

educari

Big Research: Investigating VSA

Report on Research undertaken by educari for Re-Solv
under the Big Lottery Fund Research Programme

Richard Ives

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Contents

<i>Acknowledgements</i>	2
0. Summary	3
1. Introduction	4
1.1 <i>About the Project</i>	4
1.2 <i>About VSA</i>	5
1.3 <i>Comorbidities</i>	8
1.4 <i>Finding out what misusers actually do</i>	9
2. VSA and Young People: prevalence and correlates	11
2.1 <i>ESPAD</i>	11
2.2 <i>Department of Health Smoking, Drinking and Drug use Survey</i>	12
2.3 <i>Tellus Survey</i>	13
2.4 <i>The Schools Health Education Unit Surveys</i>	14
2.5 <i>Correlates of VSA in a Gambling Survey</i>	27
2.6 <i>Prevalence in other countries</i>	28
3. VSA and Adults	32
3.1 <i>The British Crime Survey</i>	32
3.2 <i>Qualitative studies</i>	34
3.3 <i>Discussion</i>	35
4. VSA deaths	37
4.1 <i>The deaths database at St George's</i>	37
4.2 <i>St George's and ONS data</i>	38
4.3 <i>Interrogating the St George's database</i>	40
5. Education and Prevention of VSA	45
5.1 <i>The Effectiveness of Prevention</i>	45
5.2 <i>Evaluating Re-Solv's work in the classroom</i>	47
5.3 <i>Beyond a focus on VSA</i>	49
5.4 <i>Beyond the classroom – and beyond the school</i>	50
6. Assessment and Intervention for people misusing VSs	52
6.0 <i>Introduction</i>	52
6.1 <i>Australian approaches</i>	56
6.2 <i>Data from the NTA</i>	59
6.3 <i>VSA guidance in Wales</i>	63
6.4 <i>Discussion</i>	67
7. UK Policy on VSA	68
7.0 <i>Introduction</i>	68

7.1 VSA in other countries	68
7.2 The UK	71
7.3 England	71
7.4 Scotland	72
7.5 Wales	72
7.6 Northern Ireland	73
7.7 Discussion.....	74
8. Looking to the Future: Lessons from History.....	76
<i>Applying the lessons of VSA to current substance misuse phenomena.....</i>	<i>77</i>
9. Conclusion.....	80
10. References	82
11. Resources & Bibliography	85
11.1 Re-Solv publications	85
11.2 YouTube films	85
11.3 Films from the 1990s Department of Health Campaign	85
11.4 Problems with Solutions.....	86
Annexes	86
Annex 1 The Research Blogs	86
Annex 2 Published Articles	109
A2.1 Druglink.....	109
A2.2. AdFam magazine.....	112
Annex 3 Evaluation of Re-Solv’s school interventions	114
A3.1 Report on pilot evaluation of Year 7 VSM intervention	115
A3.2 Report on pilot evaluation of Year 7 VSA intervention.....	123
Annex 4 The views of users and professionals	130
A4.1 Consultations with professionals.....	131
A4.2 Evaluation of training undertaken by Re-Solv with professionals in Wales	139
A4.3 Focus group at an Addiction Centre in Central England.....	145
A4.4 Notes on interview with an adult butane misuser	150
Annex 5 VSA deaths in Northern Ireland compared to the UK.....	151
Annex 6 Note on the NTA’s data collection & coding of VSA	155
Annex 7 Response to Australian Guidelines on the treatment of VS misusers....	159
Annex 8 What the ACMD has said about VSA	162

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0. Summary

Re-Solv, the national charity concerned with VSA – which is the misuse of volatile substances (gases, glues, aerosols, etc.) – was awarded a three-year research grant from the Big Lottery Fund to investigate VSA-related deaths, plus a range of investigations to assist the Charity in making an even more effective and more research-informed response to VSA.

VSA is a complex and changing social problem, related to over 2,000 deaths in the UK since the 1970s. Most of those dying were teenage boys, but nowadays most deaths are of adults and the proportion of girls and women has increased. Part of the research, conducted at St George's University, was a sophisticated statistical analysis of the historical deaths database. This work has been reported by the St George's Team (who have also published a paper in *Addiction*, a peer-reviewed journal: Butland *et al*/2012); it is summarised in this Report. The other part of the research, carried out by *educari*, covered several areas, including: correlates of young people's VSA, the nature of adult VS misuse, education and prevention approaches, methods of assessment and treatment, and resources for tackling the issue. This part of the research was action-focused, aiming to influence policy in the four countries of the UK. It supported Re-Solv's institutional goals throughout the project, for example by contributing to evaluation of the charity's school interventions (see Annex 3), and maintaining a research blog (see Annex 1).

The statistical study of deaths explored why VS-related deaths had been falling since the early 1990s. It found no related decline in under-18s' VSA-related deaths following the 1999 regulations banning the sale of butane lighter refills to under-18s. By contrast, under-18s deaths fell significantly following a 1992 Department of Health advertising campaign on VSA aimed at parents. As one would expect – because it was a campaign aimed at parents – adult deaths didn't fall. While it cannot be said that the fall in under-18-year-old deaths was *caused by* the DH Campaign, this is a striking finding based on thorough research with high-quality data.

Other research in this Project included consultations with professional workers about their needs in tackling VSA, and a look at assessment and treatment of VS misusers. A review of education and prevention and an evaluation of some of Re-Solv's schools' work on VSA identified good practice in helping young people to understand and to avoid misuse of VSs. Limited investigations of adult VS misuse revealed extensive poly-drug use associated with VSA and high levels of co-morbidity, whereas most young people's use was experimental and short term, although reanalysis of survey research revealed suggestive correlates of VSA for young people, such as increased rates of smoking, drinking, and other substance use, living in disrupted families, having accidents, being dissatisfied with life, being bullied and not feeling in control of one's life.

Supported by research process, and using the findings, Re-Solv has aimed to influence policy, for example, making strong arguments: for government funding of the deaths study and improving *National Statistics'* VSA deaths data; for maintaining a data series on adult VSA in the British Crime Survey; for the NTA (and its successor) to code for VSA more appropriately in its assessment forms; for providing training for staff in Wales; for including VSA more fully in the Northern Ireland Drugs Strategy; and for continuing the attention given to VSA in Scotland.

This has been a successful project which has developed Re-Solv's ability to respond to this changing phenomenon with thought-out arguments and actions.

1. Introduction

1.1 About the Project

This Report gives an account of work undertaken under contract to Re-Solv with funding from the Big Lottery Fund. Founded in 1984, Re-Solv is the national charity concerned with the misuse of volatile substances, such as gases, glues and aerosols.

The Big Lottery money was awarded to Re-Solv under a scheme, the Big Lottery Fund Research Programme, to support charities and other voluntary sector organisations to improve their use of research. The idea was that the organisations would think about some questions that they wanted answers to, and seek out research partners to help them find the answers. Re-Solv partnered with *educari*, a small consultancy, whose CEO, Richard Ives, has a very long history of addressing the issue of VSA, and is an experienced researcher and evaluator. In preparing the application, the partners also involved St George's University, who were conducting a long-running study into VSA deaths.

The Big Lottery Fund offered organisations the chance to apply for a Development Grant to enable them to explore the possibilities and options of undertaking research prior to making a full application. Re-Solv and *educari* took advantage of this offer and secured a development grant, reporting on the findings in March 2009 (see: Re-Solv and *educari* 2009 'Tackling VSA more effectively by meeting professionals' needs' Re-Solv). That report described the formation of the Project Steering Group, the negotiations with St George's, a consideration of ethical issues involved with the research, and the results of consultations with professionals about their needs.

The Team at St George's responded favourably to Re-Solv's approach; a number of administrative barriers were explored and overcome. Wide-ranging discussions explored many possible topics that further analysis of the St George's database of VSA-related deaths might throw light on. A clearer understanding of the kind of research staff needed for a project was gained.

The Consultations with professionals identified some good, but isolated and individualised, practice with VS misusers, as well as a variety of primary prevention approaches. Re-Solv's work was valued and the importance of the organisation keeping a 'watching brief' and offering a quick response to queries was emphasised. There was a demand for up-to-date and appropriate resources. It was thought that Re-Solv could do more to identify, assess and evaluate practice and disseminate the results. Young people should be fully and effectively consulted on their perspectives.

The Report concluded:

'Three key factors are crucial to the effectiveness of work around VSA. Firstly, it is hidden, relatively rare (beyond experimentation) and episodic. This means that most professionals have limited experience of working with VS misusers: Re-Solv performs an essential role as a valued source of information and advice. This could be further developed. Secondly, more knowledge of effective approaches is needed to enable a range of good practices to be identified and assessed. Documented evaluated practice is

required to inform local, evidence-based commissioning. Thirdly, good-quality, up-to-date, innovative and evaluated resources are needed.'

Based on the work undertaken during the development phase, a full proposal was made which was accepted by the Big Lottery Fund. The three-year project aimed to inform more effective responses to VSA. It had two main parts: firstly, secondary analysis of the VSA mortality database – a unique 25-year dataset at St George's, University of London – addressed gaps in knowledge about VSA deaths; second, a range of investigations focused on the correlates of VSA, characteristics of misusers, professionals' responses, and the role of Re-Solv

The project outcomes aimed to improve Re-Solv's response to VSA: supporting its education, prevention and treatment work; its advocacy and lobbying; and to develop the organisation's capacity to engage with research, with the overall outcome of enhancing Re-Solv's effectiveness.

1.2 About VSA

VSA is the deliberate inhalation of volatile substances to achieve intoxication. A wide range of substances can be used to achieve a 'high'. VSA has a long history, going back to the Victorian era when nitrous oxide was popular among some social groups. But it was not until the 1980s that public concern developed; especially because of the large numbers of young people who were dying VSA-related deaths – as many as an average of three deaths a week in some years. This led to government action and action by manufacturers of the misused products; one result was the creation of Re-Solv. In the 1990s, a Department of Health campaign in England and Wales aimed at parents was associated with a subsequent reduction in VSA-related deaths among young people. Through the early years of the 21st Century the reduction has been maintained, and there are now only a few deaths annually of children and teenagers; however, there are more adult deaths than hitherto.

A great deal is known about the prevalence and the trends of VSA-related deaths because a long-running study has recorded deaths using a careful and consistent methodology (the St George's study, mentioned in section 1.1; the findings are discussed in this Report, section 4). But with a lessening of public concern, this study no longer receives government funding. Regarding the prevalence of VSA (i.e. how many people have misused volatile substances) much less is known. This is partly because of certain difficulties in measuring prevalence. There is a range of products which are misused in different ways, so it is difficult to word appropriate questions and respondents give different answers to different question wordings. Furthermore, there is evidence that misusers often 'recant', reporting misuse when they are young and not reporting it when they are older; see the Research Blog entry in Annex 1 titled 'Asking about VSA'.¹

However, there are some good studies that report on the levels of the misuse of volatile substances by young people, which are discussed in the next section.

¹ and see the paper referred to in that blog entry: Martino S *et al* 2009 'Recanting of life-time inhalant use: how big a problem and what to make of it' *Addiction*, 104, 8, pp. 1373-1381

Regarding the harm that people who misuse volatile substances can do to themselves or to others little is known, and what is known is not terribly secure. We know, of course, that people can die, and die at the first attempt, from VSA, and we know that they can die in various ways (accident due to intoxication, choking on their own vomit while unconscious, suffocating themselves with a plastic bag), as well as by the specific mechanism of 'sudden sniffing death'.²

Non-fatal health effects are not much reported in the UK. In 1980s, Maria Ron (1986) looked at the possibility of brain damage in UK sniffers and found no evidence for it; in the 1990s, Oliver Chadwick and colleagues (1991) could not find any measureable effects on the school performance of sniffers in London, once social and other differences were taken account of. A recent paper reported on a fifteen-year follow-up of Australian aboriginal people who had sniffed, which found no long-term impairments except for those in the sample who had experienced lead encephalopathy from sniffing lead-containing petrol (Cairney *et al*/2013).

But other countries have identified a number of VS-related problems. For example, the USA's National Institute on Drug Abuse states:

'Chemicals found in different types of inhaled products may produce ... more serious long-term consequences. These may include liver and kidney damage, hearing loss, or bone marrow damage. Effects may also include loss of coordination and limb spasms due to damage to myelin—a protective sheathing around nerve fibers that helps nerves transmit messages in the brain and peripheral nervous system. Inhalants can also cause brain damage by cutting off oxygen flow to the brain.'³

It is likely that the different chemicals found in substances misused in different cultures and countries cause different health effects.

In a survey (Taylor *et al*/2012), addiction specialists and psychiatrists working in Scotland with substance misusers were asked to rank psychoactive substances according to their harm: they ranked 'inhaled solvents' sixth, after heroin, crack, crystal meth, alcohol, and cocaine; and ahead of many controlled drugs, such as cannabis.

Given the risks, why would people misuse volatile substances? Most of these substances depress the central nervous system in a similar to alcohol; therefore the effects are similar. So VS misusers may experience light-headedness and euphoria, they may feel less inhibited and less in control, slur their speech, feel dizzy, and become un-coordinated. They may become drowsy and afterwards have a lingering headache. But unlike alcohol drinkers, volatile substance misusers may experience hallucinations, and even delusions.

² Bass M 1970 'Sudden Sniffing Death' *JAMA*.;212 (12):2075-2079
doi:10.1001/jama.1970.03170250031004

³ <http://www.drugabuse.gov/publications/drugfacts/inhalants>

This does not seem like an attractive list of effects. But some seek them. Interviews with sniffers show that it can be fun:

'When asked if his first sniff made him feel sick, Carl had this to say: "No, it's something I enjoyed and I wanted to do more. When I first started to smoke a cigarette, I felt ill but I kept on because everyone else was doing it, but with sniffing glue when I first tried it I enjoyed it, it's something I did enjoy, that's the reason I started anyway." David added: "Yeah, when we're on it we have a great laugh, like."

'... Hallucinations when sniffing can be interesting and exciting ... hallucinations can also be dangerous, unpleasant and frightening, but even these can be enjoyable (think of horror films) and allow youngsters to "escape" – if only temporarily and only in their imagination – from the "real world" with all its difficulties and conflicts.

'Sniffers may be able to exercise some control over their hallucinations and use them as part of group activities. In this way, hallucinations can be an exciting and sought-after part of intoxication on solvents. For example, Steven reported: "We used to have these games, like we used to have this big trunk and we used to call that 'the dream machine' and we used to get all things like Snow White and the Seven Dwarfs coming down a conveyer belt, lasers, all spaceships, everything." (Ives, 1995)

The hallucinations can be powerful. An interview conducted with a long-term VS misuser as part of the current research reported:

'He gave examples of the strength of hallucinations in this anecdote: "it was raining pink paint on my mate's head and I could see his hair flattening as the rain fell on it". He also described less pleasant hallucinations "I often got chased by the Tasmanian Devil with Freddie Krueger type fingers who would chase me and flick knives at me" Interview conducted by Re-Solv's Youth Officer 6-6-11 (see Annex 4.4)

And volatile substances are readily available, cheap and relatively easy to steal (from the home or from shops) – that is why they are often the first intoxicant that young people try.

Prevalence studies show that most people who try volatile substances only do it a few times. But some people continue. The 33-year-old interviewee for this research quoted above had been misusing gas since the age of 15. He no longer gets hallucinations: 'now, I'm the same when I'm sniffing or when I'm not'. He believed that he had developed tolerance; he still gets 'a hit' after the first inhalation but it is not as strong as it used to be and is 'not really a high anymore', only lasting a couple of minutes before he needs to inhale gas again. He said:

'...gas is the first thing that I do in the morning and the last thing I do at night. I eat less and will go without food to buy gas. ... It affects my social

life. If I know I can't do it wherever I'm going then I won't go.' (see Annex 4.4)

He has had long-term mental health problems and:

"I'm not a schizo or anything but I feel like I'm two people. And it's always the fuck-it [person] who wins over ... I know the consequences of my actions but I feel, fuck it."

1.3 Comorbidities

Heavy and long-term misusers of volatile substances, such as this man, are rare, and they commonly have associated problems ('comorbidity'). They are also likely to have had problems before they started misusing volatile substances – problems such as a disrupted family life, or even childhood abuse. As with other heavy substance misuse, VSA may have once seemed like a 'solution' to such problems, perhaps helping to deal with (or at least blot out) the bad feelings and negative self-image caused by childhood trauma. For long-term misusers, that phase is long past, and, while there is no 'physical addiction' to volatile substances, the psychological dependence can be enslaving.

So it is important (especially, perhaps, in a report for Re-Solv, a charity solely concerned with VSA), to address the fact that VSA is not an isolated activity, and in particular is often associated with other substance misuse, whether at the time of misusing – 'concurrent poly-drug use', or as a follow-on behaviour. However the extent of the overlap is under-researched – and it is important not to make unwarranted assumptions. For example, it is widely believed that VSA is a 'gateway' substance, early use of which predisposes towards later use of other substances such as heroin. (Professionals' views on this point were explored in research during this project, and are reported on in Annex A4.1 'Consultations with professionals'). But it is more likely that, in most cases, poly-drug use is related to underlying factors (such as an abusive childhood)⁴ and that the use of different drugs at different times in a person's life is not a result of a 'drugs career pathway', where one drug inexorably leads to another along a 'slippery slope of addiction'. Certainly, early childhood deprivation is strongly associated with later drugs problems, as is early onset of drug use; and volatile substance misusers tend to start early. Storr and colleagues (2005) tested the evidence for the 'hypothesized link from early onset inhalant use to later use of opiates by young adulthood' with data from a sample of 2,311 young people in the USA, concluding that:

'an exploratory analysis suggests that there may be no direct inhalants-opiate link once a general early onset susceptibility trait is taken into account.'

but pointing out that:

'Youth who used inhalants prior to age 14 were twice as likely to initiate opiate use as compared to those who had never tried ... Statistical adjustment

⁴ see Ives R and Ghelani P 2006 'Poly-drug use (the use of drugs in combination): a brief review' *Drugs: Education, Prevention and Policy* 13, 3 pp 225-232

for other covariates attenuated but did not dissolve this relationship. These findings help confirm previously reported evidence that the use of inhalants might be an early marker of vulnerability for future involvement with illegal drugs such as heroin...'

This points to a more useful way of thinking about early VSA – not as a 'gateway', but as a marker, a 'sentinel' – a warning indicating that the young person who is misusing VSs may need early (and perhaps sustained) intervention to reduce the possibility of further substance-related problems later in their life. This point is taken up in the concluding Chapter of this report.

1.4 Finding out what misusers actually do

A difficulty with research about VSA (and it can also be a difficulty for interventions) is in the definition of what volatile substance abuse is and what people who say they have done it have actually done. As pointed out above, discussed further in Chapter 2, (and the Research Blog entry in Annex 1, 'Asking about VSA'), there are difficulties, in questionnaires, of asking about VSA. These difficulties increase when one tries, as was done in this project, to gain more fine-grained detail about the practice, such as how much of a substance is ingested, over what period and at what points during the intoxication different effects occur.

From the evidence of interviews with VS misusers that was conducted during a previous investigation,⁵ it is clear that most misusers have little insight into their behaviour when misusing, and are generally unable to report information about the activity. Typically, they cannot say how much of the substance they used, for how long, how long they remain intoxicated, and so on. The state of being intoxicated probably disrupts the users' sense of how much time has passed (for some users, this was a desired effect – as it ate up time that would otherwise be 'boring'). Typically, young people's 'recreational' VS misuse involves misuse with friends, and if cans of intoxicating substances are passed around a group it is very difficult to say how much each individual has inhaled (or for how long they inhaled). And because the VS intoxication is typically short-lived, but 'sniffing sessions' can be quite lengthy, misusers move in and out of intoxication over the period as they 'top up' their dosage in response to the 'high' diminishing.

This lack of awareness is found not only among VS misusers. For example, Treloar and colleagues (2010) report that the injecting drug users in their study describe the routine and ritualised nature of their practices, and are reported as being 'unable to elaborate on reasons for specific practices' (p 434); they were 'unable to separate each individual step, viewing injection as an uncomplicated, one-step ... procedure' (p 435). It is a well-known phenomenon – labelled 'mindlessness' (in contrast to *mindfulness*):

'Mindlessness is important in understanding injecting drug use ... In brief, the state of mindlessness has been characterized as (1) being over-reliant on categories and distinctions drawn in the past; (2) oblivious to novel or alternative aspects of the situation and, (3) rigid or invariant in behaviour

⁵ Ives, unpublished report for BAMA

with little or no conscious awareness. Mindfulness, on the contrary, is characterized as a state in which people are (1) open to novelty, (2) alert to distinction, (3) sensitive to different contexts, (4) aware of multiple perspectives and (5) oriented in the present ... It can be defined as a state of continuous category formation, in which individuals can demonstrate flexibility and perceive how the environment can alter the meaning of ideas or behaviours ... (Treloar *et al*/2010)

Mindlessness may, indeed, be a desired-for outcome of intoxication: providing a way of 'leaving behind' a demanding 'real world' in favour of a fantasy existence, which for many chronic VS misusers is a more congenial place when compared with the difficulties – or even the horrors – of their current reality. This point is discussed further in the introduction to Chapter 6.

Identification, assessment and treatment are therefore complex. VS misusers may present to a range of services and their degree and complexity of need will vary greatly. Chapter 6 discusses assessment and interventions.

More commonly, VSA experimentation by a young person happens a few times only, and the motivations are often curiosity, the desire for a 'cheap thrill', and being part of a social group. The next chapter discusses VSA and young people, looks at the prevalence of the behaviour and some of its correlates.

2. VSA and Young People: prevalence and correlates

Volatile substances are often the first intoxicants that young people try – partly because of the ready availability of ‘sniffable’ products. There is evidence of the prevalence of use from several surveys, which are summarised here. During this project, a special study was conducted using data from the Schools Health Education Unit looking at the correlates of VSA. This is reported on in detail in this chapter.

2.1 ESPAD

The European School Survey on Alcohol and other Drugs (ESPAD) is an important pan-European study that, above all, enables comparisons to be made between different countries and allows trends to be monitored. ESPAD surveys over 2,000 15- to 16-year-olds in each of 35 European Countries via a paper questionnaire administered at school. Studies took place in 1995, 1999, 2003, 2007 and 2011 (see www.espad.org). A paper by the current author looked at VSA in the first three studies, finding that the levels of VSA experimentation in 1995 were highest in the UK – where a fifth (20 per cent) of those surveyed reported having tried it at least once – declining to 15 per cent in the 1999 survey, and down to 12 per cent in the 2003 survey (Ives, 2006).⁶

The UK rate continued its decline in 2007 survey: to nine per cent, which was the same as the average; but in 2011 the UK figure was ten per cent (9% boys; 11% girls), slightly above the European average.⁷ The 2011 results were reported in the Research blog (see Annex 1); there is also a blog in Annex 1 about the ESPAD methodology. One problem in 2011 was that the proportion of participating schools in the UK was so low (6 per cent) that the ESPAD report does not compare UK data with previous ESPAD surveys – so caution is required in interpreting these results.

While the 2011 ESPAD average was nine per cent reporting ‘ever use’ of inhalants,⁸ there were large differences between countries; 28 per cent of students in Croatia reported trying inhalants (the highest) with Latvia (23%) and Slovenia (20%) also reporting high levels of experimentation, while in the two to three per cent range were Albania, Iceland, Italy, Ukraine and Moldova. There does not seem to be any geographical pattern to this.

Across many countries there is now greater equality between the sexes: in most countries, lifetime prevalence was similar for boys and for girls, although in Croatia and France – as well as in the UK – more girls than boys used inhalants, and in six other countries boys’ use was higher.

More than half of those who had tried inhalants had used them only once or twice. In other words, four per cent of the sample had used inhalants on three or more

⁶ The question that students were asked about inhalants was: “On how many occasions (if any) have you used inhalants (x, y) to get high?” The national ESPAD teams used nationally relevant examples in place of ‘x’ and ‘y’ in the brackets.

⁷ Some of the figures in this paragraph vary slightly (1%) from those quoted in the text of the ESPAD Report – mine are taken from the Report’s tables 37 and 38 a & b, while it seems that the Report’s figures are derived from lifetime abstinence tables (41 a & b). The differences are small and probably within the margin of error.

⁸ The ESPAD term, ‘inhalants’ will be used when discussing this report.

occasions. Five per cent had used inhalants within the previous 12 months; two per cent reported use during the previous month. The figures for the UK were slightly higher, with seven per cent reporting using within the previous 12 months, and three per cent within the last 30 days.

Inhalants remain one of the first substances tried by young adolescents. On average across Europe, four per cent of boys and three per cent of girls report trying inhalants before the age of 13, the highest proportions being in Croatia (12 per cent for boys and 18 per cent for girls). In the UK, the figures are three per cent for boys and four per cent for girls. This compares with the figure for under-13 cannabis use in the UK, which – at seven per cent – is much higher than the average of three per cent (for both sexes combined) in the other 35 countries.

As regards VSA, the UK has become a more 'normal' European country over the years of the ESPAD Surveys. In this period, VSA-related deaths have declined in the UK – especially among teenagers.

As part of this project, the data from the 2007 and 2011 surveys were looked at in more detail and a paper drafted to update the work published about the first three surveys. This will be submitted for publication as an output from the Re-Solv project.

2.2 Department of Health Smoking, Drinking and Drug use Survey

The Department of Health, has conducted surveys, covering England, of smoking, drinking and drug use (which included VSA), of young people aged 11 to 15 years.

The most recent report (Fuller 2012) found that almost a twelfth (7.7%) had ever tried VSA, although only 3.5 per cent had used in the last year and only 1.4 per cent in the previous month. Male and female figures were similar; the table gives the details.⁹ These figures are congruent with the ESPAD data – bearing in mind that that study is of 15 to 16-year-olds and this one covers 11 to 15-year-olds.

Table 2.1 VSA among 11 to 15-year-olds in England in the 2011 NHS Survey

	<i>Lifetime use</i>			<i>Last Year use</i>			<i>Last Month use</i>		
	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
% VSA	7.1	8.3	7.7	3.1	3.9	3.5	1.3	1.4	1.4

(adapted from DH 2012, page 66)

As the UK's Focal Point report puts it:

'At younger ages, pupils are more likely to have taken volatile substances than cannabis. However, at age 13, whilst volatile substances were still the most common recently-used drugs (at 4.7%) the use of cannabis increased substantially from 0.3% at age 12 to 3.7% at age 13 (...). Prevalence then increased sharply to 10.4% at the age of 14 and 18.8% at 15. Volatile substances were the second most commonly-used drug at older ages, with

⁹ Although volatile substance use appeared higher amongst girls across all recall periods, this was not statistically significant.

ecstasy (2.3%), magic mushrooms (2.1%) and cocaine powder (1.8%) the next most commonly reported drugs at age 15.’ (DH, 2012, page 67)

2.3 Tellus Survey

Before it was cancelled in 2010, the Department for Children Schools and Families¹⁰ conducted four annual schools surveys called ‘Tellus’ (1, 2, 3 & 4), which included information on VSA. This was an on-line self-completion survey for children in school Years 6, 8 and 10. Tellus4, conducted in 2009, included 253,755 individual responses received from children and young people in 3,699 schools. However, children in Year 6 were not asked the whether they had used drugs. Nine per cent of those asked said that they had taken drugs of some sort in the last four weeks (a further three per cent did not want to say). Two per cent reported use of ‘solvents, glue or gas (to inhale or sniff)’, of which one per cent had tried only once, and one per cent had tried three or more times. Note that this is recent use – ‘last four weeks’ – so the proportions are not comparable with ESPAD and NHS figures reported above, which are figures for lifetime use.

A rather large proportion (four per cent) ‘preferred not to say’ how often they had used, but this proportion was similar for all drugs asked about. See Table X below; figures for cannabis are shown for comparison. Looking just at those who report drug use, of which there were over ten thousand in the sample, (see the second table below), the majority had not misused VSs in the last four weeks, but 14 per cent had misused VSs three or more times within the last four weeks.

Table 2.2 VSA (‘Solvents, glue or gas (to inhale or sniff)’) in Tellus4 (percentages)

	<i>Never in the last 4 weeks</i>	<i>Once</i>	<i>Twice</i>	<i>Three or more times</i>	<i>Prefer not to say</i>	<i>Don’t know / can’t remember</i>	<i>N = 100 (all those who report ever taking drugs)</i>
VsS	93	1	0	1	4	1	150,133
Cannabis	91	1	1	2	4	1	150,793

(from Table 2.7 in Chamberlain et al 2010, page 33; the zero figure given for ‘twice’ is rounded down – there are some people who have used twice, as the next table shows)

Table 2.3 Levels of VSA among those reporting drug use ever* in Tellus4 (percentages)

	<i>Never in the last 4 weeks</i>	<i>Once</i>	<i>Twice</i>	<i>Three or more times</i>	<i>Prefer not to say</i>	<i>Don’t know / can’t remember</i>	<i>Those who have ever used drugs N = 100</i>
VsS	55	8	3	14	7	13	10,096
Cannabis	35	15	8	26	7	19	11,756

¹⁰ Now the Department for Education

*(from table 2.8 in Chamberlain et al 2010, page 34; however, it is not entirely clear if this is what the table is actually reporting: the table heading is ‘...those who said they had taken drugs’.)

The Tellus surveys were designed to help the Department for Children, Schools and Families see whether educational interventions were having an impact. So the report looks at the relationship between receiving advice about drugs and drug use, finding that those who said that they had not received advice about drugs were more likely to have used them; but use was even higher among those who said they had received advice which was not helpful – this point has implications for substance misuse education, which will be discussed in Chapter 5.

2.4 The Schools Health Education Unit Surveys

The SHEU is an independent research organisation which surveys in many settings across the UK, carried out with local agencies, in particular local education authorities, schools, and health services, compiling the results in a series of publications beginning in the 1970s, and, from 1983 onwards, enabling the examination of trends. While not representative 'national samples', the combined surveys are very large and can be demonstrated to generate representative and stable findings over time.

The analyses reported here are based on data from 2010 which is described in the SHEU's Annual Report (Balding and Regis, 2011). That report gives data on the 83,724 young people aged between 10 and 15 years who were surveyed in 2010. David Regis of the SHEU was extremely helpful in giving advice on analyses and running the analyses reported here especially for this project.

The sample and its representativeness

These analyses focus on the Year 10 pupils (aged 15 or 16) among those surveyed by the SHEU in 2010. In each analysis the sample size varies slightly because not all questions were asked in every local survey.

As the SHEU sample is not drawn randomly from the school population of the UK, questions must arise about its representativeness. One way of assuring the representativeness of the data is to make comparisons with other studies. In relation to drugs, smoking and drinking alcohol, there are some comparable studies. Comparing the data on drugs to the regular ONS studies and with the ESPAD studies is reassuring, as the data show very similar levels and trends over time (Balding and Regis, 2011¹¹).

Methods

The SHEU questionnaire asks about a number of different drugs in the form of a list with, for each drug, the four possible answers: 'I have never taken this drug'; 'I have taken during the last month'; 'I have taken during the last year'; 'I took this drug more than one year ago'. For VSA, the wording of the item is: 'Solvents used as drugs (e.g. glue, gas refills, aerosols, cleaning fluid)'. Those answering 'last month', 'last year' or 'more than one year ago', we called 'ever users'; those answering 'last

¹¹ this publication also looks at other aspects of representativeness.

month' we called 'recent users', and regard this group as an approximation for current users.

For the purposes of this investigation, a list of possible analyses was set out based on what data were available from the SHEU questionnaire. Since the questionnaire covers a very wide range of topics it was important to avoid the danger of 'data mining', therefore each of the chosen analyses had to be justified: this was done based on the author's knowledge of VSA and what previous research had indicated.

The analyses were carried out in SPSS. Results reported as significant are statistically significant at the 0.01 level (one-tailed chi-squared test unless otherwise stated).

Results

VSA and other drug use

The overall prevalence of reported VSA 'ever' by Year 10 pupils in this study was 2.8 per cent, with little difference between the sexes (2.9% for boys, 2.6% for girls). The figure for reported VSA in the 'last month' was 1.2 per cent, with a little more difference between the sexes (1.4% for boys, 0.9% for girls).

This compares with a lifetime prevalence for 15- to 16-year-olds of nine per cent in the ESPAD study, and 7.7 per cent in the Department of Health study of 11- to 15-year-olds (details reported earlier in this chapter). Because of the different sampling, research methodologies, question wording and age-bands, it is difficult to make direct comparisons, but the reported VSA lifetime prevalence in the SHEU studies is considerably lower, which is at odds with the SHEU comparison for drugs, smoking and alcohol mentioned above (Balding and Regis, 2011). The issue of question wording is discussed further at the end of this chapter.

Volatile substances are often thought of as rather separate from other drugs, so it was relevant to look at whether those who used volatile substances also used other drugs. In this context, data were used from the question which listed 15 drugs (plus an option to name any other drugs not listed) – not including tobacco and alcohol. In answer to this question, 14.8 per cent of respondents reported trying one or more drugs on this list.

The table shows the results for the 548 people who had tried VSA 'ever'. Only a fifth (20.6%) had tried volatile substances only – the other four-fifths (79.4%) reported having tried at least one other drug.

Table 2.4 Use of other drugs by those who had tried VSA 'ever'

<i>Both sexes</i>	<i>N</i>	<i>%</i>
VSA only	113	20.6
VSA plus at least one other drug	435	79.4
total VSA	548	(100)

We then looked at the relationship between VSA and reported poly-drug use, using a question which asked whether they had 'ever taken more than one type of drug ... on the same occasion'.¹² We included 'don't know' answers on the grounds that some respondents might answer correctly that they didn't know whether they had done so or not both because the question was silent about whether alcohol, tobacco or medicinal drugs were to be included, and also because someone might genuinely not know what was contained in a pill that they had taken. It should be noted that we do not know if the drugs used on that occasion included VSA.

The table shows that more than two-fifths (41.9 %) of those who had ever used VSA had used more than one drug on the same occasion. This in sharp contrast to those who have *never* tried VSA: only 3.4 per cent report using more than one drug on the same occasion.

Table 2.5 VSA and the use of more than one drug on the same occasion

%	<i>male</i>			<i>female</i>			<i>both sexes</i>		
	<i>No</i>	<i>Don't know</i>	<i>Used more than one</i>	<i>No</i>	<i>Don't know</i>	<i>Used more than one</i>	<i>No</i>	<i>Don't know</i>	<i>Used more than one</i>
VSA ever	33.6	21.0	45.5	45.9	15.8	38.4	39.8	18.3	41.9
VSA never	94.9	1.6	3.4	95.2	1.4	3.4	95.1	1.5	3.4

Were those who had tried VSs more likely to smoke and drink? The respondents were asked if they had 'had any alcoholic drink at all during the last 7 days'. The differences between those who have tried VSs and those who have not were striking: four-fifths of those who had tried VSA had drunk alcohol in the past week compared to less than half (46.8%) of those who had never tried VSA. And among those who had or had not misused VSs in the past month the differences were similar: 83.6 per cent compared to 47.3 per cent.

Table 2.6 VSA and drinking alcohol in the last week

<i>both sexes</i>	<i>% drinking</i>	<i>(N=100%)</i>
VSA ever	81.7	338
VSA never	46.8	12,690
VSA last month	83.6	140
No VSA last month	47.3	12,888

¹² the ellipsis refers to the list of 15 drugs given in a previous question

Volatile substance misusers were also much more likely to smoke cigarettes. Questionnaire respondents checked some statements about smoking, which have been recoded as 'never smoked'; 'previous smoker'; 'current smoker'. The table shows that those who had ever tried VSs were almost four times more likely to be current smokers than those who had never tried VSs (60.2% versus 15.6%).

Table 2.7 VSA and smoking

<i>both sexes</i>	<i>never smoked</i>	<i>previous smoker</i>	<i>current smoker</i>	<i>(N=100%)</i>
VSA ever	14.3	25.5	60.2	499
VSA never	56.8	27.6	15.6	18,640
VSA last month	19.7	20.7	59.6	203
No VSA last month	56.1	27.6	16.3	18,927

Socio-economic group and family situation

There are indications that, while those who have tried volatile substances are quite typical of the population of young people as a whole, those who misuse volatile substances *regularly* may be more likely to be from lower socio-economic groups and to be from disrupted families. However, the research evidence is limited: Anderson et al (1982), in their study of 140 VSA deaths, reported that: 'Deaths tended to be more frequent among manual social classes, but this association was not marked'; while Skellington Orr and Shewan, in their review for the Scottish Executive, state:

'There is a noticeable dearth of research evidence that specifically explores inhalant abuse as related to socio-economic status. Research by the Centre for Drug Misuse Research (CDMR), based on a survey of young people in Scotland aged 11-16 (McKeganey, unpublished) reported that VSA was present across all social strata. Findings from the 2003/04 British Crime Survey for glue use also show no notable differences by ACORN group or tenancy type.' (p 14)

Some limited, and dated, evidence is given by Ives, 1999, who reports on data from the National Drug Campaign Survey 1995 which questioned 4,932 11- to 35-year-olds using stratified random location sampling, and weighting data using the Labour Force Survey. Ives reports:

'... a clear class gradient in the misuse of volatile substances, as Table 21 shows. [lower social groups] Grades D and E were more likely than [higher social groups] grades AB and C to report having ever used a volatile substance; this trend was true for all four product groups.

'Because of the apparently strong differences between social groups, testing was carried out to see if differences were statistically significant. Table 22 gives the results, showing significant differences between social grades A and

B combined when compared with social grade E or with social grade D (except for A & B compared with E for 'other solvents').

Table 21 Ever use of volatile substances by social grade

<i>percentages</i>	<i>All Grades</i>	<i>AB</i>	<i>C1</i>	<i>C2</i>	<i>D</i>	<i>E</i>
any solvent	10	8	9	9	14	14
glues	4	2	3	4	6	5
gases	5	4	4	4	8	8
aerosols	3	2	3	2	5	5
other solvent	6	4	6	6	8	7

Weighted N = 4644

Under-16s are categorised according to the social grade of the head of householdⁱ

Table 22 Ever use of volatile substances by social grade: significant tests

<i>percentages</i>	<i>Social Grades AB versus E</i>	<i>Social Grades AB versus D</i>
any solvent	2.86 **	3.09 **
glues	2.06 *	3.03 **
gases	3.11 **	2.80 **
aerosols	3.41 **	2.80 **
other solvent	1.62	2.69 **

The test used is based on a t test using a 2-tailed distribution. The design effect (location and probability sampling) has been calculated for each subgroup.* significant at the 95% confidence level.** significant at the 99% confidence level

We were not able to look at the socio-economic situation in the pupils' families as the only (proxy, and self-reported) data available about this is family newspaper readership, which, with the decline in readership and alternative sources of news, is not a reliable measure of socio-economic group.

The students lived in a variety of family situations, but the majority reported that they lived with both parents. We combined this group with those living with a parent and a partner (step-parent and other adults) and compared this enlarged group with those who were living in single parent families – the majority with their mother and a smaller number with their father.

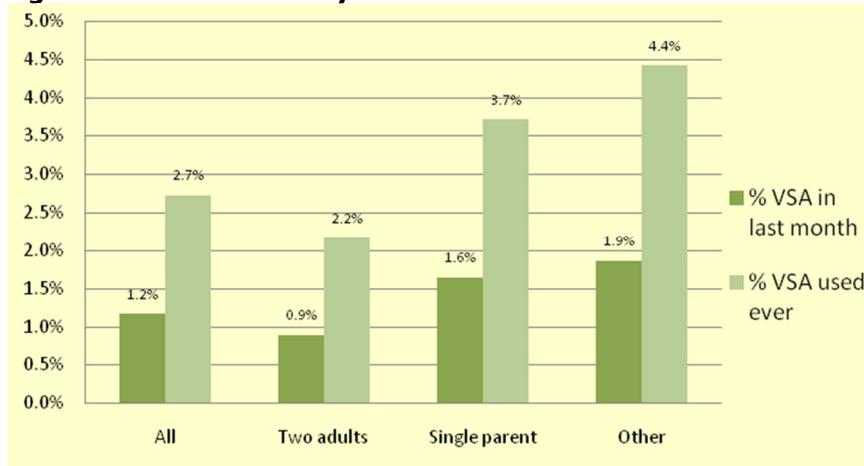
The table shows that both males and females from families with a single parent were more likely to have ever tried, and to have used volatile substances in the previous month than those from families with two adults living at home, but the difference was bigger for girls and was significant. The chart shows the results graphically.

Table 2.8 VSA and family situation

%	<i>male</i>		<i>Sign.</i>	<i>female</i>		<i>Sign.</i>
	<i>two-adult family</i>	<i>single-parent family</i>		<i>two-adult family</i>	<i>single-parent family</i>	
Used VS last month	1.1	1.7	0.037	0.7	1.6	0.000
Ever used VS	2.4	3.3	0.025	2.0	4.1	0.000
n	6748	1554		7406	1783	

Significance measured with Fisher's exact test; significant findings in bold

Figure 2.1 VSA and family situation



Ethnicity

Ethnicity was *a priori* an interesting variable to examine, as data on ethnicity and substance misuse have been rather equivocal. Some studies have shown lower levels of substance misuse among Black and Asian youth compared with 'White', while others have found higher levels of cannabis use among Black youth. A review by the UKDPC stated:

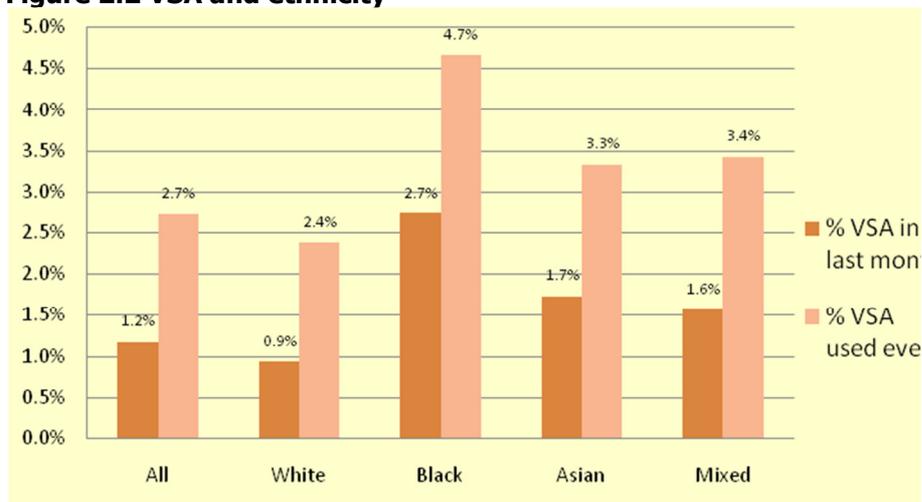
'In general, the evidence suggests that prevalence of illicit drug use is highest among respondents described as mixed race groups. Asian groups (variously defined) have significantly lower levels of reported drug use compared to all other ethnic groups. Prevalence among those respondents categorised as White or Black falls between that of those categorised as mixed race or Asian.' (Beddoes *et al* 2010)

The table and the figure show that (for both sexes), both last month and 'ever' VSA was highest among those who self-classified as 'Black', with levels higher than among the 'Asian' and 'mixed' groups, and with self-classified 'Whites' having the lowest reported VS misuse. This perhaps surprising finding is another piece of evidence to be taken account of by researchers who attempt to untangle the complex relationships between substance misuse and ethnicity.

Table 2.9 VSA and ethnicity by sex

%		'white'	'black'	'asian'	'mixed'
Used VS last month	Male	1.1	3.1	2.6	1.7
	Female	0.7	2.4	0.9	1.5
Ever used VS	Male	2.4	5.1	4.1	3.7
	Female	2.3	4.2	2.6	3.2

Figure 2.2 VSA and ethnicity



Worrying, being bullied, self-esteem and satisfaction with life

Chronic or dependent substance misuse can be a response to unhappiness or dissatisfaction. However, much substance misuse may be merely experimental, and VSA is often a one-off experience. It was therefore interesting to see if the 'ever' VS misusers were different to the 'last month' users on measures of emotional well-being and worrying and satisfaction with life. There is also thought to be an association between substance misuse and being bullied, so this was also looked at.

Worrying

The relevant question asked: 'How much do you worry about the following?' was followed by 11 statements, to each of which pupils gave one of five responses; each item on the list was scored from zero through four (0= 'Never'; 1= 'Hardly ever'; 2= 'A little'; 3= 'quite a lot; 4= 'a lot'). From these answers a scale running from zero through four was constructed assigning each individual to a point on the scale based on the highest score they reported on any of the items – a 'maximum level of worry' scale.

As the table below shows, those who reported VSA in the last month were more likely to score zero or one on the 'max worry scale' (that is, they reported no or only one worry), and they were less likely to score two or three on the scale. This is difficult to interpret. But the next table shows that the 'mean worry score' for those who have tried VSs is higher (for both boys and for girls) than for those who have

never tried them – which might indicate that VS misusers are more likely to be people who worry about things.

Table 2.10 VA and worry scores (both sexes)

	<i>worry score:</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N</i>
VSA last month	N	18	58	16	35	136	263
	%	6.8	2.2	6.1	13.3	51.7	(100)
No VSA last month	N	535	584	2962	5379	9437	18,897
	%	2.8	3.1	15.6	28.5	50.0	(100)
All	N	644	775	3594	6746	11953	23712
	%	7.6	3.1	14.6	27.4	48.5	(100)

Table 2.11 VSA by 'mean worry score'

	VSA	Mean worry score
Year 10 males	I have never taken this drug	10.29
	I have taken during the last month	15.92
	I have taken during the last year	15.37
	I took this drug more than one year ago	14.89
Year 10 females	I have never taken this drug	13.87
	I have taken during the last month	15.31
	I have taken during the last year	19.54
	I took this drug more than one year ago	15.28

Life satisfaction

The pupils were asked: 'In general, how satisfied do you feel with your life at the moment?' The SHEU has reported a trend towards greater satisfaction between 1983 and 2003 (SHEU 2004); in this period and more recently, boys have consistently reported higher levels of satisfaction than have girls. The five-point scale used in this question ranges from 'not at all' to 'a lot'.

The table shows the results on the five points of the scale for both sexes combined: last-month VS misusers are compared with those who have not misused VSs in the last month. VS misusers are much more likely to express dissatisfaction than those

who have not misused in the last month: more than a fifth of last-month VS misusers expressed zero satisfaction compared with less than a twentieth (4.4%) of those who had not misused VSs in the last month.

Table 2.12 Satisfaction with life and the misuse of VSs

		<i>How satisfied do you feel with your life at the moment?</i>					<i>Totals</i>
<i>Both Sexes</i>		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	
VSA in the last month	N	44	37	38	45	40	204
	%	21.6	18.1	18.6	22.0	19.6	(100)
No VSA in the last month	N	791	2122	3490	7649	3998	18050
	%	4.4	11.7	19.3	42.4	22.1	(100)

Bullying

One reason why young people can be dissatisfied with their lives, be worried or have low self-esteem may be because they are being mistreated. Bullying is one form of mistreatment and the SHEU questionnaire asks about this: 'Have you been bullied at or near school in the last 12 months?'

The SHEU data support the notion that bullying and VSA are related. While 15.8 per cent of the whole sample reported having been bullied, this figure was much higher both for those who had ever tried VSs (28.2%) and for those who had misused VSs in the past month (30.2%).

There was little difference overall between boys and girls in the levels of bullying (15.1% compared with 16.3%), but slightly bigger proportions of male VS misusers (28.7% of those who had ever sniffed and 31.0% of those sniffing in the last month) compared to female sniffers (26.9% ever sniffed; 29.0% of last month sniffers) reported having been bullied. The table shows the figures (the sex differences are *not* statistically significant).

Table 2.13 Reported bullying and VSA

	<i>Whole sample</i>			<i>last month VSA</i>			<i>ever VSA</i>		
	<i>Male</i>	<i>Female</i>	<i>both sexes</i>	<i>Male</i>	<i>Female</i>	<i>both sexes</i>	<i>Male</i>	<i>Female</i>	<i>both sexes</i>
been bullied (N)	947	1180	2127	27	18	45	51	47	98
been bullied (%)	15.1	16.3	15.8	31.0	29.0	30.2	28.7	26.9	28.2

Self-esteem

All these factors might be expected to influence self-esteem. Self-esteem is difficult to conceptualise – and therefore to measure – but the SHEU questionnaire makes an attempt, with a set of 11 statements to which respondents are asked to agree or disagree. These are based on a self-esteem scale designed by Lawrence (1981). An article by SHEU staff describes relationships between smoking and this scale and concludes that 'self-esteem is linked to health-related behaviour' (Regis and Balding 1988, p 66).

For this analysis we looked at the mean score on this scale (which ranges from 0 through 18): the mean score for boys in the 2010 Year 10 sample was 13.6, and was 12.5 for girls. Among those boys who had ever misused VSs, the mean score was slightly lower, at 11.3, with a similarly lower score for girls: 11.7. Boys who had used VSs in the last month had an even lower mean score of 10.6; similarly for girls, it was 11.3. An analysis of variance (SPSS ANOVA) showed that these mean differences were statistically significant (M 7.289 ($p < 0.01$); F 10.115 ($p = 0.001$)).

Locus of control

Substance use has been associated with a fatalistic view of life, a sense of not being in control, a feeling that whatever one does doesn't matter (Spooner 1999). In many studies such feelings are measured by questions about 'locus of control' – how much the respondent thinks that s/he is in control of aspects of their life. In the SHEU questionnaire, there are four statements, two positive and two negative, which respondents are presented with: 'I am in charge of my health' (+); 'If I keep healthy, I've just been lucky' (-); 'If I take care of myself I'll stay healthy' (+); and 'Even if I look after myself, I can still easily fall ill' (-). From these statements, which can be agreed or disagreed with, a locus of control score is generated. This runs from -4 to + 4: there is one point (+ or -) for a 'not sure' answer and two points for agreement (+ or -), on each statement. Overall, the vast majority of respondents (93%) score zero or above; three-quarters (76.2%) scoring one or more. However, whereas the mean for those who have never used VSs is 1.5, for those reporting ever using VSs the mean score is significantly lower: 0.81; this difference is more pronounced for those who have used in the past month – their mean score is 0.50.

Accidents

Accidents are linked to risky behaviours such as substance misuse (e.g. Thom *et al* 1999). The SHEU data show an association between substance use and accidents (Balding and Regis 2011, p33). The relevant SHEU question is: 'In the past 12 months, how many accidents have you had which were treated by a doctor or at a hospital?'; here, 45.2 per cent of boys and 33.2 per cent of girls overall report one or more accidents.¹³

Among those who had tried VSs the figures were much higher: more than half (57.9%) of those who had tried ever; and a little higher (60%) for those reporting VSA in the last month. The effect seems slightly more pronounced for girls: among

¹³ Balding and Regis (2011, page 33) state that forty-four per cent of Year 10 boys (and 32 per cent of Year 10 girls) reported one or more accidents. The figures in this analysis are slightly different due to the sample here being selected for answering the relevant questions

boys, 56.5 per cent of those who had ever sniffed reported accidents (compared to 59.3% of girls), while among girls who had sniffed in the past month 64.1 per cent reported accidents (compared to 57.3% of last month-sniffing boys). The table has the details

Table 2.14 Accidents and VSA

		<i>More than one accident</i>	
		<i>N</i>	<i>%</i>
Male	All	2686	45.2
	VSA ever	105	56.5
	VSA last month	55	57.3
Female	All	2164	33.2
	VSA ever	112	59.3
	VSA last month	41	64.1
Both Sexes	All	4850	38.9
	VSA ever	217	57.9
	VSA last month	96	60

Saying no to peers

Many drug educators believe that the ability to say no to an offer of drugs from peers is a protective factor for substance misuse; some believing that 'peer pressure' is an important factor in drug misuse initiation.¹⁴ The SHEU questionnaire explores this with the question 'When a friend wants me to do something I don't want to do...'. The question has the following responses: 'I can usually or always say no'; 'I can sometimes say no'; 'I can rarely say no'; 'I can never say no'. Few pupils responded 'never', so 'rarely and 'never' are combined in the following. Although the numbers of pupils in this category are small, there is a striking difference between VS misusers and others. While a tenth (10.2%) of non-VS misusers reported that they could rarely or never say no to friends, this rose to almost a fifth (18.9%) among both groups of VS misusers. The table gives the details, and shows the figures by sex.

¹⁴ While peer pressure may be a factor in some cases, it is more likely that peer influence is important: i.e., young people are not 'pressured' by their peers to try illicit substances, but those who try illicit substances are likely to have friends who also try them (see Coggans and McKellar 1994).

Table 2.15 Saying no to peers and VSA

<i>Sex</i>	<i>VS</i>	<i>I can say no to friends...</i>			<i>Row Ns</i>
		<i>...usually</i>	<i>.. sometimes</i>	<i>...never or rarely</i>	
Male	All	64.9	24.5	10.6	1353
	VSA ever	50.0	28.6	21.4	42
	VSA last month	55.0	20.0	25.0	20
Female	All	61.8	28.3	9.9	1424
	VSA ever	47.6	40.5	11.9	42
	VSA last month	52.9	35.3	11.8	17
Both Sexes	All	63.4	26.4	10.2	2740
	VSA ever	55.4	25.6	18.9	74
	VSA last month	54.1	27.0	18.9	37

Discussion

Taken as a whole, these findings from this detailed analysis of SHEU data relating to VSA are largely confirmatory of what was already known about VS misusers: and there is value in having confirmation from a relatively recent and large UK study. Young people who misuse volatile substances are more likely to be from disrupted families, they are more likely to have accidents, to have social problems and worries and to feel that they do not have control over their health. They are more likely to be dissatisfied with their lives and more likely to be bullied. They appear to feel less able to say 'no' to their peers.

But contrary to our expectations, the VS misusers in this study were *not* less likely to be socially isolated or to take part in social or physical activities compared with their peers. And while we expected that volatile substances would be the earliest substance to be taken, this was not the case.

This study highlights the differences between those who have tried VSA at some point in their lives and those who are likely to be current users. On some measures, the former have much in common with other young people, while the latter appear to have rather different characteristics. However, on some measures the difference between the two groups of VS misusers were not so apparent, for example, bullying.

There are some limitations of this study which must be mentioned. The inability to identify current misusers of volatile substances means that the proxy measure (use in the last month) will include some people who are trying volatile substance for the first (and perhaps only) time – so the sample of 'current' misusers includes an

unknown proportion of 'experimental' users – this is a common limitation of many studies that ask similar questions.

The overall prevalence of VSA was lower than in some other studies. There may be many reasons for this. In particular, it is well-known that question wording can make a big difference to what those who are surveyed report. The questionnaire uses the term 'solvents' – this is no doubt more widely understood than 'volatile substances', but it is a portmanteau term describing a range of substances, and most users do not use this term – they will talk about 'glue', 'gas' or use various slang terms. That is why the SHEU question includes as examples 'glue, gas refills, aerosols, cleaning fluid'. But this does not cover the whole range of possible volatile substances.

The phrase in the SHEU question, 'solvents used as drugs' aims to avoid misunderstandings that might arise with the term 'misuse' which could be interpreted, for example, as using glue in a mischievous way, rather than to 'get high'. In its context among a list of illegal drugs the phrase was arguably a good choice, but it is unlike other questions asked about VSA (for example in the ESPAD survey the question is: 'On how many occasions (if any) have you used inhalants [INSERT NATIONALLY RELEVANT EXAMPLES] to get high?' Hibell *et al*, 2012).¹⁵

A more general problem was addressed by Martino *et al*. They reported that young people at different ages seem to interpret their volatile substance misuse differently. When they are younger, they are more likely to define some behaviours as VSA; when older, they tend to redefine (or forget) their younger experimentation. The authors found, in their USA sample, that almost half (49%) of the young people who (at Grade 7) said that they had misused a volatile substance, a year later (at Grade 8) did not report it. Around two-thirds of the 'recanters' were life-time inhalant users ('inhalants' being the American term for VSA) who had admitted misuse in Grade 7 and then denied it in Grade 8; while the remaining third were those who incorrectly reported misuse at Grade 7 and then corrected that error at Grade 8. The authors conclude:

'Inhalant use recanting is a significant problem that, if not handled carefully, is likely to have a considerable impact on our understanding of the etiology of inhalant use and efforts to prevent it.' (Martino *et al*/2009)

For more details on this point, see the Research Blog entry in Annex 1 titled 'Asking about VSA'.

Investigating substance misuse always raises some difficult issues of methodology and of interpretation. Within the confines of the SHEU surveys, this study has explored some interesting correlates of VSA, making some useful findings, both to Re-Solv and in a wider sense of improving understanding of VSA by young people, and what might be some of the reasons for engaging in VS misuse.

¹⁵ The phrase 'insert nationally relevant examples' is replaced in the national studies with words (such as names of substances misused) appropriate to the language and culture of the countries in the survey.

2.5 Correlates of VSA in a Gambling Survey

In searching for other sources of data on VSA, a survey of children and young people's gambling was identified. The study collected data on other aspects of the lives of the young people surveyed, including information about drugs. Last-seven-days' use of a list of substances, including VSA, was asked about in this questionnaire survey.

The fieldwork for the study was conducted between November 2008 and February 2009 by IPSOS Mori, funded by the National Lottery Commission. It surveyed 8,958 children from 201 different schools. In each school, one class (average size 22) was sampled from School Year 8 and one from Year 10; therefore, the subjects were aged between 11 and 15 years. Analysis was conducted by Professor David Forrest and colleagues. Professor Forrest kindly conducted some analysis of correlates of VSA using this dataset.

Four hundred young people reported VSA in the past seven days – 4.5 per cent of the sample; there was no difference between boys and girls, neither was there a significant difference in prevalence between pupils in Years 8 and 10. At a prevalence of eight per cent, young people of Asian origin reported much higher levels of VSA than other groups, and this finding was robust after other variables had been taken into account in the statistical analyses. While it is not unexpected that Asian youth are misusing VSs, this high level of misuse is quite striking, especially as take-up of drug treatment among this group tends to be low. It is also a rather different result to that reported earlier in this chapter with data from the SHEU, where Black young people reported the highest level of VS misuse.

Prevalence among young people in Scotland was lower (at 2.3%) than in England and Wales (combined: 4.7%); this is particularly interesting, because while the population-adjusted death rate from VSA in Scotland has historically been higher than in other parts of the UK (see Chapter 4), there is little evidence that the *prevalence* of VS misuse is higher in Scotland (Skellington Orr and Shewan 2006).

As with problem gambling among this sample of young people, VSA was strongly associated with having a high disposable income (from pocket money and other sources). While it is not perhaps so surprising that those young people who gamble problematically receive more money than others, it is not clear why those who misuse VSs would receive more money than non-VS misusers. In fact, it has often been suggested that VSA was engaged in precisely because VSs are cheap or easily acquired (in the home and by shop-lifting), and that users lacked the money to buy 'proper drugs' [controlled drugs]. This would be an interesting topic for further research.

The associations between VSA and other problem behaviours were strong. As many as 18 per cent of those identified as problem gamblers had used volatile substances in the past seven days. Among the 400 young people who reported having misused volatile substances in the past seven days:

- just over half (50.25%) had also drunk an alcoholic drink in the past seven days, whereas the figure for the rest of sample was less than a quarter, 24.39 per cent
- more than a quarter (26.25%) (compared to 7.95% for the rest of the sample), had smoked cigarettes in the past seven days
- more than a fifth (21.25%) (compared to 3.05% for the rest of the sample), had taken cannabis in the past seven days
- 12.25 per cent (compared to 5.22% for the rest of the sample), had truanted from school (truancy was defined by the question 'have you skipped school in the last seven days?')
- and almost a third (32%) had gambled in the past seven days (and 7.75% (compared to 1.67% for the rest of the sample) scored 4+ on the gambling DSM (a measure of problematic and risky gambling)).

These striking differences between VS misusers and others indicate that, for some young people, VSA is a part of a constellation of problematic behaviours.

2.6 Prevalence in other countries

Data on levels of VSA in other countries are limited. Some of the non-UK data from the ESPAD study has been reported earlier in this Chapter. This section reports on some data from the USA, Canada and New Zealand.

The USA surveys young people in the 'Monitoring the Future' (MTF) surveys. Each year, approximately 50,000 8th, 10th and 12th Grade students (around 13-14, 15-16, and 17-18 years old respectively) are surveyed. The 2012 survey reported lifetime use of 'inhalants' among pupils in Grade 8 as 11.8 per cent; among 10th Graders it was 9.9 per cent and among those in 12th Grade it was 7.9 per cent.¹⁶ 'Annual' use (use in the past year) for pupils in Grade 8 was 6.2 per cent, among 10th Graders it was lower, at 4.1 per cent, and among 12th Graders only 2.9 per cent.¹⁷

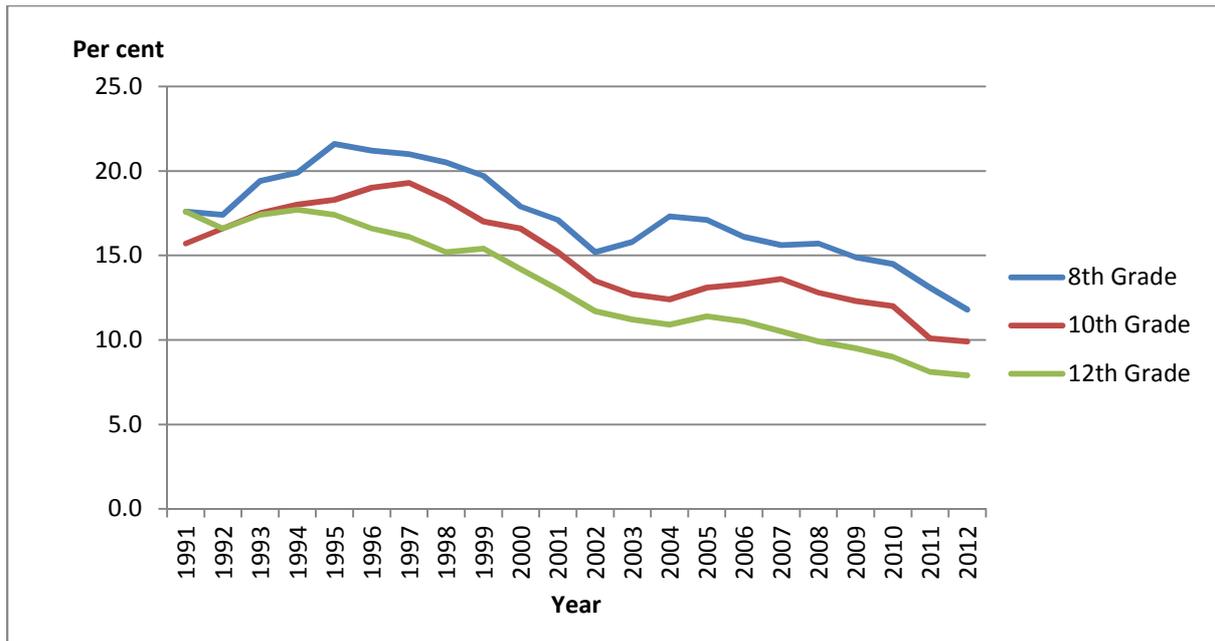
The survey has been carried out annually since 1991, so time series data are available. The Figure below has been created from MTF's Table 1, and shows the trends in reported lifetime inhalant use by pupils in Grades 8, 10 and 12 over this period. A clear trend in all Grades can be seen: reported misuse of inhalants rose in the 1990s and has been falling since about 2007.

But there is a very strange aspect to this graph. In a representative sample, the lifetime prevalence in (e.g.) Grade 10 should be at least as high as it had been in Grade 8 two years earlier. In other words, if someone in Grade 8 reports that they have misused volatile substances at least once in their lives, they should also say so when they are in Grade 10. Yet it is consistently lower. The explanation probably lies in the work of Martino *et al*, reported earlier in this Chapter, that young people (at least, in the USA) apparently interpret their volatile substance misuse differently at different ages, redefining it, renouncing it (perhaps because it no longer seems like a 'cool' thing to have done), or perhaps just forgetting about it.

¹⁶ from '[table 1 trends in lifetime prevalence of use of various drugs in grades 8, 10, and 12](#)'

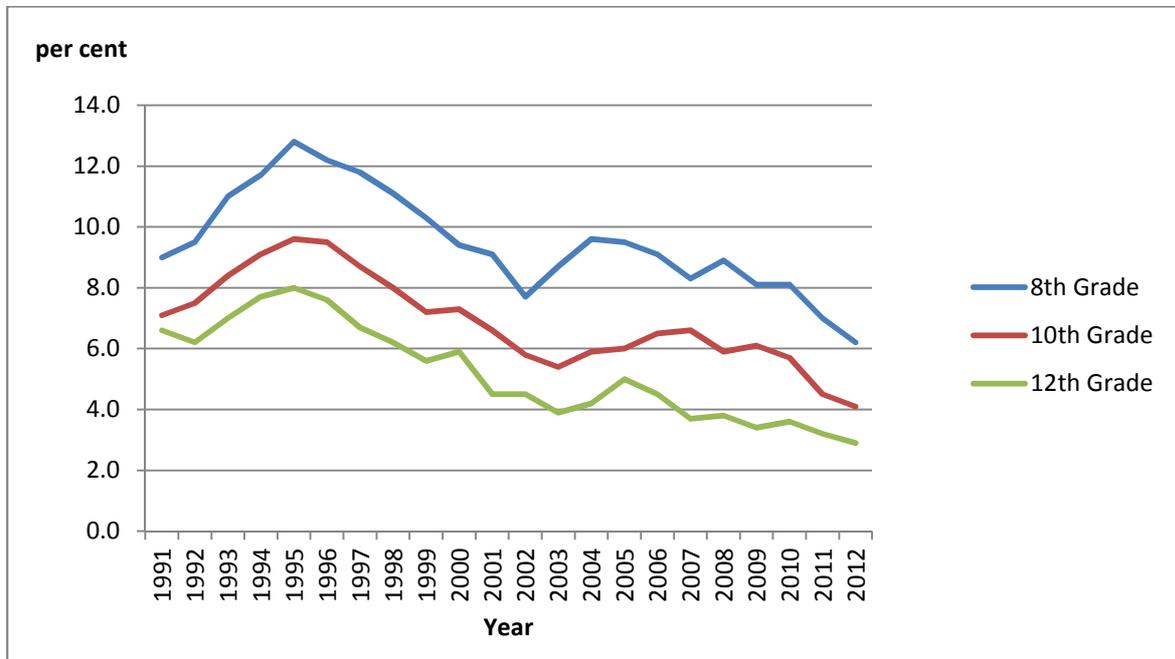
¹⁷ from 'Table 2 Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12'

Figure Reported in lifetime inhalant use in the USA' MTF' surveys: trends 1991 to 2012



The time series for 'Annual' use confirms that 8th Graders are more likely to use in any particular year – in other words, this tends to be the age when American students try volatile substances.

Figure Reported in 'annual' inhalant use in the USA 'MTF' surveys: trends 1991 to 2012



But we should not let this conundrum blind us to the good news that inhalant abuse is on a declining trend. As the MTF report¹⁸ says:

¹⁸ Johnston et al 2013 *Monitoring the Future: national survey results on drug use 1975 to 2012* University of Michigan Institute for Social Research

After reaching a low point by 2002 or 2003 in grades 8, 10, and 12, use of inhalants increased some in all grades, but then declined in all grades. Perceived risk for inhalant use among 8th and 10th graders declined fairly steadily after 2001, quite possibly as a result of generational forgetting of the dangers of these drugs; by 2012 the per cent of 8th and 10th graders seeing great risk in trying inhalants fell by 11 and 8 percentage points. A new anti-inhalant campaign could well be effective in offsetting this decline in perceived risk in recent years, much as a similar campaign appeared to do in the mid-1990s.' (page 20)

However, inhalants are still an issue:

'In 8th grade, inhalants rank second only to marijuana among the illicitly used drugs in terms of thirty-day, annual and lifetime prevalence. (...) One 8th grader in eight (12%) reports ever trying inhalants, and 1 in 37 (2.7%) reports inhalant use in just the month prior to the 2012 survey. This is the only class of drugs for which use is substantially higher in 8th grade than in 10th or 12th grade.' (pages 27 and 40)

In Canada, the Canadian Centre on Substance Abuse reported, in 2011, on a reanalysis of existing survey data from nine regularly occurring student drug use surveys at province and city level across Canada.¹⁹ There are issues with the comparability of these data, not least because question wording varied in the surveys. Tables 45 and 46 from the report have been reworked into the table below, which shows 'lifetime' use of volatile substances ranging from 2.2 to 8.7 per cent, and in the past 12 months from 2.2 to 4.4 per cent.

Table: Students in Canada reporting inhalant misuse (Grades 7, 9, 10, 12)

<i>Lifetime %</i>				<i>Past 12 months %</i>		
<i>Province</i>	<i>Inhalants</i>	<i>Glues</i>	<i>Solvents</i>	<i>Province</i>	<i>inhalants</i>	<i>solvents</i>
British Columbia	3.8			New Brunswick	2.6	
Alberta		3.3	5.3	Prince Edward Island	3.6	
Manitoba	2.2			Nova Scotia	4.4	
Ontario		4.8	8.7	Newfoundland and Labrador	4.4	
				(Youth Smoking Survey)		2.2

¹⁹ Young 2011 *Student Alcohol and Drug Use technical report* Canadian Centre on Substance Abuse

In New Zealand, data from the 'Drug Use in New Zealand' Survey 2007/2008 shows:

- 2.2 per cent of 16- to 64-year-olds had 'ever used' inhalants (includes nitrites); only 0.1 per cent had used in the past year
- 1 per cent of 16- to 64-year-olds have 'ever used' solvents (includes glues and butane); use increases with neighbourhood deprivation
- the median age of use for those that had 'ever used' solvents was 15 years
- 0.1% of 16- to 64-year-olds had 'ever used' solvents.

(from: <http://www.drugfoundation.org.nz/inhalants-solvents/drug-trends>)

Caution is needed in comparing these results with other countries, as in this survey the term, 'inhalants' has a more restricted meaning than in (for example) the USA surveys. Here, they are defined as follows:

'Inhalants (including nitrites such as amyl nitrite and butyl nitrite) are substances with a legitimate medical use (for example in treating angina in some circumstances), but are also used for recreational purposes.' (p 168)

and 'Solvents':

'...generally refer to industrial chemicals, including aerosols, glue, petrol, butane, paint thinners, paint and methylated spirits.' (p 174)

3. VSA and Adults

As will be elaborated on in the next chapter, an important trend within the declining number of VSA-related deaths has been the increase in the proportion of adults dying. This trend is both a puzzle – we do not have sufficient data to identify what is going on – and a challenge – how should Re-Solv and others respond to this change?

3.1 *The British Crime Survey*

Some data on adult VSA prevalence are available in the British Crime Survey (BCS),²⁰ an annual household survey conducted on behalf of the Home Office (now called the 'Crime Survey for England and Wales'). It covers adults aged 16 to 59, but provides separate analyses for 16- to 24-year-olds. Drug use is reported on in more detail in separate publications (most recently, Home Office, 2012). However, the reader searches in vain for information on VSA in this publication – the reason is that the question about VSA was dropped in 2011 favour of a question about recently classified drugs (mephedrone, GBL/GHB, BZP, Spice) and khat.²¹ This is a pity, because the BCS had provided an excellent time series, as the tables below show. As part of the Big Lottery project's intentions of becoming more proactive around research activities, Re-Solv made representations to the Home Office research team, and obtained a considered and positive response:

'...We will certainly ensure that the concerns you raise about monitoring a possible emerging trend in adult use and the uniqueness of BCS data on adult use gets considered in our discussions with the BCS team, as well as the possibility of questions on VSA on a two year rotation. ...' (extract from email to Re-Solv's Stephen Ream from the Home Office Researcher, 2-8-11)

This is a good example of how Re-Solv has been proactive in attempting to influence practical aspects of VSA data collection.

The first table below shows the proportions of 16- to 24-year-olds reporting the misuse of volatile substances (and, for comparison, cannabis and poppers) in the last year between 2001 and 2009-10; the next table shows the prevalence of VSA (lifetime ('ever use'); last year; last month) for the whole adult age range (16 to 59 years) between 1996 and 2009-10. The figures are quite stable, and do *not* demonstrate an increase in use among adults.

The BCS provides estimates of what these figures mean when applied to the whole population. Based on the 2009-10 figures and the population in England and Wales at that time, they estimate that there are 739,000 people (the estimate is within the range 672,000 to 812,000) who have ever taken 'glues, etc.'; 57,000 (range: 40,000 to 80,000) who have used them in the past year; and 17,000 (range: 9,000 to

²⁰ now called CSEW, the 'Crime Survey for England and Wales'

²¹ The justification was the very low levels of reported VS misuse, as can be seen in the table. However, with the exception of mephedrone, levels of NPS and khat are very low: the 2011-12 survey found 1.1% of 16 to 59-year-olds had used mephedrone; 0.2% khat, and 0.1% for each of GBL/GHB; BZP; and Spice (and other cannabinoids).

32,000) who have used in the past month: many of those in this last group are likely to be problematic users.

Table 3.1 Percentages of 16-24 year olds reporting use of drugs in the last year: 2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cannabis	27.00	27.3	26.2	25.3	23.6	21.4	20.9	18	18.7	16.1
Glue, gas, aerosols or solvents	1.00	0.6	0.5	0.4	0.4	0.5	0.6	0.4	0.7	0.7
Poppers	3.90	3.8	4.4	4.3	3.6	3.9	4.2	4.3	4.4	3.2

Source: BCS

Table 3.2 Proportion of 16 to 59-year-olds reporting use of 'glues', BCS 1996 to 2009-10

%	1996	1998	2000	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
lifetime	2.3	2.5	2.7	2.3	2.4	2.1	2.2	2.4	2.4	2.3	2.4	2.3
last year	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2
last month	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1

(extracted from Hoare and Moon 2010 Table 2.1, 2.2. and 2.3)

There are no other national surveys that provide data on adult VSA, so these are our current best estimates of prevalence. They do not demonstrate a large or an increasing problem, but they do show that there are substantial numbers of people who are trying, and who are continuing to misuse, volatile substances.

Ethnicity and sexual orientation

The BCS provides some additional data on ethnicity and sexual orientation in a report that aggregates three years of BCS data (2006-07, 2007-08 and 2008-09) to provide larger sub-sample sizes of these relatively small populations.

Hoare and Moon (2010) report that adults from 'mixed' ethnic backgrounds were more likely to have taken any drug in the last year, while adults from the 'Asian or 'Asian British' group had the lowest levels of last year drug use. This broad pattern was seen, with some differences, with 'glue' use: although overall the 'Mixed' group reported the same level of last year 'glue' use as the 'white' group (0.2%), those of mixed 'White and Black Caribbean' parentage were more likely to report 'glue' use – 0.6% - the other mixed race groups reported lower levels (0.0%), and zero per cent of 'Asian' or 'Asian British', and 'Black' or 'Black British' respondents reported 'glue' use in the last year. However, those self-described as 'Chinese' reported higher levels of last year 'glue' use: 0.9 per cent – although this group was *less* likely to report taking any drug in the last year – only 5.0 per cent, compared to 9.9 per cent for the sample as a whole.

The ethnic minority samples are younger than the population as a whole (e.g. almost a third (32%) of the 'Black' or 'Black British', almost half (48%) of the 'Chinese', and more than half (53%) of the 'Mixed' group are aged between 16 and 30 years. The BCS statisticians provide a 'correction' to overcome this effect called

'age standardisation',²² which (perhaps partly because of the small numbers who report 'glue' use), produce some strange differences, with the mixed 'White and Black Caribbean' group now at the same level of 'glue' use as the whole sample (0.2%), while the 'Chinese' group's use becomes 1.4 per cent. It is important not to over-interpret these data, but they do indicate that ethnicity is a factor in the misuse of volatile substances, as it is with other drugs.

It is well-known that (on aggregate) LGBT people are more likely to use drugs. The BCS asked respondents about their sexual orientation – 964 out of 46,052 declared they were 'gay or bisexual' – 2% – and these LGBT people (aged 16 to 59 years) were much more likely than others to report using any drug in the last year (32.8% compared with 10.0%). Similarly, they were much more likely to report using 'glues' – whereas 0.1 per cent of 'heterosexual or straight' people reported last year 'glue' use, 0.8 per cent of those self-classified as 'gay or bisexual' did so. While 'heterosexual or straight' males were more likely than females to report 'glue' use (0.2% compared with 0.1%), the proportions were the same for male and female 'gay or bisexual' people (0.8%).

But, as with ethnicity, there is an age factor at work here – over half (52%) of the LGBT people were aged between 16 and 30 years. The BCS statisticians again apply 'age standardisation' to the data but the sexual orientation effect remains, albeit at a reduced level – 0.6 per cent of 'gay or bisexual' people report using 'glues' in the past year compared to 0.1% of the remainder of the sample.

3.2 Qualitative studies

As mentioned above, and discussed in the next chapter, there has been an increase in the age of those who die from the misuse of volatile substances – there are fewer under-18s dying and more over-18s. It is not understood why this is happening. It could be:

1. that VSA has become less common for children and young people and more common among adults (or that people start their misuse at a later age)
2. that people who misuse volatile substances are doing it over a longer period and therefore become older before (some of them) suffer a fatal consequence (or that adults who had previously tried VSA have returned to it)
3. that adults are misusing in more dangerous ways (such as with other substances in a poly-drug use pattern), or using more dangerous substances.

We do not have enough evidence to decide between these suggestions, although we know that experimentation by young people has declined, although reported use by adults has not increased.

To find out more about what adults might be doing, a focus group was conducted with drug users in a recovery-oriented drug treatment centre, and an interview was conducted with an adult butane misuser. More details of these are in Annex 4.3 and

²² 'Age standardisation adjusts rates to take into account the age profile of the population under study and is regularly used in the analysis of morbidity and mortality statistics. This is because the age structure of the population could directly affect statistics...' (Hoare and Moon 2010, p79)

4.4. The adult sniffer interviewed said that he had long-term mental health problems, and while such 'co-morbidity' is common among adult substance misusers, clearly it is not true of all, and one interview cannot be said to describe the adult population of VS misusers. The members of the focus group, all being in recovery-oriented treatment are also not representative of the population of VS misusers. It had been intended to collect more information from adult sniffers, but – despite a lot of trying – it proved impossible to obtain interviews.

Nevertheless, this face-to-face research reveals some interesting aspects of VSA among adults. The adult sniffer reported that he started misusing butane at the age of 15 when he had some problems at home. He has continued to use butane almost exclusively, although he has used other (controlled) drugs. He used to experience hallucinations, but no longer does. Although he does not appear to consume very large quantities of gas (around two cans a day) and he can cease sniffing for a few days, he does not like to be without it. He does not feel that his GP and the substance misuse service understand his problems and he is not getting the treatment he feels that he needs.

None of the twelve members of the focus group, which took place in a residential recovery-oriented treatment facility in the Midlands, were in treatment because of volatile substances, but all had used them in the past – most of them over something like a two-year period. The general view of the group about why they stopped VSA was that 'proper drugs' were better – and they thought that the decline in young people using VSs was largely due to the increased availability of such drugs (including 'legal highs'); one said: 'I used to get coke in the clubs but kids now get it on the streets'.

Asked for their theories about why the proportion of adults dying was greater nowadays, they suggested that addicts in recovery might be misusing VSs because the substances might not be so detectable by drug testing. With more drug users in treatment and with a possibly tighter testing regime, this explanation is perhaps plausible. They also suggested that people were just having a 'blast from the past' or that the opportunity to misuse VSs just presented itself – but these two reasons would not account for an increase in adult deaths. A general view of the group was that users of controlled drugs might turn VSs when they wanted a buzz and were 'proper skint' [lacking money]. There was also an anecdote about 'ravers' (people using stimulant-type drugs at dance parties) using VSs as a 'come-down' drug, but this is unsubstantiated.

3.3 Discussion

The data gathered during this research are insufficient to throw detailed light on adult sniffing. It is a truism to say in research reports that 'more research is needed' and it would be helpful to know more about adult VS misuse. However, it is difficult to see how this research could be done. A rather rare and hidden problem occurring among a 'hard-to-reach' population is a tough proposition for research. Even if the Crime Survey for England and Wales (CSEW, formerly the British Crime Survey) were in future again to include VSs among their drugs questions (see Section 3.1), the prevalence of the behaviour is too uncommon for trends to be ascertained. And

large-scale quantitative surveys like the CSEW cannot (and are not intended to) provide 'fine-grained' detail on people's behaviour.

Yet what would be helpful for Re-Solv to know would be if there has been (and continues to be) a real increase in adult 'sniffing', and if so, what was driving this increase, what kinds of adults were misusing VSs, and why, and what were the details of their misuse (products, methods, locations, etc.). This would enable the Charity to mount a more effective response to what appear to be changes in patterns of VS misuse. A key question is whether the adult misusers are those who started their misuse in childhood / early adolescence and have continued into adulthood (or given up and restarted), or are those who have first taken up VS misuse in adulthood. If the latter, an information campaign aimed at adults could be considered. Another question concerns how far adult VS misuse is associated with other drug misuse. As described in Chapter 6, this is a question that could potentially be addressed by an analysis of drug treatment data, but these data are not yet sufficiently accurate or detailed – Re-Solv has attempted to address this with the Agency concerned, but (as described in Chapters 6 and 7) this has proved difficult due partly to administrative reorganisation.

Continuing to monitor the situation, carry out small scale research, and continuing to attempt to get VS included in adult drugs surveys (especially in the CSEW) should be on-going tasks for Re-Solv. In addition, Re-Solv should take every opportunity to conduct, sponsor or encourage small-scale research among adult populations to attempt to tease out details of VS misuse.

Should the absolute number, and the proportion, of young people dying from VS-related causes continue to decline, and the absolute number, and / or proportion, of adults continue to increase, Re-Solv may need to reconsider its activities as a young people's-oriented organisation, and focus more on the older age group. This would be a major change – however, to a degree this change is already happening – for example, Re-Solv's and Solve It's 'Community for Recovery' project (see Section 6.4) will probably reach many adult VS misusers.

4. VSA deaths

Sometimes the misuse of volatile substances has fatal consequences. In the UK there is an excellent dataset on deaths associated with VSA, thanks to a long-running study that was carried out at St George's, University of London.²³ Annex 1 has the blog entry, *New report on VSA deaths*, which gives more details of this study and the latest results, plus links to the original reports.

4.1 The deaths database at St George's

An annual report on deaths has been produced by St George's since the 1980s. But funding for the data collection has been cut, which is a great shame, for the study is unique in the world and has been of great significance in keeping VSA on the policy agenda for more than 25 years.

Data are collected mainly from coroners. But there is a lot of work to do to ensure that almost all VS-related deaths are identified. What counts as a VS-related death? There is not an appropriate code under the International Classification of Diseases (ICD). And there are definitional complexities: VSs are a disparate group of products and it is not always clear if a person has died from using a particular product or (say) from using some other substance at the same time.

However, the research has, over a very long time, used consistent methods of data collection and reporting, so that trends and patterns emerge. Nevertheless, caution is needed in interpretations. For example, the latest (2012) Report (of deaths in 2009) says that deaths in the UK from VSA rose from 38 in 2008 to 46 in 2009. While that seems a lot: eight more deaths – about a fifth more – with small numbers there will be annual fluctuations due to chance – they don't actually mean anything. To help us understand this, the Report gives a chart of deaths that is 'smoothed' by plotting a 'three-year moving average' (see Figure 2 in the Report). This shows, in the past twenty years, a gentle downward slope which has more recently tended to plateau. In other words, after a steep decline in deaths in the early 1990s, deaths continued to decline, but more slowly, through the 1990s and into the twenty-first century, but that decline seems to have levelled off.

As mentioned in the previous chapter, one well-established recent downward trend in the deaths data is the smaller proportions of young people who are dying VS-related deaths. The proportion of females dying has increased over the years, and in 2009 a quarter of those dying were female (compare with the period 1971-1999, when the proportion was 13 per cent). This – of course – still means that three-quarters of the deaths are male – even though, as other surveys show, girls report misusing volatile substances as much, or even more than, boys. The cause of this remains unexplained.²⁴

²³ formerly St George's Hospital Medical School

²⁴ although it is likely that, as in many other areas of life, boys take more risks and do more dangerous things than girls, and are therefore more likely to put their lives at stake when sniffing. For example, boys were more likely than girls to sniff directly from an aerosol canister, whereas girls were more likely to sniff using a rag. The latter method makes it much easier to control the dose. (Ives, 1999)

Different parts of the UK have different rates of deaths (calculated by making a comparison with their populations) – Scotland has always had proportionately high levels of VS-related deaths. London and the South-East, along with other parts of England, have had lower death rates. Northern Ireland has had a higher-than-average proportions of deaths (there were three deaths in Northern Ireland in 2009) while Wales has had slightly lower-than-average proportions of deaths.

The policy impact of the St George's reports have been significant – a guaranteed annual reminder of the worrying death toll associated with these products, and the chance for Re-Solv and others to remind the public, politicians and professionals working in substance misuse and with young people of such startling facts as:

'...the ratio of VSA to drug misuse deaths appears to cross over between the ages of 14 and 15 years. In the 10-14 year age-group there were 36 VSA deaths over the nine-year period compared with 15 deaths related to drug misuse. In the same period, at age 15 years there were 28 VSA deaths and 34 deaths related to drug misuse. At age 16 years there were 29 VSA deaths and 64 deaths related to drug misuse.' (Ghodse et al 2012, page 8)

In other words, there were more than twice as many VSA-related deaths than drug-related deaths among under-14s, and, for fifteen-year-olds, there were almost as many. Compared to drug misuse, VSA is a still major killer of young people.

4.2 St George's and ONS data

Re-Solv has been very active in arguing for renewed funding for the project, and to that end has carried out a range of lobbying activities – so far to no avail. But, during this project, contact with ONS (the Office for National Statistics) has received a positive response. This independent government-funded organisation records deaths – including drug-related deaths – which it classifies according to the internationally agreed ICD (International Classification of Diseases) coding. In response to a Re-Solv-inspired Parliamentary Question from MP David Hanson, who is Chair of the All-Party Parliamentary Group of VSA (and a former director of Re-Solv), the Director-General of ONS wrote:

'...ONS reports annually on death relating to drug poisoning in England and Wales. For each death, every substance noted on the death certificate or mentioned by the coroner is recorded. It is important to note that the figures presented are not the total number of deaths involving volatile substances as (i) the underlying cause of death must be within the ONS definition of drug poisoning and (ii) the volatile substance may not be recorded by the coroner on the death certificate. Deaths associated with volatile substance abuse are under-reported in official statistics based on death registration data.' (letter from Stephen Penneck to David Hanson MP September 2011)

An exercise by Re-Solv demonstrates just how large this under-reporting is. The table below compares the figures produced by the St George's study between 1993 and 2008 with those produced by ONS (kindly provided by ONS as part of Re-Solv's dialogue with them). The figures are given separately for England and for Wales, but the bottom two lines of the table show the combined difference for England & Wales

for each year between the figures from the two studies, and the percentage of the St George's figures that the ONS figures identify. These show that, over this period, ONS only captured 65 per cent of the St George's figures and in some years only half the deaths were identified (e.g. 50 per cent in 2007 and 48 per cent in 1997).²⁵

ONS explained that:

'Only the following types of VSA deaths will be included:

- Deaths where the underlying cause was a mental and behavioural disorder due to the use of volatile solvents (e.g. where the death certificate mentions solvent abuse or dependence)
- Deaths where a volatile substance AND another drug were involved
- Deaths involving certain types of volatile substances, which are coded in the same range of ICD codes as other drugs e.g. nitrous oxide

Deaths which simply mention, e.g. "butane intoxication" or 'butane poisoning' would be assigned to either X47, X67 or Y17, depending on the verdict (e. g. accident, misadventure, suicide etc.). As this falls outside of the ICD range for drug-related deaths, they would not be included in the figures provided.'

This is clearly an unsatisfactory state of affairs, and indeed, it is a large part of the reason why the VSA deaths study at St George's was set up in the first place. Without accurate data about a problem it is difficult to tackle it appropriately. As Peter Drucker said: 'If you can't measure something, you can't manage it.' Re-Solv continues in its efforts to convince government of the importance of maintaining research that identifies all VS-related deaths.

Table 4.1 Comparison of VS-related deaths recorded by ONS and by the St George's study

<i>Year</i>		93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	<i>Total</i>
England	ONS	41	42	41	35	32	43	41	24	36	45	24	32	27	20	22	17	19	541
	St G's	57	55	62	57	68	64	54	52	49	51	42	41	36	34	44	29	25	820
Wales	ONS	3	2	3	1	1	0	2	3	1	1	1	3	1	0	1	1	0	24
	St G's	7	1	3	3	1	3	7	1	1	5	1	4	1	5	2	2	1	48
E&W difference	N	20	12	21	24	36	24	18	26	13	10	18	10	9	19	23	13	7	303
Percentage (ONS of St G's)	%	69	79	68	60	48	64	70	51	74	82	58	78	76	51	50	58	73	65

(Based on Stephen Ream's comparison, using data supplied by ONS, and the St George's data, September 2012)

²⁵ ONS has made the tables on which this is based available on their website at: www.ons.gov.uk/ons/about-ONS/what-we-do/publication-scheme/published-ad-hoc-data/health-and-social-care/august-2012/drug-related-deaths-involving-volatile-substances--england-and-wales--1993-2011.xls

4.3 Interrogating the St George's database

The St George's deaths database was so important that work related to it formed a significant part of Re-Solv's Big Lottery bid. For example, the annual reports analysed the deaths by UK country and by English region, making it clear that Northern regions of England, Scotland and Northern Ireland had higher rates of deaths compared to their population than did other parts of the UK - see Annex 8 for more details.²⁶

Apart from the annual reports produced by St George's, the research team have published academic papers that throw light on significant areas of concern. A 1993 paper looking at epidemiology of VSA deaths reported on the striking regional differences as well as looking at the socio-economic background of those who died VS-related deaths – showing that people who died came disproportionately from the lower socio-economic groups, with nearly four times as many deaths occurring in social class V compared with social class I.

This paper also identified a high proportion of those dying having been in the social care system; the authors report: 'In 1990, the death rate from VSA for children in care was four times greater than in the general population' (Esmail *et al* 1993). Also discussed in this paper were: the place of death (a public place or a private place); the finding that more deaths occurred in June, July and August than in the winter months; and the peak time of deaths occurring in the late afternoons and evenings. A third of deaths were reported to have been to first-time VS misusers.

In the discussion of their findings, the authors state:

'Several public health strategies have attempted to reduce deaths from VSA. These have included the introduction of legislation, health education campaigns, and more recently a £1-2 million advertising campaign aimed at parents. Evaluating the effect of these campaigns is difficult but there is evidence that the introduction of legislation may have restricted the availability of glue and solvent based products but has had no effect on the availability of products such as butane gas lighter refills.' (Esmail *et al* 1993)

Here they refer to their earlier paper on the effects of legislation on VSA deaths (Esmail *et al* 1992). In this paper, the authors use statistical techniques (linear modelling) to show that after 1986 (the year in which the Intoxicating Substances Supply Act restricted the sale of sniffable products when supplied to under-18s) there was a significant decrease in 'solvent' deaths among under-18s compared to adult VSA deaths, although no decrease in butane/aerosol-related deaths.

These findings were fascinating, but were published a long time ago and there had been no recent published work on the deaths database. With the Big Lottery money, Re-Solv contracted a statistician at St George's to explore some of these issues in more detail; in particular, the tantalising finding that the Department of Health

²⁶ During this project, the Northern Ireland data was further analysed and a short paper written to inform a policy meeting between Re-Solv and the Northern Ireland Department of Health, Social Services and Public Safety – this is included at Annex 8.

campaign (the £1.2million campaign mentioned in the quotation above) aimed at parents may have had a positive effect.

4.3.1 *The DH Campaign in the 1990s*

This was a potentially important finding because there is very little evidence of substance misuse prevention campaigns having very much effect; if an effect could be shown, this would be a significant result. For example, a review of health-related campaigns concluded that ‘...the evidence for the success of campaigns focusing on illicit drug use is inconsistent’; and, commenting about one campaign covered by the review, reported ‘Among parents, the campaign had favourable effects in terms of their attitudes towards and behaviour in relation to talking with children about drugs. No improvement was reported, however, in attitudes towards or monitoring of their children's behaviour’ (Wakefield *et al* 2010).

The 1990s DH campaign was an important one because parenting has an enormous impact on all aspects of children's lives, so it would not be surprising if parents' views, attitudes, and behaviours around drugs had a big impact. It is likely that how parents discuss drugs, alcohol and other substances with their children, and the boundaries they establish, will affect their child's substance misuse. But it is known that parents feel ignorant about drugs, are worried about discussing substance misuse with their children, and do not know how to broach the subject. So prevention campaigns targeting parents should include drug information, reassurance, and ideas for tackling the issues with their children. The 1990s DH campaign aimed to get parents talking with their children about substances. It was a well-funded and well-designed campaign that was based on research.²⁷ It was recognised that TV advertising could have only limited goals, and the object of the TV advertisements was to raise parents' awareness and encourage them to obtain a copy of the free booklet for parents. The advertisements were hard-hitting – dramatically highlighting VS-related deaths – and probably raised parents' anxieties; but they *were* effective in getting copies of the booklet into parents' hands.²⁸ Did parents act on the sensible and non-alarmist advice in the booklet? A campaign evaluation indicated that some did.²⁹

Could the Re-Solv-inspired research make the evidence firmer? After some complex statistical analysis, the statistician reported her findings in the world's oldest and arguably most prestigious drug misuse journal *Addiction*.³⁰ This paper has some

²⁷ For example, an area test was carried out to identify the most effective of four ways of distributing the leaflet: via the mail; via the mail and a ten-day TV campaign using the 'Aftermath' advertisement; via the mail and a ten-day TV campaign with the 'Sounds' advertisement; and the leaflet being inserted into a variety of woman's magazines, Sunday supplements and TV guides.

²⁸ A contemporary report of the campaign can be found at:

<http://www.independent.co.uk/news/uk/campaign-to-combat-solvent-abuse-1405249.html> .

Four of the VSA campaign advertisements can be viewed by following these links: VSA1:

<http://www.youtube.com/watch?v=cMaoGVfaVTQ> ; VSA2: <http://www.youtube.com/watch?v=-7SuIDVkmcs> ; VSA3: <http://www.youtube.com/watch?v=lkvAq8e-MRI> ; VSA4:

http://www.youtube.com/watch?v=Xwt_GaVTABM

²⁹ Both qualitative (Andrew Irving Associates 1993) and quantitative (Diagnostics Social and Market Research 1993) evaluations were conducted, although the reports were not published.

³⁰ Her full report forms part of Re-Solv's final report to the Big Lottery for this project

fascinating findings (some were summarised on the research blog: see Annex 1, 'A thorough piece of research').

The previous evidence for the possible effect of the Department of Health campaign was not very robust. The paper provides strong support for the earlier finding. The paper reports a big drop in under-18 deaths: 'Coincident with the 1992 Department of Health Advertising Campaign, VSA deaths in boys and girls (<18 years of age) fell by an estimated 56% (95% CI: 36%–70%) and 64% (20%–84%), respectively, from the underlying trend' (Butland *et al*, 2012).³¹

Because the DH campaign was aimed at influencing parents, one would not expect it to have had an effect on deaths of over-18s. The statistical research shows that it did not: adult deaths did not fall in this way.

So although it cannot be said with certainty that the fall in under-18-year-old deaths was *caused by* the DH Campaign, it is a striking finding based on solid, thorough research.³² It is a finding that should be taken account of by all those concerned with prevention, especially as it addresses two areas of great importance: firstly, it indicates that large-scale, adequately-funded prevention campaigns can have an impact; secondly, it indicates that targeting parents can have an impact on what their children do. We need more public health campaigns of this quality.³³

4.3.2 *The effects, or not, of legislation*

There were other helpful findings in this research. Following the 1985 legislation, in 1999 a regulation banning the sales of butane gas lighter refills to under-18s was introduced. Had this had an impact on under-18-year-old deaths in a similar way to that apparently seen after the 1985 legislation (as described earlier, the 1985 legislation may have impacted on glue-related deaths (Esmail *et al* 1992))? It seems not. The statistical analysis shows that there was no evidence of a 'step change' in the VSA-related deaths of under-18s following the 1999 regulations.

This result, being based on more sophisticated statistics than were possible for the team which produced the 2009 deaths report (Ghodse *et al* 2012), supersedes the statement in that report that the 1999 regulations had an effect:

'Legislation which banned the sale of these items to under-18 year olds came into effect in October 1999 [The Cigarette Lighter Refill (Safety) Regulations 1999]. In this age-group the number of deaths associated with lighter fuel fell

³¹ The abbreviation, 'CI', is the 'Confidence Interval'. This gives a range around the estimate. For example, in the quotation above, the estimated fall in deaths of under-18-year-old males is 56 per cent. But it is an estimate – it has an element of uncertainty about it. The CI tells us how uncertain – and in this case it could range from 36 per cent up to 70 per cent – but is very certain (although not 100% certain, of course) that the fall in young male deaths was at least a third, and might have been as much as seven-tenths. And note that the fall in girls' deaths was possibly even bigger.

³² Re-Solv (and the Big Lottery Fund) can be proud to have enabled it to happen.

³³ Maybe with the new arrangements for public health coming in next April, this is not such a pipedream. Within the new organisation, 'Public Health England' (Scotland, Wales and Northern Ireland will have different arrangements) the job of its 'Health Improvement and Population Health Directorate' will be to 'lead... high-impact national health improvement social marketing campaigns to achieve behaviour change' (see the Department of Health website).

from an average of 19.8 per year between 1990 and 1999 to 6.2 per year between 2000 and 2009. The difference between these two periods is statistically significant ($\chi^2=20.7$, 1df, $p<0.001$). The number of such deaths amongst those aged less than 18 fell from a peak of 40 in 1990 to 15 in 1999, and to 2 in recent years. About two-thirds of the fall in deaths occurred after the coming into force of these regulatory provisions.'

The authors cautiously suggest that legislation may have had an impact, but point to the need for more detailed analysis (of the sort that Re-Solv has sponsored);

'These changes provide evidence to suggest that the change in legislation had some beneficial impact. However, detailed analysis will be needed to evaluate the impact of changes in legislation over time.' (p 17)

As has been demonstrated, this does not seem to have been the case. That is not to say that legislation is of no use, but it does indicate that it is important to subject its possible effects to close scrutiny.

4.3.3 Why have deaths fallen?

But there has been a dramatic fall in deaths; as the authors write:

'Over the 25 years covered by this paper, a substantial rise in the total number of VSA deaths from 499 in 1983–1987 to 609 in 1988–1992 was followed by a dramatic fall to 378 in 1993–1997 with a more gradual decline through 349 in 1998–2002 to 258 in 2003–2007. However, this pattern was not observed in all four age–sex groups, leading to a marked change over time in the age–sex distribution of VSA death. Over the period 1983–1987 the majority of deaths, 59% (293/499), were in children, whereas by 2003–2007 the vast majority, 82% (212/258), were in adults.' (Butland *et al* 2012, page 389)

The authors propose two possible explanations:

'This change may be indicative of an increase in the age at which people start to abuse volatile substances or we may simply be seeing a cohort effect, with those who started to abuse in childhood in the 1980s continuing to abuse into later life.'

It is crucial for Re-Solv's work (and that of other agencies) to distinguish between these two possibilities. This is discussed further (although no conclusions are reached) in Chapter 3.

4.3.4 Other results from the St George's analysis

The analysis also looked at some other characteristics of VSA deaths, such as primary substance of abuse, abuse alone (versus in company) and abuse indoors (versus outdoors), and how they differed between age groups and by sex. It found that primary substance of abuse was significantly associated with sex and with age, and had changed over the years 1983 to 2007. A notable trend from the annual St George's reports has been the historical decline in deaths associated with glues (which were more common in males than in females); the statistical analysis

confirmed this trend and pointed to the increase in gas fuel deaths (mainly butane cigarette lighter refills) in over-18s. This change is most likely to have been driven by the removal of toluene from glues in the EU, which have made them less or non-intoxicating.

Throughout the period studied, males tended to be slightly older than females at the time of death, although both males' and females' mean age at death has increased over time.

It proved challenging to distinguish between deaths taking place in a public place or not because of the way that the data were coded, but, with caveats, deaths of young males were more likely to be in a public place. But adults were more likely to be alone when they died. These findings are consistent with the idea that young men are more likely to be risk-takers in the public arena, and are more likely to take risks in group settings.

5. Education and Prevention of VSA

Re-Solv has, over many years, been at the forefront of efforts to tackle VSA through education and prevention. Its work has included the development of resources, lobbying for the inclusion of VSA in PSHE (Personal, Social and Health Education) curricula, and directly contributing to events and lessons in schools, youth projects and other institutions. Re-Solv, has, in the past, been involved in media campaigns, and has, for example, advised the Government's *Frank* campaign on the most appropriate messages to give about VSA. Re-Solv has also aimed its prevention work at 'significant others', especially to parents, and contributed to the broader debate about prevention in society.

Much of Re-Solv's education and prevention activities have been 'universal' interventions – that is, targeting the whole population – often via schools. Some work has been 'targeted' prevention, aiming at young people who are at risk of VSA. And some has been 'indicated' prevention, targeting people who are already misusing volatile substances. (These three categories of prevention are generally recognised, along with a fourth, 'environmental' prevention, to best describe the kinds of prevention undertaken across Europe³⁴).

5.1 The Effectiveness of Prevention

This topic has been discussed extensively in the research blogs written during this project: the Research Blog of 6-01-12 ('Prevention may not be better than cure' see Annex 1) discussed prevention and pointed out that: 'It's a truism to say that prevention is better than cure... [b]ut things are only really cheap if they work.'

There is a large research literature on the effectiveness of substance misuse prevention, and the results are rather dispiriting. Some of the projects that have had a lot of money spent on them (such as the DARE (Drug Abuse Resistance Education) programme in the USA) have shown only limited and non-cost-effective outcomes.

A later Research Blog ('Evidence for effective interventions') reported on an article in *The Lancet* (a leading medical journal) which reviewed the evidence for effective interventions for substance misuse. They provided a summary table (Table 4, page 76 in their paper), which is reproduced below.

Table 5.1 Evidence for prevention programmes targeting non-users of drugs, casual users, parents, and the general public

	<i>Effectiveness</i>	<i>Amount of research support and cross-national testing</i>	<i>Comments</i>
Family or parenting programmes	Some studies show effectiveness in the reduction of the onset of drug use	A few studies done in the USA only	Positive findings for the universal Strengthening Families Programme for people aged 10–14 years and their parents with longer-term follow-up and cost-effectiveness analysis. Replication needed. Assessments of other family or parenting programmes have not been

³⁴ see the EMCDDA website: <http://www.emcdda.europa.eu/topics/prevention#>

			as positive
Environmental or classroom management programmes	Some evidence in support of the Good Behaviour Game	A few studies done in the USA, the Netherlands, and Belgium	In one study, the Good Behaviour Game reduced lifetime drug misuse by up to 50% in boys 14 years after the programme, with stronger effects with boys identified when aged 6 years as highly aggressive and disruptive. One US study did not replicate this outcome; Dutch and Belgian studies show promising short-term effects
Social or life skills	Short-term effectiveness is equivocal. Some evidence of positive effect in the medium to longer term	Several high-quality studies done in the USA only	A few assessments have shown positive intervention effects from a small set of prevention programmes for cannabis use and the use of other drugs
Multi-component community	No evidence of effectiveness	Only a few small USA studies	Studies have typically combined school and non-school approaches. Effect sizes tend to be small or negligible
Information about adverse drug effects only	No evidence of effectiveness	A few school-based studies done in the USA	Few well controlled studies—but many uncontrolled assessments—have been done
Mass media	No evidence of effectiveness	Research restricted to a few studies in the USA	Few high-quality scientific assessments
Drug Abuse Resistance Education (DARE)	No evidence of effectiveness	Several well controlled studies and many uncontrolled assessments	Despite DARE's widespread use, meta-analyses show that the programme is ineffective

The table demonstrates the general lack of quality evidence about the effectiveness of prevention. But getting the evidence isn't easy: the Research Blog of 6-01-12 pointed out:

'Prevention applies to populations, not individuals, so measurement of effects is more difficult. And outcomes are more varied, and not immediate, having to be looked for over a longer term.'

The next Research Blog (7-02-12 'Conceiving Prevention') discussed some of the conceptual difficulties with the notion of 'prevention', while the next one (12-02-12 'Evaluating Prevention: what to measure') pointed to the difficulties of measuring the effects of prevention activities:

'Much prevention effort – perhaps most of it – is wasted because it doesn't appear to have an impact on substance misuse. But perhaps this is because of the difficulties of measuring effects – maybe (for example) there is an impact but it isn't immediate. A lot of drug prevention aims to prevent drug misuse in the future – but most evaluations are short-term. It's hard to do long-term evaluations, partly because of the expense and the difficulty of keeping in touch with people over many years, but mainly because the more time that's passed the more difficult it is to attribute any effects to specific past experiences. For example, if a group of young people receive alcohol education and immediately afterwards their alcohol consumption declines (assuming a reliable measure of their alcohol use before and after the educational intervention), then it would probably be reasonable to attribute the change to the education. If, at a five-year follow-up, they are using less alcohol than a control group which didn't receive the alcohol education, then this *might* be due to the education received five years earlier, but so many other things will have happened in the intervening years that it would be hard to make such a claim.'

The foregoing is by way of introduction to the difficulties, in a relatively short-term research project, of giving a definitive answer to questions like: 'Are Re-Solv's education and prevention activities having an impact?'; are they cost-effective?', etc. However, during this research some answers were attempted, and the process and the results will now be described.

5.2 Evaluating Re-Solv's work in the classroom

In recent years, Re-Solv has developed a range of school interventions which are presented on request to classes and groups of secondary school children, mainly Year 7s (12- to 13-year-olds) and Year 9s (14- to 15-year-olds). Re-Solv's Youth Officer undertakes sessions in schools at the schools' request. These sessions typically include an explanation about VSA, information about products and the risks of VSA.

The sessions also tackle the 'normative myth' – the idea that 'everyone is doing it'. This important goal is part of drug prevention, helping pupils to have more realistic estimates of the proportions of people of their age who have tried and who use substances. The evidence is that most young people over-estimate this, and the theory is that, were they to have a more realistic estimate, they would be less likely to misuse substances themselves.

During this research programme, at Re-Solv's request, some before- and after-evaluation was carried out. The results now summarised; a full account of the evaluations is given in Annex 3.

The pupils completed before-session and after-session questionnaires which were administered by the Youth Officer at the start and at the end of her session.³⁵ In

³⁵ The pairs of anonymous questionnaires were linked by asking the pupils to write the same personal code-word on each of their two questionnaires.

addition, the questionnaire³⁶ was administered again, by the class teachers, around three months after the initial session.³⁷

What had the pupils learned from the session? In the post-session questionnaire they were given a series of statements and asked to 'tick the boxes for the statements which apply to you'. Almost everyone (99%) thought that they knew more about VSA and had learned about the dangers (96%), with almost as many (93%) reporting having learned never to try VSA. The majority had also learned that most people never try VSA (79%), and even more (93%) said that they themselves would not try it. More than four-fifths (82%) had learned where to get help if someone was misusing volatile substances. The session also helped the young people to obtain a more accurate understanding of the extent of VSA among people of their age, something which they had previously overestimated.³⁸

There was also a qualitative element to the research: In the post-session questionnaire, one question asked the pupils to 'write down anything that you have learned'. The number of comments about awareness of the danger of death was notable. And in relation to one of the session aims – about correcting over-estimates of prevalence – the response: 'How many people don't do it. I thought it was more!', was gratifying. However, there is still more to do in this area, as the pupils continued to overestimate – although not as wildly as previously.

In the three-month follow-up, which achieved a very high response rate,³⁹ the previously observed decrease in the acceptability of VSA among the pupils had been largely maintained. Compared to the other substance-related behaviours which the pupils were asked about, the results are striking – the pattern for smoking, trying alcohol, trying cannabis, and getting drunk were all in the direction of becoming 'more OK', whereas, trying VSA had become 'less OK' for these pupils.

These results should be very satisfying for Re-Solv, as they show increased knowledge about VSA following the session by the Youth Officer. The changes were most dramatic in the pupils' awareness of the dangers of VSA – an important learning outcome. The pupils also reported major changes (in the desired direction) in their attitudes towards VSA. Furthermore, the results indicate that the Youth Officer's Sessions had a lasting impact, and may have had some protective effect in relation to VSA. But (although we do not have good data on pupils' normative beliefs before the Youth Officer's Session), the follow-up questionnaire demonstrates that there is still a lot to do to demonstrate to young people that most people have not tried VSA.

³⁶ (revised to improve the wording of some questions)

³⁷ The anonymous questionnaires were linked by asking the pupils to write the same personal code-word on their questionnaires and to give their date of birth

³⁸ The question asked: 'Thinking about a Year 7 like yours, if there were 100 people in that Year, how many of them would you say have tried VSA?', and they had to write a number in the box. They vastly overestimated – the mean percentage estimated was more than a fifth (22.3%). We know from their self-reported data that (at least among those Year 7s surveyed) that the actual figure is around nine per cent.

³⁹ Out of the original 76 respondents, 68 completed the follow-up questionnaire – an excellent response rate of 94 per cent

A concern that some adults have with teaching children about potentially dangerous things such as drugs and volatile substances is that there might be the negative consequence that naïve pupils who did not know about the misuse potential of commonly available products will learn about this and might therefore be more at risk of trying these substances. There must always be some concern about pupils who report learning more about sniffable products (and there were five responses of this kind in the qualitative question about the learning that pupils had), but these are outweighed by the many comments that indicate that the pupils became more aware of the risks of VSA.

5.3 Beyond a focus on VSA

As noted at the start of this chapter, Re-Solv has undertaken a wide range of other preventive activities, and this is obviously a major part of its brief and reason for existing. As a single-issue campaigning organisation, Re-Solv keeps its focus resolutely on VSA, and despite the temptations, does not 'stray' into other territory, such as 'legal highs' (NPS – new psychoactive substances) – see Chapter 9, the section headed 'Applying the lessons of VSA to current substance misuse phenomena'.

But this creates some tension because some of the most convincing approaches to prevention, based on the best quality research, advocate that (as pointed out in Chapter 9 when discussing the lessons from VSA for NPS) prevention does not focus on particular substances:

'...there is no point in trying to educate people about the detail (such as the effects and the dangers) of this huge range of substances – this is a fast-moving marketplace and 'playground' and it is impossible for slow-moving bureaucracies to keep up. Schools should not be asked to "warn the kids" about the latest drugs scare, but should be allowed, encouraged and enabled to do a solid job of educating young people in appropriate attitudes toward substance misuse (such as respecting their bodies), being aware of risks (in a broad sense) and developing the skills to deal with substance-related situations.'

In other words, the best (most effective) kind of prevention will not focus on substances, but on attitudes, skills and behaviour – in quite a general sense. As the Table from *The Lancet* article showed, interventions such as 'The Good Behaviour Game' – which does not address drug issues at all, but instead focuses on positive classroom behaviour mediated by the group – show great promise in substance misuse prevention.

Thus, there is a role for VSA-based classroom interventions, but they should be in context and presented as part of an appropriate PSHE curriculum. As noted in Chapter 9, '... young people need to understand the basics, in broad outline, about a range of substances – just as Re-Solv has been advocating – and putting into practice.'

5.4 Beyond the classroom – and beyond the school

The classroom is not the only place for prevention activities – some schools run ‘drop-down’ or ‘off-timetable’ days; these are typically termly or half-termly PSHE days dedicated to PSHE topics. Re-Solv has contributed to such days. But the PSHE Association, Ofsted and the Department for Education have criticised these arrangements, mainly on three grounds:

1. “The success of whole school focus days is limited because they do not connect with pupils’ prior experiences or meet their needs and there is no effective follow-up. They have the potential to enrich programmes, but not to replace them.” (*Personal, social and health education in secondary schools* Ofsted, 2005)
2. “A missing feature from termly or half-termly PSHE days is that there is little time for pupils and staff to digest their learning and reflect on it. Placing them as infrequent special events does not allow for a series of progressive lessons that build up cumulatively. The regular, timetabled PSHE lesson, taught by staff who are trained and therefore confident and comfortable with the materials, is still the ideal” (*PSHE in Practice* DfES, 2004)
3. “While tutors have an important role in pupils’ personal and social development, requiring them also to teach PSHE creates difficulties for the tutor and their pupils, largely because of the changed relationship of tutor and pupil when it becomes that of teacher and class. Many teachers who are good tutors do not have the knowledge and the understanding of appropriate teaching methods for many PSHE topics. They are also, perhaps understandably, reluctant to teach some topics. Pupils quickly notice a teacher’s lack of knowledge or enthusiasm for the subject; they react negatively or are simply embarrassed.” (*Time for Change?* Ofsted, 2007)

(Lloyd J 2009 ‘PSHE Education and the use of “drop down or off-timetable” days’ PSHE Association)

So the school’s organisation of the curriculum is relevant to the effectiveness of preventive education; there is also evidence that the ‘school climate’ can have an impact – when children are respected, given responsibility, and generally helped to negotiate the transition from childhood to adulthood, their personal social health – and academic – outcomes are likely to be improved. While there is little Re-Solv can do to make an impact in this area, it should be (and is) aware of the context in which it makes its educational interventions.

Beyond the school, parents (and the wider family) are a key influence; here, Re-Solv can – and has had – a more direct impact. It was noted in Chapter 4 that Re-Solv contributed to the DH campaign aimed at parents which was associated with a reduction in teenage VS-related deaths. Re-Solv has also worked with parents, in particular parents whose children have died from the misuse of volatile substances. These parents have been assisted to contribute to the debate about VSA, partly

through telling their tragic stories. In the process, this may have helped their grieving and their ability to come to terms with the deaths of their children.

Re-Solv has also produced resources aimed at parents. Its website currently advertises a 'cupboard leaflet':

'Created for parents, this leaflet is designed to look like a kitchen cupboard and opens out to reveal a range of misusable household products. The leaflet contains information on how to recognise signs of VSA and advice on how best to talk to your children about the dangers in an open and relaxed way.'

Society has a responsibility to inform its citizens about threats and risks, of which substance misuse is one, and the Government uses its *Frank* campaign (www.talktofrank.org.uk) as a key vehicle for providing this information.⁴⁰ Re-Solv has contributed to this campaign, advising on the wording of website text and providing other support.

Society also has a responsibility to reduce the risks where this is possible and cost-effective, and Re-Solv has been closely engaged with supply-side controls (see Research Blog 31-05-2012, 'Prevention approaches from the supply side'). This has included legislation and attempts at product modification to reduce abusability.

And considering the 'prevention environment' even more widely, research shows that improving the general social conditions in society has a greater impact than educational interventions. Re-Solv has been an advocate of such an approach, citing such research as the St George's finding (Esmail *et al*/1993) that children who die from VSA are much more likely to come from the lower socio-economic groups.

A future challenge for Re-Solv in education and prevention is to find ways to address an older age-group, who, as described earlier, now appear to be more at risk than teenagers. It is likely (as previously described) that these vulnerable people are dispersed and hard-to-reach: Re-Solv might give more thought to 'targeted' and 'indicated' prevention aimed at this group. However, it is difficult to see how such a disparate group can be reached directly by a small charity such as Re-Solv – it might be more effective to work through the professionals – for example, criminal justice workers, those working with the homeless, those working with drug users – in order to reach people in those demographics who might be at risk of misusing volatile substances.

⁴⁰ An interesting article on the BBC website www.bbc.co.uk/news/magazine-21242664) gives some general background to the Frank campaign, and states: '... like every other anti-drugs media campaign in the world, there is no evidence Frank has stopped people taking drugs'. (BBC 7-02-13)

6. Assessment and Intervention for people misusing VSs

6.0 Introduction

When thinking about substance-using people, it's all too easy to focus on the substance and ignore the person. Young people are varied and various, they do things for lots of different reasons, and every person is unique. Treating them homogenously is not going to solve their problems.

Substance use is different for different people. These three real-life examples of VS misusers show this:

Here is an account of someone who misused volatile substances for a short while:

Parent: She was with her brother and his girlfriend. They were in a cafe in Bury and she poured this substance on her sleeve and she tried it and she started giggling. She did it again on the bus coming home and they tried to stop her and she clutched it in her hand with it being so small, and she put it in her pocket and got off the bus at the top of the road, and it's not very far, it's not five minutes' walk away from the house and she did it again. And she collapsed and they thought it was a joke at first, they thought she was playing games and they didn't realise that she was ill. They said that she'd been drinking and it wasn't until I was in the hospital and Emma was being worked on that I found out what she'd been using, and they worked on her and she died. To my own knowledge, she had not been involved in solvents before. That was the first time she'd inhaled anything. I've made enquiries, all her friends have all said the same, that there was no way that Emma was involved in anything like that and I feel quite sure that what she did that particular day was just idle curiosity ... a prank ... and the small amount that she used, killed her. (Sheila Kirkman, BBC Radio Five, 19.11.92)

This is an account of someone who misused volatile substances for some time with a group of friends but didn't seem to have any underlying problems:

Ex-sniffer: We used to go to this derelict house ... all the windows were smashed ... there was a really good hide in the basement, like I knew, when we was actually taking solvents, that no-one would find us in the house, and so it seemed the safest place to go there. We knew it was dangerous in a way but we didn't really take any notice, like it was our affair, what we was doing. We didn't like ... we didn't want any people to know like, it was ours, secret and as long as other people didn't know what we were doing then we thought it was okay.

Sometimes I felt as if people knew what I was doing. I didn't want anybody to know what I was doing because then they'd ask me why I was doing it. I'd say to my mum I was going pictures and that, and I just went somewhere else and buzzed gas ... We used to bunk off school ... we used to go to the park, round the garages, round the factories, we used to go up the High Street and just cause loads of trouble during the day while we should be at school. (BBC Radio Five, 19.11.92)

And here's Kirsty's account of her own severe and long-term VS misuse:

For me it started about four years ago. In the beginning maybe I did it for the "high", the kick of eating forbidden fruit, doing what I wasn't supposed to do. It was good then ... I could hide in a world all of my own. I was free from pressure, responsibility, pain, torment and past memories; no one could touch me, hurt me anymore or intrude. Then slowly, very slowly at first, I began to want, no need more. The pressure was unbearable, trying to hide what I was doing, yet desperately wanting to tell someone; wanting to stop, but being sucked in more and more by the sweet oblivion my can offered me. I became withdrawn and depressed; yet at times I would also flare up and be aggressive and violent ... emotions that I normally kept under control.

I didn't have a happy childhood ... I guess in my eyes now, there's no two ways about that. I wasn't given the protection a child needs, the protection that enables a child to grow in personality and confidence...

...after five months of using solvents heavily, it really began to dawn on me what was happening to me. I wasn't coping at school, my work had slipped, I turned in on myself ... preferring to stay along in my room, usually to sniff. I was becoming desperate, not knowing who or where to turn to ... only knowing that there was an invisible load on my back, and it was getting heavier. I tried to carry on as normal ... my mother needed me. She is disabled with a back condition, the housework etc. needed to be done, and I didn't want her to worry, I didn't want to hurt her. I tried to kid myself that it would be alright, I could stop when I wanted to anyway ... couldn't I?

Then she was told; when I look back, it must have been pretty obvious anyway. I was constantly edgy; I had sores all around my nose and mouth. My bedroom and clothes stank of fumes, my attitude was defensive and I was extremely low. I remember feeling then as if I wanted to scream, break down and sob all the time, just to relieve some of the tension and pressure I felt ... but instead, more and more, I retreated into the only safety I knew ... sniffing.

I knew I needed help ... it had become too much for me to cope with alone. I didn't want to cope with it alone ... I realised for the first time in my life, that I was sick of coping with things on my own, and being expected by the adults around me to be able to cope all the time ... I wanted someone to be there for me, someone to listen without passing judgement or blame, or turning the words round on me. (Kirsty Crowley, 1990, *Stepping Stones*)

(case studies from Ives, 1995)

Just as we treat individual people differently in everyday life, we should deal with VS misusers differently; and our work with them will depend partly on *how* they use *what* substance. For young people like Emma, life-saving advice would be to avoid VSA; the ex-VS misuser and his group might have needed alternative activities to VSA; while Kirsty (as she herself recognised) needed counselling and guidance, as well as some practical support to help her to care for her disabled mother.

We also need to make sense of why people are doing – what might seem to us – crazy things. We can do this through different ways of looking at the behaviour; here are some of the ways that people have looked at substance misuse:

- **biological predisposition** (such as 'brain wiring') perhaps combined with particular childhood experiences (such as neglectful parenting) may make some people more likely to misuse substances; biology is clearly important in **individual differences**, such as gender and age, but these are socially mediated as well as being biological at root.
- some substance users may be **self-medicating** – like the medical use of cannabis
- some people become **addicted** to substances (although the old distinction between 'physical addiction' and 'mental addiction' has broken down as we understand more about how the body and the mind interact (or, more accurately, are not separate aspects of our selves)). People who may not be 'addicted' (not experiencing withdrawal symptoms when not using a drug) may still think of themselves as **dependent** on the substance and so continue to use

- maybe some people are more **curious** about things, more experimental and will 'try anything once'; people have different attitude to taking risks – some seem to enjoy the 'adrenalin rush' of **risk-taking**, or maybe it is the successful feeling of having taken a risk and survived without harm
- certainly, some people have a more **hedonist** approach to life and seek pleasure even if there are risks; maybe the **hallucinations** induced by VSA are attractive to some. It is even suggested that substance use might, for some, be an attempt to find **spiritual satisfaction** in a consumer-oriented world.
- many people argue that for young people **the peer group** is so important that they are led to make bad decisions about substances because of the need to belong or because of pressure from the group
- some say that nearly everyone uses drugs – we live in a '**drug-using society**', and it's just that some kinds of substance use are acceptable and some are illicit – in other words, there is nothing to explain at the individual level, it's just a matter of society's attitudes.
- another social explanation is that it is **socio-economic conditions**, such as poverty, that drive people to misuse substances: for example, in a film about Kenyan street children (the link is in the Research Blog entry 07-02-13, 'Films on VSA' in Annex 1) one interviewee says: 'There are some things you cannot do when you are sober, like eat garbage. You need to sniff glue so that you have the courage to eat garbage and do other work in the streets.'

The assessment process should explore with people why they do what they do, helping the assessor – and the client – to understand needs and motivations and give opportunities to replace substance misuse with more positive, safer activities. Then, the treatment phase can build on this understanding; this is what many professional workers with young people aspire to do. It is the basis of counselling and psychotherapeutic treatment, and of diversionary approaches.

There is an alternative approach, which takes the view that this level of knowledge is unnecessary for effective treatment, and that the antecedents and reasons are less important than finding ways of changing current behaviour into more functional patterns in future. In these approaches, underlying motives are not much explored, and the emphasis is often future-oriented. These ideas are part of the basis of cognitive behavioural therapy, brief therapy and motivational interviewing.

ISDD's Manual for professionals gave a list of approaches that have been used to address VSA:

- collect information
- do nothing
- 'shock/horror' scare tactics
- policing
- provision of information and other sorts of education
- activity substitution - individually or with groups
- individual counselling or 'therapy'
- group counselling or therapy

- family counselling or therapy
 - parental education or involvement in treatment
 - self-help groups for sniffers
 - education for professional groups
 - community action
 - social and political action
- (Ives, 1995)

Treatment must also take account of the likelihood of clients misusing more than one substance. Poly-substance misuse is increasing common as drug consumers select from an expanding smorgasbord of available substances: some misuse may be more problematic for some clients than others, and part of the assessment process is to explore this.

So treating VSA problems requires an analysis of – and a response to – the person, their social context, the drugs they are using and the way they are using them; treatment needs to be sensitive to the needs of the individual – using evidence-informed therapies that are both effective and cost-effective. This may sometimes mean that formal treatment (or, indeed, any treatment) is *not* indicated, or that, especially with young people, the nature of treatment will *not* be formal, nor perhaps individual, but might look more like youth work interventions, for example, involving sport, diversionary activities or help with related problems such as truancy. It may, where young people are the clients, also include work with parents and the wider family, who can be helped to offer more support and guidance. And it may involve the wider community, taking account of the lack of places for young people to go and things for them to do.

All these approaches are part of the response that is required to address effectively the personal and the social problems related to substance misuse; Re-Solv has been one of the organisations advocating more accurate assessment of VS problems, more variety of treatment options, and accurate recording of interventions and outcomes. Re-Solv is currently (June 2013) developing an Assessment Tool and Guidance Sheet for substance misuse professionals to help them more accurately identify VS misusers.

This chapter will first describe the (rather limited) evidence for effective interventions, drawing on work in Australia, and will note Re-Solv's contribution to a definitive Australian treatment guidelines document. It will then report on analysis of data on VSA treatment from the National Treatment Agency, showing how the categorisation of 'solvents' is problematic. Finally, this Chapter will draw on Welsh Guidelines on VSA interventions developed by the current author under contract to the Welsh Assembly Government with the support of a working group which involved Re-Solv. While these Guidelines are not a direct product of work under the Big Lottery contract, they were very much enabled by, and influenced by, this work: and Re-Solv was involved both in their creation and in their dissemination.

6.1 Australian approaches

Over the years, Australian government institutions have produced important documents on VSA. For example, in 2002, the Parliament of Victoria Drugs and Crime Prevention Committee published their 'Inquiry into the inhalation of volatile substances' discussion paper. This wide-ranging document included a discussion of a strategic framework for VSA, and some examples of community responses to VSA, concluding:

'Within the guiding structure of national and state drug prevention strategies, local initiatives are gradually emerging in response to the misuse of volatile substances, particularly by youth. To date there have been no rigorous evaluation of community approaches to address VSA as the projects are still in their infancy, Moreover evaluation is compromised and difficult to undertake without appropriate statistical data being readily available.' (p 140)

In 2008, the Australian Government Department of Health and Aging published 'Volatile Substance Abuse: a review of interventions'.⁴¹ This monograph, by two academics knowledgeable about VSA, discusses a range of interventions, including supply reduction approaches, and three demand reduction approaches including 'community-based approaches, 'education, youth and recreational programmes' and 'clinical management, counselling, residential and homeland programmes'. They also discuss harm reduction approaches and law enforcement, concluding with a chapter on strategies.

They illustrate their monograph with a number of examples of community-based programmes. For example, the 'sunshine chroming awareness program' in Melbourne, identified locations where chroming (the inhalation of propellant from spray paint canisters) took place and worked to improve 'young people' sense of engagement and connectedness with the local community'.

On the clinical management of VSA, the Monograph authors point to the fact that 'Many young people undergoing treatment for VSM⁴² exhibit a range of complex behaviours and are at acute risk of harm.' (p 76), and note the absence of pharmacotherapies to treat dependence on volatile substances, and the lack of consensus regarding detoxification:

'The requirement for detoxification from VSM is contested; some consider it unnecessary due to the short acting nature of VSM-induced intoxication (...). Others argue that adverse effects of VSM on brain function endure for weeks beyond the period of acute intoxication and that treatment should not commence until cognitive impairment has diminished' (p 78)

They also sound pessimistic on treatment outcomes:

⁴¹ pdf downloadable from: <http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-volatile-sub-misuse-mono-65-cnt>

⁴² they use the term 'VSM' ('volatile substance misuse')

'International literature gives few grounds for optimism about treatment outcomes. Beauvais and Trimble, writing in the US, state that solvent users 'defy conventional treatment and prevention efforts' (...). Dinwiddie (1994) reviews approaches to treatment in the US for those whose inhalant use has become long-term or chronic, and concludes that outcomes are very poor. Strategies believed to work with other drug users are often observed to be less effective among those who use inhalants (...). Others have argued that any treatment success is likely to be attributable to the fact that VSM generally declines as people age, rather than the intervention itself (...). Very little outcome data is available with regards to any treatment modality other than residential rehabilitation' (p76)

But quote some useful guidelines:

'The most detailed Australian VSM guidelines available concern care for people who are engaged with drug treatment or child protection services in Victoria (...). While the guidelines argue that a similar approach to other drug treatment should be taken, they also observe that the young age of many involved must be considered in formulating a treatment strategy. The guidelines stipulate that responses to VSM should be aimed at promoting abstinence and that services must not allow clients to use inhalants on their premises.' (p 77)

And go on to recommend:

'In view of the complex and serious problems believed to co-occur with regular VSM, most treatment advice is that a particularly thorough client assessment is recommended (...). This should include assessment of family function, co-occurring poly-drug use, co-occurring mental health disorders and a thorough medical examination including screening for cognitive impairment which may impede treatment. Clinicians have recommended screening of clients receiving VSM treatment for depressive or anxiety disorders, given their high prevalence in inhalant-using populations (...). The effect of the person's family and social situation on their drug use should also be assessed. For chronic users an assessment of neurological impairment is advised, with follow up testing to check for improvement during treatment' (p 77)

Whilst being cautious about the efficacy of group interventions, they provide a limited endorsement for outreach work:

'Some studies argue that developing therapeutic relationships with young people who use volatile substances is particularly important as a precursor to any useful intervention (...). These kinds of relationships often take time to establish. Part of establishing supportive relationships is to approach users with respect and patience and to be clear about what the service is able to offer and the expectations made of service participants (for instance, not to use drugs in the premises). Inhalant users frequently lead rather chaotic lives

and find it difficult to attend set appointment times. An outreach approach to treatment and intervention is therefore frequently appropriate ...' (p 78)

And they emphasise the role of diversionary activities:

'It is important that treatment includes supporting people to participate in diversionary recreation activities. Some users of inhalants have poor living skills and many programs include components to assist young people with hygiene, nutrition and interpersonal skills, as well as encouraging them to attend school or training where this is feasible' (p 78)

In discussing counselling work, they refer to the bio-psycho-social approach, which:

'...entails attention to transference and counter-transference in the therapeutic relationship, behavioural and cognitive approaches to increasing self-awareness and self-control, and negotiating the inside-outside boundary.' (p 80)

They report VSM management guidelines from the State of Victoria, which recommend:

'...a range of counselling and support approaches. ... clients should be clearly advised of the harms to which they are exposing themselves. Motivational interviewing (to enhance the client's enthusiasm to change their behaviour), self-monitoring strategies (assisting them to achieve greater insight) and relapse prevention (recognising and managing their response to triggers for use) should form part of any long-term individual counselling strategy. Recommended therapeutic techniques include goal setting, developing contracts with clients in relation to consequences of inhalant use, and skill development in managing emotions, decision making and communication. Family-based interventions are also advised, as are assertive outreach and follow-up, and provision of diversionary activities and other means to ameliorate social isolation. Clients should be referred to other drug or mental health services as needed and co-occurring poly drug use should also be addressed' (p 80)

Since, in Australia, the problem of VSA is most commonly identified among Aboriginal (Indigenous) peoples, much attention is given to approaches to working with these communities and with individuals and groups within them. For example, residential treatment and rehabilitation has been used for Indigenous people, although there are differing views on necessity and on effectiveness.

The detail of these approaches, being culturally tailored to be relevant and appropriate to those communities, is of limited interest in a UK context. However, the philosophy behind many of these approaches *is* relevant. The emphasis on the engagement of the adult community, and of reconnection of young people with their community has been the basis for some community approaches in the UK. Having respect for local culture and helping young people to rediscover, appreciate, and take part in the culture from which they have come has been used less in the UK,

but might be usefully applied here. And improving communities' infrastructure so that alternative activities are available is difficult in times of economic constraint, but is nevertheless an important part of the solution.

During this project, the opportunity arose to comment on draft guidelines, *Consensus-based clinical practice guideline for the management of volatile substance use in Australia*,⁴³ produced by Australia's National Health & Medical Research Council in 2011 for the Australian Ministries for Mental Health and Ageing and for Indigenous Health. Re-Solv submitted extensive comments on the draft guidelines (a Research Blog about this ('Australian Clinical Guidelines' dated 5-12-11) is in Annex 1, and the comments that Re-Solv made are at Annex 7). These were the first systematically developed Clinical Practice Guidelines specifically developed for Australian health care settings, and provided recommendations to manage volatile substance misuse in Australia. They were intended for health professionals including doctors, nurses, Aboriginal health workers, Ngangkari (traditional healers), alcohol and other drug workers and allied health professionals. Re-Solv's comments on the draft are at Annex 7.

The Guidelines are extremely comprehensive and give clear and detailed advice on managing acute intoxication; managing dependence and withdrawal; initial and further assessments; brief interventions; and on-going case management.⁴⁴

6.2 Data from the NTA

The NTA (National Treatment Agency for Substance Misuse) was responsible for drugs treatment during most of this project. It was abolished on 1st April 2013, its functions being subsumed under Public Health England (PHE) and local authority public health capacities. This reorganisation has resulted in a major reconfiguration of services, and it is too early for the new pattern of services to be clear, so this section focuses on the work of the NTA, and how Re-Solv was able to have an impact on its work in relation to VSA during this research project.

Re-Solv communicated with the NTA regarding the numbers of people in treatment with VSA issues. Data were made available, and the most recent (and probably the last that the NTA produced before it was incorporated into PHE) was for April 2011 through March 2012.⁴⁵ In this period there were 127 adults in treatment for VSA (presumably this figure referred to the situation where a volatile substance is the client's 'Problem Substance No. 1' – see below for an explanation of this phrase). The number of young people in treatment for VSA was given as 236 whose VS misuse was 'Primary' (again, this probably referred to 'Problem Substance No. 1') and 215 people whose VS misuse was 'Adjunctive' (which probably means that it was their second or third 'problem substance').

⁴³ they refer to VSA as 'VSU' – 'volatile substance use' – something on which Re-Solv commented critically (see the research blog entry) – but it was not changed.

⁴⁴ Electronic copies of the final version of Guidelines and summary document can be accessed at: <http://www.clinicalguidelines.gov.au/search.php?pageType=2&fldglrID=1965&>

⁴⁵ this section include information from an email from Stephen Ream, Re-Solv Director, 02-11-12

These numbers are, of course, an extremely small proportion of all substance misuse treatment. In 2011-12 the NTA reported details of 197,110 adult clients by the type of drug taken, so 127 'solvent' users represent only 0.064 per cent of all adult clients; and 236 represents 1.14 per cent of the 20,688 young clients.

The NTA provided a breakdown by age of the young people's figures, and the table shows the results: 'solvents' represents around one per cent of the older age groups (15 through 18 years), but higher proportions in the younger groups – among those 13 years and under, 'solvents' make up eight per cent of the total number in treatment. Looking at it another way, there are a total of 236 people aged 18 and under⁴⁶ in treatment for 'solvents' of which, as the next table shows, a quarter are 14 or under.

Table 6.1 Age of young people in treatment for 'solvents' ('primary substance'), 2011-12

Age	< 12		12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18	
	<i>n</i>	%												
Solvents	9	8	25	8	26	2	56	2	55	1	34	1	31	1
All	106		320		1124		3,005		5,087		5,285		5,710	

Table 6.2 Proportions of young people in treatment 2011-12 by age

Age	<i>N</i>	%	<i>cumulative %</i>
<12	9	3.8	
12-13	25	10.6	
13-14	26	11	25.4
14-15	56	23.7	49.1
15-16	55	23.3	72.5
16-17	34	14.4	86.9
17-18	31	13.1	100
Total	236	100	

Combining this with previous years' data, 2004-05 through 2011-12, gives the pattern shown in the next table, which is a fairly consistent over this nine-year

⁴⁶ it is not clear what these age categories actually mean, as a 13-year-old, for example, could perhaps appear in the '12-13' or in the '13-14' category, and it isn't clear if '17-18' category includes all 18-year-olds (it would be strange if it did, as 18-year-olds are generally classified as adults).

period. In this period, 1,216 adults and 2,088 young people are recorded as being treated where VSA was an issue.

Table 6.3 People in treatment for 'solvents' (NTA data) 2004-2012

	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	Total 2004-12
Adults (N)	138	176	189	178	173	116	119	127	1216
Adults (%)	11.3	14.5	15.5	14.6	14.2	9.5	9.8	10.4	(100)
YP (N)	158	235	317	321	284	274	263	236	2088
YP (%)	7.6	11.2	15.2	15.4	13.6	13.1	12.6	11.3	(100)

It is instructive to compare the numbers of young people in treatment for 'solvents' with the numbers being treated for those other two drugs that tend to be misused at a young age: cannabis and alcohol. The table shows these the numbers in treatment for these three substances for the young people's age-bands, and gives the percentages for each substance within the age-band (the percentages do not always total 100, because other substances are also included in the percentage). Cannabis treatment makes up a bigger proportion for the older age-groups, as alcohol and 'solvents' diminish.

Table 6.4 Selected 'primary substance' and age of client (NTA data) 2011-12

Substance	< 12		12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Cannabis	43	41	165	52	665	59	1920	64	3378	66	3459	65	3570	63
Solvents	9	8	25	8	26	2	56	2	55	1	34	1	31	1
Alcohol	54	51	125	39	406	36	932	31	1405	28	1441	27	1521	27

However, a caveat must be entered regarding the foregoing data: there were some important technical issues with the way that the NTA coded VSA. As part of this research project, an analysis and a critique of the NTA coding (as it was in 2011) was conducted. Annex 6 gives details of that work; the following summarises information in that Annex.

Data from treatment agencies across England were fed into the NTA's DAMS (Drug and Alcohol Monitoring System), which was part of the NDTMS (National Drug Treatment Monitoring System). This had a 'core data set': 'a basic level of information to the NDTMS on their activities each month'. There were about 2,000

drug treatment services that provided information;⁴⁷ young people's services were counted separately ('Young Persons Data Set').

The core data set included information on three 'problem substances', 'Problem Substance No. 1' being: 'The substance that brought the client into treatment at the point of triage / initial assessment, even if they are no longer actively using this substance.' Codes were provided to record the 'problem substances'. The list of varieties of drugs under these headings was extensive. Group Code 11, 'Solvents', were coded to '6000' drug codes, with these permissible categories:

- 6000 Solvents unspecified
- 6001 Toluene (glue)
- 6002 Butane
- 6003 Amyl Nitrate
- 6004 Acetone
- 6005 Fluorocarbons
- 6006 Trichloroethylene

(NTA 2011 *NDTMS Data Set H Technical Definition Annex F*, page 62)

This was clearly unsatisfactory. For example, the 'Solvents' Group did not distinguish aerosols, and since it is doubtful that many drugs workers (or clients) would have appreciated that butane is the propellant in most aerosols, aerosol misuse probably went unrecorded in many instances.

Re-Solv contacted the NTA to express concerns, and secured a meeting involving the Head of the NTA and colleagues, who were 'extraordinarily helpful'⁴⁸, and invited Re-Solv's Director to participate in an 'Expert Panel' to advise on the new NDTMS codes. Re-Solv proposed changing the Substance Group from 'Solvents' to 'Volatile Substances', and to change the sub-categories to the following:

6000 Volatile substances unspecified

6001 Gas (butane/propane)

6002 Aerosols

6003 Nitrous oxide

6004 Poppers (alkyl nitrites)

6005 Petrol

6006 Glue

6007 Acetone (nail varnish remover)

6008 Other solvents

⁴⁷ it was unclear how many alcohol agencies were included

⁴⁸ email from Re-Solv Director 28-08-12

Re-Solv is not aware whether or not these codes have been implemented, but will continue to press for changes to be made.

6.3 VSA guidance in Wales

As a development of the Welsh Government's *Working Together To Reduce Harm: Substance Misuse Strategy for Wales 2008-2018* (published in October 2008), Guidelines on VSA interventions were later developed by the current author under contract to the Welsh Assembly Government with the support of a working group which involved Re-Solv: these were published in 2011.⁴⁹

The Substance Misuse Strategy includes several references to VSA, as follows:

'We want children and young people to acquire the knowledge, skills and understanding they need to make informed choices when they encounter illegal drugs and legal substances such as alcohol, tobacco, medicines and volatile substances' (page 24, paragraph 12)

'Volatile substance abuse (VSA) remains a concern as it still causes more deaths among young people aged 10-16 than Class A and other illegal drugs' (page 39, paragraph 33).

'Raising awareness of the hazards of volatile substances is catered for at both primary and secondary school level within the All Wales School Liaison Core Programme (AWSLCP). However, it is recognised that we need to address the availability and accessibility of volatile substances' (page 39, paragraph 34)

'More needs to be done to reduce the availability and accessibility of volatile substances. We will identify local good practice in engaging communities in addressing VSA and enforcement action being taken with retailers linked to VSA incidents' (page 49, paragraph 4)

The VSA Guidelines noted that:

'• VSA-related deaths in Wales are proportionately higher than in England (though lower than in Scotland and Northern Ireland). Survey evidence on the prevalence of VSA is lacking. Improvements in evidence base on prevalence are urgently required. An on-going assessment of prevalence of VSA should be established to benchmark levels of use and enable progress to be measured.

'• Current and previous VSA should be included in the comprehensive assessment and recorded on the clients file using the *Wales Integrated In-depth Substance Misuse Assessment Tool (WIISMAT)* and similar assessment tools. Interventions should be provided and these should be monitored and evaluated for VSA-related outcomes which will provide more information on effective interventions.

⁴⁹ *Substance Misuse Treatment Framework (SMTF) Prevention and Education of Volatile Substance Abuse (VSA)* downloadable from www.re-solv.org/wp-content/uploads/2011/12/WelshFramework.pdf

'• Chronic VSA is linked with a wide range of other problems and difficulties; and resources for addressing these issues are limited. Interventions following disclosure of VSA should be integrated with other interventions as appropriate.

'• Volatile substances are, for many children and young people, the first misused substance. Early and sustained prevention activities, including education in school, should take place.

'• Volatile substances are readily available and it is essential that parents and carers are aware of the risks of the misuse of everyday products. Retailers should be aware of VSA and meet their legal responsibilities; Trading Standard Officers can help retailers to do this.' (p 3)

The Guidelines explained that there were three different types of young VS misusers that required different approaches to intervention:

'1. Most young people who misuse volatile substances are experimental users and do not continue their misuse; they will not require specialist substance misuse interventions - or any interventions at all; it may be counter-productive, because it could entrench an activity that was transient. For them, intervention may simply consist of an explanation of the risks, perhaps increased supervision, and the opportunity to participate in more constructive activities. Parents may need reassurance and support.

'2. Sometimes, a group of young people will continue to misuse volatile substances beyond the experimental stage. Together, they may misuse in public or semi-public spaces, and cause concern to local residents. This may be because of their uninhibited, or even bizarre, behaviour while intoxicated, or because of public disorder and anti-social behaviour. Interventions might include community based interventions involving a range of agencies, perhaps including the police.

'3. A small number of young misusers will continue their misuse long after their friends, who joined them in experimentation and beyond, have long since stopped misusing volatile substances. They may become psychologically dependent or develop other serious problems with VSA which will be allied with other difficulties in their lives. They may become stigmatised and isolated. They may need specialist help - from youth services and/or from dedicated young people's drug and alcohol services.' (p 6)

The Guidelines therefore recommended that services for young people should be:

'... specifically designed for their needs and be able to effectively address key issues such as confidentiality and consent. Generic youth services should take the lead, with support from specialist substance abuse agencies. Mental health services will have an important role, for example, in the treatment of psychiatric co-morbidity. Those working with looked after children should be aware that VSA may be more likely in this vulnerable group.

There are no treatment or intervention services designed specifically and exclusively for volatile substance misusers in Wales and they are not appropriate, as the issue should be dealt with by existing drug and alcohol services and by services for young people. Currently, VSA referrals to substance misuse services would receive intervention appropriate to their circumstances.’ (p6)

The Guidelines emphasised the importance of assessment, and recommended:

‘Wales Integrated In-depth Substance Misuse Assessment Tool (WIISMAT), or the equivalent agency tool, should include an assessment of past and current VSA. The questioning should be sufficiently detailed to identify the range of products that may have been misused.’ (p8)

Three classes of interventions were identified, firstly, immediate interventions when a volatile substance misuser is intoxicated, where an approach following Williams (2007) was recommended:

‘Most acutely intoxicated inhalant abusers do not seek medical attention, and only when intoxication is life-threatening or has led to serious injury will an abuser present to the emergency department. Acute medical management of inhalant abuse starts with ... assess[ing] and stabiliz[ing] the patient and address[ing] any specific acute injury or toxicity Myocardial sensitization by inhalants necessitates a calm and supportive environment No medications reverse acute inhalant intoxication or have been found to be helpful with dependence or withdrawal symptoms.’ (Williams, *et al* 2007) (p 8)

Secondly, tackling chronic misuse:

‘No defined withdrawal syndrome has been identified when someone stops VS misuse (although it may take a considerable time for the residue of solvents such as toluene from chronic petrol abuse to be eliminated from the body), so special detoxification regimes are not necessary for most VSA. Although the lipid-soluble chemicals can be detected in body tissues some weeks after misuse has stopped, they do not have psychoactive effects. However, some people become dependent on Gammahydroxybutrate (GBL) and may experience severe withdrawal symptoms requiring medication to ameliorate.

‘Intervention may need to continue for some time to address deep-seated problems; after the conclusion of the intervention, follow-up is crucial. Relapse is common, as with other drugs; it should be regarded not as ‘failure’, but as a learning opportunity. After care, long-term rehabilitation, social reinsertion, relapse management, and informal contact are all important. Group activities and support may help ex-VS misusers to stay abstinent.’ (p 9)

Thirdly, harm minimisation, which was only recommended for committed misusers, and then only to be used with care:

'Harm minimisation advice should not be routinely given; there is no approved advice as most VSA has unpredictable dangers. However, the fire or explosion hazard (particularly for butane and petrol in confined spaces) should be explained.

'Some misusers are not able to quit the habit in the short term. They may benefit from careful individual guidance on reducing the risks, including avoiding certain particularly harmful products (e.g. petrol), awareness of the risks of fire and explosion, not using large plastic bags, and not spraying gases directly into the mouth. A particular piece of advice regarding poppers is not to drink them, as this can be fatal.' (p 10)

In summary, the Guidelines quote from the Framework Guidelines on good practice for services for young people, where the 'key components of a comprehensive response to the threats posed to children and younger people by a variety of substances' are:

- '• Universal Early Education Programmes – these convey accurate and balanced information about substances and their use and misuse to children and young people.
- '• Targeted Programmes – that enable children and young people to take part in discussions among themselves and with well-informed adults aimed at improving their understanding of how they can respond to the endemic presence of substances in our communities.
- '• Interventions To Improve Potential – these exist to prevent children, young people and young adults moving from use to misuse of substances by anticipating the impacts of risk/protective factors and increasing individuals' resilience.
- '• Indicated Programmes (generally referred to as treatment) – these are provided as individualised and planned programmes of assessment, intervention and care for certain identified children or young people who are misusing substances.' *Substance Misuse Treatment Framework Guidance on Good Practice for the provision of services for Children and Younger People who Use or Misuse Substances in Wales* (from section 2.13, p19).

The Guidelines emphasised the changing nature of VSA and the possibility of more adults misusing. This required more vigilance, and:

'... greater awareness of the issue among adult services (in particular, mental health services and services for homeless people) and mechanisms for identification and fuller assessment are required. However, little is known about how best to help adult VS misusers. Some users of illegal drugs will also misuse volatile substances in a pattern of poly-drug use. Other users of illegal drugs may turn to volatile substances when their drug of choice is not available, or they cannot afford it. It is not clear whether these adult VS misusers are mainly those who misused volatile substances when they were

young and are returning to a substance with which they are familiar, or whether they are 'new recruits' to the practice. If the latter, there may be greater risks because of their inexperience with the substances.' (pp 6-7)

6.4 Discussion

This chapter has looked at assessment and intervention for VS misusers, although there are no specialist forms of treatment for VSA. As the NTA treatment guidance put it:

"Evidence of inhalant [volatile substances] physical dependence is limited, with case reports suggesting a withdrawal syndrome similar to alcohol withdrawal. Physical symptoms are usually short-lived, though agitation and craving may continue for weeks. It is recommended that inhalant users are routinely assessed, and if intoxicated the young person may need unrestricted observation for some time.

'There is no specific pharmacological treatment recommended but support and symptomatic treatment may be required in the short term for agitation. Clearly, a comprehensive assessment of all needs should be conducted, accompanied by the development of a care plan.' (Department of Health 2009 *Guidance for the pharmacological management of substance misuse among young people*)

Nevertheless, there is still a need for treatment and support for misusers, and their families. Re-Solv, together with the other national VSA charity, Solve It, has been successful in gaining support for a project, 'Community for Recovery', which is described as follows:

'The two VSA national charities, Re-Solv and Solve It, are running a three-year project, 'Community for Recovery' which is funded by the Department of Health's "Innovation, Excellence and Strategic Development Fund".

'This project will help substance users dependent on volatile substances equality of access to treatment and support. A Web-Hub will provide information, professional advice, counselling and peer support – without stigma – for VS users and those close to them. The Hub will also connect users with local services whose staff have been specifically trained to effectively address VSA, enabling services to support users and their families, and help them along recovery pathways.'

This is a considerable step forward in the development of treatment for those affected by VSA. It perhaps demonstrates a recent increase in the awareness at a policy level of the issue of VSA. The Research Project has impacted on this, as the next chapter will describe.

7. UK Policy on VSA

7.0 Introduction

An important purpose of the Research Project was to influence national policy on VSA, aiming to get more attention to the topic commensurate with the level of harm related to it. Re-Solv had long felt that VSA was a 'Cinderella', neglected by policy-makers, and responses to it not being coherent or connected. This was partly a consequence of the legality of VSA, so that it tended not to be taken up by substance misuser services concerned with controlled drugs.

It was also perhaps because of the perception that there was an episodic nature to VSA occurrences. For example, staff in residential children's homes have reported on transient 'fashions' and 'crazes' of VSA, perhaps because of the arrival of new inmates' familiar with the practice. It was also thought that VSA became more common in the summer months (perhaps because young people were bored during the school holidays), although this was probably an issue of perception – in summer, people are more likely to be out-of-doors and all 'deviant' behaviours are more visible.

But perhaps the main reasons for the neglect of VSA by policy-makers has been the notion that VSA was uncommon, generally experimental and transient behaviour, not especially dangerous, and something that young people did and would 'grow out of'. Countering these views has been part of Re-Solv's work.

These views, coupled with the relative obscurity of VSA, it not being included on all drugs training courses, being more common in some parts of the UK than others, and other factors has meant that VSA has been neglected by professionals and not included (or not sufficiently prominent) in policy documents at national and local levels.

The research project aimed to address this – in all four countries of the UK.

7.1 VSA in other countries

But first, a brief word about policy and activities on volatile substance misuse in other some countries.

In Australia, the National Drugs Strategy makes reference to inhalants, for example, when discussing controls on the supply of psychoactive substances:

'For legal substances like inhalants (such as petrol, paint and glue) that are readily misused, a balance also needs to be found between access for legitimate purposes and regulation of supply. This balance needs to take account of the prevalence of misuse and the harms from these substances.'
(page 15)

And acknowledges the importance of retailers as:

'essential partners in the regulation and enforcement of supply'. (page 14)

The policy position paper (2010) of Alcohol and other Drugs Council of Australia states that:

'... the complex nature of inhalant misuse requires a range of interventions that address individual and community health, family, and socioeconomic issues. It is noted that the age and cultural background of people who use inhalants need to be considered when implementing intervention strategies. Successful strategies include the reformulation of petrol and spray paint; changes to legislation providing direction for law enforcement and health and community care providers; education and support for retailers; community-based diversion programs; and user rehabilitation and education.'

This paper has detailed descriptions of work undertaken in Australia; it can be downloaded at:

http://www.inhalantsinfo.org.au/uploaded_files/fck/Inhalants%20policy%20position%20-final.pdf

And for additional information about Australia's approach to treatment, see section 6.1 in this Report, which also discusses the comments that Re-Solv made on the draft *Consensus-based clinical practice guideline for the management of volatile substance use in Australia*.

New Zealand's drug policy 2007-2012⁵⁰ had a short section on 'Inhalants and volatile substances':

Solvents include petrol, glue, butane gas and liquefied petroleum gas (LPG). These substances are contained in readily available products such as adhesives, thinners, petrol, aerosol sprays, gas, paint and anti-freeze and are inhaled by recreational users. In 2003 0.1% of people surveyed had used solvents in the previous year. Solvent use has been associated with a number of deaths. Over the three years from 1996 to 1998 there were 35 deaths specifically due to solvents. These deaths were related to drug dependence, abuse, accidental poisonings and suicide. During 2004 and 2005 the Wellington Coroner investigated six solvent-related deaths of young people that occurred from 2003 to 2004.' (page 32)

But the document does not have any VSA-specific policies or measures flowing from this observation.

A recent (August, 2013) report, 'Unintentional deaths from poisoning in young people', from the Health Quality and Safety Commission of New Zealand recommends the consideration of legislation controlling sales to restrict access to, at least, 'the most lethal compounds, such as butane.' (page 4)⁵¹ In response to this Report, Ross Bell, Director of the New Zealand Drug Foundation, commented:

⁵⁰ [http://www.ndp.govt.nz/moh.nsf/pagescm/685/\\$File/nationaldrugpolicy20072012.pdf](http://www.ndp.govt.nz/moh.nsf/pagescm/685/$File/nationaldrugpolicy20072012.pdf)

⁵¹ In New Zealand, the report states, '...sections 14a and 14b of the Summary Offences Act contain legislation that controls the sale of spray-paint to people under 18 years of age and also controls

'Volatile substances, prescription medicines, and alcohol are the three biggest causes of poisoning of young people. The tragedy is these deaths would be preventable if proper action was taken.

"Decisive action from Government is needed now to prevent these deaths. The solutions are there, they just need to be implemented."⁵²

Earlier, Mr Bell had written about his 'absolute despair' every time a young New Zealander died from sniffing, but had pointed to some ways to address the issue:

'Sellers of these products can be shown better ways to manage sales, and we've had some successes recently with retailers. Services that work with young people can be better informed.

'The media have an important role – they can also get it very wrong. Coverage of recent cases has been clumsy and dangerous, showing specific brands, where to buy them and even how to inhale. Guidelines for reporting on VSA are clearly needed.

'The Chief Coroner will undoubtedly look again at ways to control supply and availability, and we should keep an open mind about that. After all, the R18 restriction placed on spray paint as part of an anti-graffiti law has gone some way to reduce illicit use of those products. But considering we're still left with a supermarket full of alternatives, our attention should switch to renewing efforts on health promotion and harm reduction.⁵³

Turning to Canada, the National Anti-Drug Strategy's 226-page evaluation report makes no mention of VSA/inhalants/solvents, nor does its website (www.nationalantidrugstrategy.gc.ca) appear to have anything for parents or teenagers about VSA, although the Canadian Public Health Association has a useful page with links at www.cpha.ca/en/portals/substance/health/faq04.aspx; while the Canadian Paediatric Society's 2010 'Position Statement' on inhalant abuse (www.cps.ca/documents/position/inhalant-abuse) gives a helpful overview, and includes reference to the particular problems experienced by Aboriginal people. This is such a major problem for some communities that Health Canada established the 'National Youth Solvent Abuse Program', of residential in-patient treatment, which, with annual funding of CA\$13 million, runs ten Youth Solvent Addictions Centres, providing 120 treatment beds, and treating at least 212 clients each year.⁵⁴

In the USA, an NGO, the National Inhalant Prevention Coalition, has for many years focused on this issue and has campaigned on many VSA-related issues.⁵⁵ The

access to spray cans in shops so that customers can only access the cans with the help of a shop assistant.' (page 30)

⁵² <http://www.scoop.co.nz/stories/PO1308/S00358/new-drug-policy-needed-to-prevent-young-new-zealanders-dying.htm> (accessed 2-10-13)

⁵³ <http://www.drugfoundation.org.nz/content/directors-cut-august-2012> (accessed 02-10-13)

⁵⁴ information from: www.hc-sc.gc.ca/fniah-spnia/substan/ads/nysap-pnlasi-eng.php (accessed 02-10-13)

⁵⁵ see: www.inhalants.org

National Institute on Drug Abuse⁵⁶ has given attention to the problem and has dedicated webpages addressing inhalants (<http://www.drugabuse.gov/drugs-abuse/inhalants>). However, the Office of National Drug Control Policy (part of the Executive Office of the President) (perhaps understandably) does not focus on inhalants, being more concerned with controlled substances.

This brief run-down of the situation in four English-speaking countries can only give a flavour of what is happening. However, as far as the author and Re-Solv are aware, activities on VSA in other countries are quite limited. While a number of countries have legislation controlling sales, there is no up-to-date survey on this (one that the current author conducted, covering most of Europe, was for the Pompidou Group of the Council of Europe in 1993). For many countries, VSA remains a neglected issue, with inadequate data collection, and limited government and professional responses.

7.2 The UK

The All-Party Parliamentary Group on VSA had been moribund for some years, but has recently been revived by the Director of Re-Solv, and, as part of the dissemination process for this Research Project, a presentation was given at the second meeting of the group (21st May 2013). The Chair of the Group – David Hanson MP – had several ideas for promoting the VSA agenda in Parliament.

The VSA Committee of BAMA (the British Aerosol Manufacturers Association) continues to meet and, by providing a link between the aerosol industry and the voluntary sector and other interested parties, it provides an extremely helpful forum for debate, although it is, of course, limited to the aerosol industry. The Committee has received regular updates on the progress of this Research Project and has engaged with the work. From a policy point of view, the BAMA Committee has (for example) been active in supporting Re-Solv in obtaining a meeting with the Minister responsible for VSA in England (see below).

As described in Section 4.2, Re-Solv has argued for renewed funding for the study of VSA-related deaths and has carried out a range of lobbying activities to this end – so far to no avail. Re-Solv was also concerned about the loss of information on adults' VSA as a result of a decision not to ask about VSA in the British Crime Survey. As described in Section 3.1, Re-Solv made representations to the research team.

7.3 England

It has been very difficult to influence VSA policy in England during the life of this project.

There had been a 'Stakeholder Group' on VSA hosted by the Department of Health, and attended by civil servants from other government departments, as well as by voluntary agencies (including Re-Solv, of course) and people from relevant industries, and this had been helpful in progressing the VSA agenda; but it had become moribund, and despite Re-Solv requests, and requests of other parties (such as BAMA) this group has not been resuscitated.

⁵⁶ www.drugabuse.gov

When the Research Project started, there were regional structures – Government Offices for the Regions, established in 1994 – which had a role in drug policy and practice, but these were abolished, effectively from 31st March 2011. And the National Treatment Agency (NTA), which oversaw drug policy and practice in England, ceased to exist on 31st March 2013. Its functions have been absorbed either into Public Health England or to the new Public Health capacities of local government. It is as yet unclear how the new structures will operate, let alone where VSA fits in.

However, as described in the Chapter 6, progress was made with the NTA in helping them to improve their data collection on VSA – although it remains to be seen if this will carry forward into the new institutional arrangements.

Re-Solv has (at the time of writing) an upcoming meeting with the Minister responsible for drug policy in England, Anna Soubry MP. One issue to be raised concerns the availability of accurate data on VSA deaths (as discussed in Chapter 4).

7.4 Scotland

Re-Solv has an active Scottish office, funded by the Scottish Parliament and led by the Development Manager. The focus is on:

'... capacity building within partner and stakeholder organisation who engage in direct delivery and where engagement platforms already exist. In the past two years we have trained over 3,600 professionals and we are active on key working groups such as the Drug Related Deaths Forum and Age Restricted Products Forum. Re-Solv also provides school support, and a referral service for VSA users and/or their significant others.' (Re-Solv website)

This Research Project has therefore worked with the Development Manager to progress responses to VSA in Scotland. The focus has been less on policy – because in Scotland there is, arguably, a higher level of awareness of VSA and a certainly a greater commitment to tackling it (as evidenced by the funding of the Re-Solv post). The Research Project contributed to the development of the film and the *PowerPoint* presentations produced for Scottish professionals as part of the Scotland-funded work.

Re-Solv's funding for the post in Scotland has recently been renewed for a further three-year period. This will enable progress (among other things) in embedding responses to VSA within drugs agencies.

7.5 Wales

An opportunity to have a significant influence on Welsh Assembly Government policy arose because of the development of the Substance Misuse Treatment Framework. As described in Chapter 6, Section 6.3, specific Guidelines on VSA were prepared by the current author (under a separate contract with the WAG), and Re-Solv was involved, with its Director as a member of the Steering Group overseeing these Guidelines.

While somewhat serendipitous, this conjunction was effective for progressing Re-Solv's evidence-informed agenda on the development of policy on VSA, and is a very positive outcome from this Project.

7.6 Northern Ireland

The Research Project had an early success in influencing VSA policy in Northern Ireland, albeit in a small way. The Northern Ireland Department of Health, Social Services and Public Safety, Health Development Policy Branch, was consulting on its 'New Strategic Direction' (regarding drugs and alcohol) which covered the period 2006 to 2011 and was currently being updated. Although the formal consultation period had ended, the team at the Department welcomed Re-Solv's contributions, and a meeting was held with the Northern Ireland 'Drug Czar' and his colleagues on 25th July 2011.

Some of the research evidence that Re-Solv was able to muster in support of its arguments concerned the consistently higher death rate from VSA in Northern Ireland compared to the rest of the UK. In a briefing paper written during the Research Project (reproduced here as Annex 5), the current author wrote:

'With the UK SMR [Standardised Mortality Ratio⁵⁷] equal to 100 by definition, the Northern Ireland SMRs have varied from 113 to 193 during the period 1985 to 2008; consistently above the average of 100. Furthermore, while deaths in the UK as a whole have fallen from of 152 (in 1990) to 36 (in 2008), deaths in Northern Ireland have not shown a similar trend. There were 10 deaths in Northern Ireland in 1991 (an 'outlier'), apart from which the numbers have fluctuated from one (in 1981, 1995 and 2002) to six (in 1986, 1993 and 1999). In other words, there does not seem to be a discernible downward trend. This is why the SMRs have risen, since proportionately, although not numerically, the number of deaths in Northern Ireland has increased compared to the UK as a whole.'

This was part of the argument that Northern Ireland needed to pay more attention to VSA. Another piece of the argument was about a high-profile death of Darlene Bell, a 15-year old girl who was 'in care' and living in residential care in Newtownards, and about whom there had been suspicions that she was experimenting with butane gas. The Coroner, Joanne Donnelly, delayed delivering her findings until she had clarified whether Darlene's care was properly reviewed by officials, stating:

'It is not a summary of the care we need, it is an analysis and an assessment of the care to see whether there are any lessons that can be learned,'

Later, at the inquest, the Coroner:

⁵⁷ The Note explains: 'The SMR is the ratio of observed deaths to 'expected' deaths, so if the observed deaths in a particular area exceed those expected (compared to the UK as a whole, on the basis of the area's population and age and sex make-up) then the ratio will be greater than 1.0. (For ease of presentation, this note follows the convention in the St George's reports of expressing the ratio times 100, so that where a figure exceeds 100 the observed deaths exceed those expected.)'

... made a point of discussing solvent misuse and pointed out our Trustee in the courtroom, suggesting that both the press and care home managers talked to him. She also mentioned an email that Re-Solv had sent to her in the summer, expressing concern and offering our support. Subsequently, the Director of Children's Services & Executive Director of Social Work for the South Eastern Health and Social Care Trust spoke to our Trustee with a view to furthering Re-Solv's involvement in the region. (email from Re-Solv's Head of Marketing, 16-03-12)

This is a good example of how Re-Solv advances arguments about the need for more attention to VSA, based both on research and on local 'on-the-ground' evidence – while also offering practical support.

The final document on drugs and alcohol policy in Northern Ireland, 'New Strategic Direction Phase 2' showed evidence of Re-Solv's influence in that it made more reference to VSA. As an internal note put it:

'It is disappointing that it does not pick up on some of the comments we made – e.g. in the 'deaths' section, no mention of VSA deaths. However, there are some significant references, as follows:

'p16 "3.21 Another aspect or feature of drug use in Northern Ireland is the misuse of 'over-the-counter' (OTC) medicines and prescribed drugs, often, but not solely, by older people. In addition, volatile substance misuse remains a perennial issue, especially among young people." (this was already mentioned in the consultation document)

'p 31, under "prevention and early intervention" it says: "Volatile substances and alcohol are often the first substance tried by many young people; this should be recognised and addressed."

'And on p 40, under "reduced availability..." it says: "Action should also be undertaken to reduce the availability of Volatile Substances through the enforcement of supply control legislation and retailer education."

'p 53 for very young children: "Schools support the development of skills and knowledge that enable young people to resist social pressures to experiment with alcohol and drugs, including volatile substances, emerging drugs of concern, etc." (there was a ref to this in a similar location in the consultation document)' (email from Richard Ives to Re-Solv Team 29-01-12)

7.7 Discussion

No-one expects that efforts to influence national government policy will produce dramatic results in the short-term; it requires sustained work, good contacts, sound research and clear examples of the need for change – as well as luck. (It is pleasing to be able to report that on 23rd July 2013 the Wellcome Trust Science Media Centre hosted a meeting where Re-Solv had the opportunity to present the findings of this research to journalists.)

Re-Solv has a long history of efforts to influence policy, and, over the years, some successes (for example, there is on-going contact with the Northern Ireland Government and a meeting to present the findings of this research took place on July 8th 2013). This Research Project was able to support the charity in this endeavour, and – as has been shown in this chapter – with some positive outcomes.

The key question, of course, is how those policies translate into practice. Re-Solv will continue to use the policy commitments made by the UK's national governments to press for sustained action appropriate to the nature and size of the VSA problem.

8. Looking to the Future: Lessons from History

It may seem strange to have a chapter on the history of VSA almost at the end of this report. Although Re-Solv has a long and honourable history, it seemed important not to highlight or overemphasise this in a report which aims to help the charity to develop its work for the future.

Recalling Edmund Burke's statement, 'Those who don't know history are destined to repeat it', reminds of the importance of studying the past, to understand how we reached the point we have reached today, and how we might move forward with new understanding. A brief history is given in ISDD's manual for professionals:

'Sniffing substances for enjoyment or to block out pain is not a new practice. The inhalation of snuff used to be popular, and not just among the upper classes. There are stories of race courses of the last century being littered with ether phials and, of course, cocaine was an esteemed drug by many influential people of the nineteenth century, including Freud. Nitrous oxide, "laughing gas" was used for pleasure and entertainment, not only by the medical profession.

'Solvent sniffing by young people was first reported in the USA in the 1950s. The first case of solvent sniffing in Britain was reported in 1962 (although young people certainly experimented with sniffing before this) but it was only in the late 1970s that there was general concern about young people sniffing. This public concern rose to such a crescendo in 1983 that of the 6,128 press cuttings received by ISDD's monitoring service more were concerned with solvents (56 per cent) than all other drugs put together (see Ives, 1986). Of course, it is hard to disentangle the actual level of concern among the general public and the fanning of the flames of that concern caused by the media coverage of sniffing.' (Ives, 1995)

A lot has changed since Re-Solv was founded in 1984. Much of the change has been positive – VSA-related deaths have fallen dramatically, public and political debate is no longer hysterical and is much better informed. It is widely recognised that 'solvents are drugs' along with illicit drugs (controlled or not), as well as alcohol and tobacco. This has led to more integrated approaches to the topic (for example, through drug education in schools).

A major change that Re-Solv is responding to is the increase in the proportion of adults dying from VSA-related causes. And more of these deaths are related to butane gas. And much substance use is 'poly-drug' – i.e. people consume more than one substance; sequentially, or – more dangerously – at the same time.

There have been a number of themes in the approach to VSA over the years, and different interest groups have promoted various approaches to tackling the issue.

The first stage in addressing a social problem is to understand it, and this means, *inter alia*, data: collecting and collating, synthesising and reporting. In the DH-funded study at St George's, the UK had the world's best data on VSA-related deaths

(described here in Chapter 4); but, as described in Chapters 2 and 3, data on the prevalence and correlates of the problem are less good.

But data on its own does not explain anything; explanations require 'frameworks' for interpreting the behaviour. ISDD's 1995 manual for professionals about VSA discusses several different ways of looking at it:

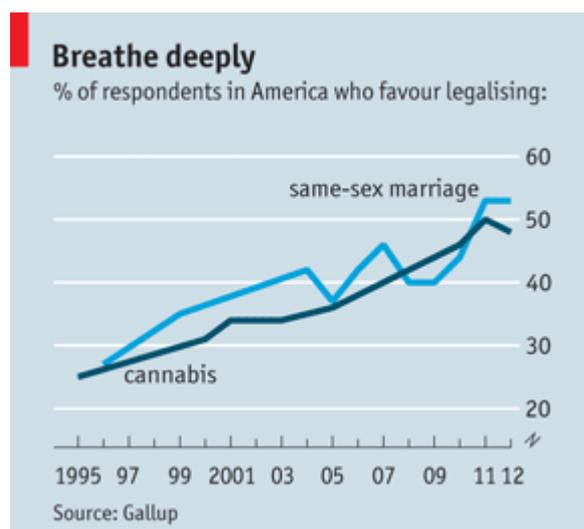
'Biological predisposition; Individual differences; Self-medication; Curiosity; Hedonism; Hallucinations; The peer group; A drug-using society; Poverty; Habit; Spirituality; Risk-taking.' (Ives, 1995)

All these ways of understanding substance misuse can be appropriate in different circumstances, and it is important not to get 'fixated' on one (or on only a limited number) of potential explanations for individual people's behaviours. There was a point, in Re-Solv's distant past, when the explanation of product availability became predominant, but for most of its existence, Re-Solv has been open-minded in its understanding of the phenomenon. This is important, because the charity has to address a range of different audiences, and needs to be able to describe the issue in different ways to communicate effectively with those audiences

Applying the lessons of VSA to current substance misuse phenomena

The focus of public and political attention has long ago 'moved on' from VSA. As this report is being written (2013), the psychoactive substance misuse stories are about the excessive use of alcohol and about new psychoactive substances (NPS, so-called 'legal highs'). There is less public concern about controlled drugs, and evidence of dramatically changing public attitudes towards cannabis, in line with other changes in social acceptance of 'deviant' behaviour, as this graph (from *The Economist*, 22-02-13) illustrates.

Figure 8.1 Changes in social attitudes



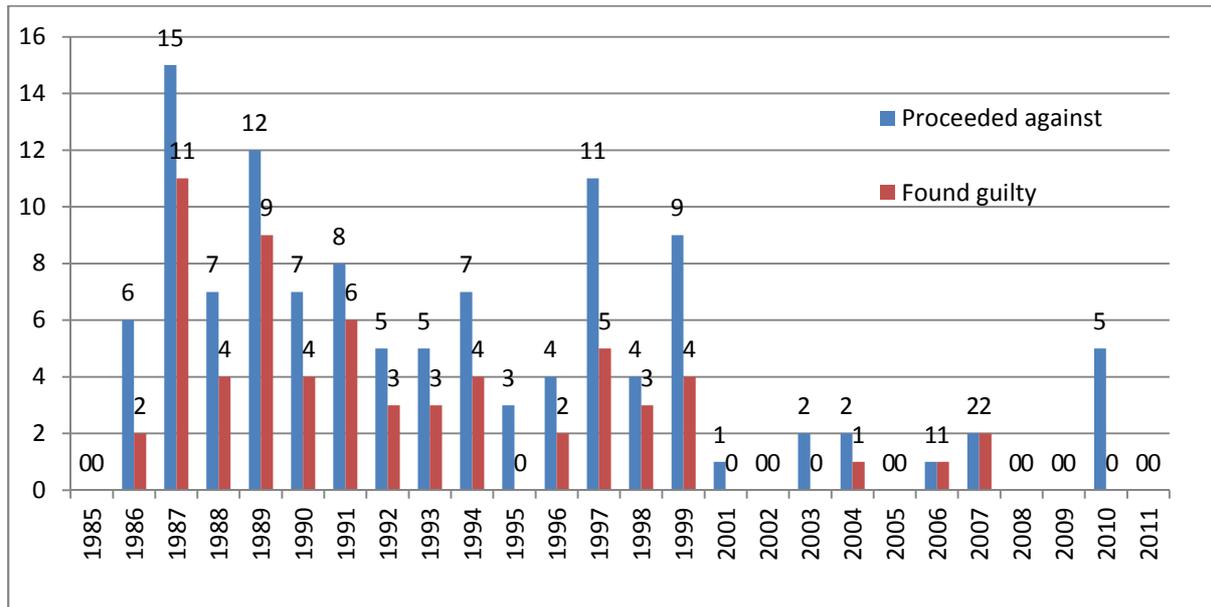
With the concern focusing on legal substances, the lessons learned from tackling the misuse of volatile substances are relevant.

Lesson One

The first lesson is that the knee-jerk reaction to ban substances or make their sale or use illegal, is generally not effective. In 1985 in response to public concern about VSA, the government legislated to ban the sale of sniffable products to people under 18 who were thought to be going to use them to achieve intoxication. This was always

going to be difficult to enforce, and after some high-profile prosecutions of shopkeepers who were clearly flouting the law for profit, the number of prosecutions (shown in blue) declined and stayed low, and the number of convictions (shown in red) was very low, as the graph shows.

Figure 8.2 Numbers proceeded against and convictions obtained under the *Intoxicating Substances Supply Act 1985* between 1985 and 2011



The current response to NPS has included making them illegal, but, as was seen with mephedrone, this does not stem misuse. And, with substances such GBL (which is converted to GHB in the body, producing feelings of euphoria), there are, as with many volatile substances, legitimate uses (in this case, as an industrial solvent), making illegality a difficult route to go down.

Lesson Two

A second lesson from the history of VSA that is applicable to today’s substance misuse scene is that intoxicating substances are replaceable. If one is banned, or chemically or physically altered to make it difficult to use to achieve intoxication, then people who seek a ‘high’ will find other substances – and these may be more dangerous than the ones they replace. Yet the current response to NPSs is to address them one by one – a new substance becomes available on the internet, data are collected on its use, perhaps the Home Secretary issues a ‘temporary class drug order’ banning manufacture, supply and importation for up to 12 months while the ACMD⁵⁸ investigates. But this system is under severe strain as notifications of new psychoactive substances to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) have risen from an average of five per year between 2000 and 2005 to 41 in 2010 and 49 in 2011. The EMCDDA found 690 websites selling NPS across the EU in 2011.

This lesson also teaches us that there is no point in trying to educate people about the detail (such as the effects and the dangers) of this huge range of substances – this is a fast-moving marketplace and ‘playground’ and it is impossible for slow-moving bureaucracies to keep up. Schools should not be asked to ‘warn the kids’ about the latest drugs scare, but should be allowed, encouraged and enabled to do

⁵⁸ The Advisory Council on the Misuse of Drugs, which provides official scientific advice to the UK’s Home Office

a solid job of educating young people in appropriate attitudes toward substance misuse (such as respecting their bodies), being aware of risks (in a broad sense) and developing the skills to deal with substance-related situations. Within this framework, young people need to understand the basics, in broad outline, about a range of substances – just as Re-Solv has been advocating – and putting into practice.

In addition, this lesson reminds us of the need for nimble non-governmental sector organisations to be addressing this issue – Re-Solv has performed this role in relation to VSA, and the Angelus Foundation aims to do a similar job for NPS.

Lesson Three

A third lesson is that it is possible to reduce the harm from substance misuse by providing sensible and targeted harm reduction advice. It was highly controversial, when, as long ago as 1980, ISDD, the forerunner of DrugScope, advised that putting a large plastic bag over the head to inhale glue was particularly risky and should be avoided – but it was life-saving advice that may have actually saved lives (ISDD 1980). Today, in the rush to condemn all NPS use as 'deadly', it is easy to forget that some of these substances are more dangerous than others. As with VSA in the 1980s, the science is uncertain, we know very little, and we know nothing about the long-term effects of the use of some of these novel substances. Yet, we can use what little knowledge we have to provide tentative advice to committed users. In this way we will gain credibility with those who use NPS, and can have a dialogue with them about their use, in the process learning more about the effects of these substances, which can support more accurate advice. This is part of the task of Chelsea and Westminster Hospital's 'Club Drug Clinic'.

Lesson Four

A fourth lesson is optimistic – prevention can work. It requires sustained effort, it requires a continuing focus, it requires resources – and it needs to be evidence-based, truthful and credible to the target audience. VSA prevention has not reached this nirvana, but we have seen glimpses of successful practise, and we know what to aim for. Efforts to reduce the harm from NPS could learn from this history.

9. Conclusion

It is very good news that VSA is a much smaller problem than in the 1980s and 1990s, although it continues to be a worrying social problem, with both children and adults affected. Because of the number of different 'sniffable' products, because of the possibility of substitution of one product for another, because of the range of chemicals involved, because of the lack of information on the relative harm of various products and practices, because of the relative youth of many sniffers, and because of the sudden and unpredictable nature of many deaths, volatile substance misuse has foreshadowed many of the issues that are now important when tackling new drugs.

While the range of measures applied have been many and varied, and some appear to have some success in tackling the problem, it is well to remind ourselves that there is no one solution to the problem; as the 1995 Advisory Council on the Misuse of Drugs' (ACMD) report on VSA stressed, there are no easy solutions to the problem:

'Given the emphasis which we have already put on the varied nature of the problem, it must be evident that "good practice" will constitute a layered series of alternative or multiple strategies rather than any one master stroke.' (ACMD, 1995 paragraph 5.5)

Perhaps partly because of the successes, there is less focus on addressing it, less data collection about it, fewer initiatives to tackle it and no thought-through treatment modalities. Yet, still, the problem of VSA (especially the continuing associated deaths) needs addressing. And it is not a problem that exists in isolation from other social problems. As was shown in Chapter 2 of this Report, VSA is closely connected with other issues such as increased rates of smoking, drinking, and other substance use among young people, with living in disrupted families, having accidents, being dissatisfied with life, being bullied and not feeling in control of one's life. And as reported in Chapter 3, large proportions of adult drug users in treatment report having misused VSs, and there may be associations between VSA and mental health problems.⁵⁹

It isn't that VSA 'leads to' other problems, but that it is part of a constellation of hardships, difficulties, and dysfunctional responses to these sub-optimal conditions. It is not helpful to think about VSA (or any other substance that is used by young teenagers) as some kind of 'gateway' to future problems; a more useful way of thinking about early VSA is as a 'sentinel' – a warning indicating that a young person misusing VSs has an increased chance of developing other life problems.

This means that early detection and intervention – which, as this Report has shown has been neglected in the UK – is crucial, and will help to tackle problems other than VSA. Plenty of studies have shown the value of 'catching them early' – saving on drug treatment, health, and criminal justice budgets – not to mention reducing human misery and enhancing people's life chances.

⁵⁹ caveat: this statement is based on qualitative data from non-representative samples – although supported by professionals' experience.

Recent years have seen a decline in teenage VSA-related deaths, and a proportionate increase in adult deaths – but whether this means that we are facing a new phenomenon or whether we are seeing the fading out of a social problem is not clear.

What *is* clear is that Re-Solv is still needed and still has a job to do. But that job is changing and evolving, and presents new challenges for the Charity – for example, giving more attention to adult VS misuse.

Working with very limited resources, Re-Solv has achieved a lot. It has always taken account of research findings and has eschewed shrill campaigning in favour of careful lobbying based on a detailed analysis of the issue. It has supported those working with VS misusers and those doing preventive work with helpful advice, materials, and training. It has undertaken direct work with young people, offered support for bereaved parents and other family members, and provided a 'friendly ear' to those who could find no-one to talk with. It has always helped to put people in touch with one another, and now, with the 'Community for Recovery' project, this work has been formalised – and funded!

The innovative funding stream created by the Big Lottery has been hugely useful to Re-Solv, enabling this small charity to make even better use of research in its work. While not all the potential avenues for research initially envisaged have been explored, and while not all parts of the work have been conclusive, the input from the research has been substantial.

Key aspects of this work were the reanalysis of the deaths study data, which confirmed that a well-designed and funded prevention campaign can make a difference – further, it has re-emphasised the importance of reaching parents in order to influence the behaviour of young people. The publication of this research in the journal, 'Addiction' is a research highlight, which is entirely a result of the Big Lottery funding. The examination of prevalence data and correlates of VSA has highlighted the 'co-morbidities' of young VS misusers. And a look at how adult treatment services were recording VSA uncovered some limitations of the system, which Re-Solv is lobbying to change.

Re-Solv staff responded positively to the research input – but not uncritically, demonstrating engagement with the findings and implications, and adjusting their work accordingly. In conclusion, this has been a successful project, linking research to practice, and which will have a sustained effect both on Re-Solv, the charity, and on the topic of VSA into the future.

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11. Resources & Bibliography

This section lists some current resources for education or training that address VSA. There are brief comments about some of the resources: these are the author's own views and not necessarily those of Re-Solv.

11.1 Re-Solv publications

11.1.1 Tackling Volatile Substance Abuse in Scotland

Re-Solv has done a lot of work in Scotland, including the production of a dedicated website (<http://content.iriss.org.uk/vsatraining/?q=vsatraining/>) 'Tackling Volatile Substance Abuse in Scotland – a training programme for the social care workforce'. This package contains a lot of useful downloadable materials (which are available without signing up to the programme), including group learning materials and activities, an 'individual learning self-work book', two audio clips of interviews with 'looked after' children in Scotland, and three films (two of which are also available on Re-Solv's website):

- *Silent Killers*, 2007 produced by Re-Solv, documenting the awareness walk marking the first anniversary of the death of 14-year-old Steven Blacker from VSA.
- *A Loaded Gun*, 2002, has parents talking about their children who have died from VSA; it also includes their friends talking about them. John Ramsey explains the risks of VSA.
- *David's Story*, 1995 produced by Grampian Police, is the story of David Morrice who, in 1994 died sniffing butane lighter gas, told by his mother, Lorraine. It is a very moving account.

11.1.2 "Buzzin" by Learning Curve Education

This film, in two parts, is packaged with Re-Solv's Scottish educational resource. It is a fictional account, narrated by a girl who was a friend of a boy who sniffed, perhaps because he is bullied at school. It's a good drama, but with little VSA-related content and focused on peer pressure as the main explanation for VSA.

11.2 YouTube films

A copy of the research blog about films on VSA available on *YouTube* is included in Annex 1.

A recent article in the journal, *Drugs Education Prevention and Policy* discusses the challenges to drugs education of *YouTube* video's about drugs (see Manning P 2013 'YouTube, "drug videos" and drugs education' *Drugs: Education, Prevention and Policy*, 20 (2): 120–130).

11.3 Films from the 1990s Department of Health Campaign

As a task of this project, the promotional films from this campaign have been uploaded to *YouTube* as 'private videos only available from direct linking' (i.e. you can't find them by searching *YouTube*). See the research blog 'Films on VSA' reproduced in Annex 1.

11.4 Problems with Solutions

The author created a training manual, called *Problems with Solutions*, for *ISDD* (which later became *DrugScope*) which included an animated film. A four-minute extract from this film is on *YouTube* at <http://www.youtube.com/watch?v=spgH21gd1OU>.

Annexes

List of annexes

Annex 1 The Research Blogs

Annex 2 Published Articles

A2.1 Druglink

A2.2 AdFam magazine

Annex 3 Evaluation of Re-Solv's school interventions

A3.1 Report on pilot evaluation of Year 7 VSM intervention

A3.2 Report on pilot evaluation of Year 7 VSA intervention

Annex 4 The views of users & professionals

A4.1 Consultations with professionals

A4.2 Evaluation of training undertaken by Re-Solv with professionals in Wales

A4.3 Report of a focus group with adult drug users

A4.4 Notes on interview with an adult butane misuser

Annex 5 Correlates of VSA: Survey Data

Annex 6 The Reports on VSA Deaths

Annex 7 Statistical findings using the St George's data summarised

Annex 8 Note on deaths in Northern Ireland compared to the UK as a whole

Annex 9 Note on the NTA's coding of VSA

Annex 10 Reprints

Annex 1 The Research Blogs

During the project, as part of encouraging engagement with research, Richard Ives published a research blog which was linked to from the Re-Solv website. By the beginning of February 2013, there had been 1681 page-views. Here are the entries in that blog, to date. Note that the term 'VSM' is used in some of these blogs (you'll see why when you read 'What's in a name?'); the term is synonymous with 'VSA'.

Posted 1-12-11

Does advertising work?

A recent research paper reviews the effectiveness of campaigns to reduce or prevent drug misuse. The review uses the method of 'meta-analysis'. This means identifying all the relevant papers in a certain time period, from a wide range of journals, and making an assessment of their findings and – crucially – the quality of their findings. The authors conclude:

'Existing evidence suggests that the dissemination of anti-illicit-drug PSAs [Public Service Announcements - i.e., advertising 'against' illicit drug use] may have a limited impact on the intention to use illicit drugs or the patterns of illicit-drug use among target populations.'

(Werb et al 2011 'The effectiveness of anti-illicit-drug public-service announcements: a systematic review and meta-analysis' *J Epidemiol Community Health* 2011; 65: 834-840)

Yet many of us remain convinced that *properly designed and executed* campaigns can make a difference. Campaigns also need to be *big enough* and *last long enough* to make an impact.

Many different organisations produce prevention material. In the case of volatile substance misuse, this sometimes includes the industry. What do you think of this attempt to discourage young men from sniffing 'Axe' deodorant (a USA product)? <http://www.youtube.com/watch?v=ubONs4D1abw>

5-12-11

Australian Clinical Guidelines

Re-Solv and *educari* were recently thanked for their helpful comments on an Australian draft document on the clinical management of VSM. The final version of the Document was formally released by the Minister for Mental Health and Ageing, Mark Butler, and Minister for Indigenous Health, Warren Snowdon on Friday 28 October 2011.

The publication, *Consensus-based clinical practice guideline for the management of volatile substance use in Australia* is produced by Australia's National Health & Medical Research Council. These are the first systematically developed Clinical Practice Guidelines specifically developed for Australian health care settings, providing recommendations to manage volatile substance misuse in Australia. They are intended for health professionals including doctors, nurses, Aboriginal health workers, Ngangkari (traditional healers), alcohol and other drug workers and allied health professionals.

The Guidelines are accompanied by a quick reference guide. This summary contains all the Guidelines' recommendations in an easy-to-read format to assist health professionals in implementation.

Electronic copies of the Guidelines and summary document can be accessed at: <http://www.clinicalguidelines.gov.au/search.php?pageType=2&fldglrID=1965&>

While the Publication takes on many of our comments on their Draft, one that was not taken on board was our critique of their term 'volatile substance use'. Why do we object to this term? See next blog entry.

posted 12-12-11

What's in a name?

Re-Solv has recently started using the term 'volatile substance misuse' ('VSM') in preference to the more traditional 'volatile substance abuse' ('VSA'). When Re-Solv first started out (25 years ago!), the term, 'glue-sniffing', was commonly used, and in those days this was a reasonable description of much of the 'sniffing'. Later, Re-Solv started calling itself 'the society for the prevention of solvent and volatile substance abuse', but of course this did not actually mention aerosol or butane misuse. None of these terms communicate very well to the general public, so choosing the right term is a compromise between some kind of scientific accuracy and a degree of public understanding.

'VSA' became widely used, but there was always the worry about that word, 'abuse'. 'Child abuse' means that the child is being abused – i.e. hurt in some way. Sniffing a commercially available product to achieve intoxication is not 'abusing' the *product*, however much the 'sniffer' is abusing *him/herself*.

Earlier this year we had the opportunity to comment on a draft Australian document of clinical guidelines on VSA management (see previous post). To our dismay, the term 'VSU' ('volatile substance use') was used throughout this document. We responded to this usage as follows:

'We are unhappy with the term 'VSU' because it confuses 'use' with 'misuse'. With substances such as crack cocaine that do not have legitimate uses, the term, 'use', may arguably be appropriate. But with substances that have legitimate – and safe – uses, and indeed are manufactured for such purposes, it seems perverse to describe their misuse to achieve intoxication as 'use'. While we appreciate that this terminology is intended to give a neutral tone to descriptions of the practice, we fear that it provides legitimacy. One would expect that we at Re-Solv, a campaigning organisation, would take such a stance. But we do not believe that it is in any way stigmatising those who inhale volatile substances to achieve intoxication to describe their behaviour as product misuse.'

While they didn't accept our comment, thinking about this terminological trickiness helped to propel Re-Solv to take the plunge on a name change: so it is **VSM** from now on – but will it stick? (*groan*)

NOTE: *it didn't stick. Shortly afterwards, Re-Solv decided to continue to use the term 'VSA'.*

20-12-11

Reaching Parents: A case of successful advertising?

My blog of December 1st discussed a recent review of the evidence on drug prevention advertising campaigns, which was downbeat about the effects; such campaigns had: 'a limited impact on the intention to use illicit drugs or the patterns of illicit-drug use among target populations'.

But how about campaigns that aimed at parents? We know that the parenting has an enormous impact on all aspects of a child's life, so it would not be surprising if parents' views, attitudes, and behaviours around drugs, had a big impact. It's likely that how they discuss drugs, alcohol and other substances with their children, and the boundaries they establish, will affect their child's substance misuse. But we know that parents feel ignorant about drugs, are worried about discussing substance misuse with their children, and don't know how to broach the subject. So it makes sense for prevention campaigns to target parents with drug information, with reassurance, and with ideas for tackling the issues with their children.

In the 1990s, a Department of Health campaign did this on a grand scale in England and Wales. There were two linked campaigns, one on drugs in general and one specifically on volatile substance misuse. At that time, there was a lot of public concern about VSM and many teenagers (especially boys) were dying from sniffing (in 1990, there were 152 deaths – almost three each week). Here's a contemporary report: <http://www.independent.co.uk/news/uk/campaign-to-combat-solvent-abuse-1405249.html>

The campaign aimed to get parents talking with their children about substances. It was recognised that TV advertising could have only limited goals, and the object of the adverts was to raise parents' awareness and encourage them to obtain a copy of the free booklets (one for the drugs campaign and one for the VSM campaign).

The advertisements were hard-hitting – dramatically highlighting VS-related deaths – and probably raised parents' anxieties; but they *were* effective in getting copies of the booklet into parents' hands. Did parents act on the sensible and non-alarmist advice in the booklet? A campaign evaluation indicated that some did. In the years following the campaign, VSM-related deaths among under-18s declined – how far this was due to the campaign is a difficult question to answer (we're trying).

Four of the VSM campaign advertisements can be viewed by following these links:

VSA1: <http://www.youtube.com/watch?v=cMaoGVfaVTQ>

VSA2: <http://www.youtube.com/watch?v=-7SuIDVkJMcs>

VSA3: <http://www.youtube.com/watch?v=lkvAg8e-MRI>

VSA4: http://www.youtube.com/watch?v=Xwt_GaVTABM

Descriptions on *YouTube*

VSA1

TV advert from the UK's Department of Health 1990s Campaign to alert parents to the dangers of VSM (Volatile Substance Misuse). This is one of four ads uploaded here - this advertisement is about a child sniffing and choking to death and the father being told of his death.

VSA2

TV advert from the UK's Department of Health 1990s Campaign to alert parents to the dangers of VSM (Volatile Substance Misuse). This is one of four ads uploaded here - this advertisement is about a child sniffing and choking to death and their mother discovering the body.

VSA3

TV advert from the UK's Department of Health 1990s Campaign to alert parents to the dangers of VSM (Volatile Substance Misuse). This is one of four ads uploaded here - this advertisement is about a sister having nightmares about her dead sibling who died from sniffing.

VSA4

TV advert from the UK's Department of Health 1990s Campaign to alert parents to the dangers of VSM (Volatile Substance Misuse). This is one of four ads uploaded here - this advertisement is about a child sniffing for the first time and dying.

Posted 6-1-12

Prevention may not be better than cure

It's a truism to say that prevention is better than cure, and in the field of substance misuse it's clear that treatment is expensive and prevention relatively cheap. 'Primary' or 'universal' prevention – the sort that reaches the whole population, such as classes in schools – is especially cheap, as it can be included in the normal school curriculum and taught by class teachers or within PSHE (personal, social and health education).

But things are only really cheap if they work. And, for example, my blog entry of 1st December pointed out that much research on anti-drug advertising showed that it didn't have much impact. There is no point in spending money on prevention if it doesn't make a positive difference.

And there is a risk that some prevention efforts might have negative effects – the paper referred to in the earlier blog quotes the evaluators of the USA’s National Youth Anti-Drug Media Campaign:

‘If the meta-message is that drug use is widespread, higher exposure to Campaign ads should cause an immediate effect on the perception that other kids regularly use marijuana. This perception eventually leads to a more generalised pro-marijuana social norm and greater likelihood of actual initiation.’

In other words, there is a possibility that banging on about drugs may cause young people to think that their peers are more likely to use drugs – and therefore *they* may be more likely to do so. This violates the maxim ‘do no harm’. (quote from Werb et al 2011 ‘The effectiveness of anti-illicit-drug public-service announcements: a systematic review and meta-analysis’ *J Epidemiol Community Health* 2011; 65: 834-840).

It’s therefore vital that prevention efforts are properly assessed for effectiveness. But this is much easier said than done. Assessing the outcomes of treatment isn’t easy, either, but at least evaluation of treatment can study an individual and say whether treatment has been effective according to criteria such as: are they drug-free; if they are still using drugs, are they using them less dangerously, are they committing fewer crimes, and so on. Prevention applies to populations, not individuals, so measurement of effects is more difficult. And outcomes are more varied, and not immediate, having to be looked for over a longer term.

In my next blog entry, I’ll discuss some difficulties in the conception of prevention; after that, I’ll discuss the evaluation of prevention and what can be measured.

posted 7-2-12

Conceiving Prevention

How do we know if prevention ‘works’? In my previous blog, I referred to the difficulties of evaluating substance misuse prevention efforts. School-based education for substance misuse prevention remains the leading approach for ‘universal’ prevention efforts, since it can reach all young people, and is relatively inexpensive, but it is bedevilled by different ideas about what should be expected from it and how to go about it.

As the (wonderful) *Drug and Alcohol Findings* points out in the article, [“Drug education yet to fulfil its presumed potential”](#):

“School-based drug education was and for many remains the great hope for preventing unhealthy or illegal substance use. ... The promise is clear, the fulfilment less so.”

Findings points to two issues, firstly:

“... the contradiction between the objectives of education and those of prevention: the former seeks to empower children to think for themselves and

open up new horizons, the latter to channel thoughts, attitudes and actions in ways intended by programme developers and teachers.”

In other words, prevention tends to aim at stopping people doing things, but true education is about broadening horizons and developing autonomy. A person well-educated about substances might choose to take drugs and this could be counted as an educational success; but it would not usually be seen as a *prevention* success.

Secondly, *Findings* points to “potential contradictions *within* prevention programmes themselves”.

“Some aim to *limit* young people's autonomy in their choice of friends and substances by *extending* autonomy in decision-making, to *encourage* conformity to non-drug use values by *discouraging* conformity to other young people, to develop team work and social solidarity without accepting that youngsters may express this by going along with their peers as well as deciding not to.”

In other words, educators are confused!

The limited impact of substance misuse education on the use of drug is perhaps partly explained by these difficulties. There is more discussion on the [Findings website](#).

posted 12-2-12

Evaluating Prevention: what to measure?

As we have seen (in my previous two blogs), partly because of the conceptual difficulties in defining substance misuse prevention and its expected outcomes, it is difficult to evaluate. But evaluate we must, because without an assessment of outcomes we can't know whether what we are doing is having a worthwhile effect.

Much prevention effort – perhaps most of it – is wasted because it doesn't appear to have an impact on substance misuse. But perhaps this is because of the difficulties of measuring effects – maybe (for example) there is an impact but it isn't immediate. A lot of drug prevention aims to prevent drug misuse in the future – but most evaluations are short-term. It's hard to do long-term evaluations, partly because of the expense and the difficulty of keeping in touch with people over many years, but mainly because the more time that's passed the more difficult it is to attribute any effects to specific past experiences. For example, if a group of young people receive alcohol education and immediately afterwards their alcohol consumption declines (assuming a reliable measure of their alcohol use before and after the educational intervention), then it would probably be reasonable to attribute the change to the education. If, at a five-year follow-up, they are using less alcohol than a control group which didn't receive the alcohol education, then this *might* be due to the education received five years earlier, but so many other things will have happened in the intervening years that it would be hard to make such a claim.

Another difficulty is the selection of the outcome measurement. Alcohol education doesn't generally aim to prevent *all* alcohol use. It might target, for example, binge

drinking, drunkenness, or drinking within safe limits. Measuring different expected outcomes might give different results.

A recently-published example is of an evaluation of alcohol prevention which used a sophisticated design, a large sample, and complex statistics to assess the effectiveness of the Örebro Programme (ÖPP), an intervention aimed at reducing youth drinking by changing parental behaviour which is widely used in Sweden (Bodin & Strandberg, 2011 *Addiction*, 106, 2134–2143). Measured outcomes included frequent drunkenness, lifetime drunkenness, weekly drinking, and servings of alcohol in the home. The authors conclude: "The Örebro prevention programme as currently delivered in Swedish schools does not appear to reduce or delay youth drunkenness."

But how robust were the outcome measures? In a commentary on the *Addiction* paper it is pointed out that:

"Bodin & Strandberg summarize a set of behaviours under the outcome of reported frequency of drunkenness, which was dichotomized for analytical purposes, using the following definition of drunkenness: 'How many times/during the last four weeks/have you drunk alcohol to the point that you felt drunk?'. There is a robust body of knowledge challenging the value of reported behaviours such as reported drunkenness, or even comparing different ways to approach self-reports. Moreover, self-perception of drunkenness can vary from individual to individual, influenced by respondent or interviewer characteristics; how much would these perceptions affect the findings? We do not know." (Pechansky, 2011 *Addiction* 106, 12, pp 2144–45),

posted 8-3-12

Asking about VSM

In previous posts, I've been discussing some of the problems of assessing the effectiveness of prevention efforts. I've used some examples from alcohol education. How does this apply to VSM?

In the blog entry, *Evaluating Prevention: what to measure?*, I discussed, with reference to alcohol, some of the difficulties of selecting appropriate outcome measurements. Arguably, things are easier with VSM. For many people, alcohol is a socially accepted psychoactive substance, and measurement difficulties are partly due to setting cut-offs on the quantities consumed and frequency of use. With VSM, there are no socially acceptable levels of use (that why we call it 'VSM' – see blog entry 12-12-11 *What's in a name?*). So it should simply be a matter of asking whether people have misused volatile substances.

But, probably, you can immediately see two problems. First, what are 'volatile substances'? We are using this phrase as a portmanteau term to describe a range of substances that some people misuse. But *they* don't use this term – they'll talk about 'glue', 'gas' or various slang terms. Most won't understand a question about 'volatile substances'. So researchers have, for example, asked about 'gases, glues and aerosols'. But this doesn't cover the whole range of possible volatile substances:

what about 'poppers' (isopropyl nitrite), for example? Re-Solv has generally not included them in its remit, but they are volatile substances that are inhaled to achieve intoxication.

Second, what do we mean by 'misused'? A young child asked a question about misuse might interpret this as using glue to stick their friend's doll's hands together! It's misuse of glue, but not exactly what we are trying to get at!

There is a third problem, addressed in a paper in the journal, *Addiction*. This is the issue of how young people at different ages seem to interpret their volatile substance misuse differently. When they are younger, they are more likely to define some behaviours as VSM; when older, they tend to redefine (or forget) their younger experimentation. The journal paper explored some of these difficulties, the authors finding that, in their USA sample, almost half (49%) of the young people who (at Grade 7) said that they had misused a substance, a year later (at Grade 8) did not report it. Around two-thirds of the 'recanters' were life-time inhalant users who had admitted misuse in Grade 7 and then denied it in Grade 8; while the remaining third were those who incorrectly reported misuse at Grade 7 and then corrected that error at Grade 8. The authors conclude:

'Inhalant use recanting is a significant problem that, if not handled carefully, is likely to have a considerable impact on our understanding of the etiology of inhalant use and efforts to prevent it.' (Martino S et al 2009 'Recanting of life-time inhalant use: how big a problem and what to make of it' (*Addiction*, 104, 8, pp. 1373-1381)

Why is nothing simple?! This finding must make us rather cautious about the accuracy of estimates of VSM prevalence. It also reinforces the importance of careful question wording.

Evidence for effective interventions

A recent article in the UK medical journal *The Lancet* (by John Strang, Thomas Babor, Jonathan Caulkins, Benedikt Fischer, David Foxcroft, Keith Humphreys) is titled '[Drug policy and the public good: evidence for effective interventions](#)', (*The Lancet* Vol 379, January 7, 2012). It identifies five broad policy approaches to prevention intervention:

- Supply controls
- Criminal sanctions
- Controls on prescription drugs
- Prevention
- Health and social services for drug users

On supply controls, the authors draw five conclusions:

1. if law enforcement can keep prices high, drug initiation and use will be reduced.

2. illegality and some basic level of enforcement makes illicit drugs far more expensive at retail in developed countries than plausible estimates of the cost of their production and distribution would suggest.
3. increasing imprisonment is a very expensive way to increase prices in established drug markets
4. very little evidence exists for the effectiveness of alternative development programmes in source countries, and no evidence exists that they affect the availability or price of drugs in final-market countries
5. supply shocks can substantially reduce drug availability, purity, use, and harms in consumer countries

After describing various criminal sanctions, the authors conclude that:

'Interpretations of the evidence are contested, but, evidence that tougher sanctions deter drug use or criminal offending more generally is, at best, weak.', although enforcement may be able to: 'reduce adverse collateral effects of drug markets, produce abstinence in closely supervised offenders, and improve uptake and retention in treatment'

On controlling prescription drugs, the authors suggest that, while 'prescription regimens do not eliminate non-medical use of psychoactive prescription drugs', they 'can reduce irregular prescribing practices'.

These three policy approaches are not so relevant to the prevention of VSM. But regarding the fourth policy approach, prevention, the article has a helpful table (Table 4, page 76) summarising the state of knowledge, which is reproduced below.

Evidence for prevention programmes targeting non-users of drugs, casual users, parents, and the general public

	Effectiveness	Amount of research support and cross-national testing	Comments
Family or parenting programmes	Some studies show effectiveness in the reduction of the onset of drug use	A few studies done in the USA only	Positive findings for the universal Strengthening Families Programme for people aged 10–14 years and their parents with longer-term follow-up and cost-effectiveness analysis. Replication needed. Assessments of other family or parenting programmes have not been as positive
Environmental or classroom management programmes	Some evidence in support of the Good Behaviour Game	A few studies done in the USA, the Netherlands, and Belgium	In one study, the Good Behaviour Game reduced lifetime drug misuse by up to 50% in boys 14 years after the programme, with stronger effects with boys identified when aged 6 years as highly aggressive

			and disruptive. One US study did not replicate this outcome; Dutch and Belgian studies show promising short-term effects
Social or life skills	Short-term effectiveness is equivocal. Some evidence of positive effect in the medium to longer term	Several high-quality studies done in the USA only	A few assessments have shown positive intervention effects from a small set of prevention programmes for cannabis use and the use of other drugs
Multi-component community	No evidence of effectiveness	Only a few small USA studies	Studies have typically combined school and non-school approaches. Effect sizes tend to be small or negligible
Information about adverse drug effects only	No evidence of effectiveness	A few school-based studies done in the USA	Few well controlled studies—but many uncontrolled assessments—have been done
Mass media	No evidence of effectiveness	Research restricted to a few studies in the USA	Few high-quality scientific assessments
Drug Abuse Resistance Education (DARE)	No evidence of effectiveness	Several well controlled studies and many uncontrolled assessments	Despite DARE's widespread use, meta-analyses show that the programme is ineffective

This table demonstrates the general lack of quality evidence about the effectiveness of prevention; the authors point out:

'Each society needs to make a political judgment about whether the small to medium-sized effects of psychosocial developmental interventions are worth the cost of delivering them. Economic analyses suggest that these interventions are cost-effective because the lifetime benefits of even slightly lower rates of early drug or alcohol use are substantial.'

In conclusion the authors believe: 'the effective early intervention prevention programmes concentrate on the psychosocial development of young people and also have benefits beyond the prevention of drug misuse.'

(Readers are referred to the original article for details of the discussion on the fifth policy area, health and social services for drug users.)

posted 31-May 2012

Prevention approaches from the supply side

'Drug prevention' is very often seen as synonymous with 'drug demand reduction' – in fact, in EU circles, the latter is the preferred term. The idea being that we somehow make an impact on individuals and groups in ways that make it less likely that they will try, become dependent on, or get into problems with psychoactive substances.

It's actually quite difficult to achieve this, and the evidence of effectiveness is pretty thin on the ground (see previous blogs). But there are other ways to approach prevention – and some of these may be more effective than direct work with people.

One group of ways are 'supply side' interventions. This seems an obvious approach – if there was zero supply of a substance there could be no misuse of it! However (as seems to be a theme of my blogs), it's not as simple as that.

It's really hard to make sure that something is not available – think of the difficulties in controlling the supply of illegal drugs. When the substance of misuse has legitimate uses it's even more difficult to eliminate it.

Nevertheless, there have been some notable successes in supply controls. For example, young people in Britain used to sniff glue to get 'high', but no longer do so because glues sold retail no longer contain toluene, the active – and dangerous – ingredient. (The industry had already tackled the issue, which is now enforced by an EU directive.)

Products can be modified in a way that reduces misuse. For example, the introduction of vapour-phase taps in many aerosol products made their misuse more difficult. As with the removal of toluene from glues, this change was motivated by safety concerns and product improvement cycles rather than a desire to reduce misuse.

Supply can also be controlled by sales bans. The [1985 Intoxicating Substances Supply Act](#) (UK except Scotland) made it illegal for people under 18 to be supplied with products that the supplier: 'knows or has reasonable cause to believe that the substance is, or its fumes are, likely to be inhaled by the person under the age of eighteen for the purpose of causing intoxication'.

Because of the subjective perception involved (it's difficult for a shop-worker to tell whether someone is going to misuse the product) this legislation has been almost impossible to enforce. The 1999 legislation which [banned the sale of butane cigarette lighter](#) refills to under-18s has been more successful, although some outlets seem oblivious to the law.

Trading Standards (and, in Northern Ireland, Environmental Health) departments therefore have a role in helping to enforce the law, and in retailer education. But because of their many other duties and higher-profile concerns (such as alcohol) not

enough activity has taken place and many in the retail trade are ignorant or neglectful of their legal responsibilities. Re-Solv tries to address this through work with retailers and retail trade bodies.

Yet we must be ever-alert to unintended consequences. Because of the huge range of potentially 'sniffable' substances, controls on some types of products risks driving people to misuse other substances - which may hold unknown hazards.

[posted 1-6-12]

Inhalants in the ESPAD Survey – breaking news

The 2011 ESPAD Report has just been [published](#). ESPAD, the European School Survey Project on Alcohol and other Drugs, is a survey of 15 to 16-year-olds carried out in 36 European countries. Previous surveys were conducted in 1995, 1999, 2003 and 2007, enabling trends to be tracked.

Included in the Survey is information on VSM ('inhalants' in their terminology). The [EMCDDA](#), a supporter of the Survey, reports the following details on VSM:

'Lifetime prevalence rates for the use of inhalants, relatively unchanged from 2005 to 2007, increased slightly from 8 % to 10 % between the two most recent surveys. However, inhalants represent the key variable with the largest number of countries (15) reporting significantly higher figures in 2011 than in 2007. Those reporting the largest rises in inhalant use since 2007 are Croatia (increase from 11 % to 28 %) and Latvia (13 % to 23 %), while Cyprus reports one of the most notable drops (16 % to 8 %). The lowest figure was reported for Moldova (2 %).'

In the next two blogs (coming shortly), I'll explore the methodology used in ESPAD and then go into more detail on the VSM findings.

[posted 5-6-12]

Inhalants in the ESPAD Survey – part 1: Background and Methodology

The 2011 ESPAD Survey was [published](#) last week. In this blog entry, I'll describe some of the background and discuss the methodological issues as they relate to VSM. In my next blog entry, I'll take a look at the findings in relation to VSM.

ESPAD is a school-based survey of 15 to 16-year-olds conducted across Europe (36 countries in 2011). The four previous surveys have taken place in 1995 (26 countries), 1999 (30 countries), 2003 (35 countries) and 2007 (35 countries, plus another five in 2008). The questions asked are standardised, although adapted to suit the language and cultural situations (e.g. slang terms) of the different countries. The aim is to get a nationally representative sample in each participating country, although this is not always achieved – and in 2011 the proportion of participating

schools in the UK was so low (6%) that the ESPAD report does not compare UK data with previous ESPAD surveys.

The Survey asks about tobacco, alcohol and illegal drugs as well as other substances, including volatile substances - which they call 'inhalants'; so in this blog entry I'll use that term.

This is a very important series of surveys which gives us unique insight into the drug situation among young people in different European countries, as well as providing trend data. The Survey is supported by the Pompidou Group of the Council of Europe and the EMCDDA (European Monitoring Centre for Drugs and Drug Addiction).

The methodology is very thorough, but obviously in a complex research project involving so many different cultures (and a host of different researchers) some anomalies creep in. One test that the research team makes is on the consistency of answers to questions about lifetime prevalence. This test shows that the answers to the questions on inhalants are a bit more inconsistent than for other substances (Table 1, page 46), although the figure is not huge, except for Croatia and Latvia. The Report comments:

'...there are some technical discrepancies between the two questions which might contribute to inconsistency. One is the fact that the question about age at first use did not include a "do not remember" response category. A student who has used a substance but does not remember how old he or she was the first time could conceivably decide to answer "never" instead of guessing an age, especially if he or she has used that substance only once or a few times.

'Yet another factor contributing to inconsistency might be that students were ambivalent when answering the question about age at "first use" of a substance. If a student had used a substance only once or twice and did not define himself or herself as a "user", it may not have seemed appropriate to give an age when he or she "first" used it (which may have come across as synonymous with the age at which he or she "started using" it). These students may have answered "never" since they think of their consumption as an experiment rather than the beginning of "real" use.' (page 47)

Both these explanations are likely to apply disproportionately to inhalants, as has been well-documented in research reports (see my blog entry 'Asking about VSM', posted 8th March).

The Report also points out that:

'Most substances included in the questionnaire are probably familiar to the students in the sense that they have heard about them. This means that, if a substance is mentioned in several questions, they are likely to use the same "definition" each time. However, inhalants might be an exception to this rule. This category includes a great many different agents that can be inhaled. If not all relevant agents are given as examples in the two questions that are compared, there is a risk that the students' frame of reference will not be the same when they answer the two questions.' (page 47)

And of course it is true that classification of VSA is problematic. As [an article in the Journal, Addiction](#), points out, unlike VSs: 'Most other classes of drugs of abuse are

based on grouping together those chemicals that share pharmacological effects that are related to their abuse.'

The question that students were asked about inhalants was: "On how many occasions (if any) have you used inhalants (x, y) to get high?" The national ESPAD teams used nationally relevant examples in place of 'x' and 'y' in the brackets.

How valid are the results? Do students tell the truth? It's generally agreed that in surveys of this type (classroom-based paper-and-pencil surveys with no name on the questionnaire, an unmarked individual envelope to put the questionnaire in and assurances of confidentiality) students are quite honest. This can be tested in various ways, and the Report describes (for example): '...high internal consistency and a high test-retest reproducibility of the ESPAD questionnaire when Italian students, with a three weeks interval, were asked about the consumption of licit and illicit substances.'

Another way of checking honesty, which is widely used in surveys like this, is to include a 'dummy drug' in the list of drugs that students are asked if they have taken. In this Survey, only 0.7 per cent of students fell for this trick and said they'd used the substance with the made-up name (Cyprus was the exception, with 3.1 per cent saying they'd used it).

Having established that this Report provides us with reliable and valid data, in the next blog I'll discuss some of the findings.

[published 6-6-12]

Inhalants in the ESPAD Survey – part 2: Some Findings

The 2011 ESPAD Survey was [published](#) last week. My previous blog entry (5-6-12) described the background to the Report and explored some of the methodological issues as they relate to VSM. In this blog, I'll consider some of the substantive findings on 'inhalants', as they call them (I'll follow their terminology here).

The question that students were asked about inhalants was: "On how many occasions (if any) have you used inhalants (x, y) to get high?" The national ESPAD teams used nationally relevant examples in place of 'x' and 'y' in the brackets.

The 2011 ESPAD average is **nine per cent** reporting 'ever use' of inhalants. There were large differences between countries; 28 per cent of students in Croatia reported trying inhalants (the highest) with Latvia (23%) and Slovenia (20%) also reporting high levels of experimentation, while in the two to three per cent range were Albania, Iceland, Italy, Ukraine and Moldova. So there doesn't seem to be any geographical pattern to this.

What's changed over the years? There has been a slight increase since 2007:

'In nearly half of the countries (15 out of 32) with comparable data in 2007 and 2011, a significant increase in the lifetime prevalence of inhalants can be seen... Croatia ... increase[d] from 11% to 28%, and ... Latvia... went from 13% to 23%, making these two the top countries in 2011.' (page 14)

However a decrease occurred in seven countries; for example, in Cyprus (a former 'top country') the proportion of students having tried inhalants decreased by half between 2007 (16%) and 2011 (8%).

Having had the highest rate of VSM in the 1995 survey (when it was a startling 20 per cent), the UK rate declined to 12 per cent (and was exceeded by nine countries) in the 2003 survey; the rate continued its decline in 2007 survey: nine per cent, which was the same as the average; but in 2011 the UK figure was ten per cent (9% boys; 11% girls), slightly above the European average. (see footnote)

Across many countries there is now greater equality between the sexes: in most countries, lifetime prevalence was similar for boys and for girls, although in Croatia and France – as well as in the UK – more girls than boys used inhalants, and in six other countries boys' use was higher.

More than half of those who've tried inhalants have used them only once or twice. In other words, four per cent of the sample has used inhalants on three or more occasions. Five per cent have used inhalants within the previous 12 months; two per cent reported use during the previous month. The figures for the UK are slightly higher, with seven per cent reporting using within the previous 12 months, and three per cent within the last 30 days.

Inhalants remain one of the first substances tried by young adolescents. On average across Europe, four per cent of boys and three per cent of girls report trying inhalants before the age of 13, the highest proportions being in Croatia (12 per cent for boys and 18 per cent for girls). In the UK, the figures are three per cent for boys and four per cent for girls. This compares with the figure for under-13 cannabis use in the UK, which – at seven per cent – is much higher than the average of three per cent (for both sexes combined) in the other 35 countries.

As regards VSM, the UK has become a more 'normal' European country over the years of the ESPAD Surveys. In this period, VSM-related deaths have declined in the UK – especially among teenagers.

Given the significant proportions of young people who try inhalant misuse, it is surprising that there has not been more research and prevention on VSM across Europe. Re-Solv's recent application to the European Commission to undertake a European project on VSM aims to rectify that.

Footnote: some of the figures in this paragraph vary slightly (1%) from those quoted in the text of the ESPAD Report – mine are taken from the Report's tables 37 and 38 a & b, while it seems that the Report's figures are derived from lifetime abstinence tables (41 a & b). The differences are small and probably within the margin of error.

Inhalants in the ESPAD Survey – part 3: Visualising the data

One of the difficulties with describing research findings is that, often, the results are multiply-dimensioned, complex and hard to explain. Finding the right words to describe this complexity, entering the caveats and the reporting the nuances is challenging. And it's even more of a challenge for the reader. That's why there is so much interest in visual representation of data. It really is true that a picture can be worth a thousand words. But until recently, it has been time-consuming to create charts, maps, and other forms of visual representation. With new web apps, this has become easier. I thought I'd try out one of these apps, *Tableau Public*, to see what it could do.

I took one of the ESPAD tables which I'd created in *Excel* as part of my work of reporting on ESPAD findings (see previous three blogs), and imported it into *Tableau Public* (which I downloaded for free from <http://www.tableausoftware.com/public>), manipulated it, then uploaded it – you can view the results here: [here](#).

It shows the reported prevalence of VSM use 'once or more' (I've labelled this 'ever') in the ESPAD countries. It's nice that the shade of the colour gives an immediate indication of the countries with higher, or lower, levels of misuse. You can 'mouse-over' the countries to read the actual values. Not only can you view the results, but you can download the worksheet and manipulate it.

This was an experimental upload, so please excuse any errors. I aim to make more use of this technique in future.

[posted 11-12-12]

New report on VSA deaths

Well, better late than never. The research on deaths associated with volatile substance abuse in 2009 has just been [published](#) (and there is a brief summary on Re-Solv's [news blog](#)). Why so long? An annual report on deaths has been produced since the 1980s. But normally it doesn't take quite as long as this after the year end and the report emerging. The problem is that the funding for the data collection was cut and the researchers are perhaps producing this report in their spare time. While I'm very grateful to them for their efforts, this doesn't seem like a sustainable approach to a dataset that's unique in the world and has been of great significance in keeping VSA on the policy agenda for more than 25 years.

To be fair, it does always take a while to collate all the data – collected mainly from coroners – and check its accuracy. There are also definitional problems: VSs are a disparate group of products and it isn't always clear if a person has died from using a particular product or (say) from using some other substance at the same time. What counts as a VS-related death? One difficulty is that there isn't an appropriate code under the International Classification of Diseases.

The excellent thing about this research, though, is that it has, over a very long time, used consistent methods of data collection and reporting, so that we can see trends and patterns emerging.

However, we have to be careful in our interpretations. For example, the Report says that deaths in the UK from VSA rose from 38 in 2008 to 46 in 2009. That seems like quite a lot: eight more deaths – about a fifth more. But with small numbers there will be annual fluctuations due to chance – they don't actually mean anything. To help us understand this, the Report gives a chart of deaths that is 'smoothed' by plotting a 'three-year moving average' (see Figure 2 in the Report). This shows, in the past twenty years, a gentle downward slope which has more recently tended to plateau. In other words, after a steep decline in deaths in the early 1990s, deaths continued to decline, but more slowly, through the 1990s and into the twenty-first century, but that decline seems to have levelled off.

So there were 46 individual tragedies in 2009, and we shouldn't let up in our efforts to accelerate the decline in deaths. There have been some successes: for example, see my previous post, ['Reaching Parents: A case of successful advertising?'](#) which discussed the apparently positive effects of prevention efforts aimed at parents. And one well-established recent downward trend in the deaths data is the smaller proportions of young people who are dying VS-related deaths. The proportion of females dying has increased and in 2009 a quarter of those dying were female (compare with the period 1971-1999, when the proportion was 13 per cent) – of course, this still means that three-quarters of the deaths are male – even though, as other surveys show girls report misusing volatile substances as much, or even more than, boys. The cause of this remains a puzzle.

Different parts of the UK have different rates of deaths (calculated by making a comparison with their populations) – Scotland has always had proportionately high levels of VS-related deaths, and 2009 saw a big jump in the recorded deaths – from four to 17. London and the South-East, along with other parts of England, have had lower death rates. In 2009, it was Northern Ireland that had the highest proportions of deaths – but as ever, we must be careful not to read too much into small numbers: there were three deaths in Northern Ireland in 2009 compared to two in 2008. There was only one death in Wales in 2009; while Wales has had slightly lower-than-average proportions of deaths, there have been a range of efforts to tackle the problem, including commissioning Re-Solv to conduct staff training, and the production, of a section of [Wales's Substance Misuse Treatment Framework especially focused on VSA](#). But this only came out in 2011, so could not have had an impact on the 2009 deaths figures.

You'll find more fascinating detail in the Report, including information on the substances misused at time of death. We can only hope that this valuable data source will somehow continue to be published and provide us with information-rich time series data that help us to address this damaging social problem.

[posted 11-12-12]

A thorough piece of research

I'm working with Re-Solv on a 'Big Lottery'-funded project which aims to help the charity make better use of research evidence, generate its own research and increase its capacity to engage with, make use of, and undertake research. That's partly why I'm writing these blogs. And right now I can report some exciting results from this work.

A paper based on research funded through this Project has just been published. It uses data collected by the long-running research project on VS-related deaths at St George's (see my previous blog). It's an excellent piece of work (carried out primarily by Barbara Butland, a statistician at St George's, University of London), although I can't say that the paper is easy reading! You can probably access at least the abstract [here](#). (By the way, 'Addiction', the Journal in which the paper is published, is one of the oldest (est. 1884), and one of the most prestigious, substance misuse journals in the world.)

One of the questions that we were interested in when we applied for the Big Lottery Fund money was why VS-related deaths had been falling since the early 1990s. What had happened that might have led to the fall in deaths?

Two laws had been introduced to try to curb the sales of volatile substances to young people. As early as 1985, the Intoxicating Substances *Supply Act* had made it an offence to supply volatile substances to under-18s if there was reason to believe they were going to use them to achieve intoxication, but this law had little effect – not surprisingly, since it was hard to say whether or not someone was going to misuse a consumer product.

In 1999, in response to the worrying rise in deaths associated with butane cigarette lighter refills, a regulation made it illegal in any circumstances to sell these canisters to under-18s. Was it possible that this was a factor in the continuing decline, into the twenty-first century, in the numbers of deaths?

It seems not. Butland's thorough statistical analysis shows that there was no evidence of a 'step change' in the VSA-related deaths of under-18s following the 1999 regulation.

Keen readers of this blog might recall the entry [Reaching Parents: A case of successful advertising?](#) which discussed the apparently positive effects of a prevention campaign aimed at parents. This major government campaign was well-thought-out and targeted, big, sustained, evaluated – unlike most prevention campaigns, then – and seemed to show positive results – even a reduction in VS-related deaths. But the evidence for this wasn't very robust. We thought that some clever statistical analysis could wring more meaning from the data, and confirm (hopefully) or reject (we'd accept that, we're doing research) this finding.

Butland's paper provides support for the earlier finding. She writes: 'Coincident with the 1992 Department of Health Advertising Campaign, VSA deaths in boys and girls (<18 years of age) fell by an estimated 56% (95% CI: 36%–70%) and 64% (20%–84%), respectively, from the underlying trend'.

That's massive! And because the DH campaign was aimed at influencing parents, one wouldn't expect it to have had an effect on deaths of over-18s. It didn't: adult deaths didn't fall in this way.

A brief statistical digression: the abbreviation, 'CI', is the 'Confidence Interval'. This range gives us an idea of how reliable the estimate is. For example, in the quotation above, the estimated fall in deaths of under-18-year-old males is a whopping 56 per cent. But this has been worked out using those fancy statistics, so the estimate is only that – it has an element of uncertainty about it. The CI tells us <<how>> uncertain – and in this case it tells us that it could range from 36 per cent up to 70 per cent – but we can be very certain (although not 100% certain, of course) that the fall in young male deaths was at least a third, and might have been as much as seven-tenths. And note that the fall in girls' deaths was possibly even bigger.

Of course, as statisticians say, 'association does not mean causation' – we can't be certain that the fall in under-18-year-old deaths was <<caused by>> the DH Campaign. But it is a striking finding based on solid, thorough research, and Re-Solv (and the Big Lottery Fund) can be proud to have enabled it to happen.

And let's have more prevention campaigns like that! Maybe with the new arrangements for public health coming in next April, this is not such a pipedream. Within the new organisation, 'Public Health England' (Scotland, Wales and Northern Ireland will have different arrangements) the job of its 'Health Improvement and Population Health Directorate' will be to 'lead... high-impact national health improvement social marketing campaigns to achieve behaviour change' (see the [Department of Health website](#)). Let's hope they'll take heed of this research.

[posted 7-2-13]

Films on VSA

Research takes many forms, and some is easier on the brain than others, so I thought that I'd take a break from number-crunching and do some 'desk research' on *YouTube*. It's easy to get distracted in that corner of cyberspace, but I have heroically avoided 'lol-cats' and concentrated on searching out clips that deal with the topic of VSA. I've found personal stories, PSAs (public service announcements), studio discussions and educational material. Check out some of these the next time you have a coffee break (if that's your substance of choice).

As you might expect, there are many individual and tragic stories, and most of the material is from the USA. For example, [The dangers of inhalant abuse](#) is a 60-second clip presented by an American policeman whose son, Kyle, died from VSA in 2005.

However, there is UK material; [The Chantelle Bleau Memorial Fund](#) (named after a girl who died from VSA) made a film called [Volatile Substance Abuse – Ashling's Story](#) which presents a young woman talking about her previous VSA which she describes interestingly and clearly. The slogan 'don't waste your life for an

experience' might provide an interesting discussion point. The Fund also has a [video about Chantelle's death](#) which has her mother talking about her.

Re-Solv has some film on its website. [The Silent Killer](#) is a moving eight-minute film focusing on a memorial walk held on the first anniversary of the death of Steven Blacker, a 14-year-old from Derbyshire who died in 2005, sniffing petrol. The walkers have t-shirts with the slogan, 'sniff it and you may snuff it'. It includes interviews with his mother and younger brother. (It can be purchased as a DVD which is accompanied by a teacher's booklet.)

The Re-Solv website also has a [Loaded Gun](#), with parents talking about their dead children, information about VSA, and its impacts on family and friends. (It can be purchased as a 12-minute DVD, plus a teacher's guide with lesson plans and class activities.)

Re-Solv has a link to [Chris Cullington](#), a film about this 16-year-old who died in 1999 after inhaling butane cigarette light refill. His father, Paul, talks very honestly about what happened. In my view, this is the best of all the parent videos.

Another personal account from a parent is on Re-Solv's training site for the Scottish social care workforce. [Here](#), an Aberdeenshire parent (who is a teacher) describes very movingly the circumstances that led to the VSA death of her youngest son at the age of 15.

Back to the USA, and [Inhalants](#) is four minutes of a guy talking about his friend who died from sniffing nitrous oxide; from 'sobriety television'. From the same outfit is [What is Nitrous Oxide?](#), a man talking about his dependence: 'Don't keep whipped cream cans in your house ... I had to keep that stuff out of my fridge 'cos that's a trigger for me. ..If I had a bad day I'd just get the whipped cream can and start huffing it... I had a lot of fun doing it ... but ... I killed so many brain cells... I would just look at other ways of finding that rush ... go skydiving or something, something that will give you that really short intense rush'.

At this point, I did get a bit distracted by an American series called 'My Strange Addiction'. [My Strange Addiction- Huffing Gasoline](#) is about a 44-year-old female gasoline sniffer, sniffing since she was 13. It is weird, because it doesn't look like she is actually inhaling very much. This is one of a series of short films on strange addictions (such as the [woman who eats rocks](#); '...she was initially attracted to the earthy smell ... now Theresa can't go more than a few hours without eating rocks.' '...it's the grittiness of it and the earthy taste...' 'Theresa's favourite type of rock is a mixture of several minerals, including granite.' 'I'd just put it in my mouth and bite on it ... and get the earthy taste off it.' In other words, this series is about behavioural addictions.)

But there are some more educational and informative films on *YouTube*, such as the three-part 'Drug Education Inhalants', a 2004 'Schlessinger Media' presentation describing the nature of VSA and its risks. The three parts of this presentation are rather boring, with talking heads and ominous music in the background there are some lip-synch problems. The first part (seven-and-a-half-minutes long) is [Drug](#)

[Education Inhalants Part 1](#) covering what inhalants are, the different categories of sniffable products, how inhalants work, why people use, the effects, the risks and the dangers. The clip ends suddenly in the middle of a sentence and you have to go to [Drug Education Inhalants Part 2](#) for the next section (just over eight minutes) which covers the consequences, including sudden sniffing death syndrome and 'many other ways to die'; it includes a real life story from a mother who has a schizophrenic son – the implication is that sniffing can do this to you. The remaining six minutes are at [Drug Education Inhalants Part 3](#) which shows how inhalants can affect the body: 'It can freeze the lungs out – I know that isn't the medical term but that's what happens.' It includes some interviews with users; one says. 'It's such a short high and it immediately followed by stupidity ... it kills the brain... there is a reason you feel dumb after you've done [it].'

Better is [Understanding Inhalants](#), a 'Coalition of Anti-drug Communities of America' TV studio panel discussion – it's an hour long, but is a thoughtful discussion (and it has my old friend Harvey Weiss in it) and about ten minutes in they refer to the UK deaths figures. It then cuts to the policeman whose son, Kyle, died (you can also view this clip in [The dangers of inhalant abuse](#)). About 18 minutes in, the Panel discusses the problems of communicating to young people – in particular, the risks of raising awareness and making the behaviour seem attractive. Twenty-five minutes in, the story of Michael Moran who 'choose to use computer duster' while driving, crashed and killed three people; he got nine years. Forty minutes in, there is an example of a Partnership for a Drug-free America PSA (public service announcement) aimed at parents.

Harvey Weiss also features in [Parents Whose Child Died by Inhalant Abuse Educational Video](#) which is an extract from a conference where parents tell tragic and moving stories about their dead children.

Vimeo is an alternative to *YouTube*, and has some interesting films about VSA. It is 10 minutes of a guy called Andre describing reasons for misuse, as well as treatment and prevention among New Zealand's young people, at <http://vimeo.com/48277706>; there is a lot of good sense here, for example, 'messages need to be context-specific... being responsive to the needs and history of each community'. Another 'talking head' film has Nick Baker talking (mainly) about prevention and treatment of VSA (<http://vimeo.com/49133048>). From the same up-loader, an account by Anne of her son who died from sniffing LPG is at <http://vimeo.com/48931608>, and a film of Kitty talking about Nathan, who died sniffing; at <http://vimeo.com/49134165>.

My own *YouTube* contribution is a four-minute extract from an animated film on VSA that I created in 1995 as part of a training package for the then ISDD (now DrugScope). [Problems with Solutions](#) explores the lives of (fictional) VS abusers.

Then there are the more sensational news stories, like [Huffing](#) – a TV item about inhalants, with dodgy *YouTube* extracts, which suggests that wood-stain can be sniffed – are not worth watching, but others are interesting just for their sensationalism: [Teens huffing Freon](#) is about the misuse of air-conditioner gas, 'a frightening trend that is sweeping across the country ... what seems like a harmless way to keep us cool can be misused.'

[The Dangers of Inhalants](#), produced by the Alliance for Consumer Education, starts with the mother of Ricky who died a sudden sniffing death after sniffing freon from the air-conditioning unit. It's mainly a rather hysterical news report, and about four minutes in reports on a Texas education programme with a clip from an animation about sniffing (showing the sniffing of a marker pen!).

Then there is the confessional genre. Our very own Jeremy Kyle is a skilled exponent of this exploitative genre, and he is seen in fine action on [A Mum Hooked On Butane Gas \(PART 1\)](#), an eight-and-a quarter-minute extract from the Jeremy Kyle Show 'Mum why won't you stop using butane gas?' (uploaded in 2010). The 39-year-old Cindy interviewed is using 12 cans of butane a day and has been sniffing for 20 years. She says 'It just chills you out. ... I get lumps inside my head ... one day they might just explode'. She is rather matter-of-fact about her habit in the face of Jeremy Kyle's insensitive onslaught; until she breaks down and cries. Jeremy then interviews her son in the studio, who although sympathetic, and says he has tried to help her, '...but everyone's given up on her now.' His sister Stacy, interviewed next, is very emotional, and we learn more about the horrors of her mother's life.

The second part, 'after the break', [A Mum Hooked On Butane Gas \(PART 2\)](#) brings Cindy onto the show to talk with her two adult children. It last nine-and-three-quarter minutes: and it's hard to watch – especially as the sound disappears at about 6 minutes in. She starts her day at three a.m. with butane, and drinks beer as well. She is harangued about her dependence and it is argued that her misuse is 'not physical'.

Also hard to watch, but for different reasons, are films about children living on the street. Children living on the street sometimes misuse volatile substances; a well-filmed drama about street children in Cambodia is [GHOST IN A CAN \(GLUE MADE ME A GHOST\)](#). Uploaded in 2007 and lasting eight minutes, it is the story of a twelve-year-old boy, Set, a glue-sniffer, who dies in a road accident. It has strong images of children sniffing from plastic bags. Set says 'Inhaling the glue makes me sick inside. It hurts my head. I want to quit doing it but I can't. I'm very addicted to it.'

From another continent, [Glue-Sniffing Epidemic Among Kenyan Street Children](#) is a three-and-a-half-minute news report about this topic uploaded in December 2008. It has graphic images of children sniffing. One interviewee says: 'There are some things you cannot do when you are sober, like eat garbage. You need to sniff glue so that you have the courage to eat garbage and do other work in the streets.'

A film called 'Glue boys' is about the street children in Kenya but I couldn't find it on the web (it can be [purchased](#) on DVD and there is a trailer at www.glueboys.com).

A similar name but a different film is [Glue kids](#). Lasting about eight minutes, it was filmed in New York with Spanish-speaking participants; so if you speak Spanish, it might be worth watching.

A rather different sort of 'glue boy' and a rather different sort of glue misuse is this one-minute film, [Glue Boy](#), about a boy who has flooring glue poured over his head.

That's a jokey approach to a serious subject, but in our multi-opinionated world there are many sides to any topic, so of course you can find many films on *YouTube* that celebrate, demonstrate and joke about sniffing. I'll leave you to find those for yourselves if that interests you (it is sometimes entertaining in a horrified, fixed-to-the-seat-what-will-happen-next kind of way). But just one link: [How to get high from deodorant](#) is a joke film about getting high on roll-on deodorant.

And what's my favourite *YouTube* film of the moment? It's not about VSA, but right now, my favourite risk education film is about safety on the railways – it's from the Melbourne Metro and you can watch it (with lyrics) [here](#).

Annex 2 Published Articles

During the project, several articles were published to raise the profile of VSA, report some of the findings, and keep VSA in the public and professional 'eye'.

A2.1 Druglink

Note that the text here is the version before copy editing – there were a few changes in the published article: in Druglink 27,6 pp18-19.

Whatever Happened to 'Glue-sniffing'?

What substances taken to achieve intoxication kill more young people under 16 than all 'Class A' drugs? Alcohol is one, of course, but there is another group of substances that have killed more than 2,000 people over the past 25 years. However, these substances are hidden – yet familiar – killers; many are common household products, safe in normal use; potentially deadly if misused.

Perhaps the fact that they don't have a collective name is part of the reason they get forgotten – "volatile substances" is a descriptive term but not a memorable one. It encompasses butane gas (from cigarette lighter refill cans), aerosols (containing butane gas as the propellant), nitrous oxide ('laughing gas'), petrol, solvent-based glues and a range of other products. These are the original 'legal highs', but they have been more widely misused, and proved more dangerous than many of the current 'new psychoactive substances'.

If they are 'on the radar', people think of them as intoxicants used by young people – historically, most of those dying have been young men. With a steep decline in deaths, it might be thought reasonable to consider that the 'epidemic' is abating. And indeed, the decline in deaths can be construed as a prevention success story – a range of different organisations have undertaken activities to address the problem: and, it seems, with some success - Deaths attributed to VSA in the UK have fallen from an average of just over 100 per year in the early 1990s to an average of 48 per year in the last five years on record (2004 to 2008).

But the statistics tell a more complex story – yes, far fewer young people now die sniffing-related deaths (99 under 18s in 1990 compared to just 5 in 2008) but the proportion of adults has increased significantly since 2005 (Ghodse *et al*, Trends

in UK deaths associated with abuse of volatile substances 1971-2008). . This raises the worry that treatment agencies are not identifying adult VS misusers.

The recorded history of VSA in the UK started in the 1970s, although before then there were sniffers – for example, 1950s army draftees sniffing button cleaning fluid, and even further back, in the Nineteenth Century, the use of 'laughing gas' (nitrous oxide) to achieve intoxication by such scientific luminaries as Humphry Davy. (It is a curiosity that today there are renewed concerns about the misuse of nitrous oxide in 'whip-its'). But it wasn't until the 1980s that there was considerable public and political concern about the issue; then, the Department of Health funded a research project to identify the deaths related to Volatile Substance Abuse (VSA). This was necessary as VSA-related deaths were not always identified in drug-related deaths statistics. That research project, *Trends in UK deaths associated with abuse of volatile substances*, continued until 2009, producing an annual report which received wide-spread media coverage and helped ensure that the issue was kept on the agenda. It is a big loss and a disappointment that the work is no longer funded.

Also back in the 1980s, in response to the misuse of glues, the British Adhesives and Sealants Association, with a Director seconded from Staffordshire glue manufacturer, Evode, established a charity to tackle the problem. From their Head Office, still based in Staffordshire today, Re-Solv continues to take action across a wide spectrum, aiming to support those affected by VSA, campaign for more effective services and better information, undertake and encourage research to identify the issues more clearly, and generally to ensure that there is a response to the problem.

Re-Solv is currently running one major research project supported by the Big Lottery through a funding stream aimed to help charities make better use of research data. Re-Solv's project is in two parts. Firstly, a 'secondary analysis' of the data on VSA-related deaths gathered by the mortality research project at St George's University for over 25 years. This unparalleled dataset has been interrogated to identify some features of the deaths and their connection with changes in the legislation and with a major prevention campaign of the 1990s. A report of this work will be given in a peer-reviewed paper to be published shortly in the journal, *Addiction*, so at this point more cannot be said except that the results are fascinating and improve our understanding of the patterns of VS-related deaths and what actions might have impact.

The second part of the research includes a variety of research activities to better understand current and emerging trends so that Re-Solv can anticipate and respond to changing needs.

The project's findings will also inform government policies at regional, national and international levels. For example, one significant activity has involved working with the Welsh Assembly Government to publicise their new volatile substance abuse guidelines (see <http://tinyurl.com/9nhnd6a>) and to encourage the WAG to ensure that the guidelines are implemented. Finding appropriate treatment modalities is complex, and Re-Solv contributed to a consultation by

the Australian Government on VSA treatment – although in Australia major problems with VSA are associated with some Aboriginal communities, and treatment in this context is very different to the approaches in the UK.

One issue for the UK is the way that VSA is recorded in the National Treatment Agency's data set (NTA 2011 *NDTMS Data Set H Technical Definition Annex F*), and the limited data collection about VSA – we do not have an accurate picture of how many people present for treatment with VSA-related problems, nor if treatment is effective in helping them to tackle their difficulties. This is especially important if the age of VS misusers is increasing and it is becoming more of an issue for adults. Re-Solv is working with the NTA to explore ways of improving data collection.

Much of the prevention work that Re-Solv participates in is based in schools and other youth settings. The research has explored the effectiveness of some of the school-based interventions that Re-Solv undertakes. Findings from a small survey indicate positive and lasting changes in pupil attitudes associated with this educational work.

Another strand of the work is to pull out more VSA information from existing surveys. We are building on a paper that analysed published VSA data from the ESPAD surveys of 2007 and 2011, and hope to publish these findings in 2013. We are also working with the Schools Health Education Unit (SHEU) to explore some of the correlates of VSA in their large national samples and again intend to publish findings from this study. In some studies, VSA has been associated with other substance use and with 'risky' behaviours and is perhaps connected with being bullied, and other potentially negative childhood experiences, such as being 'looked after' by the local authority.

We also undertook some 'archaeology' and unearthed information about the government's large-scale VSA prevention campaign of the 1990s which was aimed at parents. This campaign may have been part of the reason, perhaps along with legislation controlling sales, why deaths among under-18-year-olds fell in the 1990s (see Esmail A et al 1992 Controlling deaths for volatile substance abuse in under 18s: the effects of legislation *BMJ* 305, p 692).

The project will shortly enter a dissemination phase – watch out for details of events coming up in 2013 and, in the meantime, visit the on-going research blog which can be accessed via the Re-Solv website (www.re-solv.org).

Re-Solv recently commenced a new project in conjunction with the other charity in this field, Solve-It. Solve-It (www.solveitonline.co.uk) was established by a mother whose son died from inhaling aerosols, and has provided help for those misusing VSs and for those affected, as well as supporting training and running prevention projects. The new joint three-year project, entitled 'Community for Recovery', is funded by the Department of Health's 'Innovation, Excellence and Strategic Development Fund', and will help drug users dependent on volatile

substances access equality of treatment and support. A Web-Hub will provide direct access to information, professional advice, counselling and peer support, without stigma, for VS users and those close to them. The Hub will also connect users with local services whose staff have been specifically trained to effectively address VSA, enabling services to support users and their families, and help them along recovery pathways.

Finally, we would like to hear from you if you are working on VS-related issues – we are especially interested in identifying good professional practice with VS users. Please contact Steve Ream at Re-Solv on 01785 817885, or email director@re-solv.org.

Richard Ives, educari and Nicola Morgan, Re-Solv

Re-Solv can be contacted as follows:

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- **email:** information@re-solv.org
- **Website:** www.re-solv.org
- **Twitter:** resolvUK

A2.2. AdFam magazine

Note that the text here is the version before copy editing – there were a few changes in the published article

VSA: The Original Legal High

The media storm surrounding the use of legal highs has been fuelled by the recent *Drug Related Deaths in the UK* report which found that “more than 40 deaths [in 2011] were linked to a group of now-banned legal highs” (Independent, 7/11/12).

What’s more shocking is that this figure doesn’t even include the number of deaths still caused every year by the most accessible of all ‘legal highs’ - volatile substance abuse (VSA). Include volatile substance abuse in the report and you are looking at well over 80 deaths per year from ‘legal’ products.

VSA kills almost one person a week in the UK – that’s currently more deaths than all the other ‘legal highs’ put together.

A drug often provided by parents

Volatile substance abuse (often known as ‘VSA’ or ‘sniffing’) is the inhalation of everyday consumer products such as lighter fuel gas, aerosols (such as deodorants and hairsprays), petrol and other household solvents to obtain a ‘high’.

Young people try ‘sniffing’ for the same reasons that they experiment with alcohol and other drugs: curiosity, the desire to experiment, boredom, peer influence and in response to unhappiness or stress in their lives.

“80% of pupils who first tried drugs at the age of 11 or younger

*reported that they sniffed volatile substances”
(Smoking, drinking and drug use among young people in England, NHS, 2012)*

But VSA often starts at a younger age than other substance misuse, which means that the family may be more directly involved than with drugs encountered when a child is older. New research shows that 81% of deaths occur in the home or home of a friend and the reality, too, is that parents are often buying the very products being misused (*full report on the Re-Solv website www.re-solv.org*).

Legal and lethal

Since VSA is the misuse of ordinary, household products, people often make the assumption that legal = safe. But VSA can kill instantly. It doesn't matter whether it is a person's first attempt or whether they have been misusing for many years; the risk of death is always present.

*In the decade 1999-2009, VSA killed more under-15-year-olds
in the UK than all illegal drugs put together.
(International Centre for Drug Policy report, 2010)*

The most common form of VSA death 'Sudden Sniffing Death Syndrome', VSA causes the heart to beat irregularly. Any further rush of adrenaline (for example, if a person is then surprised, upset, excited or physically active) can trigger heart failure resulting in instant death – even before the ambulance arrives. Deaths are also caused by accidents, suffocation or other trauma.

So while the good news is that most people who try volatile substances only sample them once or twice, the bad news is that even this short-term use can kill them.

Recognising VSA

Identifying VSA isn't as easy as with alcohol and tobacco, when arriving home with smelly breath or a staggering gait are tell-tale giveaways. Although some effects of VSA are similar to those of alcohol, they tend to be short-lived. So a teenager can have been sniffing with their mates and 'off their face' but, twenty minutes later, present as *compos mentis*, with only a headache as a possible giveaway.

*"With the benefit of hindsight all the signs were there,
but I was unaware of them." Lorraine Morris, Aberdeenshire,
whose 15-year-old son, David, died from VSA.*

Signs and symptoms	Around the house
<ul style="list-style-type: none"> • 'drunken', withdrawn, irritable or inattentive behaviour • more time spent alone, or with a new set of friends. • a chemical smell 	<ul style="list-style-type: none"> • empty gas containers perhaps with teeth marks in the nozzle • aerosols disappearing from around the home • replacing products more

<ul style="list-style-type: none"> physical symptoms such as a runny nose, watery eyes, rashes or spots around the nose and mouth <p><i>NB: there may be other explanations for these signs and symptoms</i></p>	<p>frequently</p> <ul style="list-style-type: none"> white marks on towels, socks etc (i.e. where the product has been inhaled through a material 'filter')
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What can parents do?

National VSA charities, Re-Solv and Solve It encourage all parents to talk with their children about VSA, just as parents might already be talking to their children about the dangers of unsafe sex, alcohol and other drugs.

"I'd told all three sons about the dangers of smoking, alcohol and illegal drugs. I'd even spoken to them about safe sex, but I never spoke to them about [volatile] substance abuse because my knowledge of it was nonexistent."

*Barbara Skinner, founder of VSA charity **Solve-It**, following the death of her 16-year-old son Darren from VSA (Guardian 12/12/09)*

If your child is actually misusing, the best advice is to stay calm.

<p>If your child is conscious but intoxicated:</p> <ul style="list-style-type: none"> stay calm talk quietly to the child – because some of the 'sudden sniffing deaths' are associated with fright or exertion remove the sniffable product if you can do so gently. 	<p>If it is an emergency and the child is unconscious:</p> <ul style="list-style-type: none"> remove the sniffable products put the child in the recovery position call an ambulance.
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Now is not the time to have conversations involving questions such as 'Why did you do it', but it might be good to plan to have such heart-to-hearts when the crisis has passed. VSA may have been a response to more deep-seated problems which you can now address together.

Sources of help

Re-Solv: www.re-solv.org, helpline 01785 810762.

Talk to Frank, the government-funded drugs help and advice line: www.talktofrank.org, helpline 0800 776600

Annex 3 Evaluation of Re-Solv's school interventions

Re-Solv has developed a range of school interventions which are presented on request to classes and groups of secondary school children, mainly Year 7s (12 to

13-year-olds) and Year 9s (14 to 15-year-olds). Some before- and after-evaluation was carried out during the research programme and the results are given here.

A3.1 Report on pilot evaluation of Year 7 VSM intervention

Introduction

Re-Solv’s Youth Officer undertakes sessions in schools at the schools’ request. These sessions typically include an explanation about VSM, information about products and the risks of VSM. The sessions also tackle the ‘normative myth’ (the idea that ‘everyone is doing it’). The Youth Officer was keen to have some evaluation of her work, and together we developed a short pre-session and post-session questionnaire designed to detect changes in knowledge and attitudes towards VSM. The questionnaire was administered to pupils in one school at one of the sessions that the Youth Officer undertook. This was designed to be a pilot; the questionnaire has been revised and will be administered to a further group of pupils in the autumn.

Method

The pupils completed before-session and after-session questionnaires which were administered by the Youth Officer at the start and at the end of her session. The pairs of anonymous questionnaires were linked by asking the pupils to write the same personal code-word on each of their two questionnaires. Analysis was carried out in *Excel*.

Results

There were 76 respondents (38 boys and 35 girls; three didn’t give their gender) who completed both before-session and after-session questionnaires and where the questionnaires could be paired.

We first asked if the pupils had ever tried VSM. Some pupils did not understand the question, so we have made corrections and estimated the ‘Never tried VSM, not even a sniff or two’ percentage (see footnote⁶⁰). Nevertheless, the figures are still not very believable, implying that 18 per cent have tried VSM: this is unlikely (an overestimate). These results should therefore be discounted. We have reworded this question for uses in future surveys.

Table 1 Reported VSM (percentages (see footnote))

<i>Never (est.; see</i>	<i>Formerly once or</i>	<i>Formerly,</i>	<i>Formerly,</i>	<i>Now:</i>	<i>Now:</i>
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⁶⁰ Unfortunately, some pupils selected more than one of the mutually exclusive options; and with the first option (‘I’ve never tried...’), some children had clearly selected ‘no’ when their other answers implied that they ought to have selected ‘yes’. (We should never have included a double negative!). Some pupils ringed more than one of the mutually-exclusive answers. We have therefore estimated the percentage assuming that the answers of these pupils should have been ‘yes’; we calculated the maximum possible percentage assuming that their answers to the other categories were accurate – i.e. we took the students who put ‘No’ for all other questions; which if accurate, meant that they should have put ‘Yes’ to the first question, and we recalculated to allow for incorrect multiple responses, assuming that in such cases the answer was that they hadn’t tried VSM. This gave a *maximum* percentage of 82 per cent reporting ‘never tried’. They obviously misunderstood!

<i>footnote)</i>	<i>twice</i>	<i>occasionally</i>	<i>regularly</i>	<i>occasionally</i>	<i>regularly</i>
82	18	7	3	4	1

We next asked their opinion about the percentage of pupils in their school that they thought had tried VSM. Some students appeared not to understand percentages (or weren't very good at maths), as only 14 pupils made their estimates add to 100% (allowing a range of 99 to 101). This same question was asked after the session in the post-session questionnaire so that we are able to see if there were changes in responses (which could reasonably be attributed to the effects of the session). As the table shows, there were changes in the desired direction, with an increase of eight per cent in the estimated proportion of those who had never 'sniffed'.

Table 2 Estimated percentages of 'pupils in my school' who have taken VSs

	<i>Never</i>	<i>Formerly once or twice</i>	<i>Formerly, occasionally</i>	<i>Formerly, regularly</i>	<i>Now, occasionally</i>	<i>Now, regularly</i>
Before	56	27	20	16	12	11
After	64	19	14	14	9	9
% Difference	+8	-8	-6	-2	-3	-2

Note that percentages do not sum to 100 because the pupils' answers did not.

The third question on the pre-session questionnaire gave a series of statements which, for each one, the pupils were asked to say whether it was 'OK for someone your age to do ...'. The table shows the results, and it can be seen that, regarding trying substances, the feeling of a quarter (26%) was that it was OK for someone their age to try alcohol, but only a twentieth (5%) thought that it was OK to get drunk. There was little support for trying VSM – at eight per cent, it was at the same level as trying smoking – and there was even less support for trying the one illegal drug in the list, cannabis: only one per cent (i.e. 1 person in the sample) thought that this was OK.

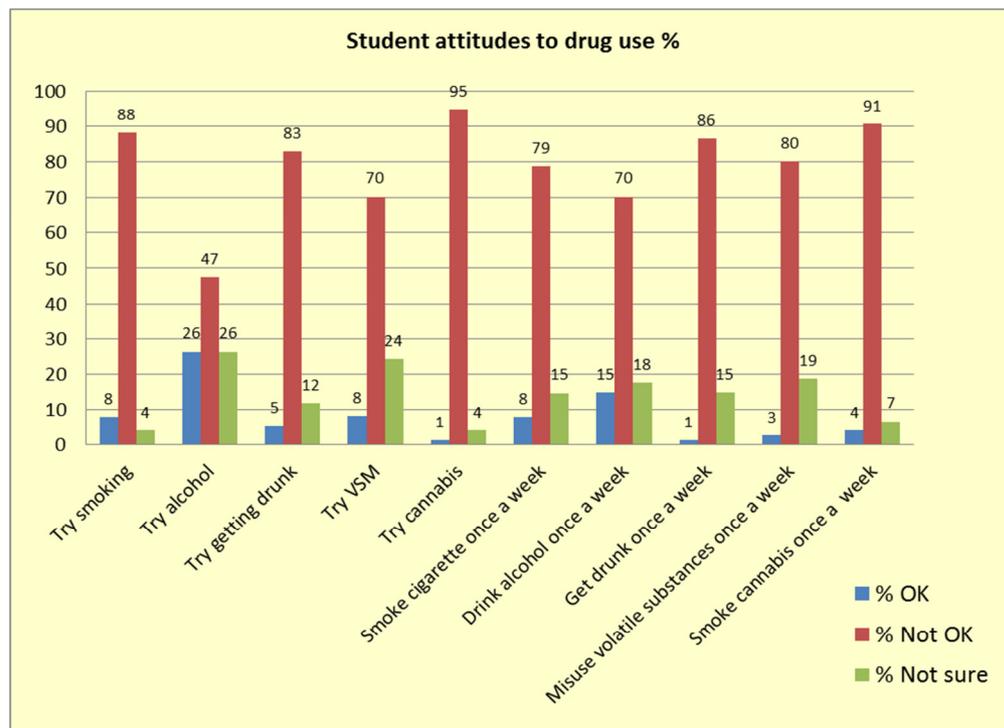
And not surprisingly, attitudes were even less permissive towards more regular drug use ('once a week' – see second part of the table), with only 15 per cent thinking it was OK to drink once a week; although, at eight per cent, the figure for regular smoking was the same as for trying smoking (perhaps in recognition of what an addictive habit it is). For VSM, only three per cent thought that it was OK. (Strangely, the proportion thinking that smoking cannabis once a week was OK was four per cent – compared to the one per cent proportion who thought it OK to try it!). The chart presents the results graphically.

Table 3 Is it OK for someone your age to...

	<i>Try smoking</i>	<i>Try alcohol</i>	<i>Try getting drunk</i>	<i>Try VSM</i>	<i>Try cannabis</i>
% OK	8	26	5	8	1
% Not OK	88	47	83	70	95
% Not sure	4	26	12	24	4

	<i>Smoke cigarettes once a week</i>	<i>Drink alcohol once a week</i>	<i>Get drunk once a week</i>	<i>Misuse volatile substances once a week</i>	<i>Smoke cannabis once a week</i>
% OK	8	15	1	3	4
% Not OK	79	70	86	80	91
% Not sure	15	18	15	19	7

Figure 1 Attitudes to substance use before the session (per cent)



The two parts of this question concerning VSM were asked about again in the post-session questionnaire. The table has the results, which show that VSM became less acceptable to the pupils. Of course, one might say that the pupils are giving the answer that is expected. Some evidence for a genuine change in beliefs is given by the proportions saying 'not sure', as the next table shows, these figures went from

around a fifth to a quarter of the sample *before* the session, dramatically down to one person *after* the session. The chart shows these results pictorially.

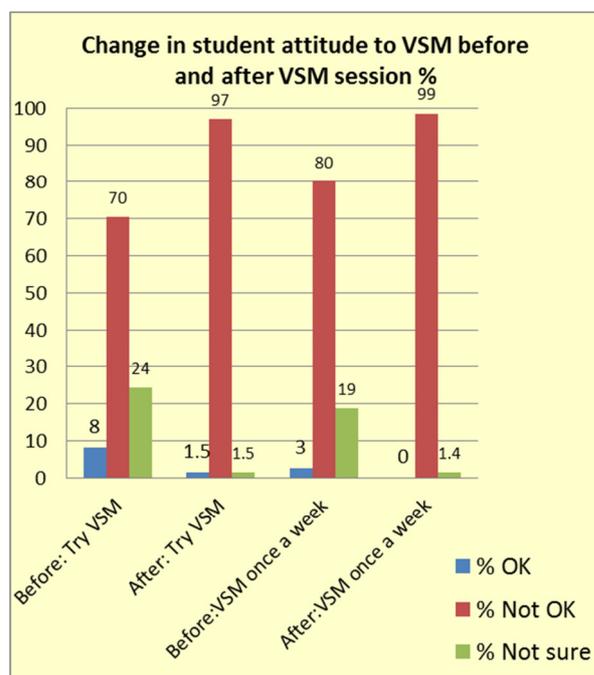
Table 4 Changes in 'OK-ness' of VSM before and after the session

<i>%</i>	<i>Before session</i>	<i>After session</i>
OK to try VSM	8	1.5
OK to VSM weekly	3	0

Table 5 Changes in 'not sure' about the 'OK-ness' of VSM before and after session

<i>%</i>	<i>Before session</i>	<i>After session</i>
not sure if OK to try VSM	24	1.5
not sure if OK to VSM weekly	19	1.4

Figure 2 Chart of change in student attitudes to VSM



There were some interesting sex differences in the proportions saying that VSM was OK. Before the session, 14 per cent of boys, but only three per cent of girls, thought that it was OK to try VSM, and fewer boys were sure (27% boys versus 17% girls

were not sure). See tables below. Following the session, there was only one person (a boy) who thought that trying VSM (no-one said that using weekly was OK), and only one person (also a boy) who was not sure on both questions.

Table 6 Sex differences in 'OK-ness'

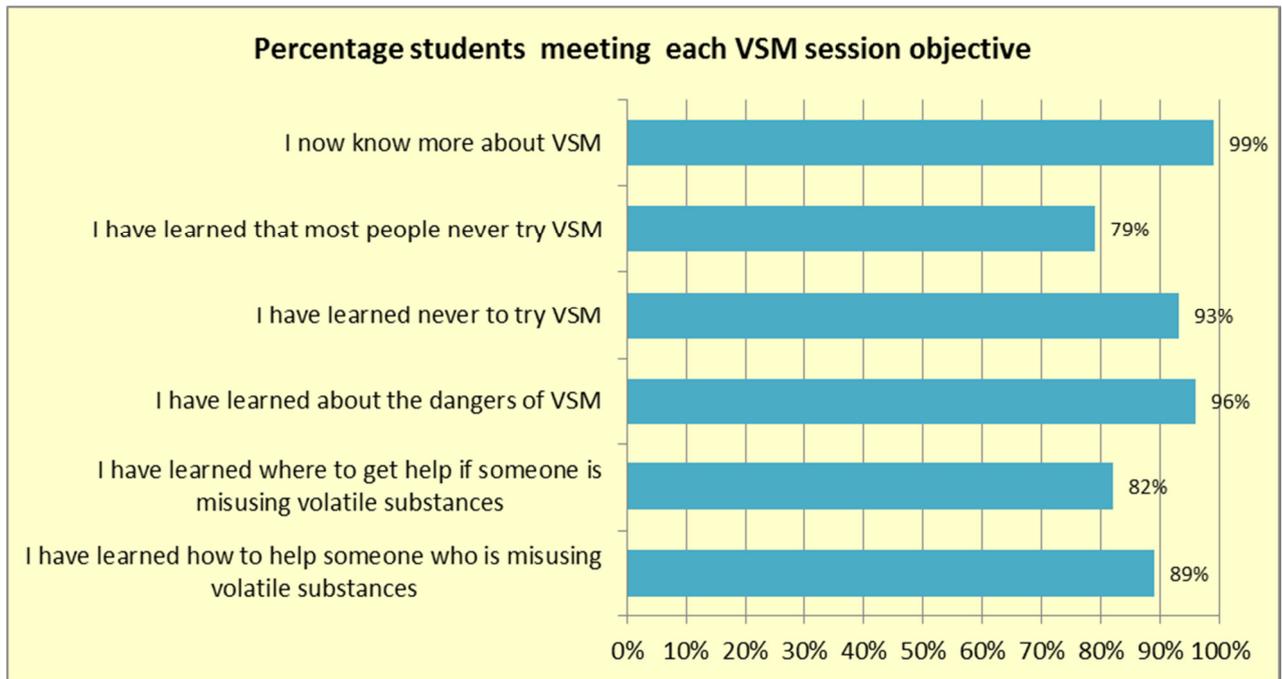
	<i>Before session</i>	
<i>%</i>	<i>Boys</i>	<i>Girls</i>
OK to try VSM	14	3
OK to VSM weekly	5	0

	<i>Before session</i>	
<i>%</i>	<i>Boys</i>	<i>Girls</i>
not sure if OK to try VSM	27	17
not sure if OK to VSM weekly	26	6

Note: Tables that break the sample down by gender exclude the three respondents who did not state theirs.

What had the pupils learned from the session? In the post-session questionnaire they were given a series of statements and asked to 'tick the boxes for the statements which apply to you'. The chart has the results, showing that almost everyone (99%) thought that they knew more about VSM and had learned about the dangers (96%), with almost as many (93%) reporting having learned never to try VSM. The majority had also learned that most people never try VSM (79%), and even more (93%) said that they themselves would not try it. More than four-fifths (82%) had learned where to get help if someone was misusing volatile substances.

Figure 3 What have you learned...?



Results: qualitative data

In the post-session questionnaire, one question asked the pupils to 'write down anything that you have learned'. Nearly half (36) the pupils responded (only a few of them made more than one statement). The following table categorises their responses. There appears to have been significant learning in a number of domains, and almost all the comments are serious (although not all are totally accurate). The number of comments about awareness of the danger of death is notable. And in relation to one of the session aims – about correcting over-estimates of prevalence – the response: 'How many people don't do it. I thought it was more!', is gratifying.

There must always be some concern about pupils who report learning more about sniffable products (and there were five responses of this kind), but these are outweighed by the many comments that indicate that the pupils became more aware of the risks of VSM.

Table 7 Responses to the question: 'write down anything that you have learned'

(all verbatim responses, categorised)

<i>Area of learning</i>	<i>Pupils' statements about what they had learned</i>
VSM prevalence	'56% have not tried it! 44% have tried it' '56% of people die first time after sniffing' 'How many people don't do it. I thought it was more!' 'The most common age to die from it is 16. The youngest age to die from it is 7 that has been recorded.' '8% of pupils have smoked cannabis.'

VSM dangers	<p>'That children die at a very young age with it.'</p> <p>'First time lots of people die.'</p> <p>'How dangerous it is'</p> <p>'I have learned how dangerous 'sniffing' is.'</p> <p>'I've learned the dangers of VSM'</p> <p>'That just experimenting can kill you.'</p> <p>'That you could die.'</p> <p>'That [?sniffing]petrol can kill you.'</p>
Warnings not to misuse volatile substances	<p>'I have learned that you shouldn't sniff things.'</p> <p>'NEVER do it'</p> <p>'Never to try it or you can die.'</p> <p>'To never ever do it, I wanna live!'</p>
How to help	<p>'To put someone in recovery position and call ambulance and not scare them '</p> <p>'I have learned what to do if someone needs help.'</p>
VSM (general)	<p>'About VSM'</p> <p>'I have learned what VSM is.'</p> <p>'What VSM means'</p>
VSM Products	<p>'All the other things you can get high off.'</p> <p>'How many products you can have to get high is disturbing!'</p> <p>'I've learned the VSM products'</p> <p>'That people can get hyper off sniffing petrol or lighter fuel'</p> <p>'That there are products that are not illegal that can get people killed.'</p>
VSM effects	<p>'I have learned about other people's stories and the effects.'</p> <p>'I have learned about the effects of VSM'</p> <p>'I have learned what parts of the body it affects. '</p> <p>'I have learned what effects VSM has on people.'</p> <p>'It makes your heart go faster and if you had a shock it will stop.'</p> <p>'It puts pressure on your heart which increases the risks of heart failure'</p>

	'What happens in hallucinations'
Peer pressure	'I have learned that you shouldn't do what your friends tell you to do.'
Valuing life	'I have learnt that you can't put a price on life.' 'You have 1 life. Don't waste it.'
Feelings	'I have realised how I would feel if my friend took VSM. [I've learned] lots but [it] was disgusting'
Irrelevant	'Dog food is better than mustard!!!' 'Eggs smash easily on Kieron's head when he's in [full ?] shock'

On the post-session questionnaire, pupils were invited to add 'anything else you want to tell us about VSM'. Thirteen did so. The table shows these statements, which are very positive about the learning they have achieved.

Table 8 Pupil statements about VSM (all verbatim responses)

<i>Pupil Statements</i>	
	'I have learnt everything I needed to know about VSM (sniffing) and I was shocked about all the numbers I was told.'
	'I think it's vile and just wrong to do it.'
	'I think that to those things are madness'
	'It can kill you on the first time. It is a sudden death.'
	'It is so dangerous it can kill you!'
	'Never try it because you might die and even if you don't die then you will be ill!'
	'Never try it!'
	'People need to tell adults too not just children.'
	'Thank you for making VSM clear to me. I now know much more about it and would never try it.'
	'Thanks for telling me about VSM.'
	'Thanks for telling me about VSM.'
	'That to never drink/smoke.'
	'That to never to try or sniff it.'

Discussion

These results should be very satisfying for Re-Solv, as they show increased knowledge about VSM following the session by the Youth Officer. They also show reported major changes in attitudes towards VSM in the desired direction.⁶¹ The changes were most dramatic in the pupils' awareness of the dangers of VSM, which is an important learning outcome.

Some drug prevention has as an important goal helping pupils to have more realistic estimates of the proportions of people of their age who have tried and who use substances. The evidence is that most young people over-estimate this, and the theory is that, were they to have a more realistic estimate, they would be less likely to misuse substances themselves. While there are some doubts about the validity of this notion, an accurate understanding of reality is obviously desirable, and this session appears to have helped with this.

Unfortunately, the pupils' limitations in handling percentages meant that the data on these perceptions are not very robust. The questionnaire has been redesigned to take account of this problem. There were problems with the wording of the first question (as have been described), and this has also been revised.

Some questions needed the Youth Officer to explain the meaning to enable the young people to complete them – this is not ideal and it would be better if this was solely a paper-and-pencil exercise.

In conclusion, this was a good pilot exercise which produced interesting findings.

Future Work

I have reworded parts of the questionnaire and Nicola will collect information from other sets of pupils using this revised version: she has five scheduled sessions with Year 9 pupils in October. In addition, she will find other opportunities to use the questionnaires via planned school visits in East Staffordshire.

Richard Ives, June 2012 (Thanks to Barbara Wyvill for data entry and spread-sheet analysis)

A3.2 Report on pilot evaluation of Year 7 VSA intervention

Introduction

In my Report of June 2012 on the work of Re-Solv's Youth Officer's sessions in schools (which should be read in conjunction with this Report), I described the development of a short pre-session and post-session questionnaire designed to detect changes in knowledge and attitudes towards VSA and the results from administering this.⁶² The sessions typically include an explanation about VSA, information about products and the risks of VSA. The sessions also tackle the 'normative myth' (the idea that 'everyone is doing it').

⁶¹ Although one must always be slightly skeptical of such reports, as we know that many pupils are eager to please and 'say the right thing'. How lasting these changes are could be measured with a follow-up questionnaire.

⁶² At the time, Re-Solv was using the term 'VSM' – so this is used in parts of this report which refer to the questions asked.

Method

The before-session and after-session questionnaires had been administered by the Youth Officer at the start and at the end of her session. Following the last report, the questionnaire was revised to improve the wording of some questions and was administered again, by the class teachers, around three months after the initial session. The anonymous questionnaires were linked by asking the pupils to write the same personal code-word on their questionnaires and to give their date of birth. Analysis was carried out in *Excel*.

Results

Out of the original 76 respondents, 68 completed the follow-up questionnaire – an excellent response rate of 94 per cent.⁶³ Most respondents (N= 42, or 62%), did not give their code word but positive identification of these was based on a combination of evidence from their date of birth, their sex, and their handwriting. There were 36 additional questionnaires which were probably all from young people not completing the original questionnaires. The analyses here only include pupils who had completed all three questionnaires.

Reported VSM

We first asked if the pupils had ever tried VSM. In the previous questionnaire, some pupils did not understand the question, so it had been revised for this version of the questionnaire. The results appear more believable, showing that six per cent had tried VSs 'once or twice', while only one person (1.5%) said they currently misused 'occasionally', and only one 'regularly'.

Table 1 Reported VSM (percentages)

<i>Questionnaire</i>	<i>Never</i>	<i>Formerly once or twice</i>	<i>Formerly, occasionally</i>	<i>Formerly, regularly</i>	<i>Now: occasionally</i>	<i>Now: regularly</i>
Follow-up	91	6	0	0	1.5	1.5
In-session (old question)	82	18	7	3	4	1

Opinions about trying and using substances

We next asked about their opinions about trying substances and using them 'weekly'. We used the same question as in the previous questionnaire – 'Do you think it's OK for someone your age to do the following?' about a number of substance-related activities.

The previous report showed a dramatic decrease in reported acceptability of VSM following the session. At three-month follow-up some of this decrease has been maintained, as the two tables below show. However, it is surprising that the reported 'OK-ness' of misusing VSs weekly had increased (although because

⁶³ Numbers in the tables and charts are sometimes less than 68 due to non-answering of individual questions

numbers are small, this may be only an uninteresting fluctuation). The graphs show the 'not OK' figures for each of the three data-points.

Table 2 Change in 'OK-ness' of VSM before and after the session and at follow-up

<i>%</i>	<i>Before session</i>	<i>After session</i>	<i>Follow-up</i>
OK to try VSM	8	1.5	1
OK to VSM weekly	3	0	4

Table 3 Change in 'not sure' about the 'OK-ness' of VSM before and after session and at follow-up

<i>%</i>	<i>Before session</i>	<i>After session</i>	<i>Follow-up</i>
not sure if OK to try VSM	24	1.5	10
not sure if OK to VSM weekly	19	1.4	7

Figure 1 Percentage reporting it was 'not OK' to try VSM at before, after and at follow-up

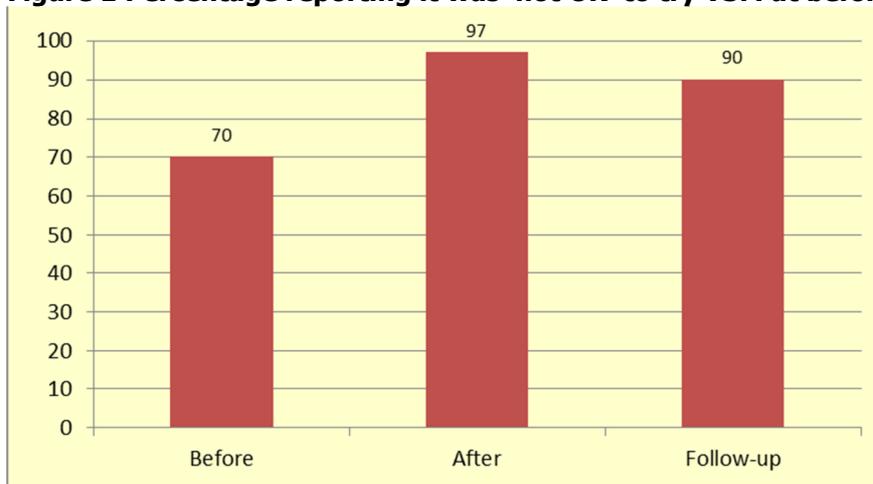
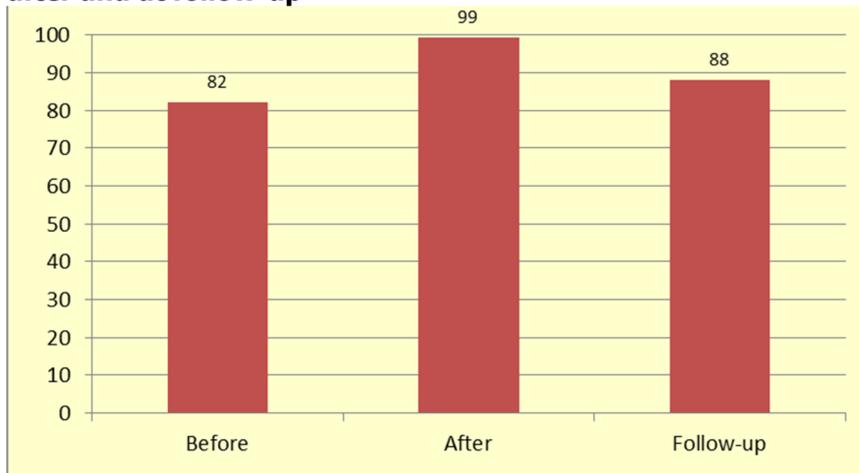


Figure 2 Percentage reporting that it was 'not OK' to misuse VSs once a week before, after and at follow-up



Views on VSM by sex

It is instructive to look at the figures by sex: as the tables and the bar-charts show, girls were originally more negative towards VSM than boys, so that in the post-session questionnaire a bigger proportion of boys had changed their views about 'OK-ness'. It is therefore perhaps not surprising that at follow-up, more boys seem to have dropped back towards their previous views. Nevertheless, both sexes have retained an increase in their negative view of trying VSM, although the girls have reverted to their previous views on weekly use.

Table 4 Do you think it is OK for someone your age to try VSM?

	Before	After	Follow-up
Boys - not OK	56	96	83
Girls - not OK	79	97	94

Table 5 Do you think it is OK for someone your age to misuse VSM once a week?

	Before	After	Follow-up
Boys - not OK	76	100	86
Girls - not OK	91	97	91

Figure 3 It's not OK to try VSM (percentages)

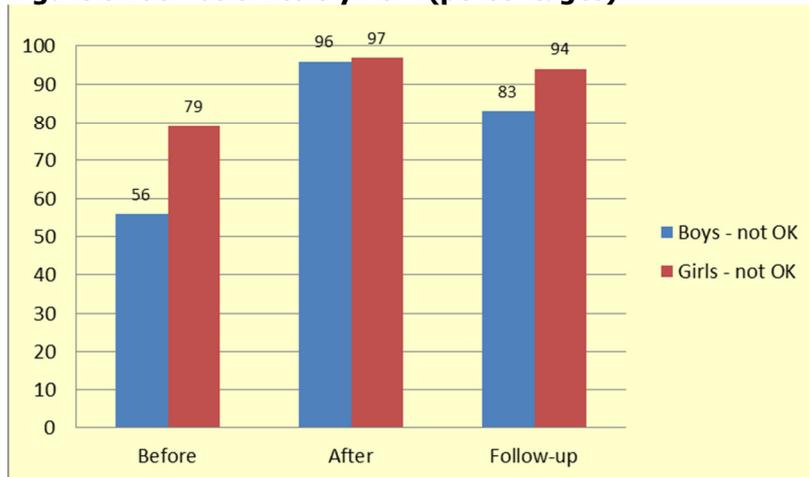
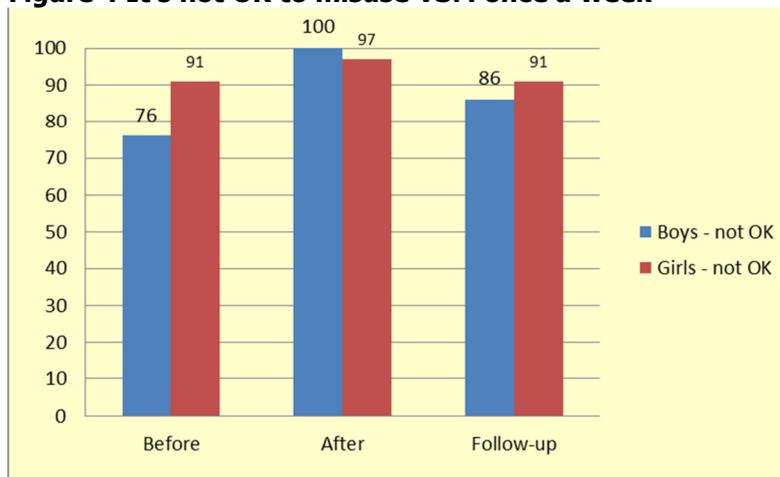


Figure 4 It's not OK to misuse VSM once a week



Views on other substance-related behaviours

These results can be compared to the results for other substance-related behaviours which the pupils were asked about, as the table and bar chart shows (note that this question was not asked in the post-session questionnaire). The results are striking – as the pattern for smoking, trying alcohol, trying cannabis, getting drunk are all in the direction of it becoming ‘more OK’, whereas, as previously pointed out, trying VSM had become less OK (see table and figure below). For weekly VS misuse, there was less uncertainty and more ‘not ok-ness’, even though there was a slight increase in ‘OK-ness’ – such fluctuations are to be expected with relatively small numbers – but the trend seems to be in the right direction.

The second table (in two parts) below has a comparison of before and follow-up percentages for these behaviours. A *decline* at follow-up is indicated by a blue figure in the follow-up (‘F’) column. It can be seen that for trying VS, and to some extent for weekly VS use, and for cannabis, there is a decline in the proportion saying it is OK or in the proportion that are not sure. Pupils appear to have become more uncertain about smoking cigarettes.

Table 6 Follow-up questionnaire: Is it OK for someone your age to...

	Try	Try	Try getting	Try	Try	Smoke cigarettes	Drink alcohol	Get drunk	Misuse	Smoke cannabis
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	<i>smoking</i>	<i>alcohol</i>	<i>drunk</i>	<i>VSM</i>	<i>cannabis</i>	<i>once a week</i>	<i>once a week</i>	<i>once a week</i>	<i>VS once a week</i>	<i>once a week</i>
% OK	9	38	6	1	0	6	15	4	4	1
% Not OK	75	47	79	90	94	74	62	78	88	96
% Not sure	16	15	15	10	6	21	24	18	7	3

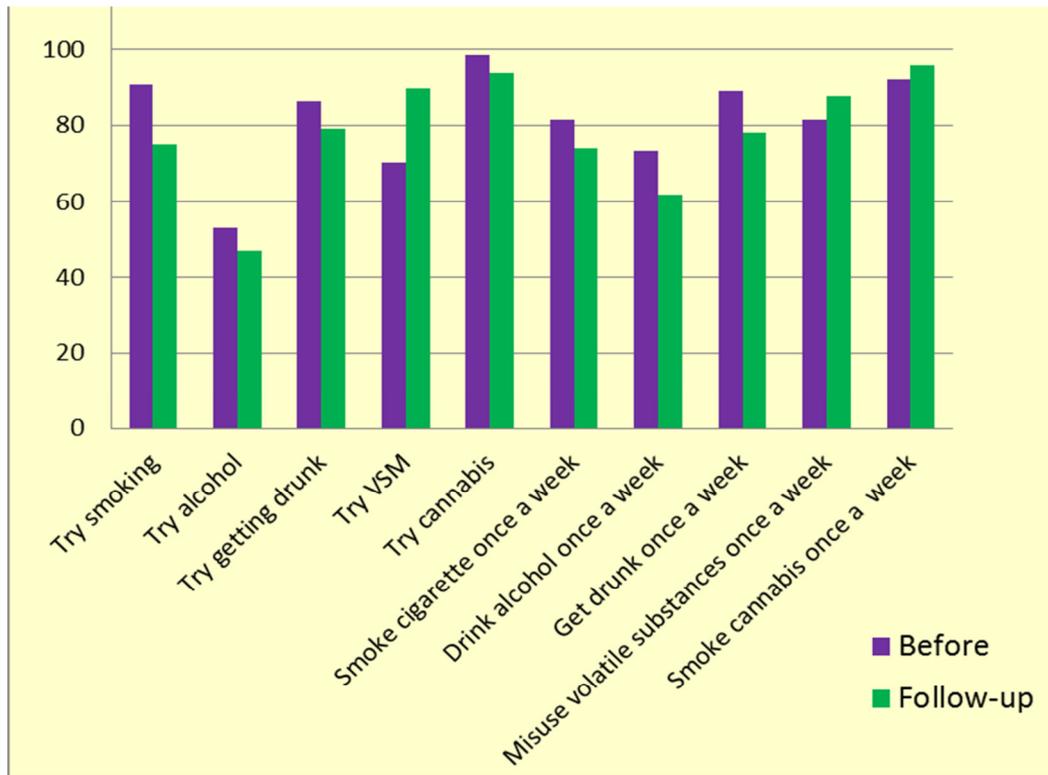
Table 7 (part1) Views on substance use before session and at follow-up

	<i>Try smoking</i>		<i>Try alcohol</i>		<i>Try getting drunk</i>		<i>Try VSM</i>		<i>Try cannabis</i>	
	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>
<i>Before/ follow-up</i>										
% OK	8	9	26	38	5	6	8	1	1	0
% Not OK	88	75	47	47	83	79	70	90	95	94
% Not sure	4	16	26	15	12	15	24	10	4	6

Table 7 (part 2) Views on substance use before session and at follow-up

	<i>Smoke cigarettes once a week</i>		<i>Drink alcohol once a week</i>		<i>Get drunk once a week</i>		<i>Misuse VS once a week</i>		<i>Smoke cannabis once a week</i>	
<i>Before/ follow-up</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>	<i>B</i>	<i>F</i>
% OK	8	6	15	15	1	4	3	4	4	1
% Not OK	79	74	70	62	86	78	80	88	91	96
% Not sure	15	21	18	24	15	18	19	7	7	3

Figure 5 Percentage of pupils reporting that it was not OK to do certain things – before the session and at follow-up



Estimates of prevalence of substance misuse among peers

In the previous questionnaire we tried to get data on ‘the normative fallacy’ – that is the notion that pupils vastly over-estimate the proportion of their class-mates who engaged in transgressive activities, such as taking drugs, getting drunk, having sex. The questions we asked did not work, largely because the pupils had a poor grasp of what percentages were, so in the follow-up questionnaire we asked in a more simple way using labelled categories such as ‘a few’, ‘some’, etc. As the table shows, pupils considerably over-estimate the number of people in their school who have tried VSM – only 7.5 per cent thinking that no-one had.

The next question asked them: ‘Thinking about a Year 7 like yours, if there were 100 people in that Year, how many of them would you say have tried VSM?’, and they had to write a number in the box. Again, there was a vast over-estimate – the mean percentage estimated was more than a fifth (22.3%).

We know from their self-reported data that (at least among those Year 7s surveyed) that the actual figure is around nine per cent: so if ‘normative education’ (correcting these fallacies) is effective, there is still a lot to do! For comparison, we also asked about cannabis, and the table shows these figures, too – a quarter (25.3%) thought that no-one had. The mean percentage estimate for cannabis in a ‘Year 7 like yours’ was a more realistic (but still probably overestimated) 7.9 per cent.

Table 8 Pupils believing that 'people in their school' had tried VSM & cannabis (percentages)

	<i>No-one</i>	<i>A Few</i>	<i>Some</i>	<i>Around half</i>	<i>Quite a lot</i>	<i>Most people</i>	<i>Everyone</i>
VSM	7.5	37.3	25.4	17.9	10.4	2.9	0
Cannabis	25.3	46.2	23.9	3.0	1.5	0	0

Discussion

My previous report commented:

'These results should be very satisfying for Re-Solv, as they show increased knowledge about VSM following the session by the Youth Officer. They also show reported major changes in attitudes towards VSM in the desired direction.'

This statement was qualified by a footnote:

'Although one must always be slightly sceptical of such reports, as we know that many pupils are eager to please and 'say the right thing'. How lasting these changes are could be measured with a follow-up questionnaire.'

Investigating the persistence of these changes was the main purpose of the follow-up questionnaire. A secondary aim was to improve the wording of the questions.

The results seem to show that the Youth Officer's Sessions had a lasting impact. At three-month follow-up the increase in the proportions thinking it was not OK to try or continue to use volatile substances remained higher than before the session. It was not as high as it was immediately post session, and this is to be expected as there would have been a 'decay' in any impact the session had over time.

It is instructive to compare the results for VSM with the pupils' views on the other substance-related activities asked about: these, by contrast, have mostly moved in the other direction – towards more 'OK-ness' about the activity. This is to be expected as children grow older and are more likely to form their own opinions about substances, which are likely, in the teenage years, to become less negative.

It therefore seems that the Youth Officer's Sessions may have had some protective effect in relation to VSM. Although we do not have good data on pupils' normative beliefs before the Session, the follow-up questionnaire demonstrates that there is a lot to do to demonstrate to young people that most people have not tried VSM.

Richard Ives, Sept 2012 (Thanks to Barbara Wyvill for data entry and Excel analysis)

Annex 4 The views of users and professionals

During the development period for this project, the views of professionals were sought through an e-survey, telephone interviews and face-to-face consultation. The report of this work is given here, extracted from the main report of the development work. During the main project the opportunity arose to investigate views of

professionals in Wales; the report of this survey forms the second part of this Annex. The third part of this annex reports on a focus group conducted during this project with adult drug users in treatment who were asked about VSA, their experiences and opinions. The fourth part of this annex gives a brief account of an interview, conducted during this project, with a long-term VS misuser with whom Re-Solv was in contact.

A4.1 Consultations with professionals

The second part of the consultation aimed to identify the involvement of and interest in VSA of a wide range of professional workers with children and young people.

There were four parts to this investigation:

- an e-survey
- follow-up telephone interviews
- work by Re-Solv field staff to identify particular issues in their areas (Scotland, Wales and the North-East)
- a consultation with an invited audience in London.

(A planned consultation in Northern Ireland fell through due to difficulties with the local partners and room booking problems.)

An integral part of this work was to develop the research understanding and skills of Re-Solv and its staff. To this end, some of the staff were recruited to help with the consultation and were briefed on how to do this (Annex 5 has some of the documents relating to the consultation). In addition, a senior member of Re-Solv staff worked closely with *educari* throughout this process, and the CEO was fully briefed throughout. Following the completion of the e-survey, a presentation was given to a Re-Solv Staff Development Day, which presented preliminary data and highlighted some of the considerations in undertaking research. The consultation benefited from the staff comments.

The e-survey

The e-survey was sent to a wide range of professionals – the mailing list was constructed by Re-Solv and included people on their records and from other sources. It included many key professionals in a range of different professions. It was not representative, but it was extensive and inclusive. Re-Solv sent out an email inviting respondents to take part, and after a suitable interval sent a reminder email. The emails included a link to the website where the e-survey was located, so it was straightforward for respondents to complete the questionnaire.

One hundred and twenty-one did.⁶⁴ They came from all parts of the UK⁶⁵ and had the following characteristics:

- almost three-quarters were female, and more than half under 40 years
- from various professions (inc. health, *Connexions*, and social work)

⁶⁴ This section gives a summary of the results. More details of the results are given in Annex 2

⁶⁵ The breakdown was: East Midlands 7; East of England 2; London 12; North East 3; North West 11; Scotland 6; South East 8; South West 3; Wales 4; West Midlands 22; Yorkshire and the Humber 22. There were no respondents from Northern Ireland – it is therefore a particular regret that we were unable to conduct the face-to-face consultation in Northern Ireland.

- two-thirds (68%) had 'drugs' as the main focus of their work
- 70% had worked with young VS misusers
- a quarter (24%) was currently working with VS misusers.

However, for most of them (53%), VSA was a 'low priority' in their work. This was partly because they did not come across VS misusers; one said: 'As drugs workers we don't tend to get referrals for VS misusers.' Nevertheless, they saw it as an important topic; as another said:

'All substance use is of high importance to my work We do not have large numbers in our area using VSA and our biggest concerns are around heavy alcohol & cannabis use. We do realise for those young people using VS it is a very serious risk.'

Where people were working (or had worked) with VS users, there was a focus on longer-term users and less awareness of experimental users; and workers were insufficiently aware of links with illegal drugs and with tobacco and alcohol. The respondents' assessment of their knowledge of VSA was greater than their assessment of their skills. They had a correct awareness of the risk of VSA in leading to death, although they seemed to over-estimate the risk of brain damage and other long-term health effects.

A surprisingly large proportion (42%) saw VSA as a 'gateway' drug (but this view was not reflected in the telephone interviews – see below). More than four-fifths (83%) thought that VSA required specialist knowledge, and around the same proportion thought that it needed dedicated resource and training, although fewer (61%) thought that it needed special skills.

When asked what they needed to tackle VSA, three-quarters (76%) said that they required prevention resources. Other needs were resources for use with parents and family members affected by VSA, and further training.

While this was not a representative sample and included a lot of people who had had contact with Re-Solv, it was notable that there was considerable support for Re-Solv's work. This was illustrated by statements such as:

'Re-Solv has always provided me with help and guidance every time I have phoned for support regards client work. Resources are excellent. Training is also provided and awareness workshops for young people.'

What more could Re-Solv do to help? There was (as many respondents had already spontaneously mentioned) a demand for: prevention resources; resources for use with clients; resources for use with families; and training. Perhaps surprisingly less than a third wanted more workers or more financial resources. There was – disappointingly for Re-Solv – demand for a newsletter from only a quarter. This finding has already stimulated Re-Solv to review its newsletter offering.

The telephone interviews

Telephone interviews were attempted with all those in the e-survey who agreed to be contacted: 21 interviews were achieved (a 64 per cent response rate).⁶⁶ A wide range of professionals were interviewed. The telephone interviews enabled further exploration of the topic.

VSA was seen by many respondents as a problem of unknown dimensions that did not always emerge as an issue in assessments. A Commissioner felt that: 'we don't know what the issues are'. When young people were assessed about their drug use they didn't count VSA as a drug, so they didn't mention it. Thus we did not know enough about the patterns of use; it was a hidden problem and practitioners do not say that it is an issue: 'we don't know enough about what is going on... we need a large piece of needs assessment'. She went on to say that, since VSA experimentation occurred when teenagers were quite young, early intervention was required.

A Drugs Co-ordinator in a YOT said:

'...it's a small problem (maybe one percent of my entire group) with colossal consequences – so it must be taken more seriously. ... VSA is something I come into contact with and feel very strongly about because of the massive dangers'.

He went on to suggest that the issue is often avoided, and:

'practitioners are not confident to address it, they don't know how to engage with young people and this is particularly worrying given the nature of the misuse and the dangers'.

He thought that awareness training was important as well as training for developing interventions.

Unlike the other substances that they were concerned with, most respondents did not come across it very often, but when they did, they knew that they had to take it seriously. The appearance of a VSA issue was often seen as an 'epidemic', or there were transient ('a phase'), and local, 'pockets' of misuse; in some small geographical areas it was 'traditional'. Some respondents, while pointing out that sniffing was not 'cool', thought that this could be changing among younger children. Other respondents expected that volatile substances might be used as substitutes when other drugs (cannabis and alcohol were specifically mentioned) were less available.

Respondents were asked about the notion of VSA as a 'gateway drug'. There was little support for this proposition. Things were seen as more complex than this. A young people's substance misuse worker reported that the young sniffers that her agency saw were often isolated from their peer group and used on their own away

⁶⁶ 39 people agreed to be interviewed. However of the 39, three were outside the UK, there were two incorrect telephone numbers, one person was long-term sick, and one person on maternity leave, giving a possible total of 33. Achieving 21 interviews out of 33 is a 64 per cent response rate. At least three attempts were made to reach each respondent.

from the peer group; it was not 'trendy' behaviour (not, for example, associated with logos); rather, it was seen as a 'shameful' activity by many young people. A Clinical Nurse did not see it as a gateway drug, but thought it an opportunistic activity (people tried VSA for the experience and because it was cheap) whose attractiveness has diminished over the years – but things could change quite easily: 'Troubled or struggling adolescents will still turn to it'.

One worker (a former young person's drugs worker) said that few young people were directly referred for VSA but that in historical assessments it often emerged as something that they had done – she therefore saw it as an 'early indicator of risk-taking behaviour and vulnerability factors'. A YOT worker said that he did not agree with the theory because in his experience, in most cases alcohol came first. The biggest problem with the YOT clients was they started by using alcohol and got themselves into trouble when they were drunk but they enjoyed the buzz so they moved on to a different buzz – of cannabis; and then (in the past) to ecstasy, but now cocaine. All the VSA users he'd worked with also used cannabis and alcohol.

Approaches to harm reduction were explored. Almost all interviewees were of the view that harm reduction around VSA was very problematic, but those who worked directly with young people took a pragmatic approach. For example, one YOT worker reported that when he first sees VS-misusing clients, he knows that they are not going to give up straight away in the meantime he feels the need to give them some protective advice. So he would suggest using as little as possible and not falling asleep on their back (so as not to choke on one's own vomit). But, of course, the aim is to get them to stop. A worker in a young peoples' substance misuse team said that a client who was spraying gas directly in the mouth might be encouraged to use a towel – but that generally they steered clear of harm minimisation advice: 'it's so high risk it raises our concerns and our confidentiality policy goes out of the window'.

Other respondents also said that if a young client disclosed sniffing they treat it very seriously. A manager of a young person's drug and alcohol service said: 'we've always struggled' [with VSA]. They took an abstinence approach (which they did not with other drugs): 'it's not worth the risk' was their main message but they did give limited harm reduction advice such as: don't sniff alone, don't sniff on confined spaces or near water. But because VSA was also a safeguarding concern they would speak to parents.

Some of the interview was taken up with identifying the needs of the respondents in relation to VSA. There was a lot of support for Re-Solv and a sense of its important role of being there when they needed advice or help. For example: 'I'm confident to phone them and ask them "what do you think about this?" I've never had a negative response to my queries'. A Commissioner thought that Re-Solv could perform a valuable function in providing support and consultancy services to workers who had particular queries.

Respondents who had used Re-Solv's resources were generally positive about them, although there was a general feeling that they were rather dated. For example, the *Loaded Gun* video was 'good because there is nothing else but it's a bit dated but

the message gets across'. Re-Solv's resources were seen by one respondent as 'age-appropriate' but not 'needs-appropriate'.⁶⁷ Universal prevention resources needed to be appropriately contextualised. One respondent felt that there was insufficient material about butane gas. When the idea was put to them, respondents were intrigued by the idea of having resources that made effective use of new technologies, but had little feel for what might be possible.

Those who had had Re-Solv's training on VSA were positive about it. Only a few had undertaken the on-line training, but most of these people had not completed it, possibly because of technical problems.

Several respondents felt that Re-Solv could usefully provide practitioners with well-described examples of approaches that have worked with particular clients

The consultations

The face-to-face consultations carried out by Re-Solv staff, and the London Consultation, confirmed the findings reported above. A professional working with unaccompanied minors suggested that prevalence was relatively high among this group of very vulnerable young people. A survey by the National Children's Bureau of calls regarding VSA to ChildLine had confirmed that many of the children who were sniffing were very vulnerable.⁶⁸ Participants wondered if the deaths data could be used to investigate the extent and nature of prior vulnerability of those who died. In working with young people *and* with adults, it was important to look at VSA in relation to other issues and problems that people faced.

The consultations in Wales confirmed that there was a demand for educational materials in Welsh – Re-Solv's parents' leaflet in Welsh had been well-received.

Few people mentioned supply issues, but one DAAT worker in the North East pointed out:

'We need to raise the importance of VSA in the minds of folks like the police and trading standards and highlight that solvent misuse is not simply a legal issue. [and we need] partnership work with ... police and community wardens ... visiting traders selling solvent-related products.'

Those consulted in Scotland were aware of, and expressed concerns about, the higher rate of VSA deaths in the country. One worker who had noticed an increase in VSA attributed this to a scarcity of cannabis and highlighted its role as a substitute drug.

Education was thought to be very significant. One respondent in Scotland said:

'We need lively and exciting ways to engage these disaffected young people; giving them information on the harm they are doing to themselves is not

⁶⁷ for example, the *Hazard Crew* was well-judged for the target age group but was felt not to address the issues appropriately.

⁶⁸ National Children's Bureau 2005 *Dangerous Highs: Children and young people calling ChildLine about volatile substance abuse* (written in association with ChildLine)

enough, they do not care, young people feel invincible and do not believe that the negative effects will happen to them, a good deal of the time they just don't care.'

This respondent echoed views of others in indicating that resources should be:

'Free, Lively and exciting work-packs (budgets are getting tighter and management are reluctant to spend money on expensive workbooks, etc.) [I] have been using information from Re-Solv and scanning the internet for anything appropriate I can use with the young people. The quality is patchy; [I] would prefer focused, organised work-packs.'

Professionals in the consultations confirmed the hidden nature of the problem and said that children and young people tended not to discuss the practice. A young people's substance misuse worker in Scotland said:

'Young people are less likely to admit to VSA initially. For some reason there appears to be a stigma to VSA use that is not evident with any other substance apart from heroin. It can take time to build a relationship with the young person to the point they will admit to using [or admit to] historical use. The young people I work with are more likely to present with historical use and in many cases use whilst under the age of 13. Whilst a few continue to use having moved onto alcohol [and/or] other substances, I would have to say that continuing to use VSA when older is not the pattern of use I work with.'

Some people wondered if the increase in the age of death could be related to a return to sniffing by adults who had sniffed when they were younger (an example was given of a 40-year-old heroin user who also sniffed as he enjoyed the hallucinations). It was hard to identify sniffing (previous or current) among clients attending adult treatment service as assessment forms did not mention it. If the age group was increasing this would mean a need for different type of resources for working with sniffers. Poly-substance use that included VSA needed to be considered, and the potential interactions with other substances taken into account.⁶⁹

At the London Consultation, participants felt that the evidence base about VSA needed developing in order to 'push it up the agenda'. As VSA was a hidden problem that did not always emerge in needs assessments, there was an argument for always including it in universal prevention initiatives. With PSHE education becoming a statutory curriculum subject, there were potential opportunities for including VSA in professional training for teachers; there was a need to reduce the worries (it was suggested) that teachers had in raising it with young people. The new curriculum's focus on 'core skills' provided fresh challenges and opportunities for the inclusion of VSA topics. Pastoral care in schools needed developing.

⁶⁹ An important point, but very difficult to do the necessary research – see Ives R and Ghelani P 2006 'Poly-drug use (the use of drugs in combination): a brief review' *Drugs: Education, Prevention and Policy* 13, 3 2006 pp 225-232

The roll-out of Youth Support Teams⁷⁰ might provide some opportunities to develop early interventions and to undertake more work with parents. All local authorities had a parenting strategy and perhaps this could be 'tapped into'. Given that looked after children had higher risk of engaging in VSA, foster parents should be a key target group. A participant commented that it was difficult to engage parents (who knew little about VSA) without scaring them. One participant thought that it was important to move away from the 'kill at the first attempt' message to a more nuanced approach which acknowledged that some substances are more harmful than others.⁷¹

Although VSA was seen by those consulted as a unique and special issue, it was suggested that ways forward in tackling it should be broad, and pursued by Re-Solv through alliances with others. VSA was an issue in the lives of some young people and a known-about feature in the lives of many (even if they had never tried sniffing); young people did not compartmentalise issues, and thus the response should not be compartmentalised.

Regarding the collection of information from young people, a plea was made to move away from the typical 'one-dimensional' consultation of asking young people a set of questions towards the development of dialogue and discussion with young people, which also addressed broader issues.

Conclusions and Recommendations

This work was undertaken to help to identify the issues that further research on VSA could usefully address, and how existing information could be further explored. The part of this consultation concerned with the deaths study has clarified the nature of the data available and the extent to which it might be analysed further. The Steering Group contains the key people to help this work to move forward. The lines of responsibility for the St George's study (which had been remarkably unclear) have finally become more delineated, and the Group has confidence that it will be possible to work with the St George's Team in further data analysis, producing knowledge of use in understanding VSA and the changing nature of its practice, which will assist Re-Solv in helping professionals and others to tackle this problem.

The part of the Consultation concerned with professionals' views and needs has been equally productive, but some of the initial ideas for research have not been supported. At the start of the work, a key idea was to create a research proposal for the further investigation of the nature of young people's sniffing – looking at such topics as methods of use, and the use of other substances by sniffers. The overall aim was to gain a better understanding of the behaviour of sniffers, in order to be

⁷⁰ '...establishing a frontline youth support team with a focus on early prevention and early intervention, that should be able to address problems and change behaviour through support and challenge ...engaging parents and helping them meet their responsibilities' and ensuring that this support is '...effectively co-ordinated and delivered by a lead professional'. This is the basic concept of a 'Targeted Youth Support Team' set out in the Government's Youth Green Paper 'Youth Matters' published in July 2005

⁷¹ The difficulty with this approach is that we do not have a robust evidence base for the relative risk and harmfulness of different products.

able to better inform practitioners about the practices, so that they could improve their work with users, and develop preventive and treatment strategies.

The Consultation has indicated that few practitioners had had contact with current sniffers. Where practitioners *were* working with sniffers they appear to be doing so confidently, and in a supporting institutional context, such as a young person's substance misuse service. But professional workers were aware that they might be missing many cases of VSA. This is partly because of its young age profile (which may be changing) and its perceived episodic nature. It is also because the issue is not given priority by commissioners – so few services are focused on it. A reason why commissioners do not commission services is that they do not know what effective practice with VS misusers should be – this is because there are no recent documentations or evaluations of practice.

Thinking through some of the issues associated with the original idea of research with young people, it is clear that, while this would be an interesting and useful project, it would be difficult to do. The researchers undertaking the 2001 BAMA research were able to identify, contact and speak with young sniffers and ex-sniffers, and to collect useful information from them, but it proved difficult to get the fine detail of their sniffing practices that would enable more focused advice to be given by professionals.

By contrast, this consultation has demonstrated the value of talking with relevant professionals about their work, and has identified a range of good practice in different settings. This confirms that the element of the original idea for the research that involves professionals is viable, and would be useful to Re-Solv, adding to the organisation's knowledge of effective practice and helping it to produce advice and resources appropriate to professionals' needs.

There was a very positive view of Re-Solv: professionals want the organisation to be there to 'keep an eye on things', making sure that things don't 'flare up', and help deal with those 'pockets' of misuse. They are also keen that Re-Solv should be taking forward universal prevention initiatives in schools.⁷²

While there was a big demand for resources, there were lots of different needs and ideas about what the resources should be. This indicates a need for Re-Solv to experiment with different methods. There seemed to be a lack of vision about the way new technology might be used to deliver resources – Re-Solv could experiment and promote methods such as *YouTube*-style clips and text messaging.

Beyond resources, there is a job for Re-Solv in assisting in the development of treatment protocols, in ways of working with different kinds of clients, and in helping to do area assessments. Re-Solv could take a role in the evaluation of existing approaches, which would develop the evidence base for commissioning. For example, Re-Solv could work with commissioners on this issue; one way that was

⁷² Most of those interviewed were working at Tier 2 or Tier 3; they therefore did not have much experience of Tier 1 provision.

suggested was the possibility of working through regional meetings of commissioners organised by the NTA.

It is therefore recommended that the element of the original idea of undertaking research with professionals should be further developed, and extended to looking in detail at their practice with young people. This could involve research in contexts where professionals were working with sniffers, or undertaking preventive work. It could also include evaluative components (both process and outcome evaluation). The aims would include the identification and dissemination of good practice and the development, distribution and evaluation of up-to-date, appropriate, and innovative resources, both for treatment and for primary prevention activities – with young people and with adults.

This approach would deliver more value for Re-Solv and the practitioners whom its work supports. It would enable commissioners confidently to commission services which would help to create a virtuous circle of good commissioning –including built-in evaluation – which would provide further data to enable continuous improvement of the response to VSA. It would create learning experiences and help to embed good practice, and give a basis for greater clarity about the extent and nature of the problem.

It would be important to gather the perspectives of children and young people and this could be done in a variety of ways, but would need to address appropriate groups (users, as well as non-users), and would need to go beyond simplistic forms of consultation and be more sustained in order to tease out the detailed views of young people.⁷³

Richard Ives, March 2009

A4.2 Evaluation of training undertaken by Re-Solv with professionals in Wales

Introduction

One aspect of its work that Re-Solv wanted to explore in its Big Lottery Project was the effectiveness of its interventions. Two key areas of work were education sessions in schools, and training of professionals.

Regarding the school work, the administration of a 'before and after' questionnaire to pupils in receipt of the Re-Solv education session and the analysis of the results found that the intervention was well-received and that the pupils' attitudes changed and their knowledge increased. (See: 'Report on pilot evaluation of Year 7 VSM intervention', and: 'Report on pilot evaluation of Year 7 VSA intervention', unpublished reports to Re-Solv, June 2012 and September 2012.)

In 2009, I reported on the results of the consultation of professionals conducted as part of Re-Solv's work in preparing for the Big Lottery project ('VSA: Report of the Consultation' unpublished report to Re-Solv, March 2009); the stated purpose of the consultation was: 'to consult with professional workers about their perspectives on

⁷³ for example, such activities as a Junior Citizen's Jury – see example in Annex 4

VSA and their needs to enable them better to tackle the problem.’ This work included an e-survey of a range of professionals across the UK. 121 responses were received. This work helped to inform our approach to the main project.

Finding from the 2009 e-survey of professionals

The professionals surveyed were asked to rate their ‘...knowledge about VSA and [their]... skills in working with people on VSA issues’. Overall, the respondents rated their VSA knowledge between ‘average’ and ‘quite high’, while VSA skills were rated lower, ‘average’ or just below average. Knowledge of the potential dangers of VSA received the highest rating (3.9), just below ‘quite high’.

When asked how VSA should be tackled, more than four-fifths of the respondents thought tackling VSA required special knowledge; just over three-fifths thought it needed special skills. About four-fifths of the respondents thought that VSA needed dedicated resources, training, and so on.

Professionals in Wales

During the Big Lottery Project, there has been quite a lot of activity around VSA in Wales, although the Re-Solv office in Wales, and the dedicated Wales worker post, has been lost due to the end of the funding from the Welsh Assembly Government.

In particular, the WAG published their *Substance Misuse Treatment Framework*, with one of the components being Guidelines on tackling VSA (<http://wales.gov.uk/topics/housingandcommunity/safety/substancemisuse/treatmentframework/?lang=en>).

Re-Solv undertook some of the (admittedly small-scale) dissemination work that took place around the VSA Guidelines.

Methods used in this survey

Separately, Re-Solv was commissioned to run some training for professionals. Taking this opportunity to look again at how professionals saw VSA, we designed a short ‘before-and-after’ questionnaire to make an assessment of the response to the training and also to find out what the participants thought of the VSA Guidelines.

Results of the Survey

‘I have found today's training to be excellent. The trainer addressed the topic with complete expertise and made the whole experience worthwhile. Thank you.’

We surveyed professionals attending three training sessions: there were 15 respondents in the first (plus one respondent completing the ‘after’ questionnaire only); 24 in the second; and 14 in the third – giving a total of 53 (+1) respondents.

In response to a question, ‘Is VSA part of your current work’, of the 51 people who responded to this question, 28 (55%) reported that VSA was a part of their current work, 17 (33%) said that it was not and six (12%) people indicated that it could potentially be part of their work with clients. Annex 1 gives details of the work that people were doing around VSA.

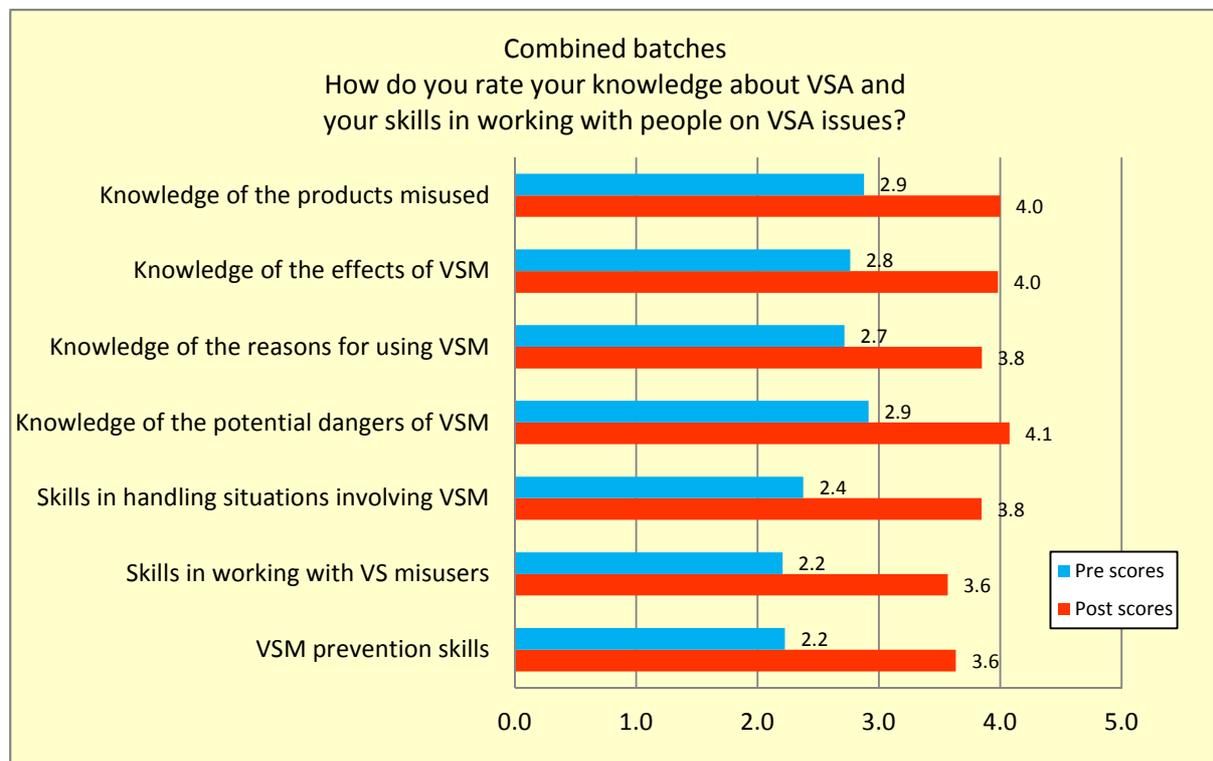
Changes in knowledge and confidence in skills

'I can now make parents much more aware of VSM and pump dispensers.'

Prior to the training, the trainees were asked just one question: 'How do you rate your knowledge about VSA and your skills in working with people on VSA issues?' This question had seven parts to it, covering knowledge and skills in relation to VSA. The same question was asked again after the training, and the questionnaires matched up so we could identify changes in individuals' responses. The five rating categories provided were: 'Low'; 'Quite Low'; 'Average'; 'Quite High'; 'High'.

The results for all three sessions are summarised in the chart that follows (see the Annex for separate charts for each of the three training sessions – there were few differences between the sessions).⁷⁴ The rating categories are scored one through to five to give the figures in the charts.

As can be seen, the 'after' scores were on average higher than the 'before' scores for all the seven aspects asked about.



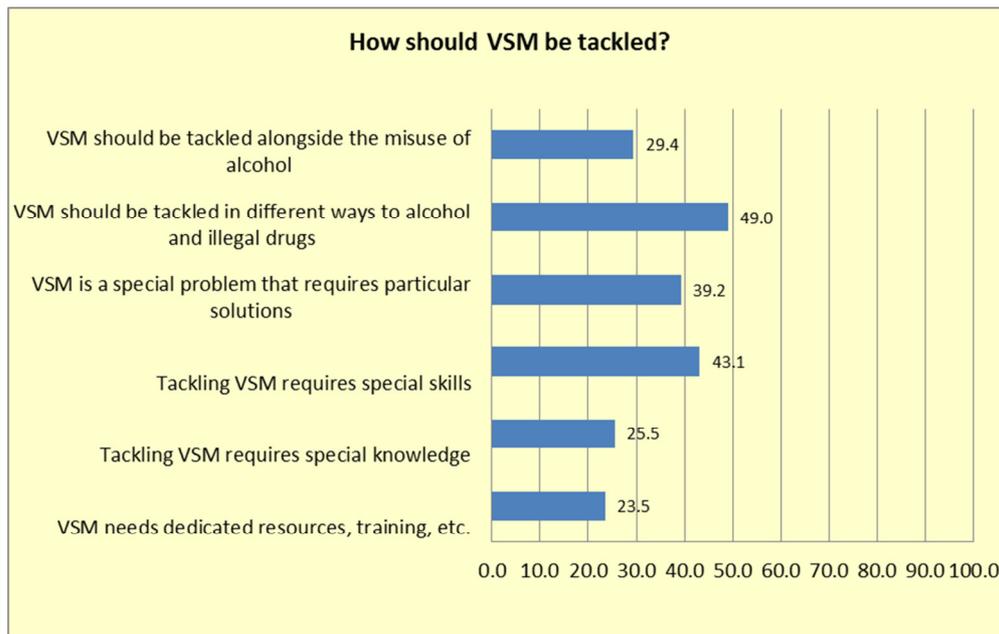
How should VSA be tackled?

The 'After' questionnaire also asked 'How should VSA be tackled?' Six suggestions were provided and there was space for respondents to write in their own ideas. Multiple responses were encouraged.

The chart shows the responses from trainees on all three sessions combined. The bars represent the percentage of respondents who checked the relevant item.

⁷⁴ At the time these surveys were conducted, Re-Solv was referring to VSA as 'volatile substance misuse' – 'VSM'; there were good reasons for this but the terminology didn't 'catch on'. Re-Solv has since reverted to the traditional terminology, 'VSA'.

Almost half of the respondents (49%) felt that VSA 'should be tackled in different ways to alcohol and illegal drugs' – although almost a third (29%) felt that it 'should be tackled alongside the misuse of alcohol'; two-fifths (49%) agreed that it was 'a special problem that requires particular solutions', and about the same proportion (43%) agreed that it required special skills to tackle – although a smaller proportion (around a quarter) thought that it required 'special knowledge' (25%) or 'dedicated resource, training, etc.' (23%).



What more can Re-Solv do?

'Continue with the good training of youth workers that we received from Nicola. Start at the top.'

Respondents were asked what Re-Solv could 'do to help people in Wales, 'professionals, policy-makers, parents, young people, etc.', to tackle VSA.

Thirty-four people had suggestions. These covered a wide range.

Staff training:

- Ensure all staff get training
- Increased training for Professionals – to be able to pass information on to other young people and service users
- I think more people need the training to take it back to youth clubs and schools
- Continue with the good training of youth workers that we received from Nicola. Start at the top.
- It needs to be included in assessment policy, and further training for staff
- Facilitate more training days to increase awareness
- More publicity of the dangers
- Knowledge is important, informing people of the dangers
- As much training to all schools, colleges, agencies and partners as possible

- Training in schools
- Education to all named above
- More training in schools for staff
- Update with training SMS + CDAT'S that VSM is not just affecting young people but adults
- Keep delivering training and putting the information out to young people and professionals
- Deliver training to many young people and different agency in North Wales

Inform young people and their parents:

- Inform groups working with young people so they can increase knowledge and awareness
- Workshops for parents/schools/young people anyone who works with people
- More training, bring knowledge into public domain for parents to be aware of use
- Young person's substance misuse service
- education via schools
- Continue with the education
- Prevention work in schools
- continue to research and publicise the dangers and associated risks both in the profession . Schools + general public
- Workshops . Make parents more aware. Leaflets. TV advertising. Schools

Other:

- Liaise with substance misuse agencies
- Regular correspondence on issues, and research in area of substance misuse nationally, in order to identify patterns
- Ideas packs and quick fixes that could act as a conversation starter
- Publicity what to do if someone passed out using VSM - stay with tell paramedic
- Facebook/Twitter advertising. Campaign for mandatory inclusion on National Curriculum PHSEW Programme
- More resources for young people and families
- Identify local champions to take framework forward
- Look at policies around use of gases, etc. in household products and look for safer alternatives. More education in school and parents
- DVDs are a good way to get points across to children and young people
- Practical support. More ideas for prevention engagement - DVDs resources, games etc. Ideas on practical interventions with users. On-line training on Re-Solv website

About the VSA Treatment Framework in Wales

'Very informative and thought-provoking. User-friendly. No jargon'

We took the opportunity, in this questionnaire, to ask the trainees whether they had read the then-recently-published Framework on VSA and what their opinion was.

Forty-one people responded to this item (one person gave two responses, so there are 42 answers), which had six options:

'It is an excellent document because...'

'It is a good document but...'

It is not a good document because...'

'It is a useless document because...'

'I haven't had a chance to read it yet, because...'

'I don't have an opinion about the VSM Framework Document because....'.

No-one chose the 'not good' or 'useless' options. The others responded as shown in the table. While half had not had a chance to read it and ten per cent did not have an opinion, a third thought it an excellent document – and leaving aside the people who hadn't read it, of the 21 people who had read it, 15 thought it excellent – that is, 71 per cent.

Opinions of the Wales VSA Framework (percentages (N in brackets: total N=41))

It is an excellent document because...	It is a good document but...	It is not a good document because...	It is a useless document because...	I haven't had a chance to read it yet, because	I don't have an opinion about the VSM Framework document because...
36 % (15)	5% (2)	0% (0)	0% (0)	50% (21)	10% (4)

All these fifteen respondents gave a reason why they thought it was an excellent document. The responses were:

It is an excellent document because...

- It's very informative
- It contains relevant and current information
- Very informative and interesting
- Highlights the problem and how to deal with it
- It needs to be addressed in the correct manner
- It gives us facts about deaths etc.
- It shows and guides us the dangers and how to deal with these
- Very informative and thought-provoking. User-friendly. No jargon
- It is very concise and informative
- clear and concise
- It describes the outcomes and targets of this specific issue
- It gives an outline of VSM
- It tabulates simply and precisely - the contents - effects
- It gives excellent explanations of treatment for VSM
- At last VSM is being taken seriously by WG

One of the two people saying that 'It is a good document but...' said 'It gives us all the information we need and referrals, but need more ideas and sessions to accompany it.' The other did not give a reason.

Twelve of the twenty-one people saying that 'I haven't had a chance to read it yet, because...' gave reasons. There were two main reasons, having only just received it and pressure of work. The full list of reasons is in Annex 6.

Four people said they did not have an opinion about the VSA Framework Document because they had not read it or had not finished reading it.

Other comments about VSA Framework document included eight people who highlighted the need for training and seven who thought that more publicity was needed. These, and other suggestions, are shown in the table in Annex 5.

Additional comments

'I have found today's training to be excellent. The trainer addressed the topic with complete expertise and made the whole experience worthwhile. Thank you'
--

Respondents were invited to make additional comments. Twelve people made comments: these are listed in Annex 5.

Conclusions

This small-scale survey indicates that Re-Solv's training in Wales was reaching some of the right people, and that their knowledge and skills developed as a result of the training.

It also shows that the VSA Framework had been well-received by those who had read it and there were no negative comments about it.

This survey also indicates some areas that could be addressed in the future. It would be helpful to do more to publicise and disseminate the VSA Framework and this could be done through additional training, as the trainees' responses suggest unmet training needs around VSA.

Most trainees seemed to professionals working predominantly with young people. Given the concern that many VS misusers are adults, it might be important also to address those working in adult drugs services.

Richard Ives, November 2012 richard@educari.com

(Thanks to Barbara Wyvill for data entry and Excel analysis.)

The annexes to this report are available from the author on request.

A4.3 Focus group at an Addiction Centre in Central England

25th Feb 2011. 11:20 to 12:15. Richard Ives (RI) Nicola Jones (NJ)

12 people present, 8 men 4 women. The age-range was 26 to 41 years. None had been in local authority care; five had children of their own (see table 1). One worker was present.

Starting sniffing

All 12 had used volatile substances in the past: the youngest date of starting was aged nine; three started at age 11; three at age 13; three at 14; and one at 19. Various products were used – glues (brands mentioned were *Evo-Stik* and *Thixofix*), gas, *Tipp-Ex* and petrol were

mentioned; one person had tried chloroform. They hadn't heard of anyone using disposable lighters and said they couldn't get high on them.⁷⁵

Why did they start? They had friends who were doing it, it was free (for example: 'free petrol in my mate's bike'), boredom: one person said: 'I had a lack of structure in my life at that time'. . One person said that at 13 years old he'd seen a video at school which had people sniffing which looked very real and he and his mates thought 'that looks cool, let's try it' – and they did at the earliest opportunity.

Products and methods

There was no brand preference at all and type of product didn't seem to be very important to them, they took whatever was available. Size of can didn't matter although some people expressed a preference for the smaller cans because they were easier to conceal and easier to hold. Those who sniffed gas almost all sprayed it directly into their mouths. Other methods included aerosols being sprayed through a sock or from a sleeve.⁷⁶ The person who sniffed chloroform put it into bag and sniffed it.⁷⁷

Frequency and duration

Apart from one woman who said she had sniffed for one week only, the other 11 all reported sniffing lots of times. Asking them about the product they sniffed most often for the longest, one person reported using up to six cans a day. Another person got through three to four cans a day.

One person stated that he got a decent hit off the first blast and then, even when he inhaled more, the high just stayed constant throughout that time. Another individual said that he discharged two cans non-stop and that induced really strong hallucinations. The way that sniffing was described was that if you had a lot available you were 'greedy' in the beginning so you would discharge it all, but if you hadn't got much you would sniff slowly to prolong the effects throughout the day: 'You'd try to eke it out'.

One person said: 'Glue is different, it lasts longer than the gas' and he also went on to say that on glue you black out and then you come back and you don't know where the time has gone, it could be much later in the day; and this wasn't his experience on other substances. Therefore with glue there wasn't the need to 'top up' – whereas with gas you had to keep topping up to maintain a kind of plateau of the heightened state.

There was a lot of variation in the way that people used quantities of the products, with some spreading out their use over a period and others 'going for it' and taking a large quantity in a short time. This seems to be more due to the individual than the product.

There was little report of tolerance developing [which surprised us].

Other drug use

Nine out of the 12 agreed that VSA was a cheap alternative to other drugs.

⁷⁵ RI wondered if there was some confusion because they mentioned *Zippo* lighters which are often lighter fluid; but NJ thought it was just one woman who was confused by this.

⁷⁶ One person said that he sprayed his gas into a bag but somehow it came out as a liquid which he then inhaled the fumes; we are not sure how that would work.

⁷⁷ He said his sniffing was an unintended outcome of he and his mates getting the chloroform, purchased legitimately from medical supply companies, because they were trying to make a bomb that would knock people out but they never got round to that because they were too busy sniffing.

All were drinking alcohol at the time in their lives when they were sniffing and five were using some other illicit drug along with their volatile substances. Six of the twelve used cannabis at the same time in their lives as they were using volatile substances. They mostly sniffed in groups: one person reported sniffing in a group of ten or twelve: he was on four to ten cans of gas a day and also drinking strong alcohol at the same time. He went on to say that one member of the group died from sniffing and this prompted every single person in that group to give up sniffing. Later in the interview, someone else mentioned that his best mate had died from sniffing (and he told RI afterwards that it was recorded as 'death by misadventure'). Only one interviewee sniffed on his own: he *would* do it with a group, but sometimes also go off on his own and sniff.

Gateway?

Six people in the group felt that VSA was a gateway drug. One person stated that sniffing brought the idea to the mind that there are highs available out there. Of those who didn't think it was a gateway, two said that they were using other drugs at the same time, anyway. One said 'I only did it a little bit'; two said 'I'd have taken drugs anyway'.

Of those who thought it *was* a gateway drug, one said; 'it was the first time I ever got high and once you've got high you want to try everything'; a woman in the group agreed with that statement. One person stated that it 'opened doors up' so as they got into the drug scene, they were taking speed and other pills they would try others to see 'what different highs there were out there'.

Regarding legal highs, this question was difficult for them to answer because the legal status is not clear and changing; but many of them had taken mephedrone (m-cat), and one person reported taking GHB and ending up in hospital. The reasons advanced for taking them were nothing to do with their legality: this wasn't relevant to them; their reasons were partly, maybe largely, because of the poor quality (purity) of street drugs and that legal highs were cheaper. It was also mentioned that they were used because they couldn't always be detected in urine tests. One woman reported that she had experience of university students at festivals preferring legal highs because they were worried that they would get a criminal record if they used illegal drugs.

Stopping

The length of time they had sniffed was around couple of years, although one male reported sniffing between the ages of 13 and 17. The person who started at the age of nine didn't the sniff again until he was 11 [perhaps when he went to secondary school] but then he sniffed more regularly for a while.

Why did they stop? The general feeling was that 'proper drugs' were better. Some people said that it went out of fashion; two stopped because of a friend dying (two different friends); one got a job and joined a different social group; one left school and was therefore not with her mates. (This woman went on to say that she had mates in the rave scene who, as adults, would use volatile substances as part of managing their comedown.)⁷⁸

Prevention

Eight people said that they knew before they started that VSA was dangerous; and, for some, this was part of the attraction. Everyone knew about there being warnings on the cans but they weren't aware of the exact wording although one person had a reasonable stab at guessing. There was a general feeling that warnings were not only useless but might alert people to the

⁷⁸ This person, who had been worked in social work, told the story of going to the flat of a 21-year-old and removing seven bin-bags of canisters.

possibility of the products' abusability: 'Danger is another word for fun'. See also the earlier comment from a person who'd seen a educational video which had prompted use.

Five said they'd had no drug education at school, and two said they'd had education about volatile substances but not about illegal drugs. One person said that he'd been in prison and he had done a drug awareness course which covered everything; 'but I was 33 years old: it should have happened before I started experimenting'

They were overwhelmingly of the opinion that ex-addicts going into schools would be better than police officers: 'keep it real'.⁷⁹ Everyone in the group agreed that even had they heard from an ex-addict when they were at school it would not have stopped any of them from experimenting although it might have prevented them using so much as they did.

Asked about what could be done other than education – and specifically product bans – they thought these would be useless because there were so many different products that could be used. Asked specifically about a reduction in butane gas can size they didn't think this would be effective because they would have just bought more or substituted other products, and there would always be products available. (Surprisingly they didn't seem to be price sensitive, this wasn't mentioned).

They felt that the decline in use was because the age at which young people used 'proper drugs' had declined – such drugs were much more available: 'I used to get coke in the clubs but kids now get it on the streets'.

Speculating about why the proportion of adults dying was greater now, it was suggested that this could be ex-drug addicts because the substances might not be so detectable in drug testing or it could just be that they were having an 'blast from the past' or if the opportunity presented. (For example, someone told a story about when he was with his mates using crack and his friend filled his lighter up and they had a go on the lighter gas.) But a general feeling was that you might use it when you wanted a buzz and you were 'proper skint'.

Regarding negative effects, they noted that they'd had lots of nose bleeds (there was general agreement on that), headaches, 'coughing up bits of shit', and several had had spots or scabs around the mouth. Two or three reported a freezing effect in the throat. They spontaneously mentioned hallucinations, said they were brief (maybe only a few minutes) but powerful. One person said it was better than LSD, because on LSD you imagine you see things but on glue 'I saw my sisters'. Another person reported an auditory hallucination: 'I heard a siren in my head'.

We asked about long-term negative consequences but no one reported any. RI probed on this specifically, asking about numb fingers (since they were old enough to have sniffed toluene-based glues), but none reported it.

Table 1: Demographic characteristics of BAC Focus Group 25th February 2011

<i>Gender</i>	<i>Year of Birth</i>	<i>Postcode</i>	<i>Children</i>	<i>Ethnicity</i>	<i>Age Ceased FT Education</i>	<i>Ever been in care</i>
F	70	ST6	1	White	13	No
F	73	ST6	0	White	26	No

⁷⁹ But this is to be expected, since they are recovering addicts in a centre that employs ex-addicts.

F	79	ST6	0	White	15	No
F	82	DY1	3	White	15	No
M	70	CV1	3	White	14	No
M	72	B77	0	White	16	No
M	73	WS11	0	White	16	No
M	78	DE15	3	White	14	No
M	78	WS11	0	White	18	No
M	81	ST6	1	White	13	No
M	85	WS12	0	White	16	No
M	85	DE13	0	White/Caribbean	13	No

Comments and Interpretation

This was a fruitful session with a number of interesting strands:⁸⁰

- as expected, age of starting was young. But one started aged 19 years. And there was one report of opportunistic use in adult life, and an anecdote about 'ravers' using VS as a 'comedown' drug
- reasons for starting were varied: boredom, availability, lack of structure and raised awareness following school drug education
- most had sniffed lots of times. Quantities varied but some were large – up to six cans a day. Sniffing continued for around two years in several cases
- reasons for stopping – in this group of drug users in treatment – were overwhelmingly about moving on to 'proper drugs'. However, one person reported that his entire group stopped when one of their members died a sniffing-related death.
- products varied. There were no clear preferences expressed. Product type used seemed to be opportunistic⁸¹
- as found in other research, the amount sniffed could not be pinned down. There appeared to be a lot of individual variation, and the amount sniffed in any session seemed to depend largely on the amount available. It seemed that if a large quantity was available it would be consumed quickly, but small quantities would be conserved to produce a lesser buzz, but over a longer period. Glue was different and lasted longer compared to gas, and needed less 'topping up'
- no long-term negative consequences were reported; short-term bad effects such as nose-bleeds were mentioned with insouciance

⁸⁰ It must be kept in mind throughout that this is not a representative sample of sniffers, and that their accounts are historical (as long ago as 20 to 25 years). The group's opinions will be coloured by their own drug experiences, and probably by their experiences of drug treatment.

⁸¹ This may reflect this particular sample – long-term drug users might be thought to be rather more indiscriminate in their use.

- these drug users in treatment reported use of other drugs at the time of, and in some cases, alongside of VS – all were drinking alcohol and five reported contemporary use of other drugs
- despite this, half the group saw VS as a 'gateway drug' – it 'opened doors up,' one said; although others stated that they 'would have taken drugs anyway'
- they were sceptical of warnings on containers, and felt that these might be counterproductive, alerting to their misuse potential: 'Danger is another word for fun'
- what could explain the increased proportion of adults dying? – maybe it was people trying a 'blast from the past'; maybe drug users were having difficulty in sourcing their drugs of choice and would use VS as an alternative; maybe it was related to drug testing regimes – VSs were less detectable; although the most likely reason, they thought, was people wanting a buzz but being 'proper skint'.

A4.4 Notes on interview with an adult butane misuser

Interview conducted 2-12-11. Also based on Re-Solv's Youth Officer's notes of her interview with him on 6-6-11.

What he does

'...gas is the first thing that I do in the morning and the last thing I do at night. I eat less and will go without food to buy gas. ... It affects my social life. If I know I can't do it wherever I'm going then I won't go.'

He has used gas since age 15, when he experienced problems with his Mum; the desire to escape (in hallucinations) was part of the appeal. A can of butane used to last him three days; 18 years later he is still misusing butane – at most, 12 to 15 cans per day ('... I can see 25 empty cans in front of me now'). Although he has used other drugs (including weed, magic mushrooms, ecstasy and heroin ('...on odd occasions a bit of smack when I'm feeling bad'), he's never smoked cigarettes), he defines himself as a butane misuser.

He usually purchases a 12-pack of 300ml butane gas cans from a local newsagent. He used to sniff the whole can in one go, breathing through his nose and inhaling through his mouth continuously until the can was empty; this would take about 20 minutes. Nowadays, he sometimes has only two cans in a day; but it is important to him to have cans around him: 'I can sit with it there and not use it as long as I have it and know I can'.

In the past, he would inhale one can and be 'mashed' for about 30 minutes, experiencing strong hallucinations for around 10 minutes during this period, such as: 'it was raining pink paint on my mate's head and I could see his hair flattening as the rain fell on it.' Nowadays, he doesn't get hallucinations: 'now, I'm the same when I'm sniffing or when I'm not'.

How he feels

He has had long-term mental health problems and is currently on anti-depressants ('I don't want to be on tablets all my life'). He expressed ambivalence about his situation: 'I'm scared shitless of being without... [but] ...I know it is killing me ... I'm fed up with my doctors... [but] ... I need to take responsibility; I've been trying, but

I've been trying for ten years and haven't got the energy – I try for bit, but I crumble ... I give up for a few days but then I think "What the fuck?" ... 'I'm not a schizo or anything but I feel like I'm two people. And it's always the fuck it [person] who wins over ... I know the consequences of my actions but I feel, fuck it.'

What would help him?

'...any help would be useful. I feel totally rejected and feel like there's no help for me. It's easier if you're younger to get help. Why should I miss out on help because of my age?'

He has attended a substance misuse service for many years but feels it hasn't helped with his butane misuse ('I don't know why I keep doing it – it's deep-seated... and I want to find out [what's behind it]'). He wants hypnotherapy but can't get referred for it. He said that he was prepared to go to rehab, but had not been offered this. He appears to have been passed around between GP and substance misuse service: 'I understand it's a rare misuse but the doctor can't help so I've given up.'

Although, at times he's walked for miles to get butane because he 'can't bear the thought of being without', perhaps surprisingly he says that he can stop for a few days. He described a planned trip with an older friend who didn't know he sniffed, and he would be away with him Monday to Thursday and he wouldn't sniff, 'but when I get back I will go straight on – without it, I get really ratty and get night terrors.'

Annex 5 VSA deaths in Northern Ireland compared to the UK

Introduction

This Note forms part of research being undertaken for Re-Solv under a Big Lottery grant. It uses figures from the series of VSA deaths reports from St George's.⁸² The figures have been updated to reflect the latest number recorded by the St George's Team.⁸³

Although the St George's Annual Reports on VSA deaths give figures broken down by UK countries and English regions, it appears that no country/regional trends data have been reported. This Note collates the data from Reports issued between 1994 and 2010 (covering deaths in the years 1981 through to 2008⁸⁴) and shows the

⁸² See <http://www.sgul.ac.uk/research/projects/icdp/our-work-programmes/substance-abuse-deaths>. The work has been carried out by a small team first

⁸³ The St George's Team often revise figures that they had reported when additional information became available – sometime several years later: the figures in this Note have all been taken from the latest reports.

⁸⁴ The St George's team produced annual reports from 1988; the first one available for this note was Report 7 issued in December 1994, which included updated figures back to 1983. The 2010 report was of deaths in 2008 – the time lag is due to the time needed to collate and analyse the raw data from coroners and other sources.

trends in different parts of the UK. This is especially important to understand, as UK regional and country governance has changed considerably during this period.⁸⁵

It is hoped that this Note will contribute to Re-Solv's efforts to influence policy development in relation to VSA across the UK, in line with the aims of the Big Lottery project.

Data

In the period 1971-2008⁸⁶ a total of 2,346 deaths have been recorded in the UK, of which 96 were in Northern Ireland, meaning that just over four per cent of deaths occurred in Northern Ireland. The death rate in Northern Ireland is higher than in the UK as a whole.

Since 1985, the St George's Team have reported SMRs (Standardised Mortality Ratios) adjusted for age and sex for the four UK countries (and for English regions).

What is an SMR?

The SMR is the ratio of observed deaths to 'expected' deaths, so if the observed deaths in a particular area exceed those expected (compared to the UK as a whole, on the basis of the area's population and age and sex make-up) then the ratio will be greater than 1.0. (For ease of presentation, this note follows the convention in the St George's reports of expressing the ratio times 100, so that where a figure exceeds 100 the observed deaths exceed those expected.)

However, the figures must be cautiously interpreted because, with relatively small numbers of deaths, there is a degree of uncertainty in the data. This is expressed by 'confidence intervals'. The St George's team calculate 95% confidence intervals, and report a figure for an upper and a lower boundary, meaning that within the range of the two boundaries we can be 95% certain that this is where the actual figure lies.

For example, calculating a SMR of 113 for Northern Ireland (in the period 1987-1996) means that there is 95% confidence that the actual figure lies in the range 77 to 150. As can be seen from this example, the range in which the actual figure lies is quite large and often exceeds the range of the variation between countries and regions, so it is important not to over-interpret the data.

To reduce the effects of annual fluctuations, the team report SMRs for 10-year periods. They have done this for data from 1985, so the first 10-year period covers 1985 to 1994, the next, 1986 to 1995, and so on.

With the UK SMR equal to 100 by definition, the Northern Ireland SMRs have varied from 113 to 193 during the period 1985 to 2008; consistently above the average of 100. Furthermore, while deaths in the UK as a whole have fallen from of 152 (in

⁸⁵ In Scotland, the Scotland Act 1998 devolved power to the Scottish Parliament; in Wales, the Welsh Assembly was created by the Government of Wales Act 1998; in Northern Ireland, the Northern Ireland Assembly, was established by the Northern Ireland Act 1998, although it has been suspended on several occasions (the longest suspension was from October 2002 until May 2007) during which time its powers reverted to the Northern Ireland Office.

⁸⁶ The St George's Team state that since 1983 collection methods have been stable and systematic; before that date, some deaths may not have been included.

1990) to 36 (in 2008), deaths in Northern Ireland have not shown a similar trend. There were 10 deaths in Northern Ireland in 1991 (an 'outlier'), apart from which the numbers have fluctuated from one (in 1981, 1995 and 2002) to six (in 1986, 1993 and 1999). In other words, there does not seem to be a discernible downward trend. This is why the SMRs have risen, since proportionately, although not numerically, the number of deaths in Northern Ireland has increased compared to the UK as a whole.

The tables and bar-chart summarise this information. An *Excel* spread-sheet is available on request.

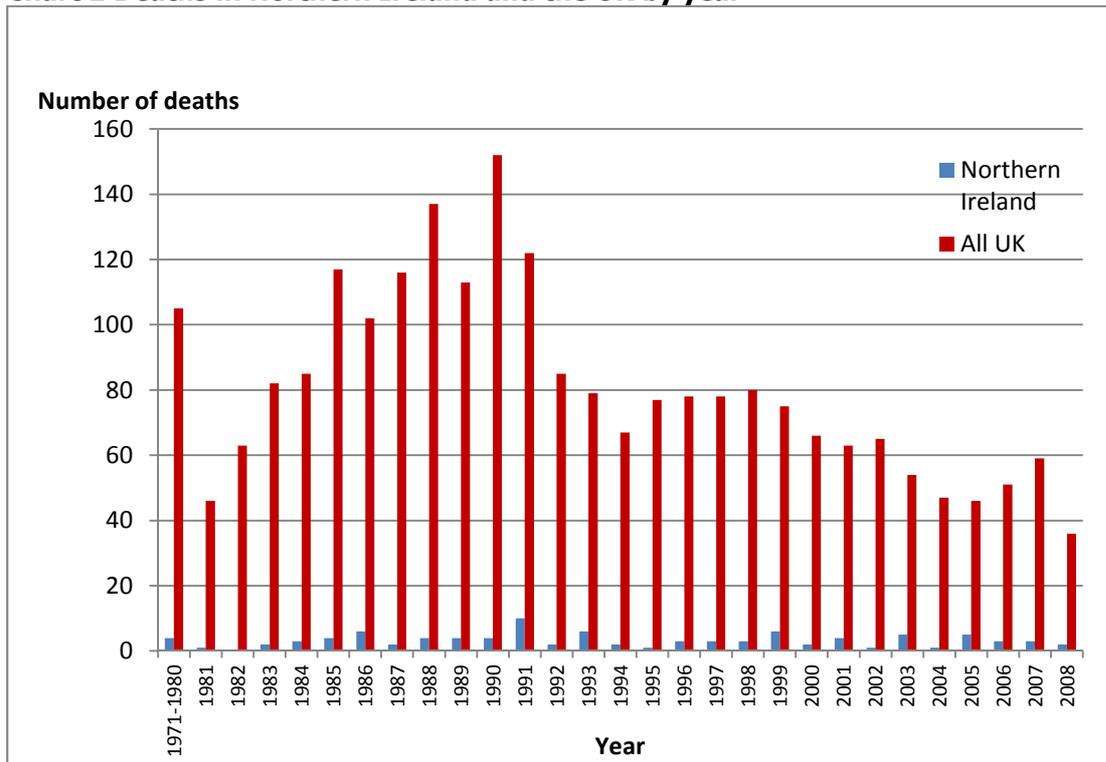
Richard Ives, August, 2011

Table 1 VSA deaths by year, UK and Northern Ireland

<i>Year</i>	<i>Northern Ireland</i>	<i>All UK</i>	<i>N. I. as % of all UK</i>
1971-1980	4	105	3.81
1981	1	46	2.17
1982	0	63	0.00
1983	2	82	2.44
1984	3	85	3.53
1985	4	117	3.42
1986	6	102	5.88
1987	2	116	1.72
1988	4	137	2.92
1989	4	113	3.54
1990	4	152	2.63
1991	10	122	8.20
1992	2	85	2.35
1993	6	79	7.59
1994	2	67	2.99
1995	1	77	1.30
1996	3	78	3.85
1997	3	78	3.85
1998	3	80	3.75
1999	6	75	8.00
2000	2	66	3.03
2001	4	63	6.35
2002	1	65	1.54
2003	5	54	9.26
2004	1	47	2.13
2005	5	46	10.87
2006	3	51	5.88
2007	3	59	5.08
2008	2	36	5.56
Totals	96	2346	4.09

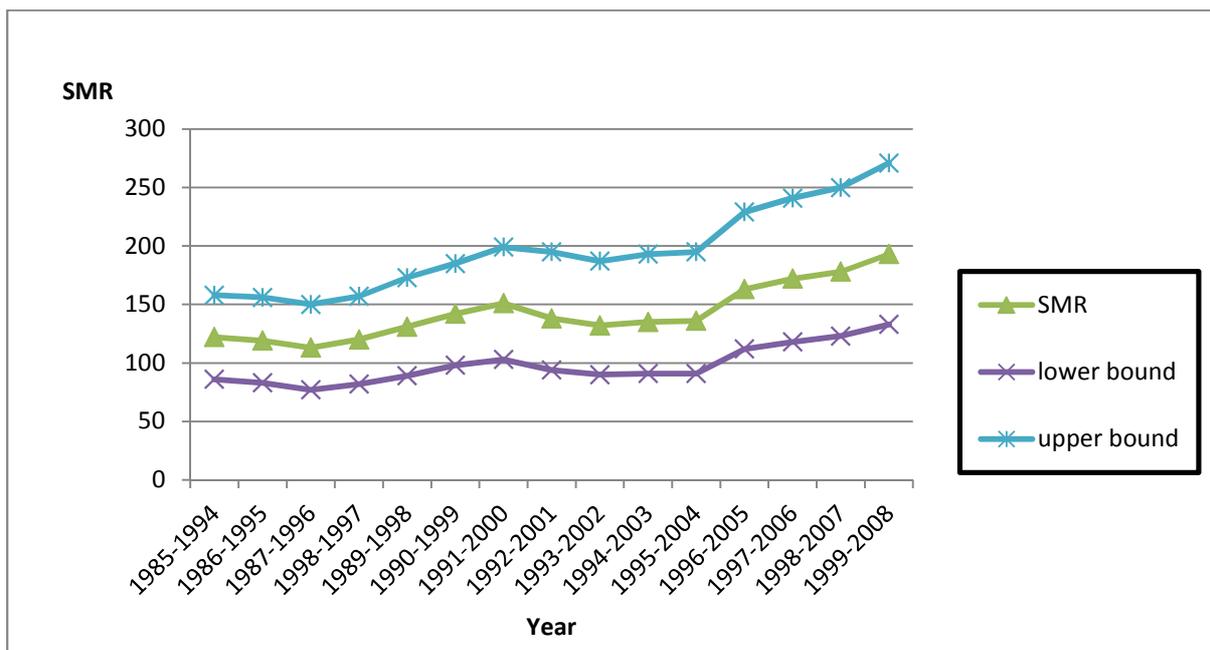
Data from St George's study of VSA deaths

Chart 1 Deaths in Northern Ireland and the UK by year



Data from St George's study of VSA deaths

Chart 2 Standardised mortality ratios for VSA deaths in Northern Ireland 1985 to 2008 (10-year moving blocks), with upper and lower 95% confidence intervals.



Data from St George's study of VSA deaths

Annex 6 Note on the NTA's data collection & coding of VSA

Draft 06-07-11

This note outlines some aspects of the way that the National Treatment Agency (NTA) collects data on drug users in treatment from local agencies. It focuses on how volatile substances are included (or not included). It is intended as a 'starting point' document to inform Re-Solv's discussions with the NTA about improving the data available on VSA.

The Purpose and the Process

'The data items contained in the NDTMS Data Set are intended to address the following critical requirements:

- Provide measurements to support the NHS outcomes framework as appropriate
- Provide measurements NTA for Key Performance Indicators (KPIs) relating to young people and to support development of the young people's substance misuse treatment system, regionally, nationally and locally'.

(NTA 2011 *Business Definitions For Young People Treatment Providers*, p 7)

The dataset referred to in this document, 'Data Set H', came into effect on 1st April 2011. The data from treatment agencies is fed into the DAMS (Drug and Alcohol Monitoring System), part of the NDTMS (National Drug Treatment Monitoring System). This has a 'core data set': 'a basic level of information to the NDTMS on their activities each month'. There are about 2,000 drug treatment services that provide information;⁸⁷ young people's services are counted separately ('Young Persons Data Set').

Young people's service provision is included if it satisfies three conditions:

- '• Treatment providers should have a Service Level Agreement for providing specialist substance misuse treatment to young people under the age of 18 and their families.
- '• Treatment providers will have been established as part of the young person's substance misuse treatment needs assessment and treatment planning and commissioning process to provide specialist substance misuse treatment interventions to young people under 18.
- '• Treatment providers should be delivering specialist treatment interventions for young people'

(NTA 2011 *Business Definitions For Young People Treatment Providers*, p 8)

⁸⁷ (not sure how many alcohol agencies)

The data items on the database belong to one of five different entities, or 'groups'; these are:

- Client details (includes type of drug used)
- Episode details (including client details which may vary over time)
- Treatment intervention details
- Treatment Outcomes Profile details
- Plus regional fields to meet regional requirements

Additional items provide information for the NTA's TOPS (Treatment Outcomes Profile), which applies to 16-year-olds and over.

Among the data items is one on whether a young person is 'looked after'. However, many fields do not appear to be mandatory.

The Three 'Problem Substances'

Part of this data set is information on three 'problem substances', collected under the following definitions:

"Problem Substance No. 1: The substance that brought the client into treatment at the point of triage / initial assessment, even if they are no longer actively using this substance. If a client presents with more than one substance the agency is responsible for clinically deciding which substance is primary. 'Poly drug' should no longer be used in this field; instead the specific substances should be recorded in each of the problem substance fields.

"Age of first use of Problem Substance No. 1: The Age (in years) that the client recalls first using the Problem Substance No. 1

"Route of Administration of Problem Substance No. 1: The route of administration of Problem Substance No. 1 recorded at the point of triage / initial assessment [For PS1, the "route of administration" has the following permissible values: Inject, Sniff, Smoke, Oral, Other]

"Problem Substance No. 2 An additional substance that brought the client into treatment at the point of triage / initial assessment, even if they are no longer actively using this substance. 'Poly drug' should no longer be used in this field; instead the specific substances should be recorded in each of the problem substance fields.

"Problem Substance No. 3 An additional substance that brought the client into treatment at the point of triage / initial assessment, even if they are no longer actively using this substance. 'Poly drug' should no longer be used in this field; instead the specific substances should be recorded in each of the problem substance fields."

(NTA 2011 NDTMS DATA SET H: BUSINESS DEFINITION FOR ADULT DRUG TREATMENT PROVIDERS Version 8.03)

The only mandatory item is "Problem Substance no 1". PS1 and PS2, and route of administration have been in the database since April 2004; Problem Substance No. 3 since April 2005, and Age of First Use since April 2006.

Units of alcohol consumed in a typical day over the past 28 days is recorded as a separate item. Tobacco is not asked about.

The Drugs

As there are quite a lot of possible drugs, the technical manual points out:

"Some data items (i.e. PCT, Main Problem Substance, and Secondary Problem Substance) present significant problems to agency personnel when collecting data from the client. These items typically have a large number of permissible values – so many that the data entry person cannot be expected to remember them all. Rather than enter the exact code, it is only necessary to enter a text string describing the item. For example, in the case of Drugs, entering the name "Crack" would give the code "3201". For these fields, either the code or the textual value may be entered." NTA 2011 *NDTMS Data Set H Technical Definition* page 10)

The treatment outcome profile requires mandatory recording of:

Alcohol use, Opiate use, Crack use, Cocaine use, Amphetamine use, Cannabis use, and Other drug use⁸⁸

(NTA 2011 *NDTMS Data Set H Technical Definition* page 16)

For each of these categories, there is a data item for the 'number of days in the previous 28 days that the client has used...' [in the case of alcohol 'used' is replaced with: 'consumed'].

The list of varieties of drugs under these headings is extensive; for example, there are 37 substances in the 'other opiates' category. Group Code 11, 'Solvents', are coded to '6000' drug codes, with the following permissible categories:

- 6000 Solvents unspecified
- 6001 Toluene (glue)
- 6002 Butane
- 6003 Amyl Nitrate
- 6004 Acetone
- 6005 Fluorocarbons
- 6006 Trichloroethylene

(NTA 2011 *NDTMS Data Set H Technical Definition* Annex F, page 62)

It is curious that the term 'Amyl Nitrate' is used and not 'alkyl nitrites' (or even 'poppers').

There do not seem to be any 'new psychoactive substances' ('legal highs') listed. "8002 GHB/GBH" is listed separately. GBL is not listed. Helium isn't listed.

The 'Solvents' Group does not distinguish aerosols, and since it is doubtful that many drugs workers (or clients) appreciate that butane is the propellant in most aerosols, aerosol misuse may go unrecorded.

Treatment

Adult Drug Treatment services can be coded as:

- Specialist Prescribing
 - GP Prescribing
 - Behavioural couples therapy
 - Family Therapy
 - Contingency management (drug specific)
 - Psychosocial Intervention Mental Disorder
 - Other formal psychosocial therapy
 - Structured day programme
 - Residential rehabilitation
 - Aftercare
 - Needle Exchange
 - Outreach
 - Advice and information
 - Other structured intervention
 - Inpatient Treatment Assessment Only
 - Inpatient Treatment Stabilisation
 - Inpatient Treatment Detoxification
- (NTA 2011 *NDTMS DATA SET H REFERENCE DATA*)

The codes are a bit different for alcohol treatment.

Young people

For young people's services the treatment codes are:

- YP harm reduction service
- YP specialist pharmacological intervention
- YP non structured intervention
- YP Psychosocial – counselling
- YP Psychosocial – cognitive behavioural therapy
- YP Psychosocial – motivational interviewing
- YP Psychosocial – relapse prevention
- Psychosocial – family work

For under-18s, there is a data item on whether the person is in care/looked after

There is also an item: 'YP frequency of use of drug 1 at treatment exit'.

Discussion

The dataset has evolved over the years in response to various initiatives and pressures, for example, the *Hidden Harm* agenda led to changes in data collected about young people. But changes to the dataset are not made without complaints from the data providers – the drugs agencies – and changes therefore need considerable justification. On a pessimistic view, it is unlikely that VSA will be seen as a big enough issue to make changes.

On the question of retrospective VSA, as there do not currently appear to be questions on prior drug use (apart from the 'Age of first use of Problem Substance No. 1'), it is unlikely that NTA would be willing to add these.

Presumably, we could interrogate the database (or ask them to do it) to see how many (any?) 'Problem Substances' were VSA, and, if any 'Problem Substance No. 1's are VSA, for these we would be able to find out age of first use.

Annex 7 Response to Australian Guidelines on the treatment of VS misusers

During the project, there arose an opportunity to comment on Australian draft Guidelines on the treatment of VSA (see <http://www.nhmrc.gov.au/nics/nics-programs/volatile-substance-use/volatile-substance-use-guideline>). Re-Solv submitted the following comments.

section number	page number	para-graph number	comments
in general			We very much welcome this thoughtful and comprehensive document and appreciate all the work that has gone into it.
[special terms, and throughout]	10	-	<i>Terminology</i> In this response, we have used the UK terminology of 'substance misuse' and 'VSA' rather than 'VSU' because it is more familiar to us and we feel it more appropriately describes the phenomena. We are unhappy with the term 'VSU' because it confuses 'use' with 'misuse'. With substances such as crack cocaine that do not have legitimate uses, the term, 'use', may arguably be appropriate. But with substances that have legitimate - and safe - uses, and indeed are manufactured for such purposes, it seems perverse to describe their misuse to achieve intoxication as 'use'. While we appreciate that this terminology is intended to give a neutral tone to descriptions of the practice, we fear that it provides legitimacy. One would expect that we at Re-Solv, a campaigning organisation, would take such a stance. But we do not believe that it is in any way stigmatising those who inhale volatile substances to achieve intoxication to describe their behaviour as product <i>misuse</i> .
Glossary / 5.1			'Inhalant abuse' (and inhalant dependence') should be defined (as an alternative term for 'VSU') since this term is used in the document (for example, on page 61)
9.2.1		-	We would like to see a recommendation that universal education about VSA should involve and engage parents in supporting

			educational messages. We are aware that ‘families of people who use inhaled volatile substances’ are mentioned as targets of education on page 86, and that section 9.2.2.2 is specifically about users’ families, but we would like to see <i>all</i> families involved in <i>universal</i> prevention efforts.
Summary of recommendations and figure 6.1 and 6.2.2 and 6.2.3	page 64		<p>Assessment tables</p> <p>The lists include ‘other drugs used’ but do not specifically mention alcohol use. While the experienced practitioner can be expected to include this in a drug use assessment, not all practitioners would think of it, so it ought to be listed separately - and highlighted as being a likely occurrence.</p>
13.1.2	page 115		The point above about the lack of reference to alcohol also applies to this section
14.1	page 120		Similarly, with regard to aftercare, in our experience, many former VS misusers may become heavy users of alcohol - this should be referred to here.
Summary of recommendations and 9.2.1			<p>Education - universal drug education programmes</p> <p>The recommendation to ‘focus on warning about the harmful effects of VSU...’ is, in our view, inappropriate. International evidence on drug education indicates that warnings are ineffective and can be counterproductive. Universal drug education programmes should provide appropriate information, develop skills for dealing with substance-related situations and provide young people with the opportunity to develop their attitudes towards substance use and misuse.</p>
Summary of recommendations and 9.2.1	page 85		We are concerned about the recommendation that universal drug education programmes should ‘emphasise information about reducing harm’. In the UK, there are no generally recognised methods of harm minimisation that are communicated to a general audience of young people. We appreciate that in the UK the volatile substances misused are rather different from those misused in Australia. And we of course, agree that there are clearly good grounds for advising current misusers to avoid certain products and certain methods of administration. But to discuss harm reduction with groups ‘that may include young people with different levels of experience with VSU’ (which by implication includes ‘none’), is, in our view, inappropriate and may indeed give young people ‘new ideas about substances ...’.
Summary of recommendations and 9.2.2	page 86		<p>Targeted VSU education</p> <p>Given the inclusion of harm reduction in ‘universal education’, it is all the more surprising that this section does not include the suggestion that harm reduction advice should be given.</p>
11.2.1			<p>Activity and youth development programs</p> <p>The recommendation that all VSUs should be referred to an activity or youth development programme is supported only by weak evidence and is not given as a Good Practice Point. We are</p>

			<p>concerned that practitioners might interpret this as meaning that even those young people who have only tried VSA on one or two occasions should be referred. This would be inappropriate, and it could lead to negative ‘labelling’ of a young person as ‘deviant’. It could be even more counterproductive if it put experimental users in contact with those whose VSA habit is more entrenched.</p> <p>The recommendation to make activity programmes available to ‘peers and those at risk, not just people who use volatile substances’ implies that chronic VS misusers might be ‘treated’ alongside non-using peers. We would urge caution with this approach, as in our experience there is a risk of social learning in such mixed groups, where non-misusers can copy behaviours from group members who are misusing VSs.</p>
1.1.1 Prevalence			<p>As briefly discussed here in the fourth paragraph, it may be that VSA is higher among adults than the prevalence data indicate. We feel that the Guidelines should emphasise this point, so that workers with adults (especially adult drugs workers) are alerted to the possibility of VSA among their clients.</p>
throughout			<p>Following on from the point above, the document rightly focuses on young people, but we would like to see some references throughout the document to the possibility of coming across misuse in the adult population, and some notes on the differences in dealing with adult VSA.</p>
1.1.1 Prevalence			<p>In providing caveats regarding prevalence, it would be worth footnoting an important paper which further calls into question reported prevalence rates. Researchers in the USA sample found that almost half (49%) of the young people who (at Grade 7) said that they had misused a substance, a year later (at Grade 8) did not report it. Around two-thirds of the ‘recanters’ were life-time inhalant users who had admitted misuse in Grade 7 and then denied it in Grade 8; while the remaining third were those who incorrectly reported use at Grade 7 and not at Grade 8. The authors conclude:</p> <p>‘Inhalant use recanting is a significant problem that, if not handled carefully, is likely to have a considerable impact on our understanding of the etiology of inhalant use and efforts to prevent it.’</p> <p>(Martino <i>S et al</i> 2009 ‘Recanting of life-time inhalant use: how big a problem and what to make of it’ <i>Addiction</i>, 104, 8 (p 1373-1381)).</p> <p>This finding must reduce confidence in estimates of VSA prevalence, and reinforce the importance of careful question wording.</p>
5.2	page 62		<p>Table 5.2 should have a caveat about the list of signs of withdrawal, similar to the one on the signs on page 48 (above</p>

			table 4.1). This is indicated at the bottom of page 64, but needs also to be adjacent to the table, as well.
9.1	page 83		We would like to see a harm reduction message about not using large bags (not putting a bag over the head is mentioned, but this would be an additional safety point.
9.1	page 83		We also believe that the message not to spray substances directly into the mouth could be lifesaving. Some indirect UK evidence for this is provided by the historically larger proportion of male deaths despite roughly equal male: female prevalence, while other research shows that boys are much more likely to spray products directly into their mouths.
11.3	page 106		The statement: 'The committee noted that boredom is a main cause of VSU' rather overstates the case, we believe. 'Causation' is a tricky concept and the research to provide evidence for causation has not been carried out. Furthermore, there are many reasons for VSA, and these reasons may be different for different types of misuse. For example, while experimental ('occasional') misuse could well have a large 'boredom' component, in our experience, those people engaging in more prolonged misuse almost always have previous underlying problems that are associated with their misuse.
15.2.6	page 125		It is not clear to us what 'standardised tools' means. It would be useful if this committee or some other scientific body could define a <i>minimum dataset</i> that evaluations should report - and this, in turn, would define monitoring requirements for interventions. For example, age and gender and other demographic information (e, g, educational level) of those treated; length and intensity of the interventions; qualifications and experience of staff and volunteers; and contextual factors. Some measures of the cost of the interventions should also be recorded and reported to enable cost-benefit comparisons to be attempted.
15.2.5	page 125		Given the lack of understanding of the causes of VSA, <i>prospective</i> longitudinal studies that can look back to the antecedents of VSA are also called for.

Annex 8 What the ACMD has said about VSA

The ACMD (Advisory Council of the Misuse of Drugs) advises the Home Office on drug policy. The ACMD's Prevention Working Group first considered VSA in 1995 and produced a report, *Volatile Substance Abuse*, which made a number of recommendations for tackling the issue. This was a ground-breaking report for the AMCD, being the first time it had considered a non-controlled substance. The Council has continued to take an interest in VSA, and in a later report, *Pathways to Problems* (2006), where it considered how young people could be helped to avoid a 'career' of drug misuse, it recommended action on butane gas lighter refills:

Recommendation 18

In addition to the other measures in *A Framework for Volatile Substance Abuse* (published in 2005), butane lighter fuels should be made impracticable for abuse and all gas fuel containers should carry a prominent safety warning. **Action:** *Department of Trade and Industry.*

And on school-based drug education:

Recommendation 19

In the light of the evidence that classroom-based drugs education has very limited effectiveness in reducing rates of drug use, there should be a careful reassessment of the role of schools in drug misuse prevention. The emphasis should be on providing all pupils with accurate, credible and consistent information about the hazards of tobacco, alcohol and other drugs – including volatile substances. **Action:** *DfES (now the DCSF), devolved administrations.*

The ACMD maintained its interest in actions following from the *Pathways to Problems* Report, and in its follow-up Report in 2009, included the following comment on VSA trends:

4.29 While mortality figures have shown a decline in recent years in terms of deaths from VSA, it does not necessarily follow that the amount of volatile substance use has similarly declined. Given the often secretive nature of this form of abuse, it is hard to elicit quantifiable data to substantiate levels of use. Topic-specific surveys on VSA may be one way around this.

And made a specific comment regarding the lack of progress with its Recommendation 18:

4.108 This recommendation concerned the Department of Health and the Department for Business, Enterprise and Regulatory Reform (BERR) [(fn) Formerly the Department of Trade and Industry. From June 2009, BERR has been the Department for Business Innovation and Skills.] as the responsible government departments. Of concern is that BERR declined to offer responses to the ACMD, as it does not regard this issue as part of its remit – its focus having moved from consumer safety to consumer products. The DCSF has also indicated that it does not intend to do any work in this area.

It also welcomed the development of the Welsh Guidelines (see Chapter 6 of this report):

4.111 The ACMD understands that in the financial year 2008/09, the Welsh Assembly Government established a Substance Misuse Treatment Framework (SMTF) specialist sub-group to prepare and present a scoping paper on good practice guidance, intended to reduce the accessibility of volatile substances. VSA remains a concern in Wales, since it still causes more deaths among young people aged 10–16 than do Class A and other illegal drugs (Department of Health *et al.*, 2005). The Welsh substance misuse strategy provides for awareness of the hazards of volatile substances to be raised at both primary and secondary school level within the All Wales School Liaison Core Programme (AWSLCP). The ACMD has been informed that, in an effort to reduce further the availability and accessibility of volatile substances in Wales, local good practice will be identified in terms of engaging communities in the job of tackling VSA and in the enforcement action being taken among those retailers that are linked to VSA incidents.

And it highlighted its concerns about changing patterns of non-controlled drug use:

4.112 The ACMD has particular concern about the use of 'poppers' (the street name given to various alkyl nitrites taken for recreational purposes through direct inhalation) and nitrous oxide. The ACMD is particularly concerned about the prevalence of the use of 'poppers' among young people. Data from the British Crime Survey show that in 2005/06 3.9% of 16–24-year-olds reported the use of amyl nitrite. The National Centre for Social Research reported in 2007 that 'poppers' were the third most commonly used type of drug among 11–15-year-olds in England. Data from The Scottish Schools Adolescent Lifestyle and Substance Use Survey (2006) reported that 8% of 15-year-olds reported having ever taken 'poppers'. Of concern is that 'poppers' are not controlled under the Misuse of Drugs Act 1971, nor are they controlled under other legislation. The ACMD has written to the Department for Business, Innovation and Skills highlighting its concerns and asking if there are plans to extend the relevant legislation (Cosmetic Products (Safety) Regulations 2008) for their control. Also of concern is the prevalence of use of nitrous oxide (laughing gas), which the ACMD understand is increasing. A report of substance abuse deaths in 2006 showed that five deaths were attributable to the use of nitrous oxide (Field-Smith *et al.*, 2008).

The ACMD commented on the inaction of government departments:

4.113 Though the Department of Health did set up a VSA Stakeholder Group, it soon lapsed, and has had no outcomes or impact, despite the fact that there were useful meetings with a range of stakeholders from industry, as well as from substance misuse agencies.

4.114 Neither the *Framework for VSA* (Department of Health *et al.*, 2005) nor *Pathways to Problems* appears to have had much success in persuading the Government to take action to tackle the area of substance misuse linked to butane gas and other volatile substances.

And reiterated its call for a ban on large containers of butane gas lighter refills:

4.115 The ACMD believes that the availability of volatile substances to young people, the unnecessarily large size of some butane gas containers and the inappropriate packaging – together with a lack of meaningful warnings on the dangers – all indicate that this area of harm to young people is being inadequately addressed by government departments. The ACMD recommends more specific action in this area within the context of the 10-year drug strategy, with action focused on the issues noted above.

Finally, in a separate section on volatile substance abuse, it made two specific recommendations:

6.20 The ACMD recommends more specific action in this area, within the context of the 10-year drug strategy. There should be particular focus on the sizing, packaging and marketing of volatile substances and on their availability to young people. ...

.. 6.22 We recommend that the DCSF accept the offer made by the charity Re-Solv and the British Aerosol Manufacturers' Association to help in the development of a survey of schoolchildren's drug usage, including volatile substance abuse (VSA).

Neither was taken up by government.

ⁱ All respondents aged under 16 were interviewed with at least one adult member of their household in the room at the time, though, of course, the adult would not always have been in the room for the interview. Interviewers followed the standard procedure for social grading, asking the parent/guardian directly for respondents aged 14 or under. 15-year-olds would have been asked directly, and in those cases, the parent would still be asked for information where the respondent could not answer