

Concurrent opioid dependence and mental health problems: a review of the issues for general practice

JANICE DUFFY, ALEX ASK, AND COLIN MACDOUGALL

Janice Duffy is a Senior Research Officer in the South Australian Community Health Research Unit (SACHRU), and teaches in the Department of Public Health, Flinders University.

Alex Ask is a Senior Project Officer in the Department of Psychiatry, Flinders University.

Colin MacDougall is a Senior Lecturer in the Department of Public Health, Flinders University.

Abstract

The literature is reviewed on the issue of concurrent opioid dependence and mental health problems within the general practice setting. People with such problems have poorer personal, clinical and social outcomes than people with either mental health or drug and alcohol (D&A) problems alone. Mental health and drug services operate from different policy systems and are generally not co-ordinated with each other, leaving the onus on the patient to move effectively through health systems. The common statement that GPs are ideal health professionals to manage concurrent problems is contrasted with the evident barriers in general practice such as lack of time, knowledge, skills and confidence. Models for managing concurrent problems tend towards shared care. However, these models either have received mixed evidence (eg. consultant-liaison psychiatry) or are amenable to development but remain untested (eg. co-ordinated care, community health centre programs). The Enhanced Primary Care items introduced in 1999/2000 may provide an incentive for GPs to participate in shared care arrangements with other health professionals. However, there is a need for mechanisms to increase the links between GPs and other health services.

Introduction

More than 80% of Australians will visit a GP each year (Health Insurance Commission 1998). Opioid dependent patients are high users of GP services (Bucknall, Robertson & Foster 1986). Moreover, opioid users report that they want assistance from their GP for drug use. For example, a survey conducted in the UK found that assistance with detoxification or management was the most commonly reported request from opioid dependent patients (Elander, Porter & Hodson 1994). These data imply that GPs are a frontline profession to treat patients with concurrent mental health problems and opioid dependence.

The aim of this paper is to examine the issues underpinning the management of concurrent mental health and drug and alcohol problems in the general practice setting. We initially review literature relating to the incidence and outcomes of concurrent mental health and drug and alcohol problems and then discuss literature that pertains to general practice. The underpinning objective of this process is to draw conclusions about the potential for general practice to assist individuals with concurrent problems. To this end, models of service delivery that are relevant to the Australian general practice setting are proposed and discussed.

Incidence and outcomes of concurrent problems

Despite methodological and population differences, studies have identified high rates of concurrent mental health problems in people with opioid dependence. The Epidemiologic Catchment Study, a large representative US population study, found that lifetime incidence rates of mental health problems may be as high as 65% in opioid users (Regier, Farmer, Rae et al 1990). Similar rates have been reported in Australian research on injecting drug users (Darke & Ross 1997). Three categories of mental health disorders are common among opioid users. They include depression, anxiety and antisocial personality disorders (Luthar, Cushing & Rounsaville 1996; Mattick & Hall 1993; Regier et al 1990). Alcohol problems are also common (ADCA 2000).

Five hypotheses for high prevalence rates of concurrent drug and alcohol (drug and alcohol) and mental health disorders are found in the literature:

- An increase in alcohol and other drug use particularly among young people (Ministerial Council on Drugs 1998);
- Social dislocation created by the trend towards the de-institutionalisation of people with mental health disorders (Gafoor & Rassool 1998);
- Attraction to the drug culture of people with mental health problems (Gafoor & Rassool 1998);
- Alleviation of emotional and affective symptoms by self-medication (Darke & Ross 1997; Khantzian 1985);
- Psychiatric sequelae caused by drug and alcohol dependence (Darke & Ross 1997).

The following personal, clinical and social outcomes are experienced more often by people with concurrent problems than by people with either mental health or drug and alcohol problems alone:

- increased hospitalisation (Haywood, Kravitz Grossman et al 1995); depression and suicide (Harris & Barraclough 1997); violence (Swanson, Holzer Ganju et al 1990); crime and incarceration (Abram & Teplin 1991); homelessness (Drake, Osher & Wallach 1991); human immunodeficiency virus (HIV) infection (Cournos, Empfield Horwath et al 1991); reduced ability to manage life needs (Drake & Wallach 1989); non-adherence to medication regimes (Alterman, Erdlen LaPorte et al 1982); increased family problems (Clarke 1994) and; higher service utilisation (Kessler, Nelson McGonagle et al 1996).

Moreover, it is reported that people with concurrent problems incur up to 60% higher treatment costs than people with either drug and alcohol or mental health problems alone and are less likely to complete treatment (Crome 1999).

Services for concurrent problems

Historically, services for mental health and drug and alcohol problems in the western nations have operated independently with weak links between the two systems (El-Mallakh 1998). Specifically, services have been underpinned by disparate philosophies that have impeded collaboration and reduced their effectiveness for treating concurrent problems. According to Clenaghan, Rosen and Colechin (1996), the separation of services is problematic for three reasons:

- the burden of integrating two systems of treatment is invariably placed upon the client;
- each system tends to provide a standard form of treatment without the flexibility to modify approaches for special populations and;
- the potential for miscommunications, contradictory recommendations and non-compliance is maximised.

The result of this dual system approach for people with concurrent problems is usually a failure to fit the profile of either system and therefore a reduction in the potential for sustained recovery.

In response, models of integrated treatment that address both problems concurrently have been developed (Lehman, Myers & Corty 1993). These models combine assertive outreach and case management with techniques developed in the drug and alcohol field such as relapse prevention and motivational interviewing (Dixon, McNary & Lehman 1997). However, the conclusions drawn about the effectiveness of these treatment programs have been inconsistent across a number of studies (Drake, Mercer-McFadden, Mueser et al 1998). This inconsistency has been attributed to a lack of methodological rigour and a variation in program models (Drake, Mercer-McFadden, Mueser et al 1998; Ley, Jeffrey, McLaren et al 2000).

Pharmacotherapy treatment for concurrent opioid dependence and mental health problems

There is emerging evidence that the presence of concurrent mental health problems may predict less effective responses from pharmacotherapies. One Australian study reported that patients on methadone maintenance treatment had rates of mental health problems comparable with illicit opioid users who were not on pharmacotherapy maintenance treatment (Darke, Hall & Swift 1994). Moreover, other studies have considered the presence of concurrent mental health problems on the success of treatment (Krausz, Degkwitz, Kühne et al 1998).

A major Australian review suggested that relapse prevention could be improved with the use of both methadone and antidepressants amongst people with opioid dependence and clinical depression (Mattick & Hall 1993). Nonetheless, the benefits of concurrent pharmacotherapy treatment may be mitigated by factors such as polydrug use and poor treatment adherence that are common among opioid users. Use of prescribed drugs in combination with non-prescribed and/or illicit drugs may be a particular problem for opioid dependent people with a concurrent mental health problem. For example, Darke and Ross (2000) found that 93% of injecting drug users had used antidepressants in combination with other drugs such as heroin and benzodiazepines in the preceding six months that created a clear risk for overdose.

In sum, concurrent problems predict poorer success from pharmacotherapies. Simultaneously treating both mental health and drug dependence problems may significantly improve treatment outcomes, although management should be undertaken within established clinical guidelines.

Barriers in the treatment of opioid dependence and concurrent mental health problems in general practice

GPs frequently fail to detect drug and alcohol problems (Albery, Heuston & Durand 1996) or mental health problems (Tobin, Hickie & Urbanc 1997). According to a literature review, the potential for GPs to treat opioid dependent patients is under-utilised (Deehan, Taylor & Strang 1997). These missed opportunities may be related to a number of barriers related to the GP, general practice and the health system in Australia.

An Australian study found that GPs were less likely to ask patients about illicit drug use than about use of alcohol and other types of drugs (Jacka, Clode & Patterson et al 1999). There is evidence that GPs find patients with opioid dependence (Bell, Cohen & Cremorna 1990) and mental health problems (Lawrie et al 1998) difficult to treat and manage. Further, many GPs lack confidence in treating patients with opioid dependence (Roche, Parle, Stubbs et al 1995). This may be caused by issues such as fear of violence, confusion about the most appropriate treatment, lack of education and training and negative expectations about the success of treatment. Positive treatment outcomes are dependent upon accurate and specialised assessment of both the nature and severity of each problem. Research has identified a skill deficit in the ability of GPs to treat their opioid dependent (Abed & Neira-Munoz 1990) or mental health (Millar & Goldberg 1991) patients. Although GPs consider these diagnostic skills to be important (Phongsavan, Ward & Oldenburg 1995), existing instruments to assist the diagnosis of both drug use and mental health problems are generally under-utilised (Hall 1996).

System and practice factors are also barriers to treating opioid dependence in the general practice setting. The fee-for-service remuneration system that places pressure on GPs to increase productivity rates by providing shorter consultations (General Practice Strategy Review Group 1999) often compromises their ability to treat complex conditions such as opioid dependence. Other economic disincentives may prevent GPs from treating opioid dependent patients. For example, according to MacQueen (1997), some GPs are concerned that opioid dependent patients may be a deterrent to other patients.

There is some indication that GPs, while unwilling to personally treat opioid dependent patients, would like to refer to specialist drug and alcohol services (Roche, Guray & Saunders 1991). In this respect the options for GPs are limited because demand often exceeds supply for existing services and there are limitations on entering and remaining on the programs (Duffy & Ask 2001). Service choice has now been expanded so that GPs can now be accredited to deliver pharmacotherapies. However, the number of GPs trained to provide this treatment is

disproportionately small compared with the demand. For example, in South Australia there are approximately 5000 people with opioid dependence and fewer than 30 GPs who are registered methadone prescribers (Duffy & Ask 2001).

Although evidence suggests that GP education and training improves both patient care and patient outcomes (Davis, Thomson, Oxman et al 1992), it is widely acknowledged that GPs do not receive adequate training to deal with problems associated with drug use (Roche, Guray, Saunders et al 1991). The importance of appropriately evaluated continuing medical education programs for GPs is emphasised in the literature (Farrell 1990) but not reflected in the uptake of training opportunities. A report noted that a significant increase in both development and uptake of mental health continuing medical education activities was not matched by a similar increase in activities for drug and alcohol problems (RACGP 1996).

Models for treatment of concurrent opioid and mental health problems in the general practice setting

In 1991 an identified need to strengthen links with the wider health care system underpinned a process of structural change to general practice. Based upon the recognition that effective health care cannot be limited to treating organic disease, *The Future of General Practice* (National Health Strategy 1992) called for general practice to integrate with the broader health system to effectively meet population needs. Subsequently, GPs were identified as the “most appropriate [people] to co-ordinate the various needs of an individual” (National Health Strategy 1992, p 104). This underpinned the development of a shared care approach to service provision for a range of population health needs. This model advocates the sharing of care between various health care professionals with the purpose of increasing quality of care for the patient while decreasing health care costs through reduced hospital admissions (O’Connell, Kristjanson & Orb 2000). A shared care approach may offer potential to provide the necessary level of comprehensive care to meet the multiple physical and mental health needs of people with concurrent opioid dependence and mental health problems. Three distinct models of shared care were evident in the literature.

The consultant-liaison model

Various models of mental health care based upon consultant-liaison links between psychiatric services and GPs have been implemented and evaluated in the United Kingdom (Meadows 1998). One report pointed to an improvement in detection rates but not in patient outcomes (Katon & Gonzales 1994), while another called for further evaluations in response to the lack of sustainability of many of these models (Gask, Sibbald & Creed 1997). Reports have produced inconclusive results on the effectiveness of this model in Australia. For example, the results of a pilot program initially concluded that it was applicable and effective to the general practice setting (Carr & Donovan 1992), but the former author later identified some significant problems with the model and the program failed to progress beyond the pilot phase (Carr & Reid 1996). More recently, a report on a project that built upon the relationships established through the consultant-liaison links with a model of shared care between psychiatrists, GPs and the mental health services concluded that it augmented the capacity of GPs to provide cost-effective continuity of care (Meadows 1998).

The community health centre model

Another model of shared care with potential to treat complex conditions which meets the current requirements of a cost-effective quality service has been examined in the literature. Copeman (1992) notes that there is evidence from both Australia and overseas that community health centres with a primary medical care component lead to a decrease in hospital costs without a concomitant increase in overall health care costs. The potential lies in their ability to provide access to a wide variety of primary health care services delivered by multidisciplinary teams of health professionals. In a study of the role of medical practice in community health centres in relation to women’s health, the authors found that this model was preferable for individuals who have multiple social and physical problems (Baum, Kalucy, Lawless, et al, 1996). Another study found that longer consultations, counselling and follow-up visits presented clear advantages for addressing complex health

problems (Monalto, Dunt & Young 1994). Limitations of the community health centre model include long waiting lists and the limited availability of such programs (which require ongoing funding, training, development and evaluation). A further system limitation concerns the failure of the General Practice Reform Strategy to incorporate mechanisms to encourage co-ordination between GPs and the community health sector (Baum, Kalucy, Lawless et al 1996).

The co-ordinated care model

A final shared care approach that has received scant attention thus far is co-ordinated care. The first round of Co-ordinated Care Trials in Australia was conducted from June 1997 to December 1999 on patients with chronic and complex medical conditions. The underlying principle of the trials was that the management of chronic conditions might be improved by better co-ordination between service providers and by a different system of payment outside of the Medicare fee-for-service arrangements. The idea was to establish a funding pool based on an estimate of what would otherwise have been spent on services used by trial participants (patients with chronic conditions). Each participant's 'care co-ordinator' (usually their GP) would then use the money from that funding pool to buy the full range of services set out in a prospective plan of care, established according to best practice.

A number of co-ordinated care models were trailed during the first round. The most effective in terms of patient health outcomes was SA HealthPlus – the largest trial in Australia (McDonald & McGowan 1999). SA HealthPlus was designed to reduce service fragmentation for consumers by employing a Service Co-ordinator (usually a registered nurse) who worked in liaison with a GP (care co-ordinator) who was principally responsible for the patient's care. The role of the Service Co-ordinator is to assist the GP with health assessments, prospective care planning, arranging health services, improving self-management capacity, and providing ongoing patient support. A system change that has resulted from the first round of the Co-ordinated Care Trials is the Enhanced Primary Care package introduced by the Department of Health and Aged Care in 1999. Although untested as yet, the applicability of this type of model for patients with concurrent problems is apparent and is amenable to development in the second round of trials. An advantage of the co-ordinated care model is that it can provide linkages to other shared care models (e.g. CHC) and requires limited system change.

The capacity of the shared care model in the Australian general practice setting has been increased by the Enhanced Primary Care package for complex and chronic conditions. The Medicare items that emanate from this package provide remuneration for care plans. These plans consist of a comprehensive program of treatment and maintenance for all aspects of chronic conditions and are implemented during consultations that can last for up to 45 minutes. They also allow case conferences that review the progress of a patient with a chronic condition(s). This model has major advantages for treating concurrent opioid and mental health problems. The provision of payment for GPs can address the barrier of time and, moreover, the utilisation of other health professionals (either within or outside of the general practice setting) can provide expert advice to the GP on the non-medical issues of opioid dependence and mental health problems.

Summary

This review has identified a need to address concurrent opioid and mental health problems, in order to reduce individual and community harms. General practice is considered to be an appropriate and effective setting for the treatment of complex health conditions - including concurrent problems - because of its potential to provide accessible cost-effective care to patients. However, barriers related to the GP, the practice and the health system compromise the potential for GPs to treat concurrent problems. The effectiveness of models of shared care that link the GP with other health professionals has been examined in the literature. Although evaluations of these models for mental health problems have produced varying results, in Scotland, shared care between drug specialists and GPs has resulted in 70% of GPs managing opioid dependent patients and has led to a significant reduction in the harms associated with injecting drug use (Greenwood 1996). To date there has been little research on the effectiveness of a shared care model for opioid dependence in Australia.

Given the wide range of mental health and social problems experienced by people with opioid dependence, the potential of a shared care model to provide effective treatment is dependent upon the development and

implementation of mechanisms to improve linkages between GPs and community services and address the barriers that impede the delivery of comprehensive and integrated ongoing care. Specifically, these could include the organisation of primary care teams that contain a range of health professionals (such as GPs), as well as resources that assist these teams to address concurrent opioid dependence and mental health problems in the community setting. Given the evidence that suggests the treatment needs of opioid users are not being met and that concurrent problems affect treatment outcomes, a new approach that utilises existing services and resources holds potential to fill the current gap in service delivery.

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References

- Abed R & Neira-Munoz, E 1990, 'A survey of general practitioners opinions and attitudes to drug addicts and addiction', *British Journal of Addiction*, vol 85, pp 131-136.
- Abram KM & Teplin LA 1991, 'Concurrent disorders among mentally ill jail detainees: Implications for public policy', *American Psychologist*, vol 46, pp 1036-1045.
- Alcohol and other Drugs Council of Australia, The (ADCA) 2000, *Drug Policy 2000: A New Agenda for Harm Reduction*, ADCA, Australia.
- Albery IP, Heuston J, Durand A, Groves P, Gossop M & Strang J 1996, 'Training primary health care workers about drugs: a national survey of UK trainers' perceptions towards training', *Drug and Alcohol Review*, vol 15, pp 343-355.
- Alterman AI, Erdlen DL, LaPorte DJ & Erdlen FR 1982, 'Effects of illicit drug use in an inpatient psychiatric population', *Addictive Behaviors*, vol 7, pp 231-242.
- Baum F, Kalucy E, Lawless A, Barton S & Steven I 1996, *Medical Practice and Women's and Community Health Centres in South Australia*, South Australian Community Health Research Unit, Adelaide, South Australia.
- Bell G, Cohen J & Cremona A 1990, 'How willing are general practitioners to manage narcotic misuse?', *Health Trends*, vol 2, pp 56-7.
- Bucknall ABV, Robertson JR & Forster K 1986, 'Medical facilities used by heroin users', *British Medical Journal*, vol 292, pp 1215-1216.
- Carr JV & Donovan P 1992, 'Psychiatry in general practice. A pilot scheme using the liaison attachment model', *Medical Journal of Australia*, vol 156, pp 379-382.
- Carr JV & Reid ALA 1996, 'Seeking solutions for mental health problems in general practice', *Medical Journal of Australia*, vol 165, pp 435-36.
- Clarke RE 1994, 'Family costs associated with severe mental illness and substance use: A comparison of families with and without dual disorders', *Hospital and Community Psychiatry*, vol 45, pp 808-813.
- Clenaghan PS, Rosen A & Colechin A 1996, 'Serious mental illness and problematic substance use', *Journal of Substance Misuse*, vol 1, pp 199-204.
- Copeman D 1992, 'Primary medical care and community health', in Baum F, Fry D & Lennie I (ed), *Community Health Policy and Practice in Australia*, Pluto Press, Australia.
- Cournos F, Empfield M, Horwath E, McKinnon K, Meyer I, Schrage H, Currie C, & Agosin B 1991, 'HIV seroprevalence among patients admitted to two psychiatric hospitals', *American Journal of Psychiatry*, vol 148, pp 1225-1230.

- Crome IB 1999, 'Substance misuse and psychiatric comorbidity: towards improved service provision', *Drugs: Education, Prevention and Policy*, vol 6, no 2, pp 149–174.
- Darke S, Hall W & Swift W 1994, 'Prevalence, symptoms and correlates of anti-social personality disorder among methadone maintenance clients', *Drug and Alcohol Dependence*, vol 34, pp 253–257.
- Darke S, & Ross J 1997, 'Polydrug dependence and psychiatric comorbidity among heroin injectors', *Drug and Alcohol Dependence*, vol 48, pp 135–141.
- Darke S & Ross J 2000, 'The use of antidepressants among injecting drug users in Sydney, Australia,' *Addiction*, vol 95, no 3, pp 407–17.
- Davis DA, Thomson MA, Oxman AD & Haynes RB 1992, 'Evidence for the effectiveness of cme: a review of 50 randomized controlled trials', *Journal of the American Medical Association*, vol 268, no 9, pp 1111–1117.
- Deehan A, Taylor C & Strang J 1997, 'The general practitioners, the drug misuser, and the alcohol misuser: major differences in general practitioner activity, therapeutic commitment, and 'shared care' proposals', *British Journal of General Practice*, vol 47, pp 705–709.
- Dixon L, McNary S & Lehman A 1997, 'One-year follow-up of secondary versus primary mental disorder in persons with comorbid substance use disorders', *American Journal of Psychiatry*, vol 154, no 11, pp 1610–1612.
- Drake RE & Wallach MA 1989, 'Substance abuse among the chronically mentally ill', *Hospital and Community Psychiatry*, vol 40, pp 1041–1046.
- Drake RE, Mercer-McFadden C, Mueser KT, McHugo GJ & Bond GR 1998, 'Review of integrated mental health and substance abuse for patients with dual disorders', *Schizophrenia Bulletin*, vol 24, pp 589–608.
- Drake RE, Osher FC & Wallach MA 1991, 'Homelessness and dual diagnosis', *American Psychologist*, vol 46, pp 1149–1158.
- Duffy J & Ask A 2001, *A needs assessment of opioid users who seek treatment in the general practice setting*, Department of Public Health, Flinders University, Report produced for the Department of Human Services and Health, Adelaide, South Australia (forthcoming).
- Elander J, Porter S & Hodson S 1994, 'What role for general practitioners in the care of opiate users?', *Addiction Research*, vol 1, no 4, pp 309–322.
- El-Mallakh P 1998, 'Treatment models for clients with concurrent addictive and mental disorders', *Archives of Psychiatric Nursing*, vol 12, no 2, pp 71–80.
- Farrell M 1990, 'Beyond platitudes: problems drug use: a review of training', *British Journal of Addiction*, vol 85, pp 1559–1562.
- Gafoor M & Rassool GH 1998, 'The co-existence of psychiatric disorders and substance misuse: working with dual diagnosis patients', *Journal of Advanced Nursing*, vol 27, pp 497–502.
- Gask L, Sibbald B, & Creed F 1997, 'Evaluating models of working at the interface between mental health services and primary care', *British Journal of Psychiatry*, vol 170, pp 6–11.
- General Practice Strategy Review Group 1999, *General Practice: Changing the future through partnerships*, Commonwealth Department of Health and Aged Care, AGPS, Canberra.
- Greenwood J 1996, 'Six years experience of sharing the care of Edinburgh's drug users', *Psychiatric Bulletin*, vol 20 pp 8–11.
- Hall W 1996, 'What have population surveys revealed about substance use disorders and their co-morbidity with other mental disorders?' *Drug and Alcohol Review*, vol 15, pp 157–170.
- Harris EC & Barraclough B 1997, 'Suicide as an Outcome for Mental Disorders: A Meta-Analysis' *The British Journal of Psychiatry*, vol 170, no 3, pp 205–228.
- Haywood TW, Kravitz HM, Grossman LS, Cavanaugh JL, Davis JM & Lewis DA 1995, 'Predicting the "revolving door" phenomenon among patients with schizophrenic, schizoaffective, and affective disorders', *American Journal of Psychiatry*, vol 152, pp 856–861.

Health Insurance Commission 1998, *Statistical tables 1996-97*, Health Insurance Commission, Canberra.

Jacka D, Clode D, Patterson S, Wyman K 1999, 'Attitudes and practices of general practitioners training to work with drug-using patients', *Drug and Alcohol Review*, vol 18, pp 287-291.

Katon WK Gonzales J 1994, 'A review of randomized trials of psychiatric consultation-liaison studies in primary care', *Psychosomatics*, vol 35, no 3, pp 268-278.

Kessler RC, Nelson CB, McGonagle KA, Edlund MJ, Frank RG & Leaf PJ 1996, 'The epidemiology of concurrent addictive and mental health disorders: Implications for prevention and service utilisation', *American Journal of Orthopsychiatry*, vol 66, no 1, pp 17-31.

Khantzian E 1985, 'The self-medication hypothesis of addictive disorders: focus on heroin and cocaine dependence', *American Journal of Psychiatry*, vol 142, no 11, pp 1259-1264.

Krausz M, Degkwitz P, Kühne A & Verthein U 1998, 'Comorbidity of opiate dependence and mental disorders', *Addictive Behaviors*, vol 23, no 6, pp 767-783.

Lawrie SM, Martin K, McNeill G, Drife J, Chrystie P, Reid A, Wu P, Nammary S & Ball J 1998, 'General practitioners' attitudes to psychiatric and medical illness', *Psychological Medicine*, vol 28, pp 1463-67.

Lehman AF, Myers CP & Corty E 1993 'Implications of mental and substance use disorders: A comparison of single and substance abuse syndromes', *The Journal of Nervous and Mental Diseases*, vol 181, pp 365-370.

Ley A, Jeffrey DP, McLaren S, Siegfried N 2000, 'Treatment programs for people with both severe mental illness and substance misuse (Cochrane Review)', *The Cochrane Library*, Issue 1, Update Software, Oxford.

Luthar SS, Cushing G, Rounsaville BJ 1996, 'Gender differences among opioid users: pathway to disorder and profiles of psychopathology', *Drug and Alcohol Dependence*, vol 43, pp 179-189.

MacQueen AR 1997, 'Why general practitioners might avoid drug and alcohol work', *Drug and Alcohol Review*, vol 16, pp 429-431.

McDonald P, McGowan P 1999, 'SA HealthPlus: A South Australian Co-ordinated Care Trial (Chapter 8)', In: *The Australian Co-ordinated Care Trials: Background and Trial Descriptions*, Commonwealth Department of Health and Aged Care, Canberra.

Mattick RP, Hall W (eds) 1993, 'A treatment outline for approaches to opioid dependence: Quality assurance project', *National Drug Strategy Monograph Series No. 21*, AGPS, Canberra.

Meadows GN 1998, 'Establishing a collaborative services model for primary mental health care', *Medical Journal of Australia*, vol 168, no 4, pp 162-165.

Millar T & Goldberg DP 1991 'Link between the ability to detect and manage emotional disorders: A study of general practitioner trainees', *British Journal of General Practice*, vol 41, pp 357-359.

Ministerial Council on Drug Strategy 1998, *National Drug Strategic Framework 1998-99 to 2002-03, Building Partnerships, A Strategy to Reduce the harm Caused by Drugs in Our Community* Australian Government Publishing Service, Canberra.

Monalto M, Dunt D, Young D 1994, 'True believers?', 'Characteristics of general practitioners in Victorian community health centres', *Australian Journal of Public Health*, vol 18, no 4, pp 424-428.

National Health Strategy 1992, *The Future of General Practice*, National Health Strategy, Issues Paper No 3, Commonwealth of Australia, Canberra.

O'Connell B, Kristjanson L & Orb A 2000, 'Models of integrated cancer care: A critique of the literature', *Australian Health Review*, vol 23, no 1, pp 173-178.

Phongsavan P, Ward J, Oldenburg BF & Gordon JJ 1995, 'Mental Health care practices and educational needs of general practitioners', *Medical Journal of Australia*, vol 162, pp 139-142.

RACGP 1996, Quality Assurance and Continuing Education 1993-1995, *Evaluation Report of Mental Health CME Activities*, RACGP, Melbourne.

Regier DA, Farmer ME, Rae DS, Locke BZ, Keith SJ, Judd LL & Goodwin FK 1990, 'Comorbidity of mental disorders with alcohol and other drug abuse: Results from the Epidemiologic Catchment Area (ECA) study', *Journal of the American Medical Association*, vol 264, pp2511-2518.

Roche AM, Guray C & Saunders JB 1991, 'General practitioners' experiences of patients with drug and alcohol problems', *British Journal of Addiction*, vol 86, pp 263-275.

Roche AM, Parle MD, Stubbs JM, Hall W & Saunders JB 1995, 'Management and treatment efficacy of drug and alcohol problems: What do doctors believe?', *Addiction*, vol 90, pp 1357-1366.

Swanson J, Holzer C & Ganju V 1990, 'Violence and psychiatric disorder in the community: evidence from the Epidemiological Catchment Area Survey', *Hospital and Community Psychiatry*, vol 41, pp 761-770.

Tobin M, Hickie IB, Urbanc A 1997, 'Increasing general practitioner skills with patients with serious mental illness', *Australian Health Review*, vol 20, no 3, pp 55-67.