

## HARM REDUCTION DIGEST—44

# A resounding success or a disastrous failure: Re-examining the interpretation of evidence on the Portuguese decriminalisation of illicit drugs

CAITLIN ELIZABETH HUGHES<sup>1</sup> & ALEX STEVENS<sup>2</sup>

<sup>1</sup>Drug Policy Modelling Program, National Drug and Alcohol Research Centre, The University of New South Wales, Sydney, Australia, and <sup>2</sup>School of Social Policy, Sociology and Social Research, University of Kent, Chatham Maritime, Medway, UK

*In this Harm Reduction Digest two observers and scholars of the 2001 Portuguese drug policy reform consider divergent accounts of the reform which viewed it as a ‘resounding success’ or a ‘disastrous failure’. Acknowledging from their own experience the inherent difficulties in studying drug law reform, Caitlin Hughes and Alex Stevens take the central competing claims of the protagonists and consider them against the available data. They remind us of the way all sides of the drug policy debates call upon and alternatively use or misuse ‘evidence’ to feed into discussions of the worth, efficacy and desirability of different illicit drug policies. In doing so they provide pause for thought for those of us who operate as drug policy researchers and drug policy advocates.*

SIMON LENTON

Co-editor, Harm Reduction Digest

### Introduction

In July 2001 as part of a comprehensive new policy Portugal decriminalised use, acquisition and possession of all illicit drugs when conducted for personal use. Sales of all illicit drugs remained as criminal offences. Ten years on, the reform has attracted considerable international attention. It has also been the subject of a number of divergent accounts on its impacts, with some commentators offering diametrically opposed policy conclusions from their evidence-informed analyses. Consequently, this is a policy choice that has been deemed both a ‘disastrous failure’ [1] and a ‘resounding success’ [2]. As two of the participants in this debate we know that drug law reform is invariably difficult to study, and involves sifting through multiple versions of evidence, but the divergences, contested debates and assertions of ‘deceit’, ‘misinformation’ and ‘manipulation’ (see e.g. [1,3–5]) have given rise to a clear example of ‘duelling certitudes’ [6] which is both frustrating and instructive. In an era where evidence, defined here as the body of putatively valid and reliable knowledge

about drug use and related harms, is often implied to be *the* tested, trustworthy tool for generating policies ‘devoid of dogma’ [7], this case study provides a much needed opportunity to examine the way *all* sides of the drug policy debate can call upon and alternatively use or misuse evidence to feed into discussions of the worth, efficacy and desirability of different illicit drug policies.

In this paper we aim:

- To outline the two most divergent accounts on the Portuguese reform: the ‘disastrous failure’ and the ‘resounding success’.
- To compare and contrast how they have dealt with the three most contested claims surrounding the reform.
- To demonstrate (by re-contextualising the accounts against the available evidence) how evidence has been used and misused and correct misinformation.
- To discuss the implications of this case study for the generation of evidence-based drug policy.

Caitlin Elizabeth Hughes BA (Hons), BSc, PhD, Research Fellow, Alex Stevens BA (Hons), MA, PhD, Professor in Criminal Justice. Correspondence to Dr Caitlin Elizabeth Hughes, Drug Policy Modelling Program, National Drug and Alcohol Research Centre, The University New South Wales, Sydney, NSW 2052, Australia. Tel: +61 2 9385 0132; Fax: +61 2 9385 0222; E-mail: caitlin.hughes@unsw.edu.au

Anyone familiar with the Portuguese decriminalisation would be aware that this is a reform for which there are numerous contested claims: such as that this reform has both reduced [2,8] and increased HIV [1], and increased [1] and reduced [8] the burden on the Portuguese prison system. Three claims have received much greater notoriety and warrant particular scrutiny in this article: impacts on the prevalence and pattern of illicit drug use; the number of deaths that can be attributed to drug use; and the Portuguese drug situation, relative to the rest of Europe.

### The Portuguese reform: The evidence base

While the Portuguese decriminalisation took place in 2001, to date there have been only two internal and one external evaluations conducted. All were carried out as part of broader drug strategy examinations and have had little to say about the legislative reform [9–11]. This is not to say there is no evidence base on the reform. For example, annual reports, in both Portuguese and English, continue to be released every year and outline the latest knowledge on the drug situation (for the most recent see [12,13]). Moreover, many data gaps that existed at the time of reform have been filled, because of new studies and improved methodologies. Yet the high-level interest and absence of specific evaluations by the Portuguese government has contributed to the somewhat unusual situation where accounts of the reform have been published by various and predominantly external stakeholders, including the RAND institute [14,15], and the Beckley Foundation, which was authored by ourselves [16]. The two most prominent and divergent accounts, which form the basis for analysis in this article, have been published by the Cato Institute (a US libertarian think tank) [2] and the Associação para uma Portugal Livre de Drogas (APLD—Association for a Drug Free Portugal) [1]. More recent outputs include a short commissioned piece by Portuguese harm reduction officials [17,18] and our own peer-reviewed account [8]. Table 1 provides a time line of these and other key commentaries on the reform.

### The Cato report and the APLD report

The Cato report was written by a constitutional lawyer Glenn Greenwald [2] following a 3 week visit to Portugal to conduct interviews with stakeholders (the number and nature of interviews have not been publicly specified) and entitled ‘Drug decriminalization in Portugal: Lessons for creating fair and successful drug policies’. The report’s most widely publicised conclusion was that: ‘the data show that, judged by virtually every metric, the Portuguese decriminalization framework has been a resounding success’ and that it was a

**Table 1.** Time line of key events regarding discussion of the Portuguese reform

Date	Event
November 2000	Lei n.º 30/2000, de 29 de Novembro adopted
1 July 2001	Decriminalisation occurred
February 2002	RAND report released—‘Guidelines for implementing and evaluating the Portuguese drug policy’
December 2004	National evaluations by INA and IDT released—‘Avaliação da Estratégia Nacional da Luta Contra a Droga 1999–2003’
December 2007	Beckley Foundation report released—‘The effects of decriminalization of drug use in Portugal’
2 April 2009	Launch of Cato report—‘Drug decriminalization in Portugal: lessons for creating fair and successful drug policies’
7–27 April 2009	Widespread media coverage of Cato report—including <i>Time Magazine</i> , <i>Scientific American</i> , <i>The Moderate Voice</i> and <i>The Economist</i>
May 2009	2009 World Drug Report released and claimed Portuguese reform appeared to be working
September 2009	First Pinto piece in Portuguese blog—‘Descriminalização das drogas em Portugal—O retrato factual’
February 2010	First English piece by Pinto published on World Federation Against Drugs (WFAD) website—‘Decriminalization of drugs in Portugal—the real facts!’
July 2010	<i>British Journal of Criminology</i> article by Hughes and Stevens published—‘What can we learn from the Portuguese decriminalization of illicit drugs?’
August 2010	Pinto main report published on WFAD website—‘The “resounding success” of Portuguese drug policy: the power of an attractive fallacy’
September 2010	<i>British Medical Journal</i> commissioned piece published—‘Drug decriminalisation in Portugal’

IDT, Instituto da Droga e da Toxicodependência (Institute for Drugs and Drug Addiction); INA, Instituto Nacional de Administração (National Institute for Public Administration).

model with ‘self-evident lessons that should guide drug policy debates around the world’ [2]. The launch of the Cato report generated substantial (and supportive) media attention, including coverage by *Time Magazine* [19], the *Economist* [20], *Scientific American* [21] and the *Moderate Voice* [22].

The APLD report was written by Dr Manuel Pinto Coehlo, a Portuguese abstinence-based drug treatment provider and Chair of APLD. Pinto’s main report was

titled ‘The “resounding success” of Portuguese drug policy: The power of an attractive fallacy’ [1]. Other outputs, essentially smaller versions of this main report, have included: ‘Decriminalization of drugs in Portugal—The real facts!’ [23], ‘Britain should not make the same mistakes as Portugal’ [24] and ‘Best Portugal advice to the world: Don’t follow us’ [25], all of which came to the damning conclusion that the reform was a ‘disastrous’ failure [1] that ‘should not be followed by anyone’ [26]. The reports received less immediate attention, but have been widely disseminated by drug-free proponents, including World Federation Against Drugs (WFAD), Europe Against Drugs (EURAD), Drug Free Australia and Drug Free America in international blogs (see e.g. [5]) and media (see e.g. [27]). Consequently, as one critic noted these arguments now ‘lurk in almost every corner of the internet’ where the Portuguese law reform is discussed [3]. Here we compare and contrast their accounts of the three most contested claims.

## Drug use

### *The ‘resounding success’*

According to Greenwald [2], ‘none of the nightmare scenarios touted by predecriminalization opponents—(including) rampant increases in drug usage . . . occurred’. Instead drug usage ‘declined in many key categories’. Evidence put forward was that among both students in the 7–9th and the 10–12th grades, there were reductions, between 2001 and 2006, in lifetime prevalence for ‘virtually every substance’. For example, figures demonstrated that lifetime cannabis use decreased from 10.4% to 6.6% among 7–9th grade (a 36% reduction) and from 25.6% to 18.7% among 10–12th grade students (a 27% reduction).

For older groups Greenwald noted that there was a ‘slight to mild’ increase in lifetime drug usage between 2001 and 2007, but argued that due to cohort effects ‘increases in lifetime prevalence rates amongst the general population is inevitable in most nations, regardless of drug policy and regardless of whether there is an actual increase in drug usage’ [2]. Greenwald emphasised that the most dramatic trend was a reduction among those who were most likely to take up illicit drugs (those aged 15–19). He thus concluded that the reform had elicited ‘no adverse effects on drug usage rates’ [2].

### *The ‘disastrous failure’*

According to Pinto, there were no reductions in drug use. Instead, drug use increased substantially post-reform. Evidence highlighted included that among school students there was ‘an increase in every drug

category from 1998 to 2002, with cannabis skyrocketing the charts with its 150% raise’ [1]. He noted a slight decrease to 2006 (for all drugs excepting heroin) but to levels that remained much higher than pre-reform.

Moreover, Pinto concluded that there were ‘large’ and not ‘slight to mild’ increases in lifetime prevalence. Evidence put forward was a 50% increase for the 20–24 year age group between 2001 and 2007 [1]. He also noted that when looking at lifetime prevalence among the general population (aged 15–64) ‘there wasn’t a single drug category, not one, that has decreased since 2001’.

### *Accounts compared to the available evidence*

Examining trends in drug use among school students, there is evidence to support both Pinto’s claimed increase and Greenwald’s claimed decrease. The problem is threefold: first, four datasets have evolved for collecting information on drug use among school students in Portugal (see Table 2 for an overview of each dataset), but Greenwald used only Inquérito Nacional em Meio Escolar (INME) data and Pinto only Health Behaviour in School-aged Children (HSBC) data. Each thus afforded a different, but partial picture.

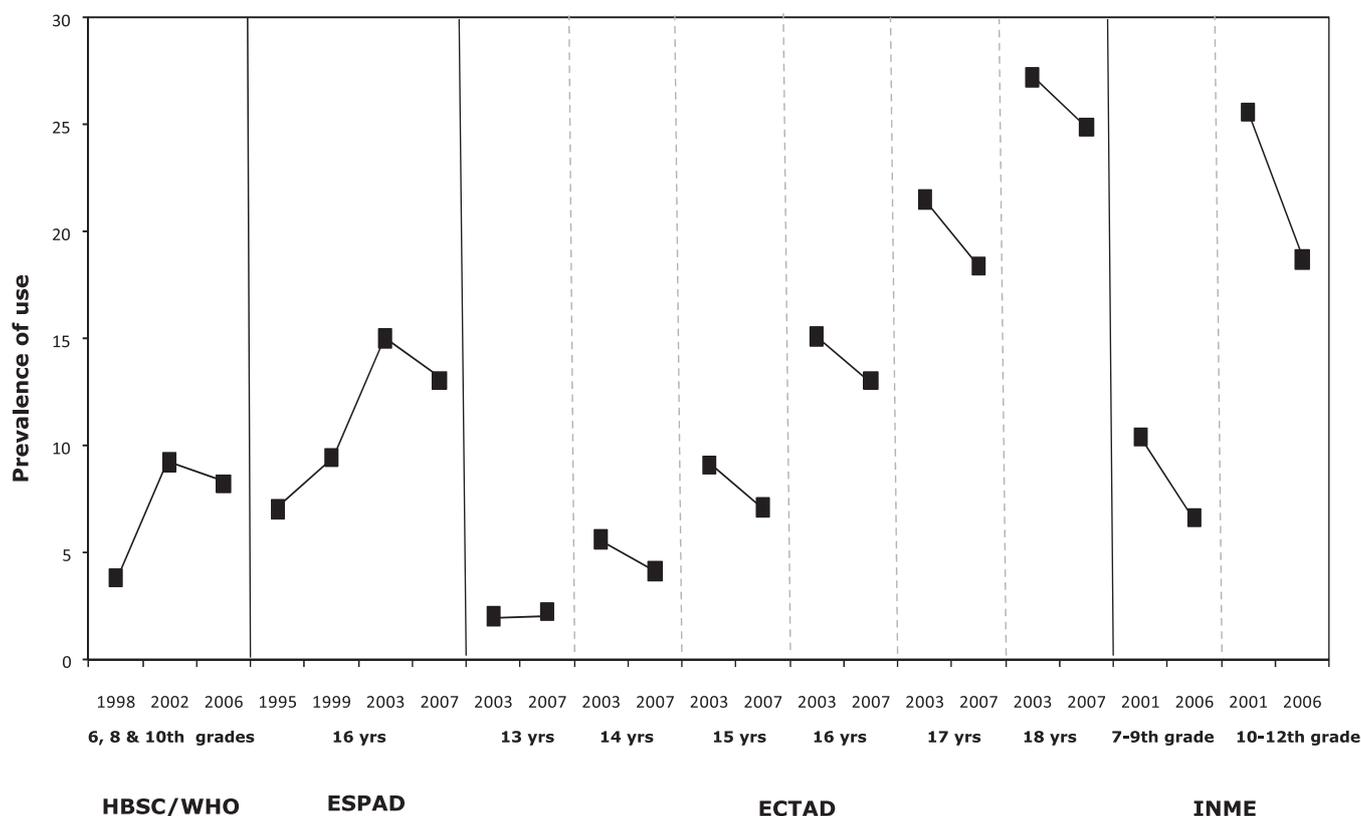
Second, the adopted datasets represented extreme interpretations of lifetime drug use trends among Portuguese school students, both at the time of reform and post-reform. This is exemplified in Figure 1, outlining trends for lifetime use of cannabis (the drug for which there was most change) by dataset. According to the longest and arguably most reliable dataset collected on school drug use patterns in Portugal [European School Survey Project on Alcohol and other Drugs (ESPAD)], lifetime cannabis use increased at the time of reform by 60% [31], not 142% as suggested by Pinto’s HSBC data [28–30]. Examining trends post-reform, according to Greenwald’s INME data there was a 27–30% reduction in lifetime cannabis use [34,35], yet all other datasets suggests there was a 16% reduction [31–33]. That is, the available data indicates a much less dramatic shift than proffered in either account, with only a moderate increase in reported lifetime cannabis use around or immediately post-reform, then a subsequent, albeit slight decline.

Third, neither Pinto nor Greenwald took into account trends in recent cannabis use. Yet this data indicate sizeable post-reform declines in reported last 30 day use of cannabis (such as 20–30% in INME data [34,35] and 32% in HSBC data [28]). Incorporating these data indicates that the moderate rise in student’s reported lifetime cannabis use around the time of the reform reflected predominantly short-term, experimental use, which subsided in the years following reform.

**Table 2.** Datasets on drug use among Portuguese school students showing target population and years and indicators collected

Dataset	Target	Years	Indicators
ESPAD—European School Survey Project on Alcohol and other Drugs [31]	Students aged 16 in Portugal and, for 2007, 34 other nations	1995, 1999, 2003 and 2007	Lifetime use of any illicit substance, cannabis & any drug other than cannabis Last 30 days use of cannabis (only)
ECTAD—Estudo sobre o Consumo de Álcool, Tabaco e Droga, em alunos do ensino público [32,33]	Students aged 13–19 years, by year of age	2003 and 2006	Lifetime use of any drug, cannabis, heroin, amphetamines, cocaine, ecstasy, GHB, LSD and hallucinogenic mushrooms Last 30 day use and frequency of use in last 12 months of cannabis
HSBC/WHO—Health Behaviour in School-aged Children/World Health Organization [28–30]	Students in 6th, 8th and 10th grades	1998, 2002 and 2006	Lifetime use of cannabis, heroin, amphetamines, cocaine, ecstasy & LSD Last year and last 30 days use of cannabis (only)
INME—Inquérito Nacional em Meio Escolar [34,35]	Students in middle school (7th, 8th & 9th grades) and upper school (10th, 11th & 12th grades)	2001 and 2006	Lifetime use, last year and last 30 days use of any drug, cannabis, heroin, amphetamines, cocaine, ecstasy, LSD and hallucinogenic mushrooms

GHB, gamma-hydroxybutyrate; LSD, lysergic acid diethylamide.

**Figure 1.** Lifetime prevalence of cannabis among Portuguese school students, by year and survey.

HSBC/WHO: Health Behaviour in School-aged Children/World Health Organization. Source: Matos et al. (2000, 2008) [28,29]; Matos (2003) [30].

ESPAD: European School Survey Project on Alcohol and other Drugs. Source: Hibell et al. (2009) [31].

ECTAD: Estudo sobre o Consumo de Álcool, Tabaco e Droga, em alunos do ensino público. Source: Feijão and Lavado (2003) [32]; Feijão (2009) [33].

INME: Inquérito Nacional em Meio Escolar. Source: Feijão and Lavado (2004) [34]; Feijão (2008) [35].

N.B. Only HSBC/WHO and ESPAD data were collected pre- and post-reform (2001).

Examining trends in the general population, there were clear increases between 2001 and 2007 in reported lifetime use for most age groups and most illicit substances [36,37]. In this regard Pinto is correct that the Cato report was overly optimistic. However, Pinto ignored notable reductions in the 15–19 age group and failed to mention the size of the increases, which in many cases were unlikely to be statistically significant (e.g. an increase in reported lifetime amphetamines use from only 0.5% to 0.9%).

The key question—that neither Greenwald nor Pinto addressed—is to what extent lifetime prevalence provides a meaningful indicator of changing drug use among the general population, and hence the extent to which this indicator ought to be relied upon for assessments of change in post-reform Portugal. While lifetime prevalence is deemed useful for examining trends in youth, the general consensus of organisations, including the United Nations Office on Drugs and Crime [38], the World Health Organization [39] and European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), is that the best indicators for examining trends in adults and/or the general population are recent (last 12 months) or current (last 30 days) use provide much better indicators. For example, as noted by the EMCDDA:

Of the three standard time frames used for reporting survey data, lifetime prevalence (use of a drug at any point in one's life) is the broadest. *This measure does not reflect the current drug use situation (among adults) . . .* [40] (emphasis added).

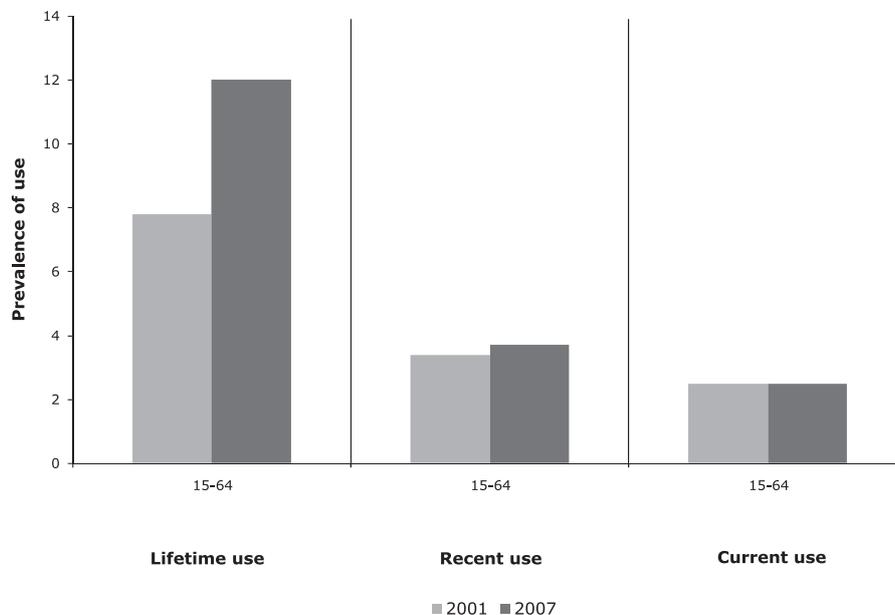
Indicators of lifetime use are thus likely to miss recent changes in the scale of drug use in Portugal.

As shown in Figure 2, general population (aged 15–64) trends for recent and current drug use in Portugal indicate minimal if any changes between 2001 and 2007 [36,37]. Instead, rates of discontinuation of drug use (the proportion of the population that reported ever having used a drug but opting not to in recent years) increased [36,37], which reinforces that just as in the school populations, the growth in lifetime-reported use reflected predominantly short-term experimental use. Increases in recent and current drug use were more notable in some cohorts, particularly those aged 25 to 34 (albeit, with a maximum of 7% of any one cohort reporting recent use, absolute levels remained low). But as shown in Figure 3, recent and current drug use declined among those aged 15–24, the population who were most at risk of initiation and long-term engagement. The available evidence thus gives grounds for arguing that while there was some growth in the scale of drug use in post-reform Portugal, there was an overall positive net benefit for the Portuguese community.

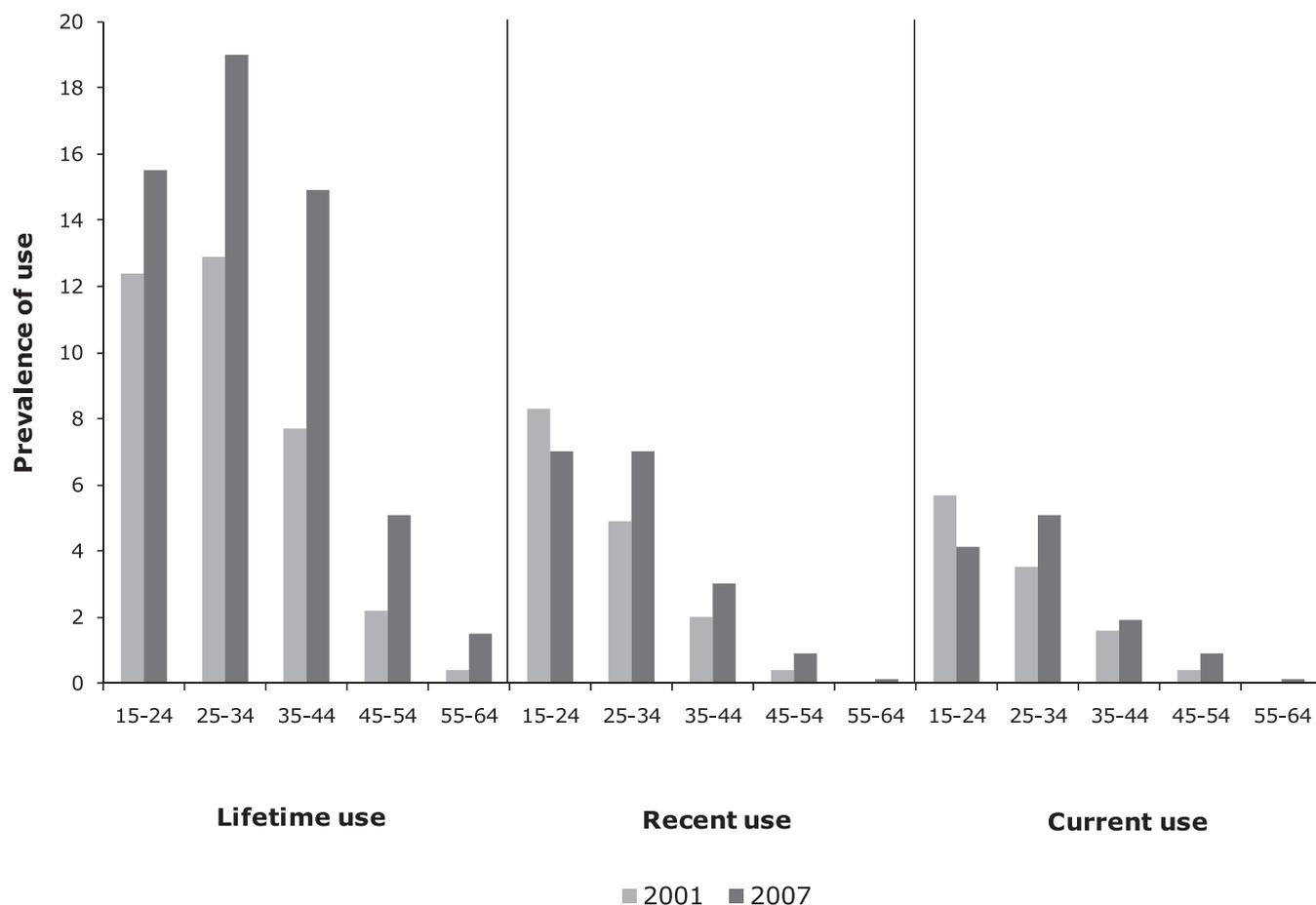
### Drug-related death

#### *The 'resounding success'*

According to the Cato report the reform led to marked improvements in drug-related deaths. Namely, in the lead up to decriminalisation there had been significant increases in drug-related problems, including a 10-fold



**Figure 2.** Prevalence of lifetime, recent (last 12 months) and current (last month) use of any illicit drug in Portugal among individuals aged 15–64 in 2001 and 2007. Source: Balsa et al. (2004, 2007) [36,37].



**Figure 3.** Prevalence of lifetime, recent (last 12 months) and current (last month) use of any illicit drug in Portugal, by age group in 2001 and 2007. Source: Balsa et al. (2004, 2007) [36,37].

increase in ‘acute drug-related deaths’, but ‘the total number of drug-related deaths actually decreased from the predecriminalization year of 1999 (when it totalled close to 400) to 2006 (when the total was 290)’ [2]. The report emphasised that such success was in spite of increasing the number of toxicological examinations (and hence the likelihood of recording a positive drug-related death), and that positive outcomes were observable across all drugs: ‘for every prohibited substance (deaths) have either declined significantly or remained constant compared to 2001’ [2].

#### *The ‘disastrous failure’*

The Pinto report emphasised that there had been no decrease in drug-related deaths: to the contrary ‘the opposite occurred’ [1]. He noted that the number of deceased individuals that tested positive for drugs had increased 45% between 2006 and 2007 (from 216 to 314), which meant drug-related deaths were the highest since 2001 (280). Pinto [1] reported that not only had

there been a rise in drug-related deaths, but ‘since decriminalization has been implemented in July 2001, the number of homicides related to drugs has increased 40%’.

#### *Accounts compared to the available evidence*

Examining the National Institute of Forensic Medicine (INML) data on drug-related deaths, there was as Pinto reported a substantial rise in recent years, particularly from 2006 to 2007 (data that were included by Greenwald for discussions on drug use, but excluded for deaths), but rates were also as Greenwald reported much lower than pre-decriminalisation days (1999). Yet neither account grasped the full picture for two key reasons. First, Pinto focused only on the short-term patterns (e.g. the 45% increase from 2006 to 2007), whereas Greenwald focused on longer-term patterns (e.g. 1999 to 2005–2006) albeit he did not mention the period in between (particularly 2002 to 2004 when reported deaths were at their lowest recorded). Equally

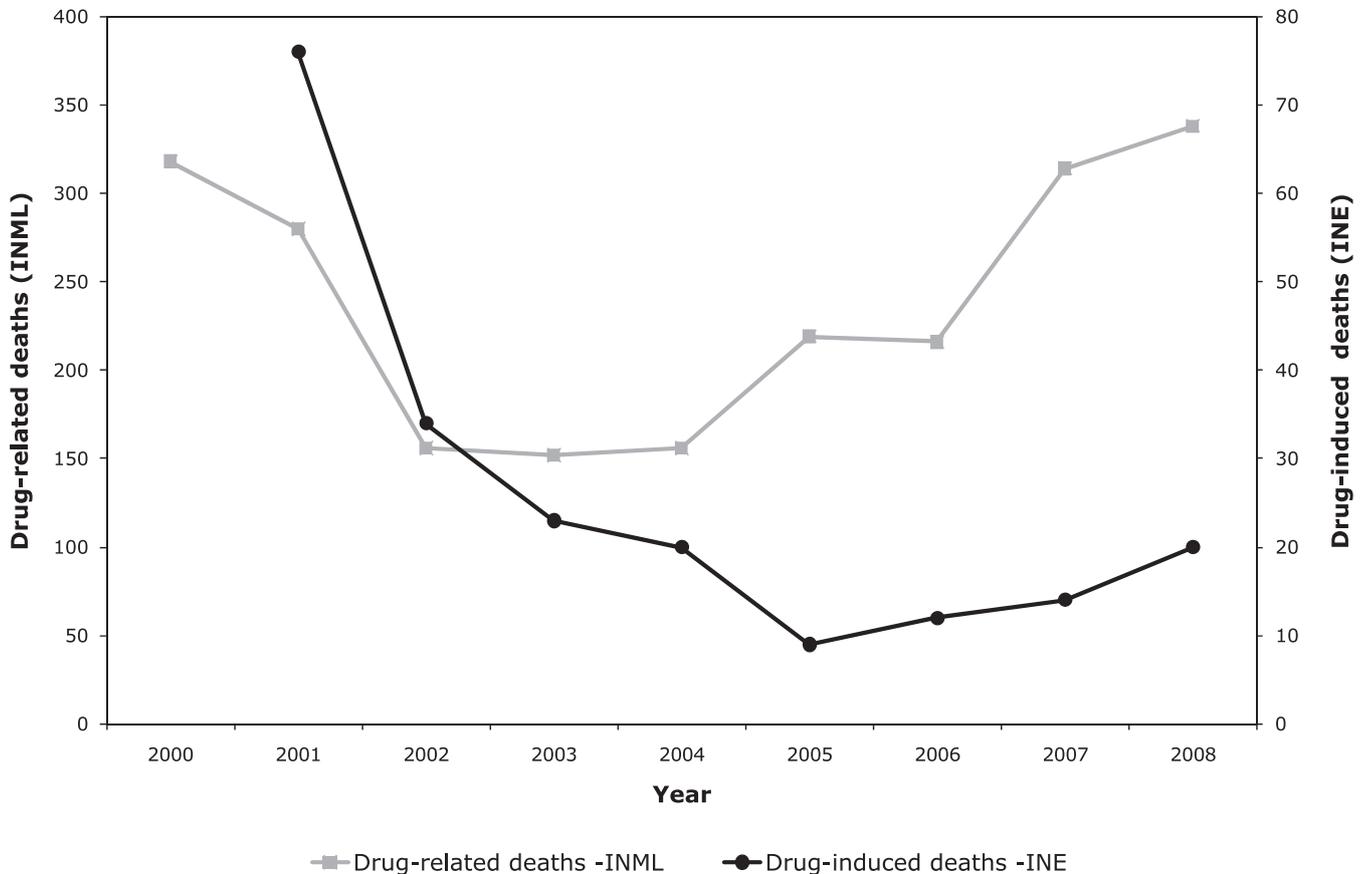
if not more importantly, the accounts had differential appreciations of the weaknesses of the adopted indicator for reporting on deaths attributable to illicit drug use.

Unlike much of the Western world, Portugal has not historically collected or reported information on deaths that are directly attributable to drug intoxication. Indeed, information on 'overdose' only became available in November 2010 (following calls by the EMCDDA and Instituto da Droga e da Toxicoddependência (IDT) for harmonisation and improvement of indicators of drug-related deaths) [12]. Until recently the primary indicator 'drug-related deaths' has been produced by the INML and defined as the number of deaths that involve a positive post-mortem toxicological test for the presence of illicit substances [12]. It is the only data available before and after the reform, but it has two major limitations. First, as noted by Greenwald, it is responsive to changes in recording practices, such as the number of toxicological autopsies. Second, it is only an indirect indicator of attribut-

able death; many people are found to have traces of a drug in their body when they die, but this does not mean that the drug caused the death. This is why the standard international classification of drug-related death relies on reports by physicians on their assessment of the cause of death, *not* positive toxicological tests [41].

The data weaknesses and a substantial rise in toxicological autopsies from 2005 to 2009 give merit for suggesting that as argued by both Greenwald and our own account [8], the rise in 'positive post-mortem toxicological tests' may have been largely spurious. Yet neither the possibility of a spurious change nor substantial changes in recording practices were mentioned in the Pinto accounts.

Data from the National Statistics Institute (INE) has recently been made available and backdated from 2001 onwards. This provides a more accurate indicator of drug-attributable death as it refers to the number of people that have been determined by doctors according to International Classification of Diseases protocols



**Figure 4.** Drug-related deaths in Portugal between 2000 and 2008 using National Institute of Forensic Medicine (INML) definition (positive post-mortem toxicological test for drugs) and National Statistics Institute (INE) definition (determination by physician according to International Classification of Diseases criteria that death was attributable to drugs). Source: Instituto da Droga e da Toxicoddependência (2009, 2010) [12,42].

to have died due to drugs [12]. INE data support the hypothesis that the reported rise in the INML data was spurious as the number of people determined by physicians to have died due to drug use decreased from 2001, with a slight increase from 2005 to 2008/9 (to levels that remain much lower than at the time of decriminalisation) [12,42] (see Figure 4). This is not to say that decreases are attributable solely to the reform, with the expanded services a more plausible explanation, but a key goal of the reform had been to reduce social stigma and thereby facilitate access to Portuguese drug treatment and harm reduction services. As shown in Hughes and Stevens [8] drug treatment access in Portugal expanded considerably post-reform. This provides partial evidence that the reform may have contributed to the observed declines.

Examining the other assertion by Pinto of a 40% rise in 'drug-related homicides' in post-reform Portugal, it is clear that this was based on a false attribution to the World Drug Report. The data referred to all homicides, that is, any intentional killing of a person, including murder, manslaughter, euthanasia and infanticide [43]. The 2009 World Drug Report [44] merely speculated that the rise 'might be related' to drug trafficking activity:

While cocaine seizures in a number of European countries increased sharply during that period, in 2006, Portugal suddenly had the sixth-highest cocaine seizure total in the world. The number of murders increased 40% during this same period of time, a fact that might be related to the trafficking activity. Although the rate remains low and Lisbon is one of Europe's safest cities, Portugal was the only European country to show a significant increase in murder during this period.

There is no way of grounding or assessing whether the rise in homicides was drug-related or, if they were, whether they were attributable to the reform. Indeed, a striking omission from the Pinto assertions has been attention to the proposed causal mechanism (and its validity or lack thereof). For example, is it reasonable to assume that decriminalisation of penalties for minor drug use offences, in the absence of any legislative change for traffickers, would have a detectable effect on drug-related homicide? A much more plausible hypothesis is that this association is an artefact of increased European demand for cocaine and geography: namely that Portugal is one of two main gateways through which cocaine flows into Europe [40]. This leads us to conclude that assertions of a rise in drug-related homicide have questionable validity. They also run counter to our earlier reported trend that drug-related crime reduced, rather than increased post-reform [8].

## How Portugal compares to the rest of Europe?

### *The 'resounding success'*

According to the Cato report, post-reform Portugal fared very well compared to other European nations, the USA and Australia. For example, Greenwald [2] noted that 'for the period 2001–2005, Portugal—for the 15–64 age group—has the absolute lowest lifetime prevalence rate for cannabis . . . in the EU'. This was backed up by a figure demonstrating that Portugal had a lower general population lifetime prevalence for cannabis than Denmark, the UK, France, Belgium, Ireland, Spain, Germany, Netherlands, Norway, Greece, Luxembourg, Sweden and Finland. He also noted that 'subsequent to decriminalization in Portugal, for almost every narcotic, the lifetime prevalence rates . . . is far lower in Portugal than in Europe generally' and that included nations with 'some with the harshest criminalization schemes in the EU' [2]. The message was clear: Portugal's success stood at odds with Europe and the rest of world.

### *The 'disastrous failure'*

In contrast, Pinto claimed that post-reform Portugal fared very poorly relative to the rest of Europe. Evidence put forward was that 'behind Luxembourg, Portugal has the highest rate of consistent drug users and IV heroin dependents' in Europe [1]. He also noted that Portugal had one of the worst levels of drug-related deaths, prevalence of drug-related HIV and that it was the 'only European country' that experienced a rise in 'drug-related homicides' between 2001 and 2006. He thus concluded that far from a success, the Portuguese decriminalisation was a disastrous failure.

### *Accounts compared to the available evidence*

Greenwald and Pinto were both correct that it is important to compare Portugal against other, particularly European, nations otherwise there is no counterfactual. Yet, Greenwald examined Portugal's ranking regarding the prevalence of drug use, especially cannabis and cocaine, whereas Pinto examined ranking regarding the prevalence of problematic drug use, drug-related deaths, homicides and HIV. Even then, some clear errors were made in comparisons. For example, Greenwald [2] asserted Portugal had the 'absolute lowest lifetime prevalence rates for cannabis . . .' (when Bulgaria, Malta and Romania all had lower lifetime prevalence than Portugal) [45]. Pinto [1] asserted that with 'eight times the (European) average' Portugal had the highest number of new cases of injecting drug user-related HIV/AIDS in Europe (omitting to mention that,

as emphasised by the EMCDDA [45], data were unavailable for two of the nations which have historically had the highest rates of HIV/AIDS—Spain and Estonia).

The latest data indicate that in Europe, Portugal continues to be one of the countries with the lowest lifetime prevalence of cannabis, but it is by no means the lowest country [45]. A more pertinent statistic is that compared to other European and non-European countries (see Table 3), Portugal has low annual prevalence of cannabis and cocaine use, but fairs less well in regard to opiates and problematic drug use [40,46]. Portugal also continues to have high, drug-related mortality and injecting drug user-related HIV and AIDS, albeit not the highest prevalence. For example, in 2008, Portugal had among injecting drug users the third highest rate of HIV (behind Spain and Latvia) and fourth highest incidence of new cases of HIV [40].

The question is: how meaningful is this information for determining the effects of the reform? Portugal has historically had very low prevalence of drug use and was one of the last European nations to experience significant increases in heroin use. During the 1990s it had very high prevalence of all the indicators referred to by Pinto (excepting homicides). It is only by taking into account rates pre-reform—or more preferably trends pre- and post-reform—that we can examine the extent to which Portugal's current drug situation, relative to the rest of Europe, can be attributed to the reform.

Our article examined trends in Portugal relative to Spain and Italy (chosen for their similarity in geography and drug situation) and concluded that post-reform Portugal is similar or performing better for most indicators. In relation to drug use we identified

**Table 3.** Annual prevalence of use as a percentage of the population aged 15–64, by drug type and country

Region	Country	Cannabis	Cocaine	Opiates
Europe	Albania	1.8	0.8	0.45
	Estonia	6.0	0.6	1.52
	France	8.6	0.6	0.47
	Italy	14.6	2.2	0.72
	Netherlands	5.4	0.6	0.31
	Portugal	3.6	0.6	0.46
	Spain	10.1	3.0	0.13
	Sweden	2.1	0.6	0.17
	UK (England and Wales)	7.9	3.0	0.81
Oceania	Australia	10.6	1.9	0.40
	New Zealand	14.6	0.6	1.10
Americas	Canada	13.6	1.9	0.50
	USA	12.5	2.6	0.58

Source: World Drug Report (2010) [38].

that between 2001 and 2007 there were similar increases in all three nations for lifetime and recent drug use for cannabis and cocaine [8]. For school students, lifetime prevalence (using ESPAD data) increased in all three nations from 1999 to 2003 before a drop in 2007, with the major difference being that in Portugal, the drop in reported use of any illicit substance appeared more pronounced and the decline in reported cannabis use appeared less pronounced. Significantly, Portugal was the only nation to exhibit declines in problematic drug use.

Regarding drug-related deaths, Portugal, Spain and Italy had different trends, reflecting the different stages of the heroin epidemic, but 'it is clear that since the Portuguese introduction of its drug strategy and the decriminalization, all three nations showed declines in drug-related deaths, but that the declines were more pronounced in Portugal and Italy than in Spain' [8]. The main point of difference was that Portugal alone showed an increase in drug-related mortality in 2007 and 2008; however, as illustrated earlier this was attributed to the increase in toxicological autopsies. The more recently available INE evidence largely supports this attribution. Broader examination of the EMCDDA reports and data supports our earlier conclusion that post-reform Portugal is performing—longitudinally—similarly or slightly better than most European countries.

## Discussion

The Greenwald and Pinto accounts both attempted to demonstrate their grounding in the evidence (Greenwald arguably more so due to greater use of figures), and that they were letting the evidence speak for itself. For example, Pinto [1] concludes 'it's rather simple and easy to grasp the reality of the facts, with one look at the real figures, the official figures. Still Mr. Glenn Greenwald managed to picture it otherwise . . .' Yet, by outlining both accounts, and the choices that they made in presenting data, we found clear proof of misuse. Both showed selective use of evidence (focusing on different indicators, choice of years or datasets) and omission or a lack of acknowledgement of other pieces of the puzzle. Both also showed differential appreciations of data strengths and weaknesses: with weaknesses highlighted mainly by Greenwald to account for apparent failings. In so doing, both provided a version of events that offered certitude [6] and support for opposing 'core beliefs' [47].

The promulgation of errors in public discourse can be seen to have both advantages and disadvantages for participants in policy debates. On the one hand, Portugal may not have received the same level of international attention if it were not for such accounts. For

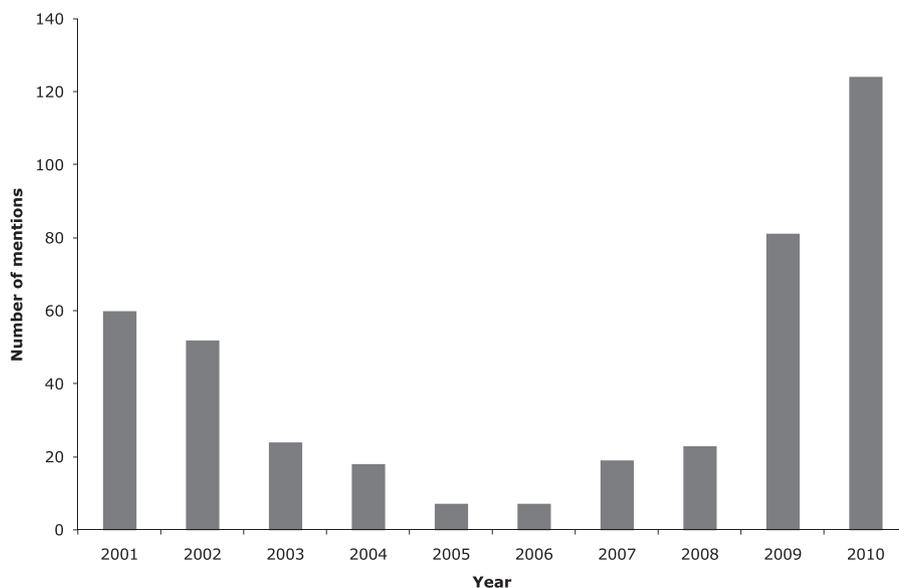
example, our earlier Beckley report [16] flew under the media radar—perhaps because its claims were more tentative and indeed at that time rather pessimistic about some implementation problems. There is no doubt that the different accounts led to much greater awareness of the Portuguese reform. The number of mentions in the international press can be clearly seen in Figure 5 as having undergone a dramatic increase, with 49% of the 415 media mentions of Portugal's reform having occurred in 2009 and 2010 [48]. While the Greenwald report or conclusions are by far the most referred to, other accounts have also received international coverage.

Increased awareness has moreover opened up opportunities for more nuanced and detailed learning. For example, the publicity has fuelled visits by other nations wanting to know more about how the reform works and its impacts, including officials from Norway, Peru, Columbia, Mexico, the USA, Vietnam, Czech Republic and Argentina. And even the presence of accounts with selective use of evidence has inevitably led to airing of some different points of view, opening up space for a more reasoned debate and active engagement with the evidence and qualified spokespeople.

On the other hand, the misuse of evidence has fuelled clear misconceptions about the reform. Even a brief review of public debates can show the uptake of some erroneous accounts. In the 2010 Californian ballot proposal for the legalisation of marijuana (Proposition 19), proponents [49], media [50–52] and the Californian Independent Voter Network (a network committed to non-partisan and unbiased discussion of issues affect-

ing Californian voters) [53] cited Portugal as proof that reform did *not* lead to increased drug use. The former President of Brazil, Fernando Henrique Cardoso [54], has also been reported to have accepted the argument that 'overall drug use fell'. Pinto [1] contends that the 'misleading' accounts of the reform by Greenwald, ourselves and a never published report by Danny Kushlick have contributed towards the copying of the Portuguese model in Czech Republic, Mexico and Argentina. While it is highly questionable that an unpublished account and our article (published for only 2 months at the time) led directly to reform in these countries, the assertion that erroneous accounts could give rise to reform is a concern, particularly given the comments of people like the former President of Brazil.

Erroneous accounts can also shift the debate on how reforms are spoken of and expectations about the outcomes of policy transfer. One questionable assumption is that, relative to other countries, Portugal's current drug situation is because of the reform. This argument has been taken up by proponents and opponents alike (see e.g. Calvina Fay, executive director of Drug Free America [27]). The emphasis upon rankings, rather than trends, is damaging because there is no direct, cross-sectional link between national drug policies and prevalence of use [55]. Apart from the decriminalisation, there are many other factors that might explain national patterns of use (including disposable income, leisure time, religiosity and other cultural norms) and trends in drug-related harms (including changes in the availability of treatment and harm reduction services and the level of health-care and welfare support) [56].



**Figure 5.** Media counts of Portugal, drug and decriminalization/decriminalization from 2001 to 2010. Source: *Factiva* (retrieved 26 February 2011), *Dow Jones Reuters Business Interactive* (2011) [48].

More broadly the overemphasis by both Greenwald and Pinto on the reform, and not the concurrent drug strategy which expanded services for drug users in Portugal, has fostered overconfident assertions about the effects of the reform and a lack of appreciation of the Portuguese model and the causal mechanisms by which outputs and outcomes could be expected to occur.

Finally and perhaps most dangerously, accounts such as these, and the high-level involvement by competing policy advocates in promoting these accounts, can contribute to disengagement or lack of interest in the available evidence. For example, an American journalist, Keith O'Brien, concluded that the Portuguese decriminalisation has become 'something of a Rorschach test where people . . . can look at these numbers and make almost whatever argument they'd like to make' [57]. Politicians and advocates can in turn draw upon the accounts that most suit their particular interests (see e.g. the competing use of accounts in a British House of Lords debate [58]). A real fear is that the multitude of different accounts and their continued fuelling will lead to the dismissal of other more evidence-informed accounts. One purported example of evidence dismissal comes from the US Office for National Drug Control Policy (ONDCP) [59]. While this report does not appear on the ONDCP website and the only source that we could find is Dr Pinto Coelho himself, the central conclusions about the Portuguese reform are instructive:

Supporting analysis is not definitive . . . Core drug use claims are not conclusive . . . For now, this much can be said—drug legalization advocates' claims regarding the impact of Portugal's drug policy have significantly exceeded the existing scientific basis [60].

The fact that attention was drawn to the reform and then 'discounted' by the apparent misuse of evidence appears a wasted opportunity, not least of all because more evidence-informed conclusions provide ample indication of a successful reform. This is not to say it is impossible to reinsert evidence; indeed, there are some signs that our more moderate claims may be gaining traction. For example, in their call for nations to replace the criminalisation and punishment of drug use, the Global Commission on Drugs Policy made the very important acknowledgement that the Portuguese reform was followed by slight increases in the prevalence of overall drug use [61]. Yet, evidence fatigue and distrust make it a harder battle, which means that proponents of the 'evidence' will often have to firstly correct misconceptions and reframe debates and/or win favour of competing constituents (something that in itself may lead to loss of credibility of 'independent experts').

## Conclusion

The promulgation and uptake of different accounts of the Portuguese reform is a clear indicator of the interest in it. Considered analysis of the two most divergent accounts reveals that the Portuguese reform warrants neither the praise nor the condemnation of being a 'resounding success' or a 'disastrous failure', and that these divergent policy conclusions were derived from selective use of the evidence base that belie the nuanced, albeit largely positive, implications from this reform.

Given their potential for use in promoting or blocking drug law reform in Portugal and elsewhere, the selective uses of data and divergent conclusions are perhaps to be expected. Yet, while we found evidence that the misinterpretation of evidence may garner national or international support and contribute to the uptake of misconceptions and erroneous accounts (that may align with core beliefs), we contend that particularly for proponents of reform, that is, those challenging the status quo, deliberate misinterpretation of evidence is a high-risk game. The dissemination of incredibly certain [6] and overly positive accounts provides easy grounds for discrediting reforms, ignoring the lessons that they provide and shifting public debate in directions that may prove detrimental to future proponents.

More broadly, the dissemination of loose accounts poses serious risks of devaluing the case for evidence-based drug policy [7]. Indeed, the divergent accounts of the Portuguese reform provide ample grounds for questioning the implicit assumption that evidence *will* generate policies 'devoid of dogma' [7]. At a time when many countries in the developed world have shifted electorally to the right, there may be a temptation to throw evidence-based drug policy out, under the pretext that science proves nothing at all. Careful communication of claims is thus critical for both academics and advocates, so that evidence-informed accounts are more than mere ammunition for the policy battlefield.

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