

Substance Misuse in the Undergraduate Medical Curriculum



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for Drug Policy**

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Aims for undergraduate medical students: professional, personal and societal

1. Students should be able to recognise, assess and understand the management of substance misuse and associated health and social problems and contribute to the prevention of addiction.
2. Students should be aware of the effects of substance misuse on their own behaviour and health and on their professional practice and conduct.
3. Students' education and training should challenge the stigma and discrimination that are often experienced by people with addiction problems.

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Foreword from Professor Sir Liam Donaldson

The harm caused by tobacco and the misuse of alcohol and drugs presents one of our country's biggest health challenges. Smoking remains the single biggest preventable cause of ill-health. The impact of alcohol and drug misuse on the lives of those directly affected, as well as on the wider community, is enormous. In recent years, Government has improved and co-ordinated its approach to these problems and much good work is being done by our health services and by our communities to improve the treatments we offer and to enhance education about substances and their potential harms.

Future doctors do have an important role in shaping and delivering the advice and treatment we can offer people with substance misuse problems. The misuse of alcohol, drugs and tobacco leads to serious and widespread health problems; the scale is such that practitioners are likely to see its impact on patients on most days. This document is an important and positive contribution to support medical schools and to help them in delivering a strong and co-ordinated approach on substance misuse within their curricula.

A core aim of the curriculum is to enable doctors to assist in prevention of substance misuse, and management of those dependent upon substances. This is clearly crucial to effective practice in promotion of health and well-being and in reducing harm. The second core aim is to enable schools to help future and trainee doctors to be aware of the risk of substance misuse to their own health and to their professional practice and conduct. This is important not only for supporting doctors themselves and promoting their own good health, but also for promoting the proper care and protection of the public. The third aim focuses on stigma and discrimination. This is important in promoting fair and equitable access to advice and care for those with substance-related health problems. It is also important for developing understanding by future doctors of the needs of particularly vulnerable individuals, who are at added risk of other health and social problems. I am very pleased to see such a wide-ranging scope.

It is a particular pleasure that the Department of Health has been able to support a project whose success will be measured not only over the next few years but also over decades. Its importance has been affirmed by the active contribution of all the medical schools and by the involvement of such a wide range of expert contributors. A real understanding of what is needed has underpinned this document's production and I very much welcome its publication.

Professor Sir Liam Donaldson
Chief Medical Officer

Foreword from Professor Sir Graeme Catto

This guidance meets a clear and pressing need. During my lifetime I have watched the epidemic of drug and alcohol dependence gather momentum and have inevitably been involved in coping with some of the consequences. As a schoolboy I saw at first hand the devastating effects that heroin addiction had on my father's partner in general practice. A prison sentence ensured that not only was the doctor's career ruined but his family life also disintegrated.

Some years later as a final year medical student in Chicago I saw for the first time the impact that drug and alcohol dependency had both on the lives of individual patients and on society itself. Over the years these problems have grown exponentially. The consequences for public health are ever more obvious and the impact on all aspects of medicine clinically and financially apparent.

This guidance, however, not only meets a clear need but does so in a lucid, succinct and positive manner. It should be mandatory reading for all with an interest in medicine, for those with responsibility for medical education, and for those interested in our society at the start of the 21st century.

Professor Sir Graeme Catto
President, General Medical Council

Preface

Medical schools face challenges to their curricula from many directions, and have a continuous duty to monitor and revise what their students learn. The most vital imperative to do this comes from the changing health needs of society. One of the most significant and disturbing health trends in recent years has been the growth in misuse of drugs and alcohol, and the impact of this is felt directly by medical schools in the behaviours and attitudes of their own students.

Substance misuse as a topic in the medical curriculum does not have a high profile, and it is timely that this project seeks to address this. If our health service is to succeed in combating the problem of growing substance misuse, our new doctors must have a better understanding of the nature of the problem and the interventions which are available. In addition to focusing on the needs of patients, the curriculum must not omit the task of educating students about the risks to their own health and professional practice through their misuse of drugs and alcohol. If attitudes are to change a sustained, consistent and high-impact message is required.

This project has brought together for the first time teachers and practitioners in UK medical schools with a professional interest in substance misuse education for undergraduates. The guidance document is the direct result of their work, and I hope that the involvement of so many institutions in its development will encourage all medical schools to take it as the starting point for a serious review of how they tackle this vital topic.

It has been my privilege to chair the project's Steering Committee over the past two years, and I wish to thank the committee's members for their time and guidance, the Department of Health for funding the project and all those who have worked on and contributed to it.

Professor Michael Farthing
Chair of Steering Committee
Pro-Vice-Chancellor for Medicine, University of London

Introduction

The misuse of alcohol, tobacco and both licit and illicit drugs in the UK is one of the greatest health challenges today. It impacts not just on the health but also the wider lives of those using these substances, their families, their colleagues and wider society. It lies behind a high proportion of all crime, and it costs the country billions of pounds each year in prevention and treatment programmes, crime and other economic costs.

Part of the government's response to this problem is to address the education of professionals who will deal with substance misuse. This document summarises the work of a national project, involving experts from all the key national organisations and all UK medical schools, the purpose of which is to improve the education of medical students in this area.

Detailed background information about the project can be found in the appendix, including links to the formal literature review and the survey of UK medical schools that was undertaken as preparatory work.

The main text of this document contains guidance on core aims and learning outcomes for undergraduate medical curricula, and good practice on delivering and organising this part of the curriculum.

Those who misuse substances will inevitably at some stage be seen by doctors, who therefore have a vital role to play in recognising substance misuse, and in assessing and managing the problems associated with this. This applies equally to hospital doctors and general practitioners, as much as to hospital and community specialists in addiction; because all these staff will encounter users every day. The generalist doctors are often the only medical staff a patient sees and so they may have a unique opportunity to intervene and, if needed, to refer for more specialist help. This is why the first core aim for this curriculum for undergraduate medical students is to ensure that by the time they graduate all doctors have the core skills and knowledge to handle substance misuse when they meet it.

It is important to acknowledge that the use of substances by medical students is at worrying levels, and this can impact on both their personal health and their professional practice. Students' awareness of the risks and consequences of their own, and hence also their colleagues', use of substances needs to be raised, and this therefore is the second core aim for this curriculum.

The third aim of the curriculum seeks to address the issue of attitudes to those who are addicted/dependent both in society generally and in the medical profession itself. The stigmatisation of addiction and the marginalisation of those who are affected creates barriers to prevention and treatment. The medical curriculum must challenge stigma and discrimination, producing doctors who view the problems objectively and compassionately.

Substance misuse can be found in nearly all areas of medicine, which means that the opportunities to learn about it are extensive. However, this also means that the topic risks being fragmented, uncoordinated, spread too thinly, and it is often ultimately therefore barely visible to students. This risk has to be tackled through a review of the curriculum to ensure that core learning outcomes are identified and co-ordinated.

This project has focused on the undergraduate phase of basic medical education, but it is of equal importance that learning about substance misuse is developed in the Foundation years and subsequent training. Medical schools also have to address the issue at the very beginning of medical careers.

I hope that the list of core learning outcomes and the guidance on delivery in this document will help medical schools to achieve the three central aims, so that we can ensure that our graduates play their part in tackling substance misuse. The very active involvement of all the UK medical schools in developing this guidance reassures me that this is a realistic hope.

Professor Hamid Ghodse
Director, International Centre for Drug Policy

Alcohol, drugs and tobacco: issues for medical students' learning

The use and abuse of alcohol, drugs and tobacco is an enormous health issue with huge impact on patients, their families, health-workers and society generally. Yet, at least in the minds of students, it languishes within the specialty niches of psychiatry or public health in the medical curriculum. Substance misuse is more than a specialised discipline concerned with treating addicts or an abstract issue of public health; it is one of the worst health problems in this country which doctors will encounter many times each day. What is more, these doctors can intervene positively. But only if awareness of the issue is raised and students are taught some specific skills, will new doctors be able to do so.

Substance misuse is common

It is estimated that General Practitioners will see over 350 heavy drinkers each year among their patients¹. Hospital doctors will see the impact of alcohol misuse in virtually every department: alcohol is responsible for up to 25% of all hospital admissions² and up to 35% of A&E attendances³ – up to 70% at peak times⁴. It is estimated that around 5.9 million adults engage in 'binge' drinking (drinking more than double the recommended daily guidelines); that around a quarter of the population engage in 'chronic' drinking (regularly drinking each week up to 35 units for women or 50 units for men; and that a further 1.8million (mostly men) exceed these levels⁵.

Drug misuse is also widespread: one in twelve of all adults whom a doctor sees will have used illicit drugs at some time in the last year and this rises to 1 in 3 for the 16-24 age-group. There are over 250,000 problem drug users in England and Wales⁶ and the most recent statistics show that over 147,000 people are in treatment through the NHS⁷.

Over a third of a GP's patients will be smokers, and most of those will know about the risks of cancer and heart disease and want to cut down or give up⁸.

Substance misuse is a big health problem ...and a big social and economic problem

"Smoking remains the single biggest preventable cause of ill-health", said the Chief Medical Officer (CMO) for England in 2005, but at the same time he has noted that not all of the risks are appreciated by smokers, especially younger ones⁹. The cost to the NHS alone of smoking is estimated at £1.7bn every year¹⁰.

Each year alcohol costs the health service between £1.4bn and £1.7bn and each year, it kills at least 4000 people in acute incidents and a further 11,330-17,900 people due to chronic disease¹¹. It is an insidious problem: the average time taken for a drinker to develop significant liver disease is 15 years. Rising consumption, especially among young people, is taking its toll: between 1991 and 2004 the number of alcohol-related deaths has more than doubled, from 4144 to 8380¹². These are just the health statistics; the annual crime and public disorder consequences of alcohol are huge – 530 drink-driving deaths, about 360,000 domestic violence victims, around half of all violent crimes and up to £7.3bn in costs to the state; and the workplace and family consequences are even larger¹³.

The acute health impact of drug abuse appears more focussed on a smaller number of so-called 'problem-users': just over 11,820 people died from drugs in 2004 in the UK and 1644 in 2005¹⁴. But the 250,000 problem-users are responsible for 97% of the estimated £10bn to £18bn annual cost of drug misuse, including associated crime¹⁵. And the longer-term health impact on the remaining 3.75 million illicit drug users is largely unknown, although mental illness is a significant risk. Of smokers the fatality is greater, approximately 114,000 people in the UK are killed by smoking-related causes each year (one fifth of all UK deaths)¹⁶.

Doctors are implicated in the problem

Medical schools should be particularly concerned about substance misuse and its impact on the health and fitness to practise of doctors and medical students. Doctors are more than three times more likely to die from cirrhosis than the population as a whole, the only higher-risk occupational group being publicans and bar staff¹⁷. While professional pressures doubtless contribute to this, a culture of drinking is common at medical school. A study in one school found over half of second-year students regularly drank to excess, and one-third used drugs¹⁸. While tobacco use among doctors is low, perhaps because of widespread appreciation of the medical impact, this is not the case for alcohol. Here, the health message is less simple, and this is complicated by alcohol culturally being seen more as a foodstuff¹⁹.

Apart from the impact on their health, medical students need to be aware of the serious potential consequences on their career of misusing drugs and alcohol²⁰. A large number of cases which come before the General Medical Council's disciplinary procedures involve substance misuse: in a three-month period in summer 2006, there were no fewer than eleven such cases involving impairment through alcohol, and three involving drug misuse²¹. General Medical Council records show that 199 out of 201 doctors under supervision at the end of 2001 had problems with alcohol, drugs or mental ill health²².

Doctors are involved in problems in another way: some drug abuse is caused through inappropriate prescribing, so-called iatrogenic addiction²³. Although hard to quantify, the issue of rational prescribing is high on the list of priorities of the medical establishment, and a core outcome for medical graduates in Tomorrow's Doctors²⁴.

Intervention works

Addiction to substances can be treated and all doctors have a role in this, and this applies not just to those doctors working in specialist substance misuse services. Very important among generalist doctors in addressing alcohol abuse, is the employment of the 'brief intervention' approach: involving assessment through one of a range of simple screening processes, the provision of information, and onward referral only if needed²⁵.

Doctors must also contribute to the prevention of health problems arising from substance misuse: patients often rely upon their GP for advice about drinking and smoking. Although NHS smoking cessation programmes have been shown to be effective, many smokers remain unaware of these, often because their doctors are unaware too; referrals to the NHS programme from health professionals remain low²⁶.

The false belief among many health professionals that those with addiction problems cannot really be treated or recover ('therapeutic pessimism') has to be countered, as do the prevalent stigmatising attitudes towards substance misusers, especially drug users, which inhibit effective assessment and treatment²⁷.

Education about substance misuse is patchy

Surveys of medical schools' curricula from the mid-1980s to 2005-06 have all indicated that the education of medical students about substance misuse is typically patchy and uncoordinated²⁸. There are, though, increasing numbers of excellent examples of systemic and planned teaching of core topics relating to addiction, drugs, alcohol and tobacco. In a recent national survey of students undertaken by the Junior British Medical Association, half of the respondents considered there was insufficient representation of the subject in their courses, with nearly 70% of students in England and Wales saying that coverage of issues of misuse by students and professionals, and of prevention was poor²⁹.

Although each medical school does include some teaching and learning about substance misuse, this topic is often labelled as such within psychiatry or public health, and may therefore be seen by many students as a specialised or rather peripheral subject, rather than as the common pervasive problem that it is in reality. Much of the opportunity in clinical attachments for learning about the contribution of substance misuse to illness and how it can be managed and treated is not made explicit but is left to students to work out – or not. This explains how – despite the prevalence of alcohol-, tobacco- and drug-related illness which doctors see – medical students can still graduate with an inadequate understanding of substance misuse issues. The Government's Alcohol Harm Reduction Strategy document in 2004 and the CMO for England have noted that there is little in the way of learning about alcohol within medical education³⁰, and ensuring that all health professionals are able to identify alcohol problems early is an aim of the recent health white paper³¹.

Training can be improved

Ensuring that medical students learn what they need to know about substance misuse can be achieved across the UK within a short time, and without major curriculum re-design, upheaval or burden. A simple statement of three aims and a small number of core learning outcomes for the topic have been developed for this curriculum guidance. This takes into account the general outcomes from Tomorrow's Doctors and the evidence base outlined above about the scale of the problem and what newly-qualified doctors' role should be in tackling it. Many of these will already be implicit in existing curricula but they need to be identified, made more explicit and comprehensive, and need to be co-ordinated and formally assessed.

The most effective way of ensuring that students learn about the pervasiveness of substance misuse, and how to recognise, assess and manage it, is to point it up where it occurs and to plan and monitor such experience centrally. Tools to help with this process are being developed separately. However, each medical school should use this guidance as an opportunity to commit to a review of how effectively it is making use of its existing learning opportunities about alcohol, tobacco and drugs, and to appoint someone to co-ordinate this learning.

Substance misuse is a growing health and social problem for the UK. Doctors are often in the front-line fighting that problem, and we must ensure that tomorrow's doctors have the awareness and training to do this job.

Core curriculum aims and outcomes

This guidance is intended to provide a definition of the aims and core learning outcomes in substance misuse, which medical students should achieve during the undergraduate stage of their basic medical education.

Three overall aims are given, addressing three important issues: firstly, the need to ensure that graduates have a basic competence in dealing with substance misuse; secondly, the need to improve students' own understanding of the threat of substance misuse to their own health and behaviour and to their professional practice; and thirdly, to challenge common attitudes towards substance misuse.

It is acknowledged that one of the difficulties in mapping and tracking the teaching of substance misuse is that topics associated with substance misuse permeate the whole curriculum and are not simply confined to certain clinical specialties or basic science subject disciplines. In order to aid curriculum planning and integration of substance misuse topics into appropriate course areas, the outcomes have therefore been grouped under six key areas:

- Bio-psycho-social models of addiction
- Professionalism, fitness to practise and students' own health
- Clinical assessment of patients
- Treatment interventions
- Epidemiology, public health and society
- Specific disease and specialty topics

It is hoped that medical schools will find the guidance useful in reviewing the content of their curricula in the area of substance misuse. The outcomes are presented as high level outcomes, so as to make them as flexible as possible in comparing them with and applying them to the diversity of UK curricula. Each area is mapped on to the outcomes prescribed by the General Medical Council (GMC) in *Tomorrow's Doctors*²⁴ (paragraphs 4-10), the relevant sections of which are summarised under each of the areas. Key words are highlighted in bold within each of the learning outcomes so as to help curriculum mapping.

Aims for undergraduate medical students: professional, personal and societal

1. Students should be able to recognise, assess and understand the management of substance misuse and associated health and social problems and contribute to the prevention of addiction.
2. Students should be aware of the effects of substance misuse on their own behaviour and health and on their professional practice and conduct.
3. Students' education and training should challenge the stigma and discrimination that are often experienced by people with addiction problems.

Core topics and learning outcomes

Bio-psycho-social models of addiction

On graduation, students should be able to:

- Define: **substance misuse**, mechanisms of dependence (both physical and psychological), tolerance, withdrawal and addictive behaviour
- Demonstrate awareness of the range of substances that can be misused, the different **types and classes of licit, illicit and over-the-counter substances**, and other colloquial names and their effects
- Demonstrate awareness of the psychological, social and biological aspects of **dependence**, the interactions between such factors in the individual and the different **models** used to describe addiction
- Describe the **mechanisms of tolerance, dependence and withdrawal** of different drugs and the involvement of different neurotransmitter systems

Meets GMC outcome:

4b - Know about, understand and be able to apply and integrate the clinical, basic, behavioural and social sciences on which medical practice is based

Professionalism, fitness to practise, and students' own health

On graduation, students should be able to:

- Describe the **principles of rational prescribing** and the use of psychoactive medication
- Demonstrate **professional behaviour** towards individuals with problems of addiction which incorporates a non-judgemental compassionate approach and respect for a patient's autonomy
- Describe the **ethical and legal issues** associated with dealing with cases of substance misuse
- Explain and outline the problems of **iatrogenic addiction**
- Describe the **risk factors** for substance misuse in medical students and in health professionals
- Describe how substance misuse problems may affect a **health professional's** judgement, performance and care of their patients
- Describe the need to balance due concern for the health of a colleague with responsibilities for the **safety and welfare of patients**
- Outline the role of the medical schools and the GMC in ensuring students' and doctors' **fitness to practise**
- Describe the **sources of help** for students and doctors with drug and alcohol related problems

Meets GMC outcomes:

4a(i) – Know and understand our guidance on the principles of good medical practice and the standards of competence, care and conduct expected of doctors in the UK

4d – recognise personal and professional limits and be willing to ask for help where necessary and recognise the duty to protect patients and others by taking action if a colleague's health, performance or conduct is putting patients at risk

5c – be willing to respond constructively to the outcome of appraisal, performance review and assessment

10 – graduates must be aware of the health hazards of medical practice, the importance of their own health and the effect that their health has on their ability to practice safely and effectively as a doctor

Clinical Assessment of Patients

On graduation, students should be able to:

- Describe the major **clinical features** of alcohol abuse, drug dependence and tobacco use
- Describe the possible **outcomes of different treatment regimes for substance misuse** and discuss the prognosis and management
- Take a focussed drug and alcohol **history**
- Elicit signs of misuse of alcohol, tobacco and illicit or over-the-counter (OTC) drugs through **physical and mental state examinations** and identify and prioritise medical and psychosocial problems associated with substance misuse
- Demonstrate appropriate skills for communicating sensitively with patients about substance misuse issues and know how to **deal with challenging, aggressive or intoxicated patients**, balancing assessment need with their own safety and that of others
- Appropriately order and interpret **urine, blood and other appropriate tests** for drugs of addiction, use standardised **screening and assessment instruments** to detect alcohol and drug levels and describe other special investigations and how to interpret results
- Carry out a **psychological assessment** of a patient's readiness to implement change

Meets GMC outcomes:

4a(iii) – know about and understand how errors can happen in practice and the principles of managing risks

4c – be able to perform clinical and practical skills safely

6b – be able to communicate effectively with individuals and groups

6c – understand the principles of audit and the importance of using the results of audit to improve practice

Treatment Interventions

On graduation, students should be able to:

- Describe the **common treatment regimes** for various types of addictions and withdrawal states
- Describe the basis of **commonly used therapies** for addiction
- Describe the variety of UK agencies to which patients with addiction problems can be referred and how and where to make appropriate **referrals for treatment**
- Demonstrate awareness of risk related to **needle use and disposal** for healthcare workers and patients and risk prevention
- Advise a patient appropriately on **reducing or abstaining from drinking and smoking** and list appropriate agencies or individuals to which patients can be referred to create a treatment plan
- Advise women on the effect of substance use and the impact on **foetal and maternal health**
- Demonstrate awareness of the need to assess patients' **capacity to consent** to treatment
- Describe the impact of substance misuse on **drug interactions** and a patient's compliance with treatment

Meets GMC outcomes:

4b - Know about, understand and be able to apply and integrate the clinical, basic, behavioural and social sciences on which medical practice is based

7a – know about, understand and respect the roles and expertise of other health and social care professionals

Epidemiology, Public Health and Society

On graduation, students should be able to:

- Outline **UK policies** on misuse of drugs, drug prescribing and dispensing, and on alcohol and smoking
- Outline **UK legislation** controlling drugs, alcohol and tobacco, including the legal alcohol limits for driving
- Explain **hazardous and harmful levels of alcohol consumption**, and the **recommended limits for alcohol consumption**
- Outline **UK strategies for the prevention and treatment of drug misuse**
- Outline **international policies and strategies** to limit drug supply and demand
- Describe the **epidemiology** of alcohol consumption, smoking, drug misuse in the general population, vulnerable groups and specifically in doctors and other health care professionals
- Describe the problems associated with **self-medication**
- Demonstrate awareness of the risks in different **work environments** and the need for employers to have **drug and alcohol policies**
- Describe the **effects of addiction** on individuals, their families, friends and colleagues in a range of age-groups; from children and adolescents to older people
- Describe the long-term **physical, psychological and social consequences** of various types of addiction and substance misuse, including the economic consequences and the links between crime and substance misuse
- Describe the risks to the children of addicted parents including **child protection policies** and a doctor's duty to implement these

Meets GMC outcomes:

4a(ii) – know about and understand the environment in which medicine is practised in the UK

4a(iii) – know about and understand how errors can happen in practice and the principles of managing risks

4b – Know about, understand and be able to apply and integrate the clinical, basic, behavioural and social sciences on which medical practice is based

6c – understand the principles of audit and the importance of using the results of audit to improve practice

Specific Disease and Speciality topics

On graduation, students should be able to:

- Recognise **life-threatening complications** of substance misuse, including septicaemia, pulmonary emboli and overdose and be able to carry out appropriate interventions
- Describe and explain the links between substance misuse and:
 - Accidents and violence (including sexual assault and STDs)
 - Lung disease, specifically tobacco, “crack” cocaine and cannabis
 - Anxiety, depression, dementia, schizophrenia
 - Acute psychotic episodes
 - Self-harm and suicide
 - Heart disease and hypertension (MI and cocaine use)
 - Liver disease, pancreatitis and gastritis
 - Infectious diseases, inc HIV and hepatitis B and C virus infections
 - Cancers
 - Sleep disorders
 - Weight problems
 - Neurological conditions
- Describe the **effects on pregnancy and on the newborn** of misuse or dependence on alcohol, tobacco or illicit drugs
- Describe the effects of substance misuse in the family on children

Meets GMC outcome:

4b - Know about, understand and be able to apply and integrate the clinical, basic, behavioural and social sciences on which medical practice is based

Good Practice in the organisation and delivery of the curriculum

This section summarises what is good practice in the organisation and delivery of substance misuse in the undergraduate curriculum, taking this from experience across both UK and overseas medical schools. For further background on this, see the literature review available on the ICDP web-pages.

The most important aspect of managing substance misuse in the undergraduate curriculum is that of **co-ordinating the content, delivery and assessment**. Some medical schools have appointed an individual to be responsible for this, with appropriate membership of planning groups and clear routes into the management structure of the curriculum. This ensures that the core outcomes for substance misuse are covered at appropriate points in the curriculum, that opportunities for learning are maximised, and that the student sees a 'joined-up' approach to the problem of substance misuse. Without co-ordination, substance misuse risks being an un-planned fragmented topic, with students' achievement of core outcomes left to chance.

Medical schools with a planned approach to substance misuse education have, despite the varying nature of curricula, a common approach to the **curriculum structure**. This involves ensuring that substance misuse is integrated into all stages of the curriculum rather than being isolated as a specialist topic, typically in Psychiatry. This can also be summarised as sequencing major topics across different years of the curriculum as follows:

- 1 Attitudes to drugs, alcohol and tobacco
- 2 Basic knowledge and awareness
- 3 Special issues for medical and other health care students
- 4 Sciences basic to addiction
- 5 Clinical assessment of addiction
- 6 Clinical treatment of addiction
- 7 Links to postgraduate learning and training (including generic Foundation Years and subsequent specialist training)

Where exactly these topics occur will vary from course to course, but it is good practice to introduce the first three very early on in the student's experience.

In many medical schools, students have the opportunity to learn more about substance misuse beyond the core learning outcomes through **Student Selected Components** such as Special Study Modules and other learning opportunities. These are often led by specialists in drug or alcohol treatment, but the opportunities for staff to offer an SSM concerned with abuse, dependence or treatment occur in many medical specialties. Details of some of the SSMs provided in the UK are included on the ICDP website, with the aim of stimulating ideas, fostering links between staff in different institutions, and ultimately providing such opportunities in every UK medical school.

Systematic planned **assessment** of students' learning is vital in ensuring that the core outcomes are covered. The pattern of assessment in most curricula now is of integrated examinations covering many traditional subjects, focusing on knowledge, skills and behaviour, and substance misuse topics can be introduced into many of these. The general principles underpinning the assessment of any clinical topic apply to substance misuse, and the major challenge for most medical schools who have not already done this is to identify where and how learning outcomes relevant to substance misuse can be assessed across the curriculum. The template to be found on the ICDP website for curriculum planners may assist in this mapping exercise.

A general guide to the principles of assessment can be found on the ICDP website. This focuses on the major questions to ask when developing either entire examinations or writing individual items for an examination.

The co-ordination of all the above elements requires a systematic process of **review and evaluation**. Guidance on the process of reviewing substance misuse education in a medical school has been developed and can be found on the ICDP website, including the process of managing change, mapping the current curriculum against the core aims and learning outcomes, and evaluating the outcome of changes. Successful innovations in substance misuse education share several characteristics, among which is the participation of students and teachers in a systematic evaluation of the experience: feedback mechanisms from both groups for individual learning events and the substance misuse curriculum as a whole should be developed.

Acknowledgements

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Dr Edel Mc Auley	Junior Association for the Study of Medical Education (JASME)
Dr Ciaran Mulholland	Queens University Belfast
Dr Stewart Paterson	King's College London
Dr Guy Ratcliffe	Medical Council on Alcohol
Dr Andrew Riches	University of St Andrews
Dr William Shanahan	Imperial College, London
Professor John Strang	National Addiction Centre and King's College London
Dr Anne Taylor	University of Nottingham
Dr Robin Touquet	Imperial College, London
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Dr Michael Wilks	British Medical Association
Dr Hugh Williams	Brighton and Sussex Medical School
Dr Tim Williams	University of Bristol
Dr Nat Wright	National Treatment Agency

Appendix: Background to the Project

'Substance Misuse in the Undergraduate Medical Curriculum' has been a project funded by the Department of Health (England) and undertaken by the International Centre for Drug Policy with the aims of:

- supporting the effective delivery of high quality substance misuse training within undergraduate medical education in the UK
- developing a consensus approach to substance misuse training across all UK medical schools
- developing an effective model for enhancing substance misuse education for a range of professionals in training

The project has reviewed the ways in which substance misuse problems including rational prescribing are currently taught and has produced guidance and resources for medical schools to enhance undergraduates' learning about this important topic.

The project has been steered by a Committee representing all the UK's medical schools (through four members of the Council of Heads of Medical Schools), the General Medical Council, World Health Organisation, British Medical Association, Association for the Study of Medical Education, student groups, and government departments responsible for drug and health policy.

A formal **literature review** of peer-reviewed journals in the area of undergraduate substance misuse education has been undertaken, and a copy of this can be found on the ICDP website: www.icdp.org.uk

A **survey of all 32 UK medical schools** was undertaken between May 2005 and September 2006, to gain an overview of where substance misuse currently fits into the undergraduate curriculum, and also discover good practice and key experts in the topic. The survey has shown that although substance misuse figures broadly across many parts of the curriculum, this is usually un-coordinated and un-planned, and what students learn and have experience of has little consistency across medical schools. A summary of the survey's findings can be found on the ICDP website: www.icdp.org.uk

Through the survey, and other contacts, the project established a network of specialists in substance misuse teaching to form an '**Expert Panel**'. This panel had representatives from all but six UK medical schools, and also members from other institutions and UK national agencies. The Expert Panel has worked and advised on the preparation of this guidance document, and has also been working on developing some learning and teaching materials for use in medical schools.

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