM PRIMARY SCHOOL



Source: Hayden, C, 1997. See Table 2.

Figure 3 FACTORS INVOLVED IN ASSESSING HYPERKINETIC DISORDER



Source: BPS, 1996, "ADHD: A Psychological Response to an Evolving Concept", BPS, Leicester.

Protective factors include:

- Self-esteem, sociability and autonomy.
- Family compassion, warmth and absence of parental discord.
- Social support systems that encourage personal effort and coping.

6. See Rutter and Smith, 1995. "Psychosocial Disorders in Young People: Time Trends and their Causes", John Wiley and Sons, Chichester, UK.

Much debate takes place over the likely underlying factors behind the upward trends in behavioural problems, and unsurprisingly there is no consensus on any single factor being dominant. There may well be increased awareness and concern among parents and professionals; parents may now be more likely to seek professional advice than in the past, and changes in diagnostic practices and increases in knowledge may mean that professionals spot problems at an earlier age. However, there is a broad consensus that such factors cannot account for all the increase, and that there is a 'real' rise, probably rooted in changes in society (and children's place in it) over the years.

The relative contribution of the factors outlined previously (an increase in risk factors or a diminution of protective ones) is impossible to quantify. Among the family factors for instance, referrals to the Tower Hamlets clinic show a significant rise in the proportion of children living with only one of their natural parents (up from around 1 in 2 of all children referred in 1976, to over 2 in 3 of those referred in 1994), as well as a substantial rise in the relative number of children referred who are living with neither natural parent (up from less than 1% to over 8% over the same period). The effect of such changes could be direct (e.g. due to distress/ disruption from one or both biological parents being missing), or indirect (because other socio-economic circumstances will often be made worse by family breakdown, etc.), or a combination.

Such changes are local manifestations of major changes in family structures / circumstances occurring throughout Western Europe in the last 30 years (see **Table 3**), with the strongest upwards trends being in the areas of maternal employment, non-marital cohabitation rates, single parent families and parental divorce/remarriage. Many sociologists put such changes at the heart of the possible causes underlying the increases in problem behaviour in young children, and much research has been carried out into the impact of different potentially contributory factors.

Such work tends to reveal statistical links between a given factor and behaviour, which is not the same as demonstrating cause and effect, leaving plenty of scope for disagreement over the 'real' causes between the various academic areas and perspectives involved. For instance, research shows that children from single parent families are statistically more likely to have emotional or behavioural problems. Some experts take the statistics at face value and argue that two parents are always better than one. Others argue that children from single parent families are also statistically more likely to have experienced parental conflict or economic hardship and point to these as plausible factors behind the behavioural problems.

Table 3 SUMMARY OF MAIN TRENDS IN CHANGES IN FAMILY STRUCTURE

Factor	Trend
Proportion of children raised in large families	Consistent decrease
Maternal employment	Consistent rise
Births to teenage mothers	Fluctuating, peaking in 1970s
Physical abuse	Rise in last 10 years
Sexual abuse	No clear evidence of rise
Non marital cohabitation	Consistent rise
Single parent families	Consistent rise
Parental divorce / remarriage	Consistent rise

Source: Rutter and Smith, 1995. See footnote 6.

Recent work underlines the fact that separate factors act synergistically and complex causal chains may be operating. For instance, economic hardship faced by some working single parents can lead to children being placed into multiple *ad hoc* childcare arrangements, which fail to provide a consistent and stable framework within which the child can develop and learn appropriate social behaviour. Pressures on time available can combine with a lack of interest or information on parenting skills, to lead to external stimuli (including television) dominating the shaping of young children's behaviour and expectations. All such influences can affect **learnt** behaviour by the example (and boundaries) set by parents, other adults, peers, television, games etc., and the extent to which they instil social behaviour and values rather than the reverse.

The key role of parenting is recognised by policy-makers in all Parties. Home Office studies emphasise the importance of family relationships, parental interest, consistency of discipline etc. to the behaviour of the children and that deficiencies in these areas predispose towards behavioural problems, delinquency and ultimately crime. The Labour Party has also recently released a discussion paper on parenting in which a range of measures are proposed to raise awareness of the critical importance of parenting skills and provide additional information, education and support. Meanwhile, the question for this note is what measures are being taken to deal with the increase in the number of young children exhibiting problem behaviour.

ISSUES

The Role of Medication and Other Treatments

The use of medication to 'treat' hyperactive children has received much attention in recent months, with individual media 'case studies' showing complete transformations of behaviour while under medication. At the same time, other programmes based on behavioural modification through training schemes for parents (e.g. based on consistent rules and rewards) claim much success and lead to questions over whether medication is the right solution.

Box 2 PSYCHOSTIMULANTS AND HYPERACTIVE CHILDREN

Current practice focuses mainly on psychostimulants - primarily:-

- methylphenidate (Ritalin);
- dextroamphetamine (Dexedrine);
- pemoline (Cylert).

The use of such drugs is controversial, largely because they are close structural relatives of the amphetamines, which have been banned in developed countries because of their potential for abuse.

Research in the USA since the 1970s, has shown that with treatment children become more manageable, less aggressive, less violent, and better able to concentrate (at least in the short-term). The 'calming' influence of psychostimulants on hyperactive children is somewhat paradoxical given that the closely-related amphetamines are abused precisely because of their stimulant properties. Such drugs are known to exert their influence largely by boosting levels of the two neurotransmitters - dopamine and norepinephrine - which help regulate various fundamental brain processes including motivation, reward, behavioural inhibition and higher order learning processes. The psychostimulants may exert their calming influence on hyperactive children by helping to correct some fundamental imbalance in their levels of these neurotransmitters.

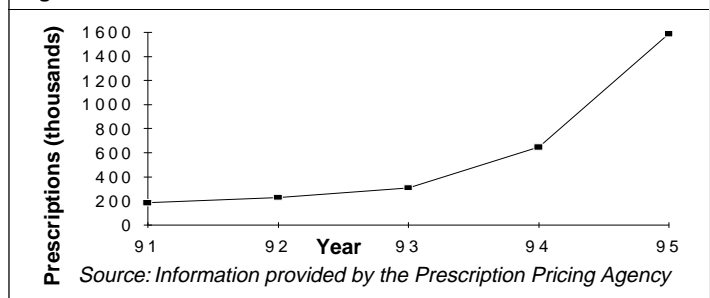
Whatever the precise mode of action, there is little doubt about the short-term effectiveness of psychostimulants. According to the US National Institute of Mental Health, as many as 9 in 10 children diagnosed as having ADHD benefit from psychostimulant medication. Known side-effects include short-term effects such as sleep disturbance and reduced appetite, although there is a lack of studies on the consequences of children being maintained on psychostimulants in the long-term (so far the only documented long-term side effects are suppression of height and weight gain).

Source: British Psychological Society, 1996. "ADHD: A Psychological Response to an Evolving Concept", BPS, Leicester

The drugs used in treating HD and their mode of action are described in **Box 2**, where it is pointed out that they act by boosting levels of brain neurotransmitters involved in motivation, learning and other processes. As already mentioned, the different diagnostic criteria in the USA and UK translate to very different levels of use of these drugs. In the USA, some 90% of American schoolchildren with the (much looser) diagnosis of ADHD receive psychostimulant treatment at some time, and 2% of the total school population are currently taking these drugs (Ritalin is the most commonly prescribed of the three main drugs). Levels of diagnosis of HD are much lower in the UK and, as a consequence, so too is the level of medication. Nevertheless, drug treatment is on the increase and estimates suggest that from 2,000 to 6,000 UK children are currently being prescribed Ritalin; 10 years ago it was virtually unknown. UK prescriptions of Ritalin have increased eightfold (from ~183,000 in 1991 to 1.58M in 1995) (see **Figure 4**).

7. See BPS, 1996. "ADHD: A Psychological Response to an evolving concept, BPS, Leicester.

Figure 4 RECENT TRENDS IN PRESCRIBING OF RITALIN THE UK



Research shows that such drugs are very effective at managing behavioural problems associated with ADHD and HD. The fact that these drugs are effective in a range of behavioural problems of very different origin, would seem to implicate imbalances of neuro-transmitters in the brain as a root cause. Indeed, there is evidence that even 'normal' children benefit, particularly in respect of improved concentration. The finding that a very wide spectrum of children - ranging from the severely hyperkinetic (e.g. UK children with a diagnosis of HD), through those with less severe problems (e.g. some American children with ADHD), to 'normal' children - might benefit from psychostimulants in the short-term, **raises serious questions over when it is appropriate to use such drugs**. Should they be routinely prescribed to all children on the grounds that they aid concentration and might improve academic performance? Or should they be treated with caution on the grounds that their long-term effects are largely unknown, and be reserved for only the most extreme cases of HD, where all other interventions have failed?

These (and other) questions have been addressed recently by a Working Party of the BPS⁷. The resulting report described practices of psychostimulant use in some areas of the USA as "very alarming", noting that "drugs have sometimes become the only therapeutic resource" and that "it is important to prevent this happening in Britain". The report stressed the importance of using medication in an appropriate manner, noting that it "must not become the first, and definitely not the only, line of treatment". It pointed out that psychostimulants are not a cure, but rather that they facilitate other educational or parental interventions such as:

- parent / family training, where family members are taught how to reduce behavioural problems by improving their interactions with the child. Such approaches yield promising results in severe cases, but are very resource-intensive involving 20-30 hours of training on a one to one basis - new approaches involving self-tutoring by parents using videos are currently being assessed;
- general school-based interventions such as peer tutoring, social skill and/or problem-solving groups, interventions to address early literacy problems;
- behavioural/cognitive management delivered by

- experts, including psychotherapy and positive reinforcement and behaviour reduction strategies;
- dietary interventions (in the small number of cases where the problem arose as a result of multiple food intolerances).

While the BPS Working Party can be seen as setting out the psychology profession's 'ideal' position, UK experts still differ considerably over the role of psychostimulants in treating hyperactive children. Researchers have thus started to monitor the use of drugs such as Ritalin in the UK to see whether they are being prescribed in the 'conservative' manner advocated by the BPS (i.e. as occasional adjuncts to the educational and parental interventions described above), or being used on the more widespread basis seen in the USA. In this context, the Scottish audit described previously found that drugs were rarely used as a treatment option overall (only 4% of all children referred for whatever reason were treated with any kind of drug), and were largely targeted at hyperkinetic children, 35% of whom received such treatment.

Another recent study in Hampshire⁸ specifically monitored hyperkinetic children who had been prescribed Ritalin, and found that the drug was confined to children with relatively severe problems. However, there was little monitoring of the children once the drug had been prescribed, and none was receiving any other form of treatment. Moreover, in most cases it was left to the parents to optimise the dose of the drug required. Such findings reinforce concerns that, in this particular area at least, psychostimulants may be being used as a 'quick fix' by hard-pressed health professionals as a convenient way of effectively managing symptoms, while ignoring the longer term need for behavioural modification through training / education.

How far this concern is valid depends on the extent to which HD is seen as a 'biological' problem (arising primarily from neurotransmitter imbalances, deficits in brain activity, etc.) or as behaviour which has been 'learnt' (e.g. the result of family, school or social factors). Some experts point to recent research suggesting that at least some HD cases seem to have an essentially biological origin (e.g. a deficiency in dopamine or norepinephrine levels), and that in these cases drugs such as Ritalin (which boost levels of these neurotransmitters) might act as a fundamental 'cure'. Others argue that purely biological causes underlie only a small minority of HD cases, with most cases having their roots in the child's environment. This argues for non-medical interventions, possibly taking advantage of the 'window of opportunity' provided by

drug treatment in severe cases.

Overall, while the views (and thus the practice) of individual experts may vary considerably, a broad consensus has emerged behind the middle ground position taken by the professional bodies and the DH. This supports the use of such drugs for some children in appropriate circumstances - i.e. following careful diagnosis and in parallel with other therapeutic approaches. A need however remains for further research to inform more consistent practice at every stage, with key priorities including:

- **assessment** - the development of diagnostic tests based on brain-wave patterns, scans, etc., and an evaluation of how these fit in with the various different diagnostic criteria for ADHD and HD;
- **treatment** - an evaluation of the relative effectiveness of the different (psychostimulant and other) interventions for each of the various diagnostic sub-categories of hyperactive problems;
- **exit criteria** - the development of criteria so that experts can agree when to discontinue psychostimulant use;
- **side effects** - relatively few studies have been conducted on the long-term side effects of psychostimulants;
- **scope for abuse** - there is evidence that psychostimulants prescribed for ADHD are emerging as drugs of abuse among young children in the USA, and there is thus a case for monitoring this possibility in the UK.

Implications for Health Services

Increases in the number of children suffering from emotional or behavioural problems have implications for the child and adolescent mental health services (CAMHS) which are currently being restructured to conform to a '4-tier model'.

- **Tier 1** consists of 'direct contact' services provided by non-specialists such as GPs, health visitors, school nurses, social services, teachers, etc., who can identify problems at an early stage, offer general advice and treatment, and take on preventative work.
- The first specialised layer is **Tier 2**, which consists of a network of individual specialists (e.g. psychologists, psychiatrists, paediatricians, psychiatric nurses) offering a range of services including assessment, treatment, training, consultation and outreach work.
- More severe, complex or persistent disorders require **Tier 3** services, which involve multi-disciplinary teams made up of Tier 2 specialists augmented with other experts such as psychotherapists, occupational therapists, etc.

8. See Wright, S, 1996. "A Little Understood Solution to a Vaguely Defined Problem", paper presented to BPS London Conference, 17 December, 1996.

- Finally come the highly specialised **Tier 4** services, (e.g. out-patient, day or in-patient) units for the severely mentally ill or those at risk from suicide.

The complexity of this structure means that there are many challenges in ensuring that the system works as intended, that so many professionals (with many different perspectives) work together (rather than in competition), and that procedures do not become so unwieldy and bureaucratic as to be both expensive and ineffective.

In terms of the overall objectives of the restructuring, experts suggest that the key ones should include:

- **The importance of early 'detection' and intervention.** Here, extending the range of direct contact (Tier 1) services is an explicit aim of the reorganisation, and one that recognises the importance of nipping behavioural and other mental health problems 'in the bud'. Resources invested in the early detection and treatment of emotional and behavioural problems in children can prevent more serious problems later, and the associated expense of special education, drug abuse, delinquency, etc.⁹ Detecting a larger proportion of problems at an earlier stage will require training of the non-specialists who are in most frequent and direct contact with young people.
- **The need for preventative measures.** In parallel with an emphasis on early detection and intervention go prevention strategies. Some LEAs (e.g. Southwark) have piloted various school-based behaviour management strategies (e.g. 'assertive discipline', 'circle time', and 'peer tutoring') aimed at promoting and rewarding positive behaviour as well as reducing exclusions, assisted by both national (e.g. Grants for Education Support and Training) and local initiatives. Experts emphasise that these are likely to be most effective if linked to family-based (e.g. parenting skills, family support) initiatives. These may, however, suffer as a result of the demands placed on limited resources by children with existing disorders.
- **The need for more information.** Many see the need for more information to inform CAMHS development and policy - from basic epidemiological studies to evaluate the scale of the problem and assess population needs, through consistent diagnoses, to assessments of the effectiveness of different interventions/treatments. The DH is currently

addressing some of these issues - for instance plans are in hand for a national epidemiological survey in 1999 on the prevalence of child mental health disorders, and DH/RCP is also currently developing outcome scales to assess a range of different interventions.

- **Distribution of resources.** There is concern within the mental health community that resources are not being targeted where they are most needed in inner city areas. Some thus support a change to the formula used to allocate funds to take account of the higher birth rates in inner city areas.
- **The 'gap' between CAMHS and adult services.** Some experts suggest that older adolescents and younger adults are not well served by current arrangements, and that a new 'youth mental health services' might be needed to bridge the gap.
- **Organisational issues.** Perhaps the biggest problem is that child and adolescent emotional and behavioural problems straddle such a wide range of different agencies (social services, health, education, etc.). This means that service provision often involves a wide range of different specialists, from widely different backgrounds, speaking different technical 'languages' (e.g. diagnoses vs. assessment, treatment vs. intervention) and with different priorities, perspectives and paymasters. Many see an urgent need to formalise relations between these to minimise the possibility of CAMHS falling between these different 'stools'.

These and other issues are being addressed in the current inquiry into child health by the House of Commons Health Committee.

ACRONYMS

ADHD	Attention Deficit/Hyperactivity Disorder
BPS	British Psychological Society
CAMHS	Child and Adolescent Mental Health Services
DfEE	Dept for Education and Employment
DH	Department of Health
DSM IV	Diagnostic and Statistical Manual (USA) - 4th edition
HD	Hyperkinetic Disorder
ICD 10	International Classification of Diseases - 10th edition
IoE	Institute of Education
LEA	Local Education Authority
RCP	Royal College of Psychiatrists
WHO	World Health Organisation

9. Research shows that conduct disorder predisposes a child to delinquency in adolescence and crime as an adult. This is not an inevitable consequence of CD, and most affected children do not progress in this way. However, from the reverse direction, the links are strong, with up to 70-90% of young male adults arrested for violent offences having been rated as highly aggressive and/or hyperactive as teenagers, and a similar proportion (90%) of juvenile delinquents having been assessed as conduct disordered during childhood.