



## Research paper

# Measuring research influence on drug policy: A case example of two epidemiological monitoring systems

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## ABSTRACT

**Background:** Assessing the extent to which drug research influences and impacts upon policy decision-making needs to go beyond bibliometric analysis of academic citations. Policy makers do not necessarily access the academic literature, and policy processes are largely iterative and rely on interactions and relationships. Furthermore, media representation of research contributes to public opinion and can influence policy uptake.

In this context, assessing research influence involves examining the extent to which a research project is taken up in policy documents, used within policy processes, and disseminated via the media.

**Methods:** This three component approach is demonstrated using a case example of two ongoing illicit drug monitoring systems: the Illicit Drug Reporting System (IDRS) and the Ecstasy and related Drugs Reporting System (EDRS). Systematic searches for reference to the IDRS and/or EDRS within policy documents, across multiple policy processes (such as parliamentary inquiries) and in the media, in conjunction with analysis of the types of mentions in these three sources, enables an analysis of policy influence. The context for the research is also described as the foundation for the approach.

**Results:** The application of the three component approach to the case study demonstrates a practical and systematic retrospective approach to measure drug research influence. For example, the ways in which the IDRS and EDRS were mentioned in policy documents demonstrated research utilisation. Policy processes were inclusive of IDRS and EDRS findings, while the media analysis revealed only a small contribution in the context of wider media reporting.

**Conclusion:** Consistent with theories of policy processes, assessing the extent of research influence requires a systematic analysis of policy documents and processes. Development of such analyses and associated methods will better equip researchers to evaluate the impact of research.

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## Introduction

Traditionally, researchers have primarily engaged in and been most rewarded for academic peer-reviewed publications and it has been against these academic standards that the import or influence of research activity has been assessed. Increasingly, however, researchers are being asked to demonstrate the broader benefits of their work, and particularly its policy relevance (Nutley, Walter, & Davies, 2007). This applies to illicit drug research as much as any other field of research. While many researchers agree that research does and should have an influence on policy (Haynes et al., 2011), there remains a dissonance between traditional, academic models of assessing scientific impact and the ability of researchers to demonstrate the applied, policy relevant significance of their work. This is a particular challenge for researchers who may continue

to conceptualise their role as 'traditional' knowledge-producers rather than as 'translators' who influence policy (Haynes et al., 2011; Lomas, 2007; Ritter, Lancaster, Grech, & Reuter, 2011). The result is that despite increasing pressure to do so, few researchers routinely and systematically assess the policy impact of their work. It has been argued that there is a need to expand the way we think about research influence and develop practical, constructive approaches to assess the influence of research activities (Moore, Redman, Haines, & Todd, 2011). While the focus here is on researchers assessing the influence of their work, there are other reasons to assess research influence: it provides opportunity to advocate for more research investment where impact can be demonstrated; it allows research funding bodies to evaluate which projects are more influential; it has the potential to improve theories of research utilisation; and, finally, it may increase the likelihood that researchers will attend to research utilisation and increase their efforts to ensure effective translation.

In order to assess the influence of research on policy, a firm conceptual basis and theory about the relationships between research

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and policy is required. The ways in which research informs and influences policy has been an area of much investigation (Hanney, Gonzalez-Block, Buxton, & Kogan, 2003; Lin & Gibson, 2003; Nutley et al., 2007; Pawson, 2002a,b; Weiss, 1977). One aspect of the relationship between research and policy is the way in which research is utilised. Weiss (1979, 1977) identified a number of different ways in which research was used, and in subsequent work has distilled these down into three primary categories (Weiss, Murphy-Graham, & Birkeland, 2005). These are: instrumental use, political or symbolical use and conceptual or enlightenment use. The instrumental view is akin to an engineering model, where research gives direction to policy, and research findings lead to action. In the political/symbolic utilisation, research is used to support or justify pre-existing preferences or actions, or to justify delay. It has a primarily legitimating function. The conceptual use of research is also termed 'enlightenment'. In this delayed and indirect research usage, research contributes to the percolation of new ideas and concepts which over time become 'common knowledge' and contribute to the overall knowledge endeavour rather than to any one specific policy decision.

The mechanisms by which research is effectively disseminated will also influence policy uptake (Ritter, 2009). Work in this area emphasises the interactive, social aspects of research dissemination. For example, Lomas and colleagues have developed a comprehensive 'linkage and exchange model' which identifies the wide variety of groups and individuals in the research and the policy and practice communities who are engaged in an iterative, ongoing working relationship (Lomas, 1997, 2000). Likewise, Walter, Nutley, and Davies (2003) emphasise facilitative and interactive approaches (see also Nutley et al., 2007). Beyond the traditional modes of academic publication, dissemination into the public sphere through mass media and the internet can also influence policy uptake, though indirectly. The integral role of the media in shaping political debate and public opinion is widely acknowledged (Lancaster, Hughes, Spicer, Matthew-Simmons, & Dillon, 2011) and is considered to influence "not only the public profile of problems but also the political response to them" (McArthur, 1999, p. 151). In this way, public opinion is considered to play a significant role in political and policy decision-making processes (Matthew-Simmons, Love, & Ritter, 2008). Dissemination through media and the public sphere is also an important consideration because research has shown that decision makers are more likely to draw on publicly available sources through the internet and Google, than consult the academic literature (Ritter, 2009). Furthermore, in order to be realistic about the role and impact of research, one needs to understand policy processes and the dynamic, iterative nature of decision processes. One of the more commonly cited models of policy processes is Kingdon's (2003) three streams model where actors in the policy process function within the streams of problems, politics and policy, awaiting an open policy window of opportunity when a policy entrepreneur may draw the three streams together. Further discussion of this and other models of policy processes as they pertain to illicit drugs policy can be found in Ritter and Bammer (2010). The work of Sabatier (1988) on advocacy coalitions and Haas (1992) on epistemic communities both note a special role for expert dialogue in the policy processes. Epistemic community refers to a network of professionals with recognised expertise, authoritative claim, and privileged access, bonded by a shared belief in the validity and applicability of particular forms of knowledge. Analysis of these and other theories of policy processes reveal the particular role, albeit limited, that research can play in informing decision-making (Ritter & Bammer, 2010).

We argue that in order to measure the influence of research on policy, consideration needs to be given to these theories. A more nuanced understanding of the connections between research and policy acknowledges that there is rarely, if ever, one sole research

product that results in definitive policy change. Research influence is rarely instrumental, and more likely to be political/symbolic or conceptual. Policy processes are fluid and iterative and rely on relationships and interactions between researchers and decision makers. These then have implications for how we approach the measurement of the influence of a research project on policy. For example, it suggests that a focus on whether a research study changed a policy is likely to be unproductive (given less instrumental use of research and more enlightenment usage). It also suggests that a focus on policy processes, interactions and engagement between researchers and decision makers is likely to reveal the extent of research influence. Furthermore, it suggests a focus on dissemination of research (or uptake of research findings) in public domain sources rather than through the academic literature is more likely to be indicative of influence in real-world processes. There are other practical considerations in measuring the influence of research. There are substantial time lags between research findings and their subsequent uptake within clinical practice (Westfall, Mold, & Fagnan, 2007), and we have no published estimate of the time lag between research and uptake into policy. Despite this known lag, researchers need to assess their influence much more immediately and cannot wait decades before describing whether their research has had policy influence. Furthermore any assessment of influence should be simple to conduct, efficient and practical (Smith, 2001) and preferably rely on publicly available data.

Previous work has described ways in which research impact can be assessed. For example Kuruvilla, Mays, Pleasant, and Walt (2006) describe a 'research impact framework' that covers multiple areas of impact: research-related impact, service impact and societal impact. Policy impact is also included. The LSE Public Policy Group (LSE Government, 2011) has also sought to develop ways of measuring the impact of research in the public sphere. This work distinguishes between academic impact and external impact and offers advice on how to maximize the academic impacts of research in terms of citations and other measures of influence (LSE Public Policy Group, 2011). However it is largely focussed on communication and dissemination strategies within academic frameworks, and places emphasis on prospectively recording interactions as a measure of external impact. There has been an emphasis on demonstrating economic value, for example with the 'payback' framework which identifies a variety of research impacts, such as knowledge production, research capacity building, product development, health sector benefits and wider economic benefits (Donovan & Hanney, 2011; Hanney, Grant, Wooding, & Buxton, 2004). Although this approach is more directly relevant for assessing the influence of research on practice (rather than policy) it provides a thorough and comprehensive approach to assessing research impact. As a result it is also time intensive (Kalucy, Jackson-Bowers, McIntyre, & Reed, 2009). Checklists of indicators have been published (Lavis, Ross, McLeod, & Gildiner, 2003; Smith, 2001). However these undifferentiated lists tend to focus on outputs or process measures, such as publications, presentations, and memberships of advisory groups and are not direct measures of impact. A number of the methods previously documented rely on structured interviews, either with the researchers or with policy makers (e.g. Hanney et al., 2003; Kuruvilla et al., 2006). We were concerned to develop a replicable, efficient and practical approach for researchers to use that did not rely on interviews with policy makers.

There is an important distinction between assessing research quality and assessing research impact (Donovan, 2011). There are a number of research quality frameworks, such as the UK Research Excellence Framework or the Australian Research Quality Framework (see Grant, Brutscher, Kirk, Butler, & Wooding, 2009 for a review). Although assessment of research quality is not relevant for our purposes, it is pertinent to note that in 2014 the UK

Research Excellence Framework will attempt to incorporate the measurement of non-academic research influence into the quality framework. This change is reflective of trends internationally and emphasises the timely need for a practical and effective approach for researchers to use to assess research influence.

In light of all the above, we developed a three-component approach to assessing research influence: examination of the use of research in policy documents (which speaks to research utilisation theory); use of research in policy processes (which speaks to interactive engagement theories) and dissemination of research in the public sphere via the media (which speaks to the role played by public opinion in decision-making processes).

We demonstrate this three-component method with a case study on two Australian epidemiological drug monitoring systems (the Illicit Drug Reporting System and the Ecstasy and related Drugs Reporting System). Before describing the drug monitoring systems, appreciation of the context in which the research occurs and the relationship between research and policy is central to understanding research influence. *Kuruville et al. (2006)* also suggest that describing the research project's context, funders, management and challenges is a foundation for assessing impact. Australia has had a documented, national approach to drug policy since 1985, when the first national drug strategy was launched (see *Ritter et al., 2011* for a full description of Australia's drugs policy history, context and approaches). The national strategy sets the overall principles and framework for Australia's responses to alcohol, tobacco and other drugs. Each state and territory has their own strategic frameworks as derived from the national framework. For the purposes of this study, we focus only on national policy. A number of principles underpin the Australian drug strategy: the importance of partnership approaches; a balance between supply reduction, demand reduction and harm reduction; and most pertinent in this context, a commitment to evidence-based policy and strong support of research and evaluation. Given this, it is to be expected that a research influence study in Australia should find heightened use of research findings in policy if these statements are more than merely rhetoric. The governance of Australia's drug policy has been described in *Hughes, Lodge, and Ritter (2010)*. A number of national committees, which include a range of experts, have been a feature of Australia's approach. Other bodies, such as the Australian National Council on Drugs have been established to ensure the third sector has a voice within drug policy in Australia. Again, these features suggest that policy processes would be reflective of a range of views and expertise, including those of researchers. In countries where policy is not characterised by engagement of broad sections of the expert community, the uptake of research findings may be weaker.

The Illicit Drug Reporting System (IDRS) and its companion system the Ecstasy and related Drugs Reporting System (EDRS) (formerly known as the Party Drug Initiative, PDI) were established in Australia as strategic early warning systems, to identify emerging and changing trends in illicit drug markets in Australia (*Hall & Degenhardt, 2009*). Commencing nationally in 2000, the IDRS is an annual survey of trends in injecting drug use, monitoring price, purity, availability and emerging patterns of use. Three data sources (interviews with a sentinel group of injecting drug users; key expert interviews and secondary data from police and health) are triangulated to form a picture of the rates of use and harm of various drugs across Australia. Commencing nationally in 2003, the EDRS targets a population of regular ecstasy users and follows the same method. A report is produced each year with the detailed results (see for example *Sindicich & Burns, 2010; Stafford & Burns, 2010*).

The IDRS and EDRS are managed by the National Drug and Alcohol Research Centre in Sydney, overseen by a national team

of investigators, and are currently funded by the Australian Government Department of Health and Ageing (although have in the past been funded by organisations including the National Drug Law Enforcement Research Fund) (*Siggins Miller et al., 2009*). It is pertinent to note, particularly for the purposes of this study, that there are currently no resources allocated or formal processes in place for converting the annual IDRS and EDRS findings into policy activity (*Siggins Miller et al., 2009*). This is contrary to the initial conceptualisation of the IDRS as a strategic early warning system, providing regular data which would be reviewed and swiftly acted upon by the Ministerial Council on Drug Strategy (*Wardlaw, 2008*). The IDRS has been used, alongside other data sources, to evaluate policy interventions (for example withdrawal of temazepam gel capsules from the market; *Degenhardt et al., 2008*). This secondary use of the IDRS is an important contribution to policy evaluation, but outside the scope of our current study of the direct influence of the IDRS and EDRS on policy processes.

Dissemination of IDRS and EDRS results includes the annual technical report, media releases, conference presentations, and academic research papers arising from the work. The IDRS/EDRS team have produced many academic papers that have had a high citation impact. For example of the 53 journal articles concerned with the IDRS or EDRS, 46 have been cited at least once, and 12 papers have more than 25 citations (for example *Darke, Kaye, & Topp, 2002; Degenhardt et al., 2005; Jenkinson, Clark, Fry, & Dobbin, 2005; Topp, Day, & Degenhardt, 2003*). The use of academic literature to inform a policy decision conforms to the instrumental view of research utilisation. Unfortunately, though, the likelihood that decision-makers access and use academic publications is low (*Ritter, 2009*). Therefore an analysis of research influence needs to look beyond academic publications, and towards broader dissemination and research uptake in the public domain.

## Methodology

The three-component approach entails a retrospective systematic review of data sourced from the public domain: these are (1) policy documents, (2) policy processes and (3) media mentions. Once collated, the references to research are analysed in relation to the types of research utilisation and engagement with policy processes. That is, the analysis is based not only on the number of references to the research within the source documents but also the ways in which the research is taken up and used within those sources. Using the theoretical framework outlined above, the nature of research uptake (the 'type of mention') is analysed across the public domain data sources. Therefore as well as documenting the number of references to the research in these sources, additional notations are made in order to review the ways in which research is being utilised (e.g. conceptually), the purpose for which it is referenced (e.g. informing priority areas) and the value placed on the research (e.g. providing important knowledge in the decision making process). Importantly, as we discuss later in the paper, types of mentions of research within documents, processes or media do not mean that the research changed policy: the logic model is that in the first instance, research needs to be noticed and engaged with prior to it being able to have impact.

### *Mentions in policy documents*

A systematic approach is required to identify and then search policy documents for reference to the research. By 'policy documents' we mean formal, publicly available iterations of position, strategy and statements of intent made by government in a particular policy domain. In the Australian drug policy context, we have confined this to the federal government (and particularly the

Drug Strategy Branch) who have provided oversight to drug policy in Australia since the inception of the National Drug Strategy in 1985 (Ritter et al., 2011). In the case example, all overarching Australian drug strategy documents and frameworks (including background papers) produced by the federal government were searched. In addition, drug strategy evaluation reports and statistical data reports by government were also searched. Tools used to ensure that all national policy documents from 2001 onwards were retrieved for searching included the use of the National Drug Strategy website ([www.nationaldrugstrategy.gov.au](http://www.nationaldrugstrategy.gov.au)); the Drug Policy Modelling Program (DPMP) policy timeline ([www.dpmp.unsw.edu.au/dpmpweb.nsf/page/Drug+Policy+Time+line](http://www.dpmp.unsw.edu.au/dpmpweb.nsf/page/Drug+Policy+Time+line)), where significant events were noted and associated reports then retrieved; the Australian Institute of Health and Welfare publication catalogue; and the Australian National Council on Drugs publications. The number and type of mention was recorded. Reference quotes were extracted and then analysed against the theoretical framework to determine the nature of research utilisation or the purpose of the reference in the document. Absences of reference to the research, where it may have been appropriate to do so, were also noted.

#### *Mentions in policy processes*

For the purposes of this analytic approach, ‘policy processes’ can be understood as procedures (often within formal institutional settings, such as government committees) through which policy issues are debated and consultation is sought. We acknowledge that this is a narrow conceptualisation of ‘policy processes’, but it allowed for a comprehensive analysis of documented, on-the-record interactions within institutional settings, rather than ad hoc interactions which are difficult to meaningfully quantify for the purposes of an influence assessment such as this. We also acknowledge the somewhat artificial distinction between ‘policy documents’ and ‘policy processes’ given that in practice policy documents arise from processes. However, in conducting an influence assessment, there is an important distinction between research which is used within a policy discussion, debate or conversation versus research which is cited as part of the formal articulation of a policy position (as in documents). This is the rationale for our distinction between documents and processes.

Documentation within policy processes included mentions of the IDRS and/or EDRS in submissions to the federal government, committee submissions and committee reports, and representation/citation in national Summits 2002–2010. As with the policy documents, federal government websites were reviewed along with the DPMP policy timeline. A list of national drug forums and summits was generated and then associated documentation reviewed. Given the Australian context of this study, the advanced ParInfo Search website (<http://parlinfo.aph.gov.au/parlInfo/search/search.w3p;adv=yes>) was used to search the Australian Parliamentary collections for federal committee proceedings, submissions and reports (House of Representatives, Senate and joint committees), using a number of key search terms. Again, the number and type of mention was recorded.

#### *Mentions in media*

Media mentions were also analysed systematically. The media content analysis examined newspapers only. Newspapers are deemed a useful proxy for news reporting, as they often set the agenda for other news formats (Clegg Smith et al., 2002; Wakefield, Flay, Nichter, & Giovino, 2003). Reference to the IDRS and/or EDRS was systematically searched for using the Factiva database. The publications selected covered all major metropolitan daily

and weekend newspapers in Australia. Re-published news was excluded where an article appeared in multiple editions of the same daily newspaper. To contextualise the findings, comparisons as to the frequency of media mentions were made with two other national drug surveys: the National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2010) and the Salvation Army Annual Alcohol Awareness Survey (The Salvation Army in Australia, 2010). Comparisons were also made against the findings of a larger study examining representations of illicit drug issues in the Australian print news media (Hughes, Lancaster, & Spicer, 2011; Hughes, Spicer, Lancaster, Matthew-Simmons, & Dillon, 2010). Publication dates of the sampled newspaper articles were compared with the dates of National Drug and Alcohol Research Centre (NDARC) press releases specifically disseminating IDRS/EDRS research to determine the proportion of articles that could be regarded as ‘proactive’ (that is, media generated in response to IDRS/EDRS communications activity). The timeframe for the media content analysis was 2003–2008 inclusive, to enable the above-noted comparisons.

Overall, the work in collating and analysing the policy documents, policy processes and media was completed by two research assistants over an approximate three month period – indicative of the resources required to undertake such an exercise.

## **Results**

### *Policy documents*

In total, 17 overarching strategy documents, frameworks and background papers were identified. The majority ( $n = 13$ ) of Australian drug policy documents, such as the ‘National Drug Strategy: Australia’s integrated framework 2004–2009’ (Ministerial Council on Drug Strategy, 2004) and the ‘National Cannabis Strategy 2006–2009’ (Ministerial Council on Drug Strategy, 2006b) do not specifically mention the IDRS or EDRS. Nor do these overarching strategy documents reference any other research, so little can be deduced from these data.

In more detailed policy documents, there was evidence of IDRS and EDRS input. For example, the ‘National Action Plan on Illicit Drugs 2001 to 2003’ and its accompanying background paper make three references to IDRS data: “Research collected by the Illicit Drug Reporting System suggests an increase in the use of opioids among young people” (Ministerial Council on Drug Strategy, 2001, p. 10). Likewise the ‘National Amphetamine-Type Stimulant Strategy 2008–2011’ makes reference to the IDRS within the section on drug trends, and the associated background paper contains 22 references to the IDRS and 26 references to the EDRS. In one of the priority areas within the ATS Strategy document, the IDRS was identified as one source to “consolidate the current knowledge” (Ministerial Council on Drug Strategy, 2006a, p. 24).

The Inter Governmental Committee on Drugs (IGCD), the coordinating body for Australia’s drug strategy, provides an annual report of Australia’s achievements ([www.nationaldrugstrategy.gov.au](http://www.nationaldrugstrategy.gov.au)). The IDRS and EDRS are mentioned each year in these reports, with each of the six reports identified in the search period referencing the IDRS or EDRS between 3 and 9 times:

“The combination of information from a wide variety of data sources including the Drug Use Monitoring in Australia (DUMA) collection, the Illicit Drug Reporting System (IDRS) and the 2001 National Drug Strategy Household Survey (NDSHS) present a composite of licit and illicit drug use, knowledge, attitudes and behaviours. This informed IGCD’s responses to priority areas and also identified new and emerging issues” (Intergovernmental Committee on Drugs, 2002, p. 9).

Each of the two evaluations of the Australian National Drug Strategy within the search period also made use of the IDRS and EDRS within their analysis of progress and achievements (Siggins Miller et al., 2009; Single & Rohl, 1997; Success Works, 2003).

Finally, statistical data reports were examined. These documents all make extensive use of the IDRS and EDRS in describing trends in Australian drug use and harms, with each document referencing either the IDRS or EDRS data up to 81 times (Australian Crime Commission, 2003, 2004, 2005, 2006, 2007, 2008, 2009; Australian Institute of Health and Welfare, 2003, 2005).

### *Policy processes*

We identified 18 parliamentary committees and inquiries in which IDRS and/or EDRS data had been used including the House of Representatives Standing Committee on Family and Human Services; the Inquiry into Amphetamines and other Synthetic Drugs (Parliamentary Joint Committee on the Australian Crime Commission); and the Youth Violence Inquiry (the full list can be obtained from the first author). In total, 58 mentions of the IDRS and 29 mentions of the EDRS/PDI were identified in the search period. Written submissions to these and other inquiries which referenced IDRS or EDRS data were not submitted only by the IDRS/EDRS research teams; other organisations and individuals referred to the IDRS or EDRS within their own submissions (examples include the Australian Crime Commission, the Victorian injecting drug user organisation; and the Queensland Crime and Misconduct Commission). Examination of the text of the submissions revealed that the IDRS and EDRS were used to both describe trends but also to support claims made in the submissions:

“Considering that in 2006, the use of the drug Ice increased to varying extents in every State (Australian Drug Trends 2006, Findings from the Illicit Drug Reporting System (IDRS)... and with such a high incidence of people suffering addictions... it is critical that counsellors be given access to the MBS” (Australian Counselling Association, 2007, p. 9).

“When the heroin drought struck in 2001 many injectors of heroin turned to crystalline methamphetamine. This is shown in the growth from 15% of respondents in the 2000 illicit drug reporting system who reported recent use of ‘crystal’ or ‘ice’ and what now appears to be a stabilised figure of about 50% (IDRS 2004, 58)” (Families and Friends for Drug Law Reform, 2006, p. 27).

We examined in greater detail one Australian Parliamentary Inquiry, the ‘Impact of illicit drug use on families’ (House of Representatives Standing Committee on Family and Human Services). Experts gave evidence from the IDRS and EDRS to the Inquiry; and submissions from independent researchers referred to the IDRS or EDRS to support claims. The final report of this Inquiry, ‘The winnable war on drugs: the impact of illicit drug use on families’ (September 2007) makes 13 references to the IDRS and EDRS and refers to the IDRS as an “important source of information” (House of Representatives Standing Committee on Family and Human Services, 2007, p. 19). The report also makes recommendations for future questions to be included in IDRS and EDRS data collection.

In addition to parliamentary inquiries, a national drug summit was convened during the search period. With the concerns about an emerging problem with crystal methamphetamine in Australia (the so-called ‘ice epidemic’) the NSW government convened a National Leadership Forum in December 2006 (NSW Health, 2006). IDRS data were used to help define the issue in this policy process, for example a keynote speaker drew heavily on IDRS data

to describe prevalence and local trends in methamphetamine use. The IDRS was mentioned on the Forum website as a contributor to understanding national trends in methamphetamine. This Forum informed the subsequent ‘National Amphetamine-Type Stimulant Strategy 2008–2011’ document. The later ‘Inquiry into the manufacture, importation and use of amphetamines and other synthetic drugs (AOSD) in Australia’ (Parliamentary Joint Committee on the Australian Crime Commission, 2007) references the IDRS throughout as an important data source and data are also cited in support of statements.

Finally, of the 96 submissions to government as part of the public consultation on ‘Australia’s National Drug Strategy: beyond 2009’, six mentioned or referenced the IDRS or EDRS as providing supporting data (<http://www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/submissions-lp>).

### *Media analysis*

Over the media search period we identified 68 relevant newspaper articles which made mention of the IDRS and/or EDRS. Publication dates of the sampled newspaper articles were compared with the dates of NDARC press releases to determine the proportion of articles that could be regarded as ‘proactive media’ (that is generated as a result of an NDARC press release specifically disseminating IDRS/EDRS findings). In total, 31 articles were published within two days of an NDARC press release.

To contextualise these results, the IDRS/EDRS findings were compared to the media mentions of two other comparable surveys. The National Drug Strategy Household Survey (NDSHS) (Australian Institute of Health and Welfare, 2010) is conducted every three years. There were 227 newspaper articles regarding NDSHS in the same sample period. Excluding those articles primarily discussing only alcohol or tobacco (107), there were 116 articles mentioning NDSHS, which is greater than the number mentioning the IDRS and/or EDRS in the same period. An annual Salvation Army Alcohol Survey (The Salvation Army in Australia, 2010) was mentioned in 47 newspaper articles in the same sample period. Furthermore, IDRS and EDRS media coverage was compared to a larger sample more typically representative of reporting of drug issues in the Australian print news media (see Hughes et al., 2011; Hughes, Spicer, et al., 2010). This study drew on a national sample of drug-related media coverage from 2003 to 2008, identifying 42,436 articles within the sample period. The 68 IDRS/EDRS articles should be understood in this light—representing 0.2% of all drug related media coverage. At the same time, Hughes et al. (2011) and Hughes, Spicer, et al. (2010) found that only 7.4% of the drug-related newspaper articles described research (including drug trends and statistics), indicative of the fact that most media on drugs is not concerned with research findings.

### **Discussion**

In this paper we have demonstrated a practical method that researchers can use to evaluate the policy impact of their work which is, at present, rarely undertaken in the alcohol and other drug field. The three-component method is grounded in the theories of research translation, utilisation and policy processes: an important attribute of any assessment approach (Hanney et al., 2003). Measures of research ‘impact’ cannot be limited to examples of direct, instrumental use of research within a single decision point. Nor can it rely on the traditional mechanisms of measuring academic success, such as academic citations. Therefore we have sought to demonstrate a systematic, practical method for evaluation which is reflective of the reality of the policy making process and the dynamic role research plays within it.

The findings of this case study show that the IDRS and EDRS have influenced policy in a number of different ways, consistent with policy theories. For example, the review of policy documents revealed that the IDRS and/or EDRS appear to have informed priority areas (through the use of trends data). It is apparent that the data are used and cited in monitoring Australian drug use and are drawn upon by government agencies as well as community and research organisations, over and above the IDRS/EDRS researchers themselves. Consistent with Weiss' (1979) research utilisation theory we discovered multiple uses of IDRS and/or EDRS data in policy discussions, submissions, hearings and inquiries. A particular instrumental use of the IDRS appeared in relation to methamphetamine in Australia. While instrumental use of research is the most direct way in which research can be used, political/symbolic use of the IDRS and EDRS was also noted. For example, the ICGD annual reports make yearly mention of the investment that government makes in these monitoring systems.

The media findings highlight the poverty of research results reported in drug related media coverage. Although news coverage of IDRS/EDRS represented a tiny proportion of nationwide news coverage on illicit drug issues, it is possible that the nature of this coverage may play an 'enlightenment' role in the public sphere by broadening frames of reference. We know media can have multifarious effects by setting the agenda, capturing the attention of the public, and shaping public opinion and political debate about appropriate policy responses (Lancaster et al., 2011). By broadening the frames of reference beyond the usual preponderance of criminal justice themes in drug related media reporting, the small amount of IDRS/EDRS coverage may play a part in these processes.

Consistent with public policy theories about the importance of policy processes, relationships and interactions, the method used in this case study revealed evidence that the IDRS and EDRS have been actively taken up in Australian policy processes, such as where evidence is given in inquiries, or submissions are made to parliamentary deliberations. This notion of research uptake conforms to Haas' idea of epistemic communities (Haas, 1992). The uptake of IDRS and/or EDRS results is consistent with this model given that the research is drawn upon by many knowledgeable parties to inform policy discussion within established policy processes. Haas suggests that decision makers turn to epistemic communities under conditions of uncertainty. Undoubtedly, drug policy is a key example where specialist knowledge and interpretation are essential to "ameliorate the uncertainty" (Haas, 1992, p. 21), for example regarding interpretation of trends in the use of emerging substances such as crystal methamphetamine.

Similarly, that IDRS/EDRS research is drawn upon within inquiries, submissions and deliberations by organisations and individuals also highlights the importance of Lomas' (1997, 2000) linkage and exchange model. This model emphasises the relationships between not only the researchers and policy makers themselves, but also funders and knowledge purveyors more generally. The uptake of IDRS and EDRS data by other organisations to support their submissions demonstrates the dynamic exchanges between diverse groups that contribute to connecting research and policy in decision making processes.

The results demonstrate the need to be systematic in searching for references in policy documents, policy processes and media alike. Without such a systematic approach, the findings of research utilisation or influence would be skewed. As accuracy is important (and applying the theoretical framework is largely interpretative), in this case study another researcher cross-checked the references. Notably, this work was conducted independently from the IDRS/EDRS research team-providing less opportunity for bias in the analysis.

Furthermore, the approach requires some specialist knowledge. Knowledge of the workings of government and policy processes is required to ensure all sources are encompassed. Although many researchers wishing to conduct policy-relevant work would be intuitively aware of the ways in which their work was being used and the fora in which policy debate takes place, this three-component approach provides a systematic framework for such assessment. Knowledge of the policy theories is required as extracting quotes and interpreting how the research was used in that context involved exercising judgement and understanding utilisation theory (and Weiss' work in particular). That said the exercise of conducting this case study and applying this approach has demonstrated that it is a practical and effective approach to use. The data can be obtained from publicly available sources and the analysis can be done retrospectively (not requiring the researcher to simultaneously collect data whilst conducting the research project). The strength of a retrospective analysis is that there is often a lag between the release of research results and their subsequent uptake within policy processes. The analysis could be undertaken by collecting prospective data along the way, however in many cases researchers associated with the work may well have moved on, and record keeping prospectively is notoriously difficult.

In exploring research influence, the overall policy context is important. As noted earlier, Australia has had a documented commitment to evidence-based policy, and has structures which engage a broad range of the affected community, including researchers. These features would suggest that our finding of reasonably high levels of traction through utilisation of the IDRS/EDRS in policy documents and policy processes should perhaps not be unexpected. Documenting the policy context is an essential part of the method described herein.

Assessing research policy influence is a complex task, and there are a number of limitations to the approach trialled in this study. In this method we do not quantify the extent of informal personal communications between the researchers and the decision-makers; it is possible that the extent of formal uptake as documented in the case example has only occurred in the context of ongoing informal communications and well-established personal relationships. We know from the policy literature that relationships and interactions are vital to the interface between research and policy (Spaapen & van Drooge, 2011). Researchers could incorporate informal communications as an additional component to an influence assessment, but it requires real-time documentation of each informal interaction along the way.

One of the frequently mentioned variables in successful research-policy translation is the ongoing collaborative relationship between the parties. Research projects that have explicitly established relationships with decision makers from the outset of the research, and where decision makers have been engaged in constructing the research question(s), are likely to have greater influence and impact than studies conducted independently from any decision-maker engagement. This point is made clearly in Canavan, Gillen, and Shaw's (2009) six propositions for successful research impact measurement. Our approach focuses on influence at the conclusion of the research, and we have not included considerations about how the research was undertaken. For a more fulsome analysis, it may be worthwhile for researchers to document the initial research processes, including how the idea was generated, who was engaged in the initial research design and the extent of initial engagement by decision makers. This also speaks to the funding arrangements: in this case study, the projects were funded by government, but were not directly commissioned. At the other end of the spectrum is investigator-driven research which government or official policy bodies have no engagement with. Clearly, the extent to which government is engaged with and feels some sense

of ownership over the research findings will relate to the extent of influence.

Another possible way of assessing research influence is via the characteristics of the research. Characteristics of research that enhance and enable the likelihood that it will be taken up and used in policy decision-making include such things as the extent to which the research is high quality, objective and unbiased, generalisable, timely and relevant, contains findings which are consistent and unambiguous, and are adapted for the policy maker's use (Hanney et al., 2003; Landry, Lamari, & Amara, 2003; Ritter, 2009; Weiss & Bucuvalas, 1980; Weiss & Weiss, 1981). We did not include consideration of the research characteristics, again for simplicity we have focussed on actual utilisation (in policy documents, policy processes). The characteristics of research are important to enhance the uptake of knowledge, but the likelihood of influence goes beyond the notion of the 'product' itself.

For the purposes of the case study we chose the IDRS and EDRS as examples. These are ongoing surveillance programs rather than single time-limited research projects with a limited set of findings. Other features of importance are that they have been funded by government, and occur within a context supportive of evidence-based research. What is now required is replication of this three-component method to other types of research projects (time-limited); to commissioned research, and to investigator-driven research; to research conducted within other countries; and to other research methods such as qualitative research. It is only by testing the results against other applications of this method that we would be able to know the efficacy of this method, or whether other kinds of research are treated differently in the policy process. The body of knowledge generated from such future studies will substantially inform the 'research-policy' nexus and the ways in which research influence may be modified depending on the characteristics of the research.

Finally, and most obviously, the approach trialled here does not extend to examine the extent to which the policy documents, policy processes or media reports, having drawn upon IDRS and/or EDRS findings, have *changed* drug policy in Australia. We sought to examine the extent of influence within these systems, rather than any specific subsequent policy change. However, we would argue that it is difficult, if not impossible, to isolate the effect of the specific research (or in this case IDRS or EDRS) in terms of changing policy. Policy theory demonstrates why causal attribution to a single research project is flawed: policy arises out of a confluence of multiple processes, people, interactions, and information sources. What this systematic method for assessing policy influence seeks to capture is the fluid and ongoing complexity of these processes. Such understanding confirms that research cannot be conceptualised as a single product that results in definitive policy change.

Although researchers primarily engage in and are most rewarded for dissemination of research through peer-reviewed publications, it is unlikely that this kind of passive dissemination will influence policy decision making. Nor should it be the primary way for researchers to assess the impact of their work. Rather, the approach outlined here demonstrates the use of documentary analysis across three components to assess the extent of research influence. The approach is less complicated than others that have been suggested (Donovan & Hanney, 2011; Hanney et al., 2003; Lavis et al., 2003) but goes beyond a simple checklist approach (Smith, 2001), whilst also being grounded in policy theory. We see opportunity for further exploration and refinement of the systematic method demonstrated here as a tool for evaluation. Development of such methods will better equip researchers to evaluate the impact of research and, through better understanding these processes, help them to disseminate research in ways which will maximise potential for uptake in policy.

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## Conflict of interest

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