

THE RESPONSIBILITY FOR LINKING RESEARCH, POLICY AND PRACTICE IN PUBLIC HEALTH: THE CASE STUDY ON DRUG ADDICTION TREATMENT

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Abstract: This case study focuses on the impact of public-health research on drug treatment policy in Slovenia. It explores the example of the best practice of use of knowledge for public health policies. The objective was to identify the development of evidence based policy and practice and to discuss how researchers and policy makers had worked together to improve translation of research into policy, therefore bridging the social responsibility (SR) gap. The combination of literature review techniques and consultations with key experts in drug policy and addiction treatment were used. This study indicates that Slovenia introduced the harm-reduction national drug policy when the treatment demand data had showed that the abstinence – only-oriented policy proved unable to cope with growing numbers of heroin users and related public health risks. All key policy stakeholders should work closely together to enhance knowledge translation and use. A possible solution is to use individuals or organisations as knowledge brokers in public health.

Key words: researchers, policy-makers, drug addiction treatment, knowledge brokering, public health.

ODGOVORNOST ZA POVEZOVANJE RAZISKOVANJA, POLITIKE IN PRAKSE V JAVNEM ZDRAVJU: ŠTUDIJA PRIMERA ZDRAVLJENJA ODVISNOSTI OD DROG
Povzetek: Raziskava se osredotoča na vpliv raziskovanja v javnem zdravju na politiko na področju drog v Sloveniji. Preučuje primer dobre prakse uporabe znanja za politike javnega zdravja. Cilj raziskave je bil identificirati razvoj z dokazi podprte politike in prakse ter razpravljati o sodelovanju raziskovalcev in oblikovalcev politike za izboljšanje prevajanja raziskovanja v politiko. S tem želimo zapolniti vrzel na področju družbene odgovornosti. Uporabili smo kombinacijo pregleda literature in posvetovanja s ključnimi strokovnjaki na področju politike drog in zdravljenja odvisnosti. Raziskava kaže, da je Slovenija vpeljala nacionalno politiko zmanjševanja škode s pomočjo podatkov o povpraševanju po zdravljenju, ki so pokazali, da samo v doseganje abstinence usmerjena politika ni dovolj za zaježitev naraščajočega števila uporabnikov heroina in zdravstvenih tveganj. Boljše prevajanje in uporabo znanja lahko dosežemo le z večjim sodelovanjem med vsemi deležniki. Možna rešitev je uvajanje posredovalcev znanja ("knowledge brokers") v javno zdravje.

Ključne besede: raziskovalci, oblikovalci politike, zdravljenje odvisnosti od drog, posredovanje znanja, javno zdravje.

1. Introduction

The evidence-based medicine approach, which is focused initially on clinical decision-making, has only recently been extended to policy and management decisions in public health and referred to as evidence-based public health and evidence based policy making (Chalmers, 2005, Packwood, 2002, Nolimal, 2011). The failure in transferring research evidence into public health policy and practice may result in wasted resources. Thus, the use of research evidence is increasingly being seen as a key component of policy making processes. It has been suggested widely

that public health goals are more likely to be achieved by policies that are informed by rigorous research evidence (Hanney et al., 2003, Oxman, Lavis, Freitheim, 2007).

1.1 Evidence-based public approaches to improve population health

Public health is about disease prevention and health promotion, health equity, justice, social forces, government policies and programs, law science and ethics. Epidemiologists and other public health researchers have a joint responsibility to acquire scientific knowledge that matters to public health and to apply the knowledge gained in public health practice. Increasing disease and other health-related problem rates, decreasing funding, and growing scientific knowledge for prevention and intervention demand the use of proven strategies to improve population health. Public health policy makers and practitioners must be ready to implement the evidence-based approaches in their work to meet health goals and sustain necessary resources. However, there is still much uncertainty about how research evidence is used and how best to ensure that available knowledge is translated into public health policies and actions. Often effective interventions may be available for public health problems, however, this does not lead to the automatic translation of research evidence into policy-making (Hanney et al, 2003; Nolimal 2011). Also, policy and decision-making with too much emphasis on economic growth and competitiveness is not necessarily health protection and promotion friendly. Little is known about the extent to which business interests shape health system and programs. Whilst the principles of social responsibility are intended to ensure public policies works in public interest, the agenda may be manipulated by special interest groups to the extent this may no longer be the case. Decision makers may actively push for policies in favor of business or other ideology interests over social and health concern. Another example of where short-term political thinking has got in the way of good policymaking has been in the spending on prevention. The work by public health researches has constantly provided evidence that shows that careful investment in preventive activities is a considerably better way of spending money that dealing with the consequences once they appear.

However, the health care system's focus is on caring for people after they have become sick or harmed and not on prevention. Thus the evidence based public health interventions may not be implemented or are sometimes even discarded in favor of colloquial and ideology based interventions. Of course, these views of evidence are not necessary incompatible and each has a role to play in producing evidence-based guidance for decision making. Yet, the focus of evidence in public health policy making should be on how health promotion and prevention can help improve equality of opportunity in society.

1.2. Knowledge translation strategy to improve the use of evidence in public health decision making

An increasing volume of scientific evidence is available and putting this evidence to work demands collaboration between researchers, policy makers and practitioners. Knowledge translation strategies are an approach to improve this collaboration and increase the use of evidence within policy and practice decision-making contexts (Nolimal, 2011). In clinical health service contexts, knowledge translation strategies focuses on individual behavior change, however the public-health context these strategies focus on broader prevention, health promotion and other strategic public health interventions.

Knowledge translation also defined as the "exchange, synthesis, and effective communication of reliable and relevant research results" (WHO, 2004) is particularly relevant in countries which face scarce resources as well as high health-problem burdens. Studies suggest that the relationship between knowledge production, i.e. research that generates evidence, and knowledge translation is complex with a multitude of factors operating at the individual, organizational, systems and contextual levels (WHO, 2004; WHO 2006). Ideally, policy and decision makers make concerted efforts to increase the transparency of policymaking process as part of "good governance" agenda. They do this also by means of incorporating scientific evidence in making decisions and developing policies, and implementing programs. However, there are considerable barriers to effective dissemination and use of research information for policy-making. The public health sector may not currently be making full use evidence to inform policy-making and practice decisions. And when research is used, it may have only a limited impact (WHO, 2004). Various barriers to research utilization in the public sector have been identified, including research resistant organizational cultures, lack of relevant and timely research, inadequate research dissemination systems and lack of time and skills (Percy-Smith, Darlow, 2005). Part of the responsibility for addressing these barriers clearly lies within public health policy makers and the organizations in which they work (i.e., Ministry of Health and other Ministries responsible for health). However, much of the responsibility also falls to the researchers, research-producing organizations and their managers. Simply making evidence available is not sufficient for it to have an impact on policy or practice decisions (Hanney et al, 2003). Public health researchers and policy-makers often differ in their values, languages, reward systems and social and professional affiliations. They have also different time-scales that may conflict. When collaborating with policy-makers it is difficult for researchers to retain a degree of the professional autonomy (National Collaborating Centre for Methods and Tools, 2011). By nature of their ethics, researchers are usually not the members of special interest groups that set out to change the opinions of politicians.

They are usually not lobbyists that try to sway political views by giving “right incentives” to policy makers. Biases may creep into the decision making processes. The politicians’ decisions may be based on short-term demands of the special interest groups rather than respecting data and solutions proposed by researchers. As the consequence, public health policies often have low priority on political agenda and may not be evidence based.

2. Methods

This case study aims to review the response of the public health researchers, policy makers, practitioners and some other professionals and media to the injecting heroin epidemic in Slovenia, from the 1980s onwards. The use of the treatment demand research to support the development of national drug policy and the expansion of methadone maintenance programs in Slovenia is argued. Also, the factors that might have affected the translation of the scientific evidence into policy and/or practice are examined. In addition, some of the barriers and facilitators to such translation are identified. The qualitative case-study methods were used to explore the research and policy making process. The objective was to review how public health data in Slovenia had been used to help influence drug policy and practice. Also, to come to the knowledge whereby policy-makers, practitioners and researchers can make better use, in the future of public health data to help develop evidence-based policies and practices. The documentary evidence on the use of addiction treatment demand data in the establishment of methadone substitution programs in Slovenia was selected to establish clearly the link between the use of public health data and the subsequent formulation of policy and/or practice development. The combination of literature review techniques and consultations with key experts in drug policy and addiction treatment were used. Documents that provided insight into public-health research and policy processes at national level were reviewed. These included formal research and policy documents, other official documents such as treatment guidelines, circulars and minutes of professional meetings and media articles and reports. Based on the documentary evidence the case study report was written which clearly describe how public health data were used and how they impacted on policy formulation and/or practice development, Based on the information from key informant interviews with key stakeholders the barriers to effective dissemination and use of research information for policy-making were recognized.

3. Key findings

3.1. The history of heroin addiction treatment in Slovenia

First research reports of an injecting heroin epidemic in Slovenia first began to appear in the late 1980s (Nolimal, Premik, 1992). Before this, Slovenia had little experience in responding to the problem. The addiction treatment system was strikingly inefficient and ineffective before early 1990’. Most heroin users were excluded from the methadone substitution treatment options. In fact, methadone substitution was forbidden since 1984 (Savezni zavod za zdravstveno zaštitu, 1985). Prohibition of methadone was primarily a product of strong emotions and views of drug addicts as ‘sinners’, not as individuals in need of treatment.. From 1984 to the early 1990s the ‘political evidence’ and emotions ran high in opinions about methadone. There was general lack of knowledge and an ideological objection because the medical sector accepted the idea that illicit drug addiction – as with alcohol addiction, was a disease and treatable with abstinence only. Recognizing the needs of individuals and society, a few physicians decided to continue prescribing methadone. In 1987 the first methadone maintenance program was opened for a group 40 patients (Nolimal, 1995). The physician who started the ‘illegal’ substitution program was threatened with disciplinary sanctions and actually had to close the program. Despite accumulating international evidence regarding effectiveness of substitution treatment, there was still strong ideological opposition to this kind of treatment. One of the reasons for such opposition to substitution treatment was also the lack of the data to show the increasing problem of heroin injection in the country (Nolimal, 1991).. Given the limited evidence on the risks of the injecting heroin epidemic, it is of little wonder that the national treatment guidelines, published in 1991, stated that “methadone substitution in Slovenia should not expand but gradually be abandoned” (Republiški strokovni kolegij za psihiatrijo, 1991). In spite of this, in the late 1980s and early 1990s, the National Institute of Public Health (NIPH) came under increasing pressure to develop drug epidemiology indicators and relevant research projects to evaluate the existing treatment system. This pressure came from different sources. It came from policy makers, who were anxious to have control over the illicit drug use situation in the country. It came from professionals, who wanted to have evidence on the value of the methadone substitution treatment in preventing injecting-related HIV and crime. It also came from the critics of substitution treatment who were skeptical of its efficacy. And finally it came from drug users who wanted to defend their rights to health and evidence based treatment.

Because of these pressures, public health researchers conducted the pioneering research on heroin use in the country and reviewed the evidence-based practice in addiction treatment with a goal to produce guidelines and recommendations for policy makers and practitioners. It had been shown that the piloting substitution treatment had been more effective in attracting the heroin injectors into the treatment than abstinence-only oriented treatment services that appealed only to minority of drug users.

3.2. The involvement of the researchers in policy making

In 1991, a 'methadone working group' which was actually the public health group for monitoring of the illicit drug problems and was set up at the National Institute of Public Health (NIPH) to improve data collection, to collect evidence on existing approaches to treatment, to disseminate knowledge, and to develop the mechanisms for interdisciplinary collaboration (Nolimal, 1991). The evidence was developed through systematic and methodologically rigorous research. First came the summary of research for heroin use epidemic and treatment solutions (epidemiology data, systematic review etc.). Second came the synthesis of the research for guidance (research driven guidance). Then came the recommendations and other information for policy, management, practice, lay public and media (system driven guidance). Finally came the decisions which of course played a crucial role in translating the knowledge into drug policy and practice. Thus, recognizing the epidemic of heroin use and related risk in transmitting infectious diseases, this group initiated a joint political process aimed at informing and influencing the key policy makers and practitioners in establishing the evidence-based drug treatment policy and programs. Some researchers also worked with the policy maker to draft and review policies, often through expert groups. Policy makers also gave researchers other tasks, such as drawing up operational plans, training and supervision, which contributed to close working relationships. Some researchers also got the positions in the Ministry of Health. Some researchers and other health professionals lobbied for methadone to be included as the first line treatment for heroin addiction. Through lobbying they were attempting to influence decisions made by officials in the government, most often legislators or members of regulatory agencies. The interview respondents admitted the importance of individual and organizational lobbying which drew attention initially to the causes, consequences and health threats of heroin abuse. This sort of lobbying helped to place substitution treatment and other harm reduction approaches on the policy agenda. This helped to ensure that the government prioritized the development of evidence-based policies to improve public health response to heroin use epidemic and HIV epidemic threat. Public health lobbying was not limited to the national level. The national collaboration group had influenced how regional and local researchers, policy makers and practitioners thought about evidence-based practice and policy. This collaboration helped the sharing of information among group members to enhance their expertise and get the most value from the proposed solutions. The group operated on few levels. It organized discussions, both in drug epidemiology and in methadone substitution treatment that was in that period considered as part of epidemiological intervention (Krek, Krek-Mišigoj, Nolimal, 1994). One of the results of collaboration within this group was the opening of new experimental methadone substitution program within the regional institute of public health of Koper in 1991. Since 1991, the members of this group were also contributing at the professional and scientific meetings and publishing the professional and popular articles and reports with a comprehensive media coverage that had considerable impact on professional and public perception of the substitution treatment in the country. They intensively advocated for the prevention of drug-related harm rather than prevention of drug use per se among injecting drug users. During this process the treatment demand research became the most developed source of drug information and the treatment demand data became a key source of knowledge and evidence on drug users their risk behaviors and treatments (Nolimal 1994, Nolimal D, Rode N, Krek et al., 1995). Gradually the accumulating treatment demand databases soon became the tool to analyze problematic drug use trends, to conduct comparative analyses for the nation and treatment centers and to assist state and local authorities to routinely assess the extent of the drug injecting problems, advocate methadone substitution and forecast treatment resource requirements (Nolimal, 1994). In 1994, Slovenia became part of the Pompidou Group's drug epidemiology expert group (Nolimal D, Onusic S, 1993). The researchers who were the key to national policy development were also involved in international research networks, in particularly Pompidou Epidemiology Group within Council of Europe. This network was influential in building a culture of research and evidence-based drug policy and treatment through exposing national and local researchers, policy-makers and clinicians to these ideas as they developed internationally. Directly and indirectly, Pompidou group epidemiology network therefore shaped the translation of evidence into national drug policy (Hartnoll, 2004). Introduction of the Pompidou Group's protocol for collecting and reporting treatment demand data brought greater comparability of data and formed the basis for improving the efforts to understand the drug situation and response to be used during policy making process (Hartnoll, 2004; Nolimal, Krek, Aubrey, 1994). This increased capacity made it possible for researchers, policy makers and practitioners to identify needs and priorities for treatment of drug users and to monitor changes over time in heroin injecting situation jointly with the development and implementation of the substitution programs.

Media advocacy was used to promote the new information on harm reduction approaches in order to influence policy makers and encourage the change. Compared to the 1980s period and before, this was a considerable change, since in the past media paid a great deal of attention only to the "war on drugs" and criminal problems related to illegal drug use. This advocacy, through published popular articles, always included the current treatment demand data in educating the public, swaying public opinion and influencing policy makers (Nolimal, 1991, 1992, 1995, 1998). Public opinion in favor of the harm reduction programs was formed and reflected through media and played important role in the relevant policy-making.

Also, the primary health care workers who faced with a huge increase in the demand for treatment by injecting drug users were educated. Interventions were designed to improve access to primary care for heroin drug users by enhancing health care providers' knowledge and skills (Kastelic, 1995). Practitioners were trained in both substitution delivery skills and basic epidemiology skills. The later included the skills on collecting primary data and using the processes data for their every day work. The trainings resulted in increased capacities for collecting the data and treating injecting drug users, and improved co-operation between researchers and practitioners. It contributed to the change in negative attitudes of the medical establishment towards injecting drug users and methadone substitution. Although, it was considered controversial a few years ago, methadone substitution as one form of the treatment for heroin addicts became legal again in 1994.

3.3.. Three ways of communicating research for evidence-based policymaking

Three ways of communicating research for evidence-based policymaking in which policy makers and researchers were interacting were identified. First was the “publication - presentation approach” when researchers were publishing research and /or presenting the results at professional meetings. Policy makers were responsible for locating and using the information. Second was “the lobby approach “when researchers did research and lobbied for its use in public health policy. Third was the “partnership/ participation “ approach when researchers, policy makers, practitioners and other stakeholders were partners and had decided the research needs together and related issues, including research funding together. The “partnership/ participation “approach was most effective because it appeared to most successfully enhance exchanging of knowledge between researchers and policy makers. We want to stress an urgent need to move beyond the one-way model of dissemination of public health knowledge in which researchers present their results as a “fait accompli “at the end of a project. Knowledge transfer is important part of social responsibility of research and policy-making organizations and should always be two-way dialogue. Responsible professionals reliably perform the tasks they set for themselves as well as the tasks society expects them to undertake. Finally, the public health research and scientific evidence benefited from media attention. Aside from generating interest in the subject of the heroin use epidemic and the evidence based addiction treatment publicity opened the door to further validation of the research team’s accomplishments. Most importantly, media coverage expanded the number of policymakers and practitioners who put research findings to good use. During all this processes researchers clearly assumed the responsibility for seeing the research evidence was translated into policy.

4. Discussion

4.1. How ideology based evidence was overpassed

A large and diverse group of stakeholders was involved in decisions on illicit drugs policy. Important players included health sector institutions (public health, primary health, psychiatry, infect ology), social sector; law-enforcement; government officials; international agencies (particularly the WHO and Pompidou Group); NGOs; commercial actors (such as pharmaceutical industry/manufacturers) and media. These stakeholders expressed varied interests and differed interpretation of evidence regarding methadone substitution and harm reduction approaches. Some of them advocated only abstinence oriented treatments and different control policies. Public health research had the impact on policy-making and practice and the stakeholders professionals involved, in a number of ways. There was evaluation of the use of the research and evidence-based proposals. There was concrete or instrumental type of change: i.e. harm reduction policy and legislation was written; methadone for treatment of heroin addiction became legal; first methadone programs / centers were opened). Also, there was the conceptual impact which referred to influence that causes a change in the stakeholders’ knowledge and understanding concerning the illicit drug problem and harm reduction approaches. The NIPH had advocated the systematic and routine collection of information on illicit drug addicts entering treatment for problem drug use (treatment demand data) since the early 1990s. Two decades later, the question had being raised whether or not this data has been used as evidence in the development of policies and practices. Both, researchers and policymakers had acknowledged that policy formation often is influenced by political priorities and constrained by government resources (Noliaml, 2011). It was recognized that even well-developed research findings of great interest to the public and health may not be used if the political climate was not the right one and if there were individual and group interests involved. Both researchers and policymakers identified the lack of formal channels of communication as a barrier to more effective dissemination and uptake of research results. Both groups felt and proposed that a something like “social responsible communication forum” would enable effective dialogue between researchers and policymakers in public health.

To minimize the original ideological opposition against methadone substituting and to effectively transfer research knowledge to different stakeholders, there was a need to identify credible national “knowledge mediators” (“knowledge brokers”). The public health research findings were not always a “passport” to policy, but researchers reframed the way health policy issues were seen and only collaboration with policy-makers initially could enhance implementation later. During this exercise the channels to overcome political and professional barriers and to

influence those who were able to act were identified. A communication strategy was developed, recognizing different fears that arose in relationship to new public health approaches for drug users.

4.2.. Knowledge brokering in practice

This case study indicates that the treatment demand research had an impact on the development of the evidence-based national drug policy, treatment law, treatment guidelines and the availability and accessibility to substitution treatment for injecting drug users. Key to the relevant knowledge translation and use was the interface between researchers and policy-making. Public health professionals (specialist in social medicine) who were also active as researchers played important roles in the national and local policies development. They were committed to the scientific study of the illicit drug use epidemic in populations and to the application of scientific knowledge to improve the public's health. They acted as knowledge brokers.

The role of brokers was to make research, policy and practice more accessible to each other. The process of spreading and translating knowledge in public health was believed to stimulate the innovation, leading to the development of the new product- the substitution treatment. At the same time, sharing research evidence with decision makers and practitioners through passive dissemination had been widely acknowledged as ineffective. The knowledge brokers hold numerous meetings with policy makers and practitioners during which they discussed the research evidence, its consequences for decision making and the gaps between evidence, policy and practice before proposing the solutions. The knowledge brokering was the way of implementing the dissemination strategy which included the capacity building (professional development opportunities) and training workshops, face-to-face contact and communication through print and electronic media and the use of media. In this context, the changes in the drug treatment policy and practice that have brought about the wider availability of substitution treatment and other harm reduction approaches in Slovenia had been planned, structured and strategic rather than largely reactive. Transparent, official and personal interaction between researchers and policy and decision-makers and researchers were widely accepted as the key to enhancing research use. "Knowledge brokering" was the often missing link in the evidence to action chain.

5. Conclusion

This paper is a response to the need to monitor the state of the heroin use epidemic and the availability of the treatment and harm reduction services in the epidemic country. It also highlights the poor coverage of treatment services before early 1990'. The challenge was to develop the relevant research and translate the treatment demand evidence base for the national and local applications. Since then the treatment availability has greatly improved.

The lesson we should have learned from this case study is that the linking research, policy and practice and knowledge translation/ brokering approaches should be promoted in public health as a means of improving evidence-based policy making in the public interest. Public health and other organizations wishing to increase the impact of their research need to take active steps to make their findings more accessible and relevant to policy and decision makers and professionals. Dissemination of public health information is enhanced if researchers involve policy-makers and practitioners in the development of the framework for research and also if researchers assume a responsibility for seeing their research translated into policy. Collaboration between the various stakeholders who create, disseminate and use research evidence is important for effective evidence-based processes. This should include the efforts for democratic organizational work culture which is committed to developing communication skills and tools needed to integrate public-health evidence into decision-making. The evidence-based decision-making requires the social responsibility, organizational culture of ethics, vision, inquiring minds and commitment. The commitment to the evidence-based decision making from public health leaders and managers is essential to ensure a translation of research knowledge into policy. The public sector in general need to develop and apply social responsibility ethics in their management systems and increase their knowledge in this area. The responsibility is an ethical concept particularly well suited to frame many key aspects of the public sector ethics. The worthy objective of introducing more science into policy and decision-making which started with evidence based medicine should in particularly spread to management of health, social and educational systems and policy making by government. The government should become interested in "evidence-based decision-making", particularly in public health, primarily due to concerns about cost-containment, quality improvement and accountability.

References

- 1.Chalmers I (2005). If evidence-informed policy works in practice, does it matter if it doesn't work in theory? *Evidence & Policy*, 1:227-242.
- 2.Packwood A (2002): Evidence-based policy: rhetoric and reality. *Social Policy and Society*,1:267-272.

3. Nolimal D (2011). Povezovanje raziskovanja in politike: kaj smo se naučili in kakšni izzivi nas čakajo? In: Farkaš Lainščak J, Kragelj Zaletež L, Kragelj L (eds). Cvahtetovi dnevi javnega zdravja 2011. Z dokazi podprto zdavje. Ljubljana: Univerza v Ljubljani, MF, KJZ.
4. Hanney S, Gonzalez-Block M, Buxton M, Kogan M (2003). The utilisation of health research in policy-making: concepts, examples and methods of assessment. *Health Res Policy Syst*, 1(1):2.
5. Oxman A, Lavis J, Fretheim A (2007). Use of evidence in WHO recommendations. *Lancet*, 369(9576):1883-1889.
6. World Health Organization (2004). World Health Report on Knowledge for Better Health. In: WHO Technical Report Series. Geneva: World Health Organization.
7. World Health Organization (2006). Special Theme: Knowledge Translation in Global Health. Geneva: WHO, 84(8):721-800.
8. National Collaborating Centre for Methods and Tools (2011). Interfaces and receptor model: using research in policy-making. Hamilton, ON: McMaster University. Retrieved from: <http://www.nccmt.ca/registry/view/eng/96.htm>.
9. Percy-Smith, J, Darlow A (2005). Local authority research effectiveness: a discussion paper. Paper prepared for the Local Government Association and Local Authorities Research and Intelligence Association. Retrieved from: www.local.gov.uk/c/document_library/get_file?uuid=ed8faae.
10. Nolimal D, Premik M (1992) Nekateri socialnomedicinski vidiki zlorabe drog. *Zdrav Vestn*, 61: 133-136.
11. Savezni zavod za zdravstveno zaščito. Osnovi jedinstvene medicinske doktrine o lečenju i rehabilitaciji narkomana. Beograd, 1985.
12. Nolimal D (1995). Nekateri zgodovinski in javnozdravstveni vidiki metadonskega zdravljenja. In: Kostnapfel RT. (ur.). Posvetovanje o problematiki metadona. Zbornik izbranih predavanj. [Ljubljana]: Ministrstvo za zdravstvo, 1-17.
13. Nolimal D (1991). Preprečevanje zlorabe alkohola, tobaka in drugih drog v Sloveniji danes. *Zdrav var*, 30: 287-290.
14. Republiški strokovni kolegij za psihiatrijo. Načela zdravljenja in drugih postopkov pri odvisnosti od drog. *Zdrav Var* 1991; 4-5: 103-116
15. Nolimal D (1991). Preprečevanje in širjenje okužb z HIV: metadonski programi. *Zdrav Var*, 30: 117-120
16. Krek M, Krek-Mišigoj J, Nolimal D (1994).. Politika zmanjševanja škode zaradi uživanja drog med uživalci ilegalnih drog. *Zdrav Var*, 33: 263-7.
17. Nolimal D (1994). uvajanje kazalca o prvem iskanju zdravstvene pomoči uživalcev drog po metodologiji skupine Pampidou. *Zdrav Var*, 33: 337-343.
18. Nolimal D, Rode N, Krek M et al (1995). Spremljanje učinkovitosti metadonskega vzdrževalnega programa s sledenjem sprememb v tveganih vedenjskih vzorcih ter sprememb v deležu uživalcev drog okuženih s humanim imunodeficientnim virusom (HIV). Raziskovalno poročilo. Ljubljana: Inštitut za varovanje zdravja RS, 1-30.
19. Hartnoll R (2004). Drugs and drug dependence: linking research, policy and practice. Lessons learned, challenges ahead. Strasbourg: Council of Europe Publishing.
20. Nolimal, Krek, Aubrey (1994). Treatment demands in Koper in the period between 1991- 1993. Report presented at the PG seminar on drug epidemiology and information systems. Piran, 26-28. 1994.
21. Nolimal D, Onusic S (1993), Overview of drug misuse in Slovenia : epidemiology and research. Thev Report for the Seminar on Information Systems and Applied Epidemiology of Drug Misuse, Ljubljana, Slovenia, September 22 - 24, 1993. Ljubljana: Institute of public health of Slovenia.
22. Nolimal D (1998) Political considerations in planning a reporting system on treatment demand. In: Proceedings. Conference on co-operation in the mediterranean region Malta, 15-17 november 1999. Strasbourg: Council of Europe, 5-10.
23. Nolimal D (1991) Ko je virus nevarnejši od heroina : sporni metadon. *Delo* 1991; 33.
24. Nolimal D (1992). Poplava heroina v Sloveniji. *Delo* 1992; 34.
25. Nolimal D, Lahajnar I (1995) S kakovostnejšim zbiranjem podatkov tudi učinkovitejši v boju proti drogam : Slovenija in skupina Pampidou pri Svetu Evrope. *Delo* 1995: 11.
27. Nolimal D (1995). Virus ljubi tvegavce : mamila, spolnost in aids. *Delo* 1995: 37.
28. Nolimal D (1992). Uspehov ne bo, če vlada ne bo sprejela prave strategije : zloraba drog in preventiva. *Delo*, 34: 15.
29. Kastelic A (1995). Priporočila zdravnikom za zdravljenje odvisnih od drog. In: Kostnapfel RT. (ur.). Posvetovanje o problematiki metadona. Zbornik izbranih predavanj. [Ljubljana]: Ministrstvo za zdravstvo, 17- 62