MODULE 10

An introduction to drugs & drug use

Aim of Module 10 (slide 2)

This module was developed to provide foundation knowledge about drugs, drug use and people who use drugs, which underpin the other modules of the Toolkit.

Learning objectives

Participants will be able to:

- Analyse and assess the credibility of reports and communication campaigns about drugs, drug use and people who use drugs
- Define and assess the different types of evidence used in research and reports and assess their relative veracity
- Define drugs, drug use, drug dependence
- Describe the different types of drug use and their significance to policy and treatment responses
- Identify and understand the major types of risks or harms related to drug use
- Examine the evidence about 'natural recovery' and treatment outcomes for people who use drugs

Introduction

This module will start by discussing the elephant in the room', the large beast we are confronted with in our day to day lives: the emotionally charged distortions about drugs and people who use drugs that are presented to us in drug policies and strategies, and in government and media communications.

This training module then moves on to examine the evidence to determine the basis for these narratives, how valid it might be and what objective experience and scientific observation tell us about the reality of drugs and people who use drugs.

SESSION 10.1: Social constructions around people who use drugs (45 min)

SESSION 10.2: Horror stories and urban legends (50 min)

SESSION 10.3: Using an evidence-based approach (30 min)

SESSION 10.4: Drugs and why people use them (60 min)

SESSION 10.5: Drug use trends (60 min)

SESSION 10.6: How drugs work (60 min)

SESSION 10.7: Patterns or types of drug use (45 min)

SESSION 10.8: Understanding drug dependence (20 min)

SESSION 10.9: The risks and harms associated with drug use (50 min)

This module includes a wide range of exercises. Trainers are encouraged to adapt these materials to best meet the training needs of the participants.

The module assumes no specific knowledge on drugs, drug use or responses to people who use drugs.

As each training locality will have its own drug use trends and practices, the facilitator should gather as much data and information as possible from the local area/country/region where the training will be delivered:

- Past and current patterns of drug use
- Recent changes in the availability and use of various types drugs
- Changes in methods of administration of drugs
- Changes in the demographics of people who use drugs
- Changes in the services provided to people who use drugs.

Throughout the delivery of this module, the facilitator should encourage participants to share their knowledge about the local circumstances of drug use and to share reliable sources of local information (reports, factsheets, research, journal articles, etc.) on drugs, drug use and people who use drugs.

MODULE 10

Session 10.1
Social constructions around people who use drugs

45 min

Facilitators' note

The terms 'drug abuse', or simply 'abuse', are widely used but they can vary in meaning a great deal. In the international drug control conventions 'abuse' refers to any consumption of a controlled substance, no matter how frequent. In psychiatry, these terms have very strict and clearly defined meanings, as described in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). However, they are often used imprecisely. For this reason, we will not use these terms and use instead the terms 'drug use' or 'drug dependence' during this training.

Aim – To understand how people who use drugs are depicted by governments, the media and others, and explore the various reasons for this social construction

1. Introduce the aim of the session (slide 3).
2. Ask participants to form small groups of 4-5 people and ask them to take 5 minutes to come up with two different examples of stigma and discrimination. Ask them to be as specific as they can about each of two examples.
3. Ask each group to report back on only 1 example, allocating about 3-4 minutes per group.
4. Present the information below and corresponding slides [Slides 4 to 11].

Information to cover in this presentation:

The social constructions around people who use drugs [Slide 4]

'Social Construction' refers to the way various groups in society are portrayed in media reports, images and public discourse. Social researchers, Schneider and Ingram, described how social constructions could be categorised into four quadrants based on the two dimensions of political power and social construction.[1] That is, a specific group may have weak or strong political power and a positive or negative social construction. The positive or negative social perception of a particular group along with its relative political power determine the type of policy interventions targeted at them. For example, those groups perceived as socially positive and with access to political power are more likely to receive policy benefits. On the other hand, Schneider and Ingram stated: 'public officials commonly inflict punishment on negatively constructed groups who have little or no power, because they need fear no electoral retaliation from the group itself and the general public approves of punishment or groups that it has constructed negatively'.

Drug stories: A common narrative [Slide 5]

People who use drugs have been socially constructed in media stories, government reports and national policies as 'violent crazed dope fiends' for about 150 years, linking drug use with issues related to race, social status and crime. Interestingly, the substances identified as making people 'violent crazed dope fiends' have changed many times in these reports. In addition, the groups singled out have also changed many times, although those targeted are consistently ethnic minorities and/or socio-economically disadvantaged groups – i.e. the poor and relatively powerless.

Example of the 'Yellow Peril' drug narrative of the 19th century:

What has become known as the 'Yellow Peril' was the menace presented by Chinese immigrants who, it was claimed, became crazed by smoking opium and would kidnap white women so they could turn them into sex slaves by making them addicted to opium.

Example of methamphetamine as 'yama' then 'yaba' in 1990s Thailand:

Methamphetamine became increasingly used in Thailand from the mid-1950s, commonly by long-distance truck drivers and college students studying for exams to stay awake. Methamphetamine pills were called 'yama' meaning horse pill to denote its effects of giving the user greater strength and endurance. After a few violent incidents publicised by the media as being attributable to drug use, including the use of images of a child or woman being held hostage by a man, the Thai government announced in 1996 that methamphetamine would be known as 'yaba,' meaning 'crazy drug.'

These stories might seem quaint or even silly today, but there is a certain familiarity about them too. There is a similar plot [Slide 6] running through them all, despite changes in time and place. A person consumes a substance and immediately becomes irrational, possesses inhuman strength or stamina and is driven by uncontrollable sexual and violent urges. In these stories:

1. the person who uses drugs is usually male, from an ethnic minority or marginalised social group
2. the substance varies but is not one that is usually associated with the upper classes or socially advantaged groups
3. and the uncontrollable sexual and violent impulses are usually directed at those we are most protective of, for example, our children, our mothers and our grandmothers.

These drug narratives are designed to elicit a strong emotional response which can be easily manipulated. As such, the authors of these drug narratives often describe the violation of our most vulnerable and cherished family or community members in order to arouse our primal emotions of fear, anger and retribution.

Let's take a look at two additional examples, in which the personal and political motivations behind the narratives are more apparent. Prohibitionist policies can benefit specific individuals and/or organisations. For example, substantial increases in funding for interdiction, seizures and arrests may lead to a substantial increase in budget for staff, equipment and technological upgrades for some government agencies. If these strategies or departments use performance-based management, then increases in arrests and seizures may lead to bonuses, promotions and other individual rewards, as well as further increases in department budgets.

Drug stories for political/personal gain (Example of Harry Jacob Anslinger) [Slides 7-8]

Harry Jacob Anslinger was assistant commissioner in the US Bureau of Prohibition from 1929 onwards. During the US alcohol prohibition period, Anslinger had claimed that cannabis was not a problem, did not harm people, and 'there is no more absurd fallacy' than the idea that cannabis makes people violent. His critics argue that, when US alcohol prohibition ended, Anslinger needed a new target to keep his department going (along with its funding) and maintain his position. When he started campaigning against cannabis, he was appointed Commissioner of the newly-established US Federal Bureau of Narcotics. Anslinger is also credited for promoting the widespread use of the term 'marihuana', previously referred to as 'cannabis' or simply 'hemp'. His introduction to the US public of the Mexican name 'marihuana' (marijuana) during his campaign was an intentional strategy to associate

the substance with Mexican migrants. The Government Information leaflet entitled 'Marihuana' on slide 7 shows people injecting cannabis. Research conducted when drafting this module was unable to find any reliable source of evidence of cannabis injection anywhere around the world!

Drug stories as a political tool for social control (Example of Richard Nixon's war on drugs) [Slides 9-10]

Prohibitionist policies against drug use can also have political motivations. In 1971, US President Nixon coined the term 'war on drugs': 'To wage an effective war against heroin addiction, we must have international cooperation. In order to secure such cooperation, I am initiating a worldwide escalation in our existing programs for the control of narcotics traffic…'

Many years later, after serving a prison term, President Nixon's Policy Chief, John Ehrlichman, revealed in an interview that US drug policy was politically motivated. Its purpose was to target and persecute political opponents of Nixon's Administration. Ehrlichman stated: 'The Nixon campaign in 1968, and the Nixon White House after that, had two enemies: the anti-war left and black people. You understand what I'm saying? We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin. And then criminalizing both heavily, we could disrupt those communities. We could arrest their leaders. raid their homes, break up their meetings, and vilify them night after night on the evening news. Did we know we were lying about the drugs? Of course, we did'.[2]

1. Schneider, A., & Ingram, H. (1993), 'Social construction of target populations: Implications for politics and policy'. The American Political Science Review, 87(2): 334-347
2. http://edition.cnn.com/2016/03/23/politics/john-ehrlichman-richard-nixon-drug-war-blacks-hippie/index.html

MODULE 10

Session 10.2
Horror stories and urban legends

50 min

Aim – To identify and question horror stories and urban legends about drugs

1. Present the information below and corresponding slides [Slides 12-14].

Information to cover in this presentation:

Horror stories [slide 12] are used to justify and reinforce prejudice. They are intended to avoid rational arguments, perhaps because those telling such stories know they are unlikely to win such a debate on facts alone. They are designed to elicit a strong emotional response. They often involve violence and harm against the most vulnerable people in society (e.g. women, children or the elderly). These stories are designed to trigger public outrage and emotions that can be easily manipulated. When members of the public are upset, shocked, offended and angry, they can be more easily directed to accept and defend policies and actions they would not normally support. Here is an example.

Missouri: Babysitter on crystal meth eats 3-month-old toddler [Slide 13]

CLAIM: A babysitter in Missouri ate a three-month-old toddler while she was high on methamphetamines.

FACTS: Of course, there was no truth to the story [Slide 14]

The story originated from the 'World News Daily Report', a news site with a long history of publishing bizarre fictitious stories in order to accrue social media share-based traffic. The article also confusingly claimed the toddler survived the incident and, contrary to the headline, did not ever state that the babysitter ate any portion of the child. Most importantly, this story dates from the 1960s. In these earlier (pre-microwave) news stories, it was reported that a 'stoned' babysitter mistakenly cooked the infant in her care. Different versions of the story attributed the event to different drugs, including LSD and cannabis.[1]

2. Split the participants into groups or 5-6 people, and ask them to name a note taker/rapporteur.

3. Ask the participants to take 15 minutes to select and discuss one example of a 'horror story' or 'urban legend' they have come across recently in their country/region. Encourage them to select a story that is 'close to home'. Ask the participants to be as specific as possible about the details of the example.

4. Ask the groups to address the following questions for the example they have selected (although explain that these questions are offered as a guide for discussion and participants do not need to answer all of them) [Slide 15]:

Facilitators' note

The examples presented here are from the US, and other examples that participants could more easily identify with, and which achieve the same purpose, could be identified and presented here instead. The facilitator can visit the following websites to look for other examples [Slide 16]:

- Snopes: http://www.snopes.com/
- About urban legends: https://www.thoughtco.com/urban-legends-4132595
- Sophos: https://www.sophos.com/threat-center/threat-analyses/hoaxes.aspx
- F-Secure: https://www.f-secure.com/virus-info/hoax/
- VMyths: http://vmyths.com/
- Symantec: https://www.symantec.com/security_response/landing/risks/hoaxes.jsp.

- What was the key message?
- By what means was the message communicated (e.g. word-of-mouth, Facebook, Newspaper, TV)?
- Who sent the message?
- Who was the message targeted at?
- What action and/or outcome did the message aim to achieve?
- Who stood to gain from the action or outcome?
- What evidence supported the message?
- How credible was the message?

5. Back in plenary, ask each group to present their case study to the rest of the participants. Allocate 5 minutes per group and allow time for questions and comments after each presentation.

1. http://www.snopes.com/babysitter-meth-eats-toddler/

MODULE 10

Session 10.3
Using an evidence-based approach

30 min

Aim – To examine what is meant by 'evidence' and what qualifies as credible evidence for making decisions relating to drug policy and service delivery

1. Introduce the aim of this session [Slide 17].
2. Explain that it is important that policies, strategies, laws and services are grounded in reliable scientific evidence. It is also important that evidence is generated by a credible source and is of high quality, reliable, and relevant to the specific situation.
3. Present the information below and corresponding slides [Slides 18-21]. Ask the participants if they have any questions or comments.

Information to cover in this presentation:

Why evidence matters [Slide 18]

Why bother with creating, finding or using evidence in our policy and practice responses to drugs and drug use? An evidence base is essential because it helps to:

1. Achieve the best outcomes that we can for people who use drugs, their families and communities
2. Ensure that health resources are used efficiently by designing and implementing the most effective policies and care that is available
3. Because we are working with an attitude of inquiry, thinking about: 'Why are we doing this in this way?' and 'What evidence can guide me to achieve better outcomes and more efficiently?'

Establishing a hierarchy for the quality of evidence [Slide 19]

There are different levels of quality and reliability of evidence. When searching for evidence-based information, you should select the highest level of evidence available. Depending on the topic you are investigating, you might only find systematic reviews or perhaps a few good case studies. As you move up the pyramid, fewer studies are available – and it is important to recognise that high-quality evidence may not exist for your issue of interest. If this is the case, you will need to move down the pyramid if your quest for resources at the top of the pyramid is unsuccessful.

Facilitators' note

For additional reading, see:

- Winona State University, *Evidence-based practice toolkit,* http://libguides.winona.edu/c.php?g=11614&p=61584
- Glover, J., Izzo, D., Odato, K., & Wang, L. (2006), *EBM pyramid and EBM page generator* (New Haven, CT: Yale University)
- Greenhalgh, T. (2014), *How to read a paper: the basics of evidence-based medicine* (John Wiley & Sons)

1. **Meta-analysis:** A systematic review that uses quantitative methods to summarise the results.
2. **Systematic review:** Authors have systematically searched for, appraised, and summarised all of the research literature for a specific topic.
3. **Randomised controlled trial:** Includes a randomised group of patients in an experimental group and a control group, both of whom are examined for the variables/outcomes of interest.
4. **Cohort study:** Identifies two groups (cohorts) of patients, one which received the exposure of interest, and one which did not, and examining these cohorts on the outcome of interest.
5. **Case-control study:** Identifies cases in which patients have the outcome of interest and compares them with control patients who did not have the same outcome, and looks for factors of interest.
6. **Case study:** Identifies cases of patients who have the outcome of interest and control patients without the same outcome, and looks for exposure of interest.
7. **Expert opinion, expert committees:** Handbooks, encyclopaedias and textbooks often provide a good foundation or introduction and often include generalised information about a condition. While background information presents a convenient summary, often it takes about three years for this type of literature to be published.
8. **A respected authority** e.g. 'My parents/teacher/doctor said…'[1]

Another key consideration when using an evidence-based approach is that, while the quality level of evidence is important, it is not the only factor that influences the successful implementation of evidence into practice. Quality of evidence is one of three core elements [Slide 20]:

1. The level and nature of the evidence
2. The context or environment in which the evidence is to be placed
3. The way in which new evidence-based practices are introduced and change is facilitated.[3]

It is also important that the evidence we use is the latest available [Slide 21]. Even though drug use has been occurring since pre-historic times the science around treating drug use is relatively new compared with many other areas of health. So, it is likely that there will be many further developments in our knowledge and

practice in this field in the future. Trends in drug use, drug policy and drug treatment continue to evolve and our scientific understanding of the physical, psychological and social factors that influence – or are impacted by – drug use are continually changing. Sometimes long-standing ideas and practices are completely overturned by new and better understandings. It is therefore imperative that we stay up to date. This is possible by critically examining our practice (for example, for a drug treatment service provider), reading current reports, guidelines and research, being active in professional networks, routinely accessing credible websites and blogs (such as those of Centres for Disease Control, the World Health Organisation, and professional associations), attending conferences, seminars, public forums and other events, or continuing education via courses and webinars.

'External clinical evidence both invalidates previously accepted diagnostic tests and treatments and replaces them with new ones that are more powerful, more accurate, more efficacious, and safer'.[3]

4. Explain to the participants that we will now look at a claim and test it with available evidence. This will not require a systematic review – just some simple fact checking.

5. Read the claim and introduction to the following Washington Post article [Slide 22]

   'At his White House news conference Thursday afternoon, President Trump lamented that "we're becoming a drug-infested nation. Drugs are becoming cheaper than candy bars." While the remark was ridiculed on Twitter, there's a fair amount of truth to it. Illicit drugs are often incredibly inexpensive, particularly per dose'.[4]

6. Ask the participants to compare the price of drugs in the chart on Slide 23 with the candy bars they know, including the weight and price. This does not have to be precise, approximations from memory will work for the purpose of this exercise. Ask for a volunteer to write the answers on a white board or flipchart.

7. Conclude the exercise by saying that, a few months after the publication of the original article, the Washington Post published another article retracting the one published in February. The new article includes data on drug and candy prices [Slide 24]: Bump, P. (17 February 2017), 'Political fact-check: Drugs are not cheaper than candy bars,' *The Washington Post*)[5]. Although prices of drugs and candy bars vary in place and time, this US comparison offers is a good example of the exaggeration of the original claim:

Drug	Price per ounce	Candy bar	Price per ounce
Heroin	$2,267	Hershey's	$0.89 for 1.55 oz.
Cocaine	$1,700	Twix	$0.89 for 1.68 oz.
Ecstasy	$354	Toblerone	$5.39 for 12.6 oz.
Methamphetamines	$350	Kit Kat	$1.39 for 3 oz.
Marijuana	$125	Milky Way	$0.89 for 2.05 oz.

1. Glover, J., Izzo, D., Odato, K., & Wang, L. (2006), *EBM pyramid and EBM page generator* (New Haven, CT: Yale University); Greenhalgh, T. (2014), *How to read a paper: the basics of evidence-based medicine* (John Wiley & Sons);
2. Kitson, A., Harvey, G., & McCormack, B. (1998), 'Enabling the implementation of evidence based practice: A conceptual framework', *Quality and Safety in Health Care*, 7(3): 149-158
3. Sackett, D. L., Rosenberg, W. M., Gray, J. M., Haynes, R. B., & Richardson, W. S. (1996), *Evidence based medicine: what it is and what it isn't* (British Medical Journal Publishing Group), p. 72
4. Ingraham, C. (16 February 2017), 'Trump is right – drugs are often cheaper than candy bars', Washington Post, https://www.washingtonpost.com/news/wonk/wp/2017/02/16/trump-is-right-drugs-are-often-cheaper-than-candy-bars/?utm_term=.66059d7740fa
5. Available here: https://www.washingtonpost.com/news/politics/wp/2017/02/16/political-fact-check-drugs-are-not-cheaper-than-candy-bars/?utm_term=.9024ca5a77a9

MODULE 10

Session 10.4
Drugs and why people use them

60 min

Aim – To have a shared, evidence-based understanding about drugs and why people use drugs

1. Introduce the aim of the session [Slide 25].
2. Present the introduction below with the corresponding slides [Slide 26].

Information to cover in this presentation:

The use of various drugs appears to be universal, occurring across most cultures and throughout history, and 'People have been writing about psychoactive drug use and drug effects for at least 6,000 years...'[1] It is apparent that as far back into human history as anthropologists and archaeologists have been able to investigate, across diverse cultures, they have found evidence of the use of drugs for purposes of religion, economics, medicine or simply pleasure.

Here are two brief examples [Slide 26]:

- Descriptions of cannabis for medicinal uses were found in the Egyptian pyramids texts of the 5th Dynasty Kingdom of Memphis, approximately 4,365 years ago and there were prescriptions from those times for its use in treating various conditions including migraine, gynaecological disorders and obstetric conditions.
- An ancient example of the use of hallucinogenic mushrooms was found in a cave mural painted about 9,000 years ago in Tassili, south-eastern Algeria.[2]

Facilitators' note

This activity can serve as a quick warm up and bring the focus of participants to the topic. It can be done as a quick 'Q&A' session with the training participants in one large group.

3. Conduct the activity: **Why do people use drugs?** as a warm-up for further discussion with participants (20 minutes) [Slide 27]
   a. Ask the participants to give a reason for why people are using drugs. Explain that there are no wrong answers because there will be different reasons for different people, in different circumstances. Note the responses on a flipchart.
   a. Present the information below, in the form of an interactive discussion with the participants.

Information to cover in this presentation:

People often ask why people use drugs. On the surface, this might seem like a simple, straightforward question but it is often a value-laden question and can be underpinned by one or more assumptions. One of the ways to test this is to simply answer: 'Why not?' [Slide 28]

The response to this often brings to the surface some of those underlying assumptions or values, for example, when people answer with responses such as:

- 'Because it is wrong'
- 'Because people shouldn't use drugs'
- 'It is not natural'
- 'Because they will kill you!'

There are probably as many reasons for using drugs as there are people who use drugs [Slide 29]. People may use them because using drugs is part of their culture or sub-culture, because they are integral to social groups or social activities, because their use improves performance of certain activities, it enhances positive/desirable feelings or psychological states, it prevents or diminishes negative/undesirable feelings or psychological states, it prevents withdrawal from dependence, to satisfy curiosity or simply because it is fun.

The different types of drug use and a model for examining drug use (the 'Bio-Psycho-Social Model') will be described in the following sessions of this module. But first it is important to establish just what we mean by 'drug'. To illustrate this point and to get the participants thinking about it, you might ask them whether they think wine is a food or a drug

4. Conduct the activity: **What is a drug?** (30 minutes) [Slide 30]
    a. Explain to the participants that the aim of this activity is to examine and understand common interpretations of the term 'drug', and come to a shared understanding of the term which can be used as a working definition to use during this part of the training. This can be done as one large group or in small groups – but keep in mind that the smaller the groups, the longer this activity will take.
    b. Ask the participants to brainstorm about what do we mean by 'drug' and to provide key words that define 'drugs'. Note the responses on a flipchart.
    c. Discuss with the participants who might use which definitions/key words and for what purpose (e.g. legal, neurological, pharmacological, social, cultural).
    d. Based on the discussion of the participants ideas, show Slides 31-32 with the definitions below as a potentially useful one, but explain that there is no single correct definition of 'drug'. If possible, write a new definition based on the discussions, which all participants can agree on and use for the rest of the training

Information to cover in this presentation:

WHO definition of 'drugs': 'In common usage, the term often refers specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use in addition to any medical use. Professional formulations (e.g. "alcohol and other drugs") often seek to make the point that caffeine, tobacco, alcohol, and other substances in common non- medical use are also drugs in the sense of being taken at least in part for their psychoactive effects'.[3]

Goode, 2006: 'Psychoactive drugs are substances which act upon the central nervous system, affect brain function, and can cause temporary changes in perception, mood, consciousness and behaviour'.[4]

Drugs which affect the mind are often referred to as psychoactive i.e. they are active psychologically and affect our feelings, thoughts and behaviours. Sometimes you will see or hear the term 'substances' or 'psychoactive substances' used. This is often done to be more inclusive, there are many chemical compounds that might not be classified as a drug but are used by people because of their psychoactive properties for example, inhaling the fumes of solvents in spray paint or petrol (gasoline). This module will only cover the substances controlled under the international drug control conventions [Slide 32].

1. Goode, E. (2006). 'The sociology of drug use'. In C. D. Bryant & D. L. Peck (Eds.), *21st Century Sociology* (Thousand Oaks, California: Sage Publications), p. 416
2. Akers, B. P., Ruiz, J. F., Piper, A., & Ruck, C. A. P. (2011), 'A Prehistoric Mural in Spain Depicting Neurotropic Psilocybe Mushrooms', *Economic Botany,* **65**(2), 121-128
3. http://www.who.int/substance_abuse/terminology/who_lexicon/en/
4. Goode, E. (2006). 'The sociology of drug use'. In C. D. Bryant & D. L. Peck (Eds.), *21st Century Sociology* (Thousand Oaks, California: Sage Publications)

MODULE 10

Session 10.5
Drug use trends

60 min

Aim – To understand where to get accurate information about drug use, and what are the trends in drug use

1. Introduce the aim of the session (Slide 33).
2. Present the information below along with the corresponding slides [Slides 34 - 37].

Information to cover in this presentation:

Getting accurate information about drug use [Slide 34]

Before starting to discuss drug use and trends, it is worth spending a moment to consider where our evidence comes from. There are obvious challenges to determining with accuracy the exact scale of the illicit production, distribution and use of drugs. The fact that these activities are illegal means that transactions are hidden in the black market and their use secretive. People who use drugs may be reluctant or even fearful of disclosing behaviours considered to be socially undesirable, immoral, illegal and where detection can result in social condemnation, police arrest, compulsory treatment, and/or severe criminal penalties.

Collecting data can be even more difficult in developing countries which do not have strong well-resourced health surveillance systems, organisational structures, computer technologies, and enough trained staff for regularly collecting census data, departmental data, and service data (from private and public sectors). There are further difficulties in countries where it is difficult to access people in rural and remote areas, certain ethnic groups, or areas where there may be conflicts.

As a result, there is usually much more data on demographics, population health and especially drug use available and published in the global north (e.g. USA, Europe and Australia). Therefore, throughout this Module a lot of the data will be drawn from sources in developed countries or from global organisations like the WHO or United Nations Office on Drugs and Crime (UNODC).

Global trends in drug use [Slide 35]

In its 2017 World Drug Report, the UNODC estimated that a quarter of a billion people (estimate range: 158 to 351 million), or about 5% (1 in 20) of the adult population aged 15-64 years, had used drugs at least once in 2015:

- Cannabis remains the most widely used drug in the world
- Amphetamines remain the second most commonly used drug worldwide, and ATS use appears to be increasing in North America, Oceania and most parts of Asia
- Opioids cause the highest negative health impact of any illicit drug.

Generally speaking, drug use prevalence has remained reasonably stable over the past five years [Slide 36].[1]

Facilitators' note

The UNODC World Drug Report is an annual publication that analyses market trends, compiling detailed statistics on drug markets. Using data, it helps draw conclusions about drug policies and interventions. The World Drug Report relies mainly on data submitted by UN member states through the Annual Reports Questionnaire (ARQ).

Member states are required to submit national data on drug control to the UNODC annually, although historically the response rate for the ARQ is low. If information submitted by the member state is insufficient, or in other circumstances, the UNODC will seek information from additional, reliable sources. The UNODC itself has noted there are challenges in relying on the ARQ such as the difficulty of validating data, irregular data reporting by member states and bridging data gaps.

Efforts are being made to standardise and improve the reliability of information provided for the report, including building capacity of some member states to collect and report data. Currently, the ARQ is being reviewed to ensure that the right information is being collected.

Gender differences in drug use [Slide 37]

- Men are three times more likely than women to use illicit drugs. But women are more likely than men to use prescription drugs illicitly, particularly prescription opioids and tranquillisers.
- Men are more than twice as likely than women to suffer from drug dependence. But women tend to increase their rate of consumption of alcohol and other drugs more rapidly than men and may progress more quickly than men towards drug dependence.
- Men typically start using alcohol and other drugs at a much younger age than do women. But women, over the past 10 years, have experienced a more rapid increase in negative health impacts of drug use than men.

As discussed in the thematic chapter on 'Women and Drugs' in the International Narcotics Control Board Annual Report 2016, some of these differences are most likely attributable to biological factors, and the influence of social or cultural environments.[2]

Facilitators' note

Opioids: generic term which includes alkaloids produced from the opium poppy (opiates) and synthetic analogues or pharmaceuticals such as Methadone, Percocet or OxyContin (oxycodone), Vicodin (hydrocodone), Duragesic (fentanyl)

Opiates: subset of opioids comprising the various products derived from the opium poppy plant, including opium, morphine, and heroin.

3. Facilitate a brief discussion (about 15 minutes) with the participants about local trends in availability and use of drugs. Use the following prompts to moderate the discussion [Slide 38]:
   - Past and current patterns of drug use
   - Recent changes in the availability and use of various types drugs
   - Changes in the methods of administration of drugs used
   - Changes to the demographics of the people who use drugs
   - Changes in the services provided to people who use drugs.

   Encourage participants to share (e.g. via email) reliable sources of local information (reports, factsheets, research, journal articles, etc.) if they have access to such material.
4. Present the information below with corresponding slides [Slide 39].

Facilitators' note

It may be worth asking the participants to look for up-to-date data/information on drug use in their country/region in preparation for the training, so that they can share it with the group here – or at the very least assess whether such data is available.

Information to cover in this presentation:

Globally, about 11% of people who use drugs, or around 29.5 million people (range: 15.3 million to 43.1 million), are estimated to suffer from drug dependence and may require treatment. That is about 29,500,000 of the estimated 250,000,000 people who use drugs worldwide.

These figures are supported by other research. For example, another study showed that globally between 13.9 million and 53.4 million people are estimated to use amphetamines, of whom an estimated 17.2 million (about 11%) are dependent.[3] But as we shall see later in this module, drug dependence is multi-factorial, and rates of dependence vary according the type of drug; the amount, frequency and period it is taken; the method of administration; the physical and psychological state of the person; and social circumstances.

5. Activity ***How do we know what we think we know about drug use?*** [Slide 40] (30 minutes):
   a. Split the participants in groups of 5-6 people, and ask them to nominate a note taker/rapporteur. Explain that each member of the group should put themselves in the shoes of a different group/organisation in society (e.g. people who use drugs, police, health department, education department, etc.)
   b. Ask the groups to brainstorm as many ideas as they can about why it might be difficult to get information about drug use in their countries – and note them on a flipchart.

c. Ask them to consider:
   - What information they might want or need
   - Some different methods that might be used to collect information
   - what are the strengths, weaknesses or limitations for each method.

d. Back in plenary, ask each group to present their work and report back briefly on one of the methods they discussed. Ask each group, if possible, to focus on a different method. Allow time for questions and comments after each presentation (allocate about 5 minutes per group).

Examples of what participants may come up with

Methods to consider for data collection on drug use:

- National household surveys: census takers randomly select households to visit and interview people about their drug use on condition of anonymity
- Records and reports from drug treatment services
- Surveys of school students
- Tax records for cigarettes, tobacco, alcohol
- National pharmaceutical records
- Research studies – including various approaches such as epidemiological, cohort and case studies
- Peer-driven research on patterns of drug use
- 'Secondary sources' – The use of information involves examining records or reports which may have information related to drug use even though the records were designed to describe other events e.g. arrests and drug seizures, road traffic accidents, hospital admissions, services provided at community health and/or social services, court hearings

e. Play the YouTube video ***'Brain on drugs 1980's'*** (2 minutes 14 seconds, https://www.youtube.com/watch?v=3FtNm9CgA6U) by The Partnership for a Drug-Free America [Slide 41]. Invite the participants to comment on, and question, the video – facilitate the debate by asking questions like 'How effective do you think this is/was as a health promotion campaign?'.

HOMEWORK (Optional) [Slide 42]

Ask the participants to compare the most recent UNODC World Drug Report against the report from five years ago and the report from ten years ago. Ask them to notice what trends have changed, what trends have remained stable and what differences they notice in the quality of the data and analysis between the reports.

Participants can download the publications here:

1. United Nations Office on Drugs and Crime (2017), World Drug Report 2017 Global Overview of Drug Demand and Supply: Latest trends, cross-cutting issues (Vol. Booklet 2), https://www.unodc.org/wdr2017/field/Booklet_2_HEALTH.pdf
2. United Nations Office on Drugs and Crime (2013), World Drug Report 2013, https://www.unodc.org/unodc/secured/wdr/wdr2013/World_Drug_Report_2013.pdf
3. United Nations Office for Drug Control and Crime Prevention (1999), Global Illicit Drug Trends 1999, https://www.unodc.org/pdf/report_1999-06-01_1.pdf

1. United Nations Office on Drugs and Crime (2017), World Drug Report 2017 Global overview of drug demand and supply: Latest trends, cross-cutting issues (Vol. Booklet 2), (Vienna: United Nations Office on Drugs and Crime), https://www.unodc.org/wdr2017/field/Booklet_2_HEALTH.pdf
2. Ibid. Voir aussi: Organe international de Contrôle des Stupéfiants (2017), Rapport Annuel 2016, https://www.incb.org/documents/Publications/AnnualReports/AR2016/French/AR2016_F_ebook.pdf
3. McKetin, R., Kothe, A., Baker, A. L., Lee, N. K., Ross, J., & Lubman, D. I. (2017), 'Predicting abstinence from methamphetamine use after residential rehabilitation: Findings from the Methamphetamine Treatment Evaluation Study', *Drug and Alcohol Review*, doi:10.1111/dar.12528

MODULE 10

Session 10.6
How drugs work

60 min

Aim – To understand the effects of drugs on the brain

1. Introduce the aim of the session [Slide 43].
2. Present the information below and corresponding slides [Slide 44-46]

Facilitators' note

For additional reading, see: Chiu, V. M., & Schenk, J. O. (2012), 'Mechanism of action of methamphetamine within the catecholamine and serotonin areas of the central nervous system', *Current drug abuse reviews*, 5(3): 227-242

Information to cover in this presentation:

Brain activity is caused by chemicals called neurotransmitters. These neurotransmitters are released from the end of one nerve cell (Neuron), travel across a microscopic gap (synapse) to attach to receptors on the surface of the receiving neuron. This will trigger an electric transmission in that new cell to trigger the release of neurotransmitters. The process then continues from one neuron to the next, in a particular area of the brain [Slide 44].

Some drugs mimic neurotransmitters, so they will work in the brain because they have a similar structure or property to a neurotransmitter. To put it another way, the drug works in the brain because there is already a naturally occurring chemical in the body that is quite similar to the drug. For example: endorphins are neurotransmitters that are similar in properties to opioids, norepinephrine has similar properties to amphetamines and cannabis has similar chemicals to the cannabinoids produced in the brain. These drugs also change the levels of many other neurotransmitters in the brain, e.g. dopamine or serotonin. These chemicals can trigger the release of other neurotransmitters. In this way, drugs can affect the neurotransmitters which control the 'pleasure and reward' and the 'fight and flight' processes in the brain – increasing sensations of alertness, sedation, pleasure and so on [Slide 45].[1]

There are many types of neurotransmitters. Some common examples include: Acetylcholine, Catecholamine, Dopamine, Epinephrine, Gamma-aminobutyric acid (GABA), Glutamate, Histamine, Monoamines, Norepinephrine and Serotonin.

Psychoactive drugs usually work by [Slide 46]:

- inducing activity in the brain where there normally would not be any
- increasing or amplifying activity to levels above what would normally occur
- reducing normal activity to levels below what would normally occur
- or inhibiting normal activity in a particular part of the brain from occurring.

1. Play the YouTube video '**Your brain on drugs: Marijuana**'[2] (2 minutes 14 seconds), [Slide 47]. Encourage the participants to discuss the difference between this video and the previous 'Your brain on drugs' video shown in Session 10.4, with a focus on what makes good health promotion messaging.
2. Play the YouTube video '90s **This is your brain on drugs commercial – Extended cut**[3] (2 minutes 14 seconds), [Slide 48]. Compare and contrast with the previous video 'Brain on drugs 1980's'.
3. Present the information below with the corresponding slides [Slide 49].

Information to cover in this presentation:

How drugs do work in the brain [Slide 49]

Drugs do not 'fry', 'scramble the proteins of', 'drill holes in' or 'melt' your brain. If they did, it would cause massive physical trauma and the person would most likely die instantly. 'Most likely' because there have been some rare cases where people have had a hole in their brain through an accidental (such as a steel rod through the skull) or intentional wound (e.g. gunshot) and have survived but not without sustaining some brain damage and often becoming the subjects of long-term research by teams of neurologists.

The effects of drugs on the function of the brain occur through subtle changes in chemistry rather than gross physical changes. Drugs alter existing levels of neurotransmitters. Long-term or heavy use can therefore reduce the availability of those brain chemicals by, for example, temporarily exhausting the supply or reducing the brain's normal levels of production of those neurotransmitters.

Long-term heavy drug use can result in some physical changes in the brain – according to research some of these changes may be reversible and some may not be. It is like driving your car with your foot pressing the accelerator flat to the floor – you will quickly run out of fuel. For example, if there is too much of a neurotransmitter (or a drug that acts like a neurotransmitter) then the brain will 'tell' the neurons to reduce the normal production of that neurotransmitter. This is called a negative feedback loop. It can take a long time (sometimes weeks, months or even years) for the body to restore production to the levels as they were before the person started using the drug.

6. Conduct the activity 'Misunderstandings about brain scans [Slide 50].
   a. Explain that brain scans often used in debates about the effects of drug use. But what do they really show and how are they interpreted? Pictured here are 3 of the most common types of brain scans: CAT (computerised axial tomography), PET (positron emission tomography) and MRI (magnetic resonance imaging). These scans are of brains with no abnormalities.
   b. Slide 51 shows 2-4 brain scan images. Facilitate a discussion by asking the participants what they think they might each represent: i.e. Which ones indicate drug use, other kinds of brain disorders, and what the changes in each series of images might mean. After five minutes show the images with the labels uncovered. [Slide 52]
   c. Present the information below [Slide 53]

Information to cover in this presentation:

There are a variety of ways in which brain scans might lead to misunderstandings. For example, there have been stories circulating that various drugs (amphetamines, methamphetamines, ecstasy, and others) cause holes in people's brains since the MRI, CAT and PET scans became commercially available and widely used.

These stories are often based on a simple misunderstanding mixed with a lot of fear. The images from scans MRI of the brain show areas of low and high activity, and areas of higher and lower cerebral blood flow. Areas of low activity usually show up as darker than areas of higher activity, and may even show on the image as black. People who are not trained in reading these complex and subtle images sometime mistake the dark areas for 'holes'. They are not.

Low activity in some parts of the brain can indicate many different circumstances or brain 'events', not all of them pathological. Lower activity may occur because the person is tired; or lower activity, in some circumstances, may simply indicate relaxation, which can be a good and a healthy sign. Furthermore, low activity and changes in blood flow in the brain are occurring constantly, so they do not necessarily indicate permanent or even stable changes. In fact, the image may have a lot to do with the physical and mental state that the person was experiencing at the time they had the scan performed.

There is still much debate in neuroscience about what brain scans do or do not reveal. One such debate is about correlation versus cause [Slide 54]. That is, if a particular image shows up when a person is doing something or has done something (a cognitive task or taking a drug) then, for example:

- Was the image caused by that event?
- Was it pre-existing?
- Was it caused by an unrelated factor (like fear of being immobilised inside a small noisy metal machine that is firing x-rays into your brain)?
- Or was it caused by one or more other factors that just happened at the same time?
- In the last case, these factors are correlated but one did not cause the other.

There is plenty of evidence that illicit drugs can change the function of the brain but not that drugs drill holes in people's brains.[4]

1. Chiu, V. M., & Schenk, J. O. (2012), ‚Mechanism of action of methamphetamine within the catecholamine and serotonin areas of the central nervous system', *Current drug abuse reviews*, 5(3): 227-242
2. Disponible ici: https://www.youtube.com/watch?v=oeF6rFN9org
3. Disponible ici: https://www.youtube.com/watch?v=LQsQbuNWmnE
4. Racine, E., Bar-Ilan, O., & Illes, J. (2006), 'Brain imaging: A decade of coverage in the print media', *Science communication*, 28(1), 122-142. doi:10.1177/1075547006291990; Simon Oxenham (18 July 2016), 'Thousands of fMRI brain studies in doubt due to software flaws', *New Scientist*, https://www.newscientist.com/article/2097734-thousands-of-fmri-brain-studies-in-doubt-due-to-software-flaws/

MODULE 10

Session 10.7
Patterns or types of drug use

45 min

Aim – To understand the different patterns and types of drug use, especially drug dependence

1. Introduce the aim of the session (Slide 55).
2. Present the information below with corresponding slides [Slides 56 - 59].

Facilitators' note

Explain that this slide is only a staged model that can be used to describe the major types of drug consumption, but that drug use is a continuum with many variations and fine distinctions.

Information to cover in this presentation:

Different patterns of drug use [Slide 56]

When presenting the main patterns of drug use, it is important to explain that drug use should not be interpreted as an inevitable progression from one stage to the next. Most people will experiment with a drug or drugs at some point in their lives and never become a regular user:

- **Abstinence:** A person who has never taken illicit drugs (for personal, religious or health reasons) or someone who used to take drugs but has stopped and does not want to use them again.
- **Experimental:** Some people try a drug out of curiosity or because friends are using it. This may be once or for a short period of time.
- **Recreational:** Some people continue to use drugs occasionally and in specific circumstances but not others; e.g. when with a particular group of friends, at specific types of social events, or on certain weekends. But they would not consider using in other situations, for example, at work. For example, people often use cannabis or alcohol only when they are with a particular group of friends, in a social situation.
- **Instrumental:** some people take drugs to accomplish a task or goal. When they have achieved the goal, they stop and only take it again when they are in a similar situation. A common example is the use of amphetamines to stay alert when working long hours or night-shifts.
- **Dependence:** When a person has used a drug for a long time and/or has a pattern of frequent heavy use, their ability to control how, when and where they use can diminish. They may get cravings and experience withdrawal symptoms when they stop using.

Many people can, and do, change the pattern of their substance use from higher to lower frequency and intensity [Slide 57]. Furthermore, some people who have previously been dependent on a drug can become occasional users of that drug. This is a controversial topic among people who believe that the only way to address drug dependence is through life-long abstinence. The ability of some people to engage in occasional or recreational use of a drug following dependence is supported by a significant amount of research. Nevertheless, it is not usually something that a person with a long term heavy dependence could achieve in the short-term and

is more common after the person has had a period of abstinence, has ongoing professional or non-professional support and when the person has addressed some of the significant psycho-social factors which contributed to their dependence.

People also often have different intensities or patterns of use for different substances, e.g. a student might be dependent on cigarettes, use alcohol recreationally, experiment with ecstasy at a party, use amphetamines instrumentally - only to stay up all night to study for exams at the end of semester.

[Slide 58] As early as 1973, the WHO Expert Committee on Drug Dependence (ECDD) clarified the distinctions between experimental, recreational and dependent drug use (WHO, 1973). Since then a number of models have been developed which explain the different types or patterns of drug use. It is beyond the scope of this module to review them all, but it is worth mentioning the work of Erich Goode, a specialist in the sociology of deviance. Goode researched drug use by means of large scale surveys, in the USA and internationally. Goode agreed with the WHO proposal that people use drugs either experimentally, recreationally (socially) or dependently but he adds four additional distinctions:[1]

1. legal instrumental use: taking prescribed drugs and over the counter drugs to relieve or treat symptoms
2. legal recreational use: using legal drugs (tobacco, alcohol, caffeine) to achieve a certain mental state
3. illegal instrumental use: taking non-prescription drugs to accomplish a task or goal
4. illegal recreational use: taking illegal drugs for fun or pleasure to experience euphoria.

[Slide 59] Before moving on to the next activity, we will end with the example of instrumental methamphetamine use by youth at a Philippine port. Gideon Lasco's ethnographic study of economically vulnerable young male informants in a Philippine port found that they viewed methamphetamine as Pampagilas or a performance enhancer, which enabled them to take advantage of the limited opportunities offered by the informal economy of a Philippine port. They reported that methamphetamine enhanced them physically, enabling them to work long hours with little food or sleep; and enhanced them psychologically, stimulating 'good feelings' tied to economic performance, increasing confidence and reducing inhibitions and thus allowing them to work harder.

Facilitators' note

Encourage the participants to read the whole article published by Gideon Lasco as homework at the end of this presentation: Lasco, G. (2014), 'Pampagilas: Methamphetamine in the everyday economic lives of underclass male youths in a Philippine port', *International Journal of Drug Policy,* 25(4), 783-788. doi:10.1016/j.drugpo.2014.06.011

3. Explain that the type of drug use may sometimes be up for interpretation and depend on the specifics of the person's circumstances [Slide 60] (this activity will take about 20 minutes)
   a. Split the participants into groups of 6-7 and nominate a note taker and rapporteur. Ask them to create a case study of a fictitious person who uses a range of different drugs, but has a different type of use – experimentally, recreationally/socially, instrumentally, or regularly/dependently – for each drug (give them about 10 minutes).
   b. Back in plenary, ask each group to present their case study (allow 5 minutes per group).
   c. Conclude by presenting the information below [Slides 61-63]. Ask the participants if they have any further questions or comments.

Information to cover in this presentation:

Factors influencing drug use [Slide 61]

Decisions to initially try drugs involve multiple factors, including the availability of drugs, family and peer influences, and the environmental context. Once use has occurred, further factors contribute to the likelihood of developing dependence, including:

- Environmental factors (cues, conditioning, external stressors)
- Drug-induced factors (molecular neurobiological changes resulting in altered behaviours), and
- Genetic factors through traits such as response to drug use, personality, concurrent psychiatric disorders.

The use of many illicit drugs is through swallowing, smoking (heating and inhaling vapours), snorting, injecting or, more rarely, 'shafting' (anally) or 'shelving' (vaginally). Injecting is much less common than other methods of use, some drugs are seldom injected. For example, there is no recorded injection of cannabis, and ecstasy injection remains uncommon. With a few exceptions, cocaine is also rarely injected.[2] The most common injection method is intra-venous.

Different routes of administration for drug use [Slide 62]

Different routes of administration carry different risks of exposure to HIV and other blood-borne viruses, with the highest risk from injecting. The injection of any drug is inherently risky, especially when accompanied by sharing behaviours.[3] For example, amphetamine-type stimulants (ATS) can be administered via a number of routes, including swallowing, smoking, snorting, injecting, shafting and shelving. Most ATS use does not involve injection. However, ATS injection is still associated with harms and complications – although it is difficult to accurately quantify this. According to Colfax et al, people injecting ATS have to use more frequently, for instance, and are more likely to be dependent.[4]

Polydrug use [Slide 63]

Polydrug use is the use of two or more substances at the same time or one after the other. It is a common occurrence among people using drugs both recreationally and regularly in all regions. There are many forms of polydrug use. However, three main patterns are:

1. To increase or enhance the effect of one drug with another: this pattern is commonly seen among people using cannabis and cocaine, who may use the drug in combination with alcohol. Other common combinations are the use of heroin with benzodiazepines, alcohol or other opioids (methadone, oxycodone, etc.), or ATS with cocaine.
2. To offset the adverse or unpleasant effects of one drug with a different drug: for example, using benzodiazepines or alcohol to 'come down' from the effects of methamphetamine 'speed high'.
3. To gradually replace another drug due to changes in price, availability or popularity. Common examples are heroin being substituted with oxycodone or fentanyl. Or it may be tried as a method to reduce the use of the first drug e.g. gradually reducing heroin and supplementing with another opioid (such as codeine or methadone) or a tranquiliser such as a benzodiazepine, or gradually replacing crack with cannabis.

Sometimes polydrug use can occur simply because a person has lost track of what they have taken, or are intoxicated and forgot what they have taken and how much. It is important to understand polydrug use because it is generally unhelpful to profile people who use drugs as sole consumers of one specific drug.[5]

Taking more than one drug, sometimes multiple drugs, makes it much more difficult to predict the effects of the drug interactions on an individual. The major risk of polydrug use is that it can multiply the chances of adverse reactions, toxicity, overdose and death. The risks associated with polydrug use may be incurred whether use is experimental, recreational, instrumental or dependent.

1. Goode, E. (2006), 'The sociology of drug use'. In C. D. Bryant & D. L. Peck (Eds.), *21st Century Sociology* (Thousand Oaks, California: Sage Publications); Goode, E. (2012), *Drugs in American Society* (8th ed.) (New York: McGraw-Hill)
2. United Nations Office on Drugs and Crime (2012), *World Drug Report 2012*, p. 83
3. Fischer, A., Curruthers, S., Power, R., Allsop, S. & Degenhardt, L. (2013), *The link between amphetamine-type stimulant use and the transmission of HIV and other blood-borne viruses in the Southeast Asia region* (Vol. 25) (Canberra: Australian National Council on Drugs)
4. Colfax, G., Santos, G.-M., Chu, P., Vittinghoff, E., Pluddemann, A., Kumar, S., & Hart, C. (2010), 'Amphetamine-group substances and HIV', *The Lancet,* **376**(9739), 458-474
5. United Nations Office on Drugs and Crime (2014), *World Drug Report 2014*, p. 2

MODULE 10

Session 10.8
Understanding drug dependence

20 min

Aim – To understand drug dependence and examine what evidence tells us about it

1. Introduce the aim of this session [Slide 64].
2. Present the information below and corresponding slides [Slides 65-71]
3. Leave space for discussions and questions.

Facilitators' note

For more information on evidence-based drug dependence treatment, please refer to Module 6.

Information to cover in this presentation:

Drug dependence [Slide 65]

It is a common misunderstanding that if someone uses a drug then they are automatically dependent. On the contrary, an estimated 11% of people who use drugs develop drug dependence, therefore the great majority of people who use drugs (approximately 90%) DO NOT go on to develop drug dependence. This does not mean that their drug use is safe – as any use might be associated with some level of risk, even if it is occasional.

It is useful to understand the commonly accepted scientific definitions of drug dependence, whether participants are engaging in advocacy work, policy dialogue and negotiation, service provision, or monitoring and evaluation of policies or services. Using scientific terminology – or 'speaking the same language' – has obvious advantages when attempting to be clear and precise about identifying problems and crafting efficient and effective responses.

The way in which dependence develops is much the same for all drugs. Using daily, or almost every day, over a period of time leads to physical and psychological changes. Physically, the body adapts or 'gets used to' having a drug on a regular basis. Eventually the drug is needed to function 'normally' and more is needed to get the same effect. When this happens, stopping or cutting down is very difficult because a person will start 'hanging out' or withdrawing. The drug may then be taken to ease or stop the withdrawal symptoms occurring.

Drug dependence syndrome (ICD-10) [Slide 66]

This involves a cluster of physiological, behavioural, and cognitive characteristics. A key distinguishing feature of dependence is the strong (sometimes overpowering) desire to take drugs (which may or may not have been medically prescribed). However, a definite diagnosis of dependence can be made *only if three or more of the following have been present together* at some time during the previous year:[2]

- A strong desire or sense of compulsion to take the substance
- Difficulties in controlling drug-taking behaviour in terms of onset, termination,

Facilitators' note

'Addiction' is one of the oldest and most common term to describe the phenomenon of long-standing drug use. The term is increasingly being replaced by 'drug dependence'. In the 1960s, WHO recommended[1] that the term 'addiction' be abandoned in favour of 'dependence', which can exist in various degrees of severity as opposed to an 'all or nothing' disease entity. 'Addiction' nonetheless continues to be very widely employed by professionals, policy-makers and the public.

- A physiological withdrawal state when drug use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms
- Evidence of tolerance, with increased doses of the drug required to achieve effects originally produced by lower doses (clear examples of this are found in people dependent on alcohol and opiates, who may take daily doses sufficient to incapacitate or kill non-tolerant users)
- Progressive neglect of alternative pleasures or interests because of drug use, increased amount of time necessary to obtain or take the substance or to recover from its effects
- Persisting with drug use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy drug use, or drug-related impairment of cognitive functioning.

Different drugs, different rates of dependency [Slides 67-68]

[Slide 67] UNODC World Drug Reports from the past few years indicate that approximately 10-12% per cent of people who use drugs had become 'problem drug users' and/or had developed dependence. This has been supported by other research.[3] However, there is some variation in dependence rates associated with different drugs, frequency, amount and length of time a person has been using the drug, and the method of use. For example, injecting drugs is generally associated with higher rates of dependence than other methods such as oral ingestion.

[Slide 68] The percentage of people who use a particular drug and then go on to develop dependence varies according to the substance:[4]

- Tobacco: 32%
- Heroin: 23%
- Cocaine: 16%
- Alcohol: 15%
- Cannabis: 9%

Different methods of use, different rates of dependency: the example of crystal meth [Slide 69]

Other research found much higher rates of dependence among people who used methamphetamine when they had used it in crystal form, administered it via injecting or smoking, and had been using it more than 5 years. Participants who used crystal meth were much more likely to be dependent on methamphetamine than participants who took other forms of methamphetamine (61% versus 39%). The researchers also found double the rates of dependence among those who injected (67%) or smoked (58%) compared with those who took it intranasally ('snorted') or orally (30%). Those who had been using more than 5 years had nearly double the rate of dependence than those who had used for less than 5 years (61% versus 36%).[5]

Recovery from problematic or dependent drug use [Slides 70-71]

[Slide 70] People with drug-related problems often have diverse goals, for example, they may want to continue using but minimise health risks by reducing the quantity or frequency of their use of one or more drugs, or they may want to stop using one or more drugs. For this reason, they may need different services or support to achieve these goals. These services might include harm reduction services, brief psychosocial support such as counselling, pharmacotherapy, withdrawal management, sustained recovery management services, and so on.

Drug treatment research usually examines two major recovery outcomes:

1. Abstinent recovery: the person stops taking the drug they are dependent on
2. Non-abstinent recovery: the person continues using but reduce the frequency and/or amount of the drug they have been dependent on so that they no longer meet the criteria for a diagnosis of dependence.

Total abstinence from drugs is therefore not the only valid treatment outcome for people who use drugs; it is only one potential treatment goal. Different people will have different patterns of use, different levels and types of risk, and different goals, therefore there is no 'one-size-fits-all' treatment or support service which will suit everyone.

[Slide 71] This also allows us to examine and refute some of the foremost prevailing misunderstandings about drug use and drug dependency which are often promoted by opponents of drug policy reform:

- 'Once a person has used drugs, they cannot stop'
- 'Once someone has developed a drug use disorder their only chance for recovery is to never use that (or any other potentially habit-forming drugs) again for the rest of their life'.

These ideas may be true for some people and in some situations, but the research simply does not support this as being true for most people. Most people will recover from problematic or dependent drug use with, or without, treatment – recovery is not only possible, it is the norm.[6] This is not to deny that many people do need treatment. Evidence-informed, human rights-oriented, community-based treatment and care, for example, reduces drug-related harms, improves recovery outcomes and reduces the duration of dependence. This will be further covered in **Module 6: Effective drug prevention and treatment**.

Women dependent on drugs [Slide 72]

Women tend to experience worse physical, mental, and social consequences of drug use than males, which may lead to an increased motivation to stop using drugs and help explain women's higher rates of remission. Feelings of guilt and concerns regarding the effects of using drugs during pregnancy and child-rearing can lead to decrease drug use among women.[7] However, women may also face higher rates of stigma and discrimination in accessing drug dependence treatment. In addition, treatment services may not be tailored to their specific needs (for example, provide space for childcare, provide sexual and reproductive health information and care, etc.).

1. WHO. (1994). Lexicon of Alcohol and Drug Terms. Geneva: World Health Organization. 8
2. http://apps.who.int/iris/bitstream/10665/39461/1/9241544686_eng.pdf
3. ICD is the foundation for the identification of health trends and statistics globally, and the international standard for reporting diseases and health conditions. It is the diagnostic classification standard for all clinical and research purposes. It is used for monitoring of the incidence and prevalence of diseases, observing reimbursements and resource allocation trends, and keeping track of safety and quality guidelines. It is also used for statistics on deaths, diseases, injuries, symptoms, and other factors that influence health status: http://www.who.int/substance_abuse/terminology/ICD10ClinicalDiagnosis.pdf
4. McKetin, R., Kelly, E., & McLaren, J. (2005), *Health service utilisation among regular methamphetamine users* (Vol. NDARC T233) (Sydney: National Drug and Alcohol Research Centre)
5. Anthony, J. C., Warner, L. A., & Kessler, R. C. (1994), 'Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the national comorbidity survey', *Experimental and Clinical Psycho pharmacology,* **2**(3), 244-268
6. McKetin, R., Kelly, E., & McLaren, J. (2006). The relationship between crystalline methamphetamine use and methamphetamine dependence. *Drug and Alcohol Dependence, 85*(3), 198-204. doi:http://dx.doi.org/10.1016/j.drugalcdep.2006.04.007

7. Price, R. K., Risk, N. K., & Spitznagel, E. L. (2001), 'Remission from drug abuse over a 25-year period: Patterns of remission and treatment use', *American Journal of Public Health*, **91**(7), 1107; Also see this study about US military personnel involved in the Vietnam war and the drops in heroin use after their departure from Vietnam: Robins, L. N., Davis, D. H., & Goodwin, D. W. (1974), 'Drug use by US army enlisted men in Vietnam: A follow-upon their return home', *American Journal of Epidemiology*, **99**(4), 235-249
8. Lopez-Quintero, C., Hasin, D. S., de los Cobos, J. P., Pines, A., Wang, S., Grant, B. F., & Blanco, C. (2011), 'Probability and predictors of remission from lifetime nicotine, alcohol, cannabis, or cocaine dependence: Results from the National Epidemiologic Survey on Alcohol and Related Conditions', *Addiction (Abingdon, England),* **106**(3), 657-669. doi:10.1111/j.1360-0443.2010.03194.x

MODULE 10

Session 10.9
The risks and harms associated

50 min

Aim – To understand the varying types and degrees of harm caused by drug use

1. Introduce the aim of the session [Slide 73].
2. Present the information below with corresponding slides [Slides 74-77]. Distribute the handout: 'The harms associated with different drugs'. Leave time for questions and comments.

Information to cover in this presentation:

Different types and degrees of risks and harms [Slides 74-76]

[Slide 74] Not everyone will experience similar types or degrees of risk. It will depend on the drug, the person and circumstances. Usually the longer someone has used a drug and the higher the dosage the greater the risk. In rare circumstances, a susceptible individual may suffer serious health consequences from a single dose. This is exceptional and there are typically unusual circumstances involved, such as high quantity or poor quality (e.g. contamination) of the drug taken, issues to do with the person's age or physical and mental state prior to taking the drug, as well as the specific circumstances or environment the person was in at the time they took the drug.

[Slide 75] According to the 2010 WHO Atlas on substance use, 'Those who use drugs once or twice have, at most, a very small increase in morbidity and mortality, with the concentration of harms occurring among those who use drugs regularly'.[1]

[Slide 76] To provide some perspective and a more complete picture, it is worth comparing the levels and extent of such harm with other legally sanctioned drug use. This can then better inform policy, funding and service provision. This slide shows a comparison of harms related to drug use (licit and illicit), and was published in the prestigious scientific journal, The Lancet.[2] It rates the most commonly used drugs in order of the harm to which they contribute in England and Wales.

As a result of the publication of this research, the lead author, Professor David Nutt, was forced to resign from his role as chairman of the UK Advisory Council on the Misuse of Drugs in 2009. The forced resignation was not due to misconduct or fraud in the study but because of the political ramifications of the findings published which were contrary to the UK government's long-established drug classification system.[3]

As participants can see from the slide, the most harmful substance – by far – is alcohol. The WHO came with the same conclusion: 'Globally, 35 deaths per

Facilitators' note

There is not sufficient scope within this course to cover every possible drug-related harm, nor is that necessary. This session primarily aims to understand how to apply a bio-psycho-social approach in determining possible negative consequences of drug use; and to stimulate discussions. The facilitator should therefore encourage the participants to share their own research and experience on the topic. Since some of the items listed may occur in some circumstances and not others, it may be a useful starting point for discussion to ask if anybody disagrees or would like to add caveats or context to some of the examples.

100,000 population are attributable to alcohol and 4 are attributable to illicit drug use'.[4]

Next on the list comes heroin. According to the latest UNODC data, 70% of the global burden of disease attributable to illicit drug use was attributable to opioids. There were at least 190,000 mostly preventable drug-related deaths in 2015. Between one third to one half of deaths were due to overdoses. Mainly for this reason, opioids remain the most harmful drug type in health terms. Other causes include: HIV/AIDS, hepatitis C, medical conditions resulting from injecting, high-risk behaviours during intoxication such as intentional self-harm and unintentional deaths and trauma (e.g. driving and other accidents).

The cycle of drug use and associated harms [Slide 77]

This figure offers another way of determining the problems or harms that could possibly occur from different stages of drug use:

This figure was created as a continuing cycle because many people who are dependent on a drug describe how their lives become a continual cycle of these stages of drug use to the exclusion of many other personal and social interests or responsibilities. In this model, people who engage in 'binge patterns' of use are more likely to suffer from the hangover (or come down) effects than withdrawal; whereas dependent users are more likely to suffer from the effects of withdrawal than the hangover (or come down). A 'binge' pattern of use is a relatively high-risk pattern of use involving large amounts or heavy use over a short period (e.g. using a lot of a drug over a weekend, but no daily or dependent drug use).

3. Conduct the activity 'The cycle of drug use and related harms' [Slide 78]
    a. Split the participants in groups of 4-6 people and ask them to nominate a note taker/rapporteur. Ask each group to select a drug (or the facilitator may allocate one drug for each group).
    b. Ask the participants to discuss and list either a biological, psychological or social harm related to each stage in the 'Cycle of drug use'. Ask them to note those on a flipchart.
    c. Back in plenary, as each group to present their work to all the participants. Allow time for questions and comments.
    d. Present the information below – linking back to the findings of the groups.

Information to cover in this presentation:

Biological harms

› **Harms associated with specific drugs** [Slide 79]

Risks and harms differ depending on the substance being used – and note again that the use of these substances will not automatically result in harm, a number of factors are associated with risks and harms. For example:

- **Meth/amphetamine use** can lead to dehydration, weight loss, dermatological problems, dental problems, and sleep disorders. It can affect the cardiovascular system and lead to rapid heart rate, arrhythmias or, in severe cases, even heart attack. Use is also associated with high risk behaviours which can lead to HIV infection and transmission.
- **Opioid use** can cause abdominal pain, acid reflux, and constipation. Opioids present the highest risk from death by overdose, and the highest occurrence of injecting, and as result for HIV and HCV infection.
- **Smoking drugs such as tobacco or cannabis, or inhaling ('snorting') heroin or cocaine** can lead to bronchitis, emphysema, and lung cancer with heavy and/or longer-term use.

› **Harms associated with drug use during pregnancy**

The use of some drugs during pregnancy can result in miscarriage, premature birth, low birth weight, and behavioral and cognitive problems in the child. Heroin use, for example, can result in the baby being born dependent on the drug if the mother uses it regularly.

› **Harms associated with drug injection** [Slide 80]

The risks of drug injection include:

- Higher risks of overdoses and dependency
- Collapsed veins
- Bacterial infections of the blood vessels and heart valves
- Transmission of HIV: according to UNODC, one in eight people who inject drugs are living with HIV – which equates to 1.55 million people who inject drugs living with HIV worldwide[5]
- Transmission of hepatitis C: Hepatitis C is responsible for a large part of the mortality and morbidity among people who inject drugs. The number of deaths from hepatitis C among people who inject drugs is 3.5 higher than for HIV. More than 51% of people who use drugs – about 6.1 million – are infected with hepatitis C[6]
- Transmission of other blood-borne infections

Just as important as understanding this substantial risk is the appreciation that it is readily preventable with cost-effective harm reduction services.

› **The risk of overdose** [Slides 81-83]

[Slide 81] An overdose can occur by any method of drug use but is much more likely to occur via injection and most recorded fatal overdoses are from injecting opioids. An overdose occurs when any drug is used in a large enough amount and in a short enough period and is related to many factors, including:

- the potency, quality and quantity of the drug,
- the size and physical health of the individual,
- their tolerance to the drug,
- whether they have taken any other drugs,
- the circumstances or environment in which they took the drug.

Facilitators' note

More information on responses to reduce drug-related harms can be found in Module 3: Harm reduction advocacy, and Module 6: Effective drug prevention and treatment. These include information and education, brief counselling interventions, social support, testing, vaccination, medical attention, the distribution of clean needles, substitution therapy, etc. These will therefore not be discussed here. However, the facilitator can encourage the participants to give some thought to possible ways to reduce the harms mentioned in this session.

[Slide 82] The risk factors associated with overdoses include:

- A sudden change in the availability and purity of the drugs (e.g. when there is a change in supplier)
- A reduction in a person's tolerance to the drug. This is often due to a recent period of abstinence, for example following treatment, incarceration or if the person decided to stop/reduce their use
- Taking other drugs that alter or increase the effects of the drug (e.g. alcohol and/or tranquillisers with heroin)
- Injecting is a high risk although overdose can occur by taking drugs via smoking or orally.
- A change in the persons health e.g. from an illness or if they have developed a kidney or liver impairment

[Slide 83] Non-fatal overdoses contribute to illness and injury, by causing:

- pulmonary oedema (fluid on the lungs)
- pneumonia
- cardiac arrhythmia (irregular heartbeat)
- and cerebral hypoxia (not enough oxygen in the brain)

These conditions may result in hospitalization, brain damage or disabilities. An overdose may be accidental or deliberate.[8] An overdose can be prevented, or reversed when it occurs.

Play the Youtube video: "**Just stop. Just close. Overdose! UNODC South Asia**" (15 minutes 1 second) and briefly discuss it with participants.

Facilitators' note

For more information on opioid overdoses, see: Drug Policy Alliance (June 2015), Opioid Overdose: Addressing the Growing Problem of Preventable Deaths

Psychological harms

› **Cannabis** [Slide 84]

Using cannabis before the age of 15 increases a person's risk of becoming dependent. In turn, heavy cannabis use appears to increase the risk of psychosis and mood disorders in vulnerable individuals.

However, the common stereotype of the 'marijuana user as a social drop-out lacking motivation' is not supported by the evidence. There is contention in the research about whether smoking cannabis affects motivation. Some research shows that some chronic people dependent on cannabis have reduced motivation, while other research, from as early as 1970s to more recently, have consistently found no reduction in motivation in either light or heavy users.[9] Furthermore, some of the same research indicates that reduced motivation found in some cannabis users was a symptom of depression, which predated the person's cannabis use.[10]

In addition, there is a long list of high-functioning public figures performing at in the top of their field who have all publicly acknowledged having used cannabis, including:

- EU, UK and US politicians (including Presidents Bill Clinton, George W. Bush, and Barack Obama)
- at least four billionaires (Martha Stewart, Michael Bloomberg, George Soros, and Bill Gates),
- many elite athletes
- and numerous celebrity writers, actors, and musicians.

The evidence clearly does not support the image of people who use cannabis inevitably becoming unwilling or unable to enjoy being gainfully engaged in the world. There is, however, evidence that some heavy and/or regular cannabis

users who have a pre-existing mental health disorder may experience worse symptoms and poorer outcomes with their mental health condition (Castle & Cole, 2008).

› **Amphetamine-type stimulants** [Slide 85]

There is plenty of evidence to indicate that, in some people, meth/amphetamine use can lead to an increase occurrence of mental health disorders, including depression, anxiety or psychosis, and that it can also exacerbate the symptoms of existing mental health conditions. This is more likely to occur with heavy and/or long-term use, the use of the crystal form of methamphetamine, and with a method of administration which maximises bioavailability (i.e. injecting or smoking).[11]

Several studies establish a correlation between ATS use and mental health disorders.[12] However, they cannot state with certainty that the meth/amphetamine use was the cause of the mental health disorders – i.e. a causal relationship. Indeed, these studies were not able to establish, for example, how many of the people under study had mental health disorders that preceded their meth/amphetamine use; or what other factors (in addition to the meth/amphetamine use) contributed to the mental illness and how much each factor may have contributed. Nevertheless, these studies do provide strong enough evidence to be cautious and recommend an assessment of meth/amphetamine use in clients seeking help for mental health issues, as well as screenings for mental illness in clients seeking help for meth/amphetamine use.

Social harms [Slide 86]

Social harms may include:

- **Loss of tangibles:** e.g., income, housing, job, educational achievements, criminal record, loss of freedom due to imprisonment
- **Loss of relationships:** loss of important relationships with family and friends
- **Injury:** the use of a drug may increase the chance of injuries to others both directly and indirectly, for example: violence (including domestic violence), traffic accident, foetal harm, drug waste, secondary transmission of blood-borne viruses
- **Crime:** the use of a drug may involve or lead to an increase in volume of acquisitive crime (e.g. theft, burglary or sex work) directly or indirectly (increase in trafficking or dealing in a community)
- **Environmental damage:** the use and production of a drug may cause environmental damage locally, e.g., toxic waste from amphetamine factories, discarded needles
- **Family Adversities:** the use of a drug causes family adversities – e.g., family breakdown, economic wellbeing, emotional wellbeing, poor future prospects for children, child neglect
- **Community:** the use of a drug may lead to a decline in social cohesion
- **Economic cost:** the use of a drug may cause direct costs to the country (e.g. health care and social services) and indirect costs (e.g. loss of productivity, increased criminality)

1. World Health Organization. (2010), Atlas on substance use (2010): Resources for the prevention and treatment of substance use disorders
2. Nutt, D., King, L.A & Phillips, L.D. (November 2010), 'Drug harms in the UK: A multicriteria decision analysis', *The Lancet*, **376**(9752): 1558-1565, http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61462-6/abstract

3. For more information, see: https://www.theguardian.com/science/2009/nov/02/david-nutt-dangerous-drug-list and https://www.economist.com/blogs/dailychart/2010/11/drugs_cause_most_harm
4. World Health Organization. (2010), Atlas on substance use (2010): Resources for the prevention and treatment of substance use disorders, p. 12
5. United Nations Office on Drugs and Crime (2017), *World Drug Report 2017*, p. 19
6. United Nations Office on Drugs and Crime (2017), *World Drug Report 2017*, p. 19
7. Coffin, P., Tracy, M., Bucciarelli, A., Ompad, D., Vlahov, D., & Galea, S. (2007), 'Identifying injection drug users at risk of nonfatal overdose'. *Academic Emergency Medicine,* **14**(7), 616-623, doi:10.1197/j.aem.2007.04.005; Darke, S., Ross, J., & Hall, W. (1996), 'Overdose among heroin users in Sydney, Australia: I. Prevalence and correlates of non-fatal overdose', *Addiction*, **91**(3), 405-411, doi:10.1046/j.1360-0443.1996.9134059.x; Darke, S., Ross, J., & Hall, W. (1996), 'Overdose among heroin users in Sydney, Australia: II'; Powis, B., Strang, J., Griffiths, P., Taylor, C., Williamson, S., Fountain, J., & Gossop, M. (1999), 'Self-reported overdose among injecting drug users in London: Extent and nature of the problem', *Addiction*, **94**(4), 471-478. doi:10.1046/j.1360-0443.1999.9444712.x; Warner-Smith, M., Darke, S., & Day, C. A. (2002), 'Morbidity associated with non-fatal heroin overdose', *Addiction*, **97**(8)
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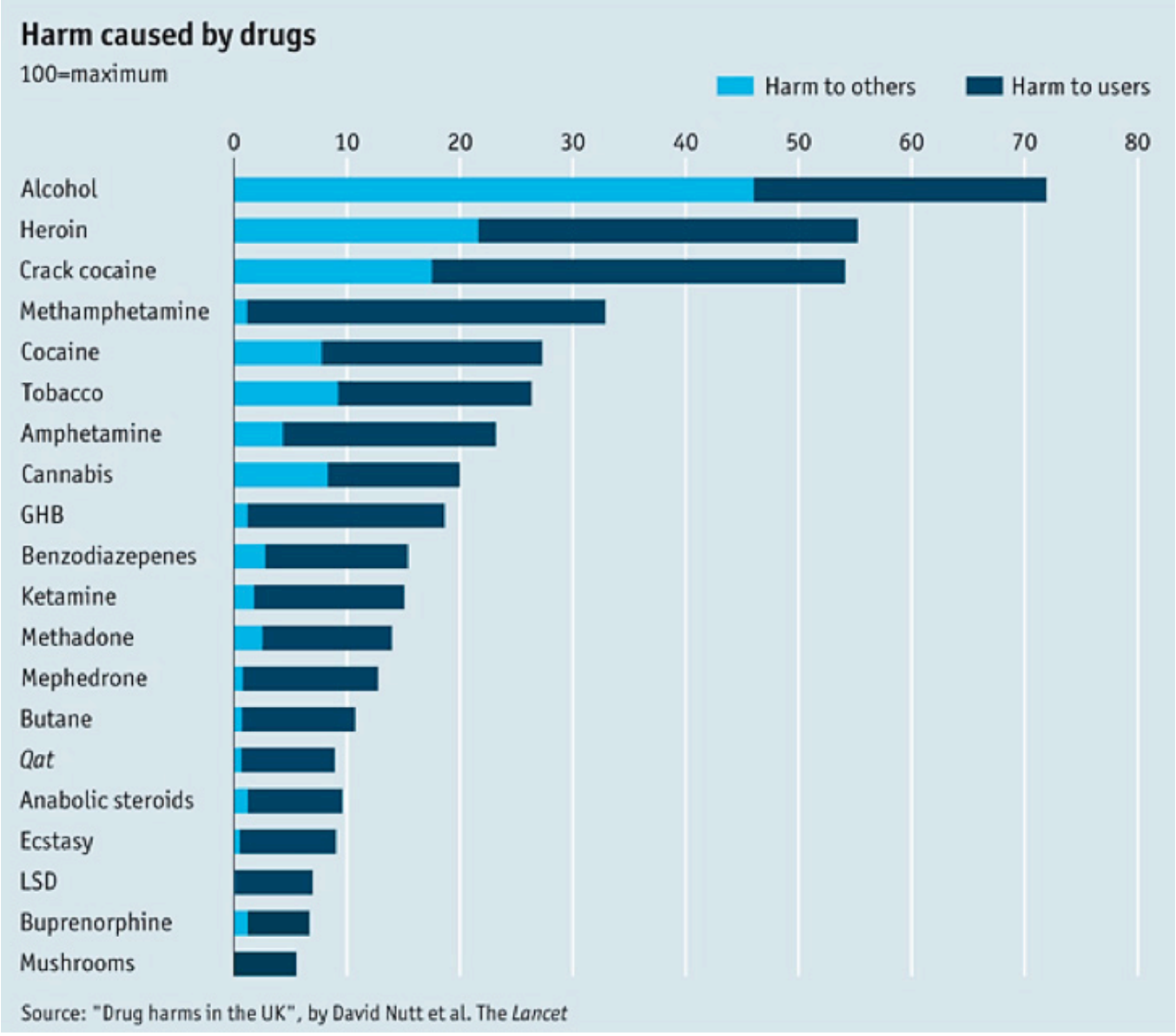
9. Kupfer, D. J., Detre, T., Koral, J., & Fajans, P. (1973), 'A Comment on the "Amotivational Syndrome" in Marijuana Smokers. American Journal of Psychiatry', **130**(12): 1319-1322, doi:10.1176/ajp.130.12.1319; Musty, R. E., & Kaback, L. (1995), 'Relationships between motivation and depression in chronic marijuana users', *Life sciences,* **56**(23): 2151-2158, doi:http://dx.doi.org/10.1016/0024-3205(95)00202-H
10. Baberg, H., Nelesen, R., & Dimsdale, J. (1996), 'Amphetamine use: Return of an old scourge in a consultation psychiatry setting', *American Journal of Psychiatry*, **153**(6): 789-793; McKetin, R., McLaren, J., Lubman, D. I., & Hides, L. (2006), 'The prevalence of psychotic symptoms among methamphetamine users', *Addiction*, **101**(10): 1473-1478
11. Lee, N., Jenner, L., Connelly, K., Cameron, J., & Denham, A. (2008), Treatment approaches for users of methamphetamine: A practical guide for frontline workers, http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/8D2E281FAC2346BBCA25764D007D2D3A/$File/tremeth.pdf; Blickman, T. (2011), *Amphetamine type stimulants and harm reduction; Experiences from Myanmar, Thailand and Southern China* (Amsterdam: Transnational Institute)
12. Nutt, D., King, L.A & Phillips, L.D. (November 2010), 'Drug harms in the UK: A multicriteria decision analysis', *The Lancet*, **376**(9752): 1558-1565, http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61462-6/abstract

Handout: The harms associated with different drugs



MODULE 10

Handout: Key references on drug use and the impact of drug policies

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- UNAIDS (2016), Prevention gap report, http://www.unaids.org/en/resources/documents/2016/prevention-gap
- UNAIDS (2016), Do no harm – Health, human rights and people who use drugs, www.unaids.org/sites/default/files/media_asset/donoharm_en.pdf
- Global Commission on Drug Policy (2018), The world drug perception problem – Countering prejudices about people who use drugs, http://www.globalcommissionondrugs.org/reports/changing-perceptions/