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Law and disorders: illness/disability and the experience of everyday problems involving the law

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Abstract: Legal needs surveys, including the Legal Australia-Wide (LAW) Survey, have demonstrated a strong relationship between the experience of legal problems and long-term illness/disability. Furthermore, some overseas surveys have shown that the relationship is also evident for mental illness more specifically. However, research to date has generally not explored different types of physical impairment separately. This paper draws on the LAW Survey data to examine the relationship between legal problem experience and different types of mental and physical illness/disability. The findings confirm the existence of strong links between the experience of legal problems and long-term illness/disability. They show that the link strengthens as severity of illness/disability increases and that the associations are particularly strong for mental impairment. However, associations for the different types of physical impairment examined were also generally evident and sometimes strong, with the picture being highly context specific. The findings provide overwhelming support for the potential utility of integrated legal, health and broader human services.

Introduction

The big picture

Contemporary life is played out 'in an everyday world that is, in fact, flooded with law' (Hadfield 2010, p. 131). Everyday problems concerning, for example, housing, relationships, consumer transactions, employment, accidents, personal finance and government payments are frequently 'nested in legal rights and obligations' (Coumarelos, Macourt, People, McDonald, Wei, Iriana & Ramsey 2012, p. 1). The law thus provides a framework for the resolution of a broad range of problems central to individual and societal welfare (cf. Burris, Kawachi & Sarat 2002; Pleasence 2006).

Since the mid-1990s, 26 national surveys of the public's experience of and responses to everyday problems involving the law have been conducted—mostly following in the tradition of Genn's (1999)

seminal *Paths to Justice* survey (Pleasence, Balmer & Sandefur *forthcoming*). Genn (1999, p. 12) defined these everyday 'legal' problems as 'justiciable' in that the law provides a potential route to their resolution, regardless of whether the individual recognised this or took any action referencing the law or involving the justice system.¹

One conclusion that has been drawn from recent surveys of legal problems is that 'socioeconomic disadvantage is pivotal' to their experience (Coumarelos et al. 2012, p. 5). Although the problems included in surveys have varied, associations between legal problem experience and disadvantage have frequently been demonstrated (e.g. Buck, Balmer & Pleasence 2005; Coumarelos, Wei & Zhou 2006; Coumarelos et al. 2012; Currie 2007; Dignan 2006; Maxwell, Smith, Shepherd & Morris

The term 'legal problem' is used throughout this paper for easy reference to a problem that is 'justiciable'.

1999).2 There appear to be a number of reasons for this. Disadvantaged people are exposed to additional problems stemming from their more frequent interactions with state services. They are also affected by the different character of other interactions—for example, quality of services (e.g. at the bottom end of the rental market) and the nature of relationships (e.g. disparity of resources or authority). They may also have fewer resources to avoid or mitigate problems. Moreover, legal problems frequently have consequences that are aspects of socioeconomic disadvantage, which then act to further increase vulnerability to legal problems (Coumarelos et al. 2012; Pleasence, Balmer, Buck, O'Grady & Genn 2004a) and 'may partly define the dynamics that create and perpetuate poverty' (Currie 2005, p. 2).3

In Australia, Canada, England and Wales, and New Zealand, a particularly strong association has been observed between the experience of legal problems and long-term illness or disability (Coumarelos et al. 2006; Coumarelos et al. 2012; Currie 2007; Pleasence, Balmer, Buck, O'Grady & Genn 2004b; Pleasence, Balmer & Buck 2008). For example, first findings from the Legal Australia-Wide (LAW) Survey indicated that those with a long-term illness or disability were more than twice as likely as others to report one or more legal problems (Coumarelos et al. 2012). Moreover, long-term illness or disability was a significant predictor of every major category of problem studied, which included those concerning accidents and injury, crime, family, housing, money, credit and debt, employment and housing (Coumarelos et al. 2012).

In part, the findings from the Australian, Canadian, English and Welsh and New Zealand surveys are a simple reflection of the fact that 'the socioeconomically disadvantaged have ... a morbidity pattern indicating that they experience more ill health' (Turrell, Stanley, de Looper & Oldedburg 2006, p. 2). However, causal connections are increasingly evident. Respondents to the LAW Survey indicated that a significant proportion of reported legal problems (of all types) lead to stress-related or physical ill health (Coumarelos et al. 2012), as did respondents to the New Zealand Survey of Unmet Legal Needs and Access to Justice and the

English and Welsh Civil and Social Justice Survey (Pleasence & Balmer 2009). Indeed, overall, 20 per cent of problems reported in the LAW Survey were stated to have led to stress-related illness, and 19 per cent to physical illness.

The broader social epidemiology literature also points to causal connections between legal problems and morbidity/disability; connections that can operate in both directions, and build to perpetuate morbidity and social disadvantage. For example, Tobin Tyler, Conroy, Fu and Sandel (2011) have pointed to a vicious circle of vulnerability involving health problems, inability/disruption to work, loss of income, non-payment of rent, eviction and homelessness (Figure 1).

There is growing evidence of causal connections between a broad array of legal problems and long-term illness or disability. Both family violence and negligent accidents can evidently result in physical and psychiatric injury (e.g. Campbell 2002; Howard, Trevillion, & Agnew-Davies 2010; Mayou, Bryant & Duthie 1993; Mitchell 2011), even death. The health impact of poor and overcrowded housing and homelessness has also been well documented (e.g. British Medical Association 2003; Johnson & Chamberlain 2011; Tobin Tyler et al. 2011), as has that of mortgage arrears and debt more generally (e.g. British Medical Association 2003; Edwards 2003; Jenkins, Brugha, Farrell et al. 2008; Nettleton & Burrows 1998, 2000). This is in a context of 42 per cent of low-income households renting in Australia being in 'rental stress' in 2009–10, and 37 per cent of low-income households with a mortgage being in 'mortgage stress' (Council of Australian Governments Reform Council 2012, p. 8 and p. 24). There is also evidence that other legal problems can bring about physical and psychiatric illness, such as problems concerning family breakdown (Amato 2000; Kitson & Morgan 1990), employment (e.g. Bartley 1994; Sverke, Hellgren, & Naswall 2002; Tuckey, Dollard, Saebel & Berry 2010) and discrimination (e.g. Braz Pavao, Ploubidis, Werneck & Campos 2012; Kessler, Mickelson & Williams 1999; Krieger, Kaddour, Koenen, Kosheleva, Chen, Waterman & Barbeau 2011; Williams, Neighbors & Jackson 2003).

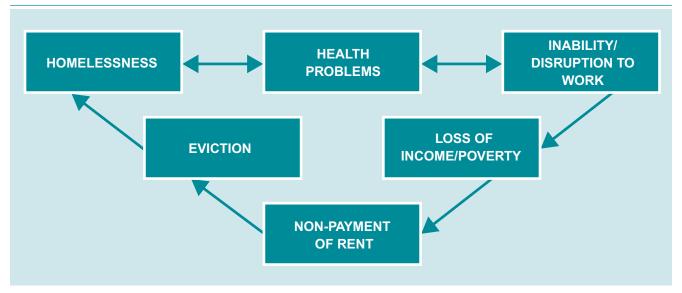
Conversely, an increased propensity to suffer accidents and family violence follows on from physical or mental incapacity (e.g. Friedman & Loue 2007; Loinaz, Echeburua & Irureta 2011; Mitchell 2011; Mullender 1996; Sherrard, Ozanne-Smith & Staines 2004).⁴ Illness and disability also clearly lie behind many problems related to housing (e.g. Meltzer, Singleton, Lee, Bebbington, Brugha & Jenkins 2002) and debt (e.g. Edwards 2003), and the same also appears true of family breakdown (e.g. Breslau, Miller, Jin, Sampson, Alonso, Andrade,

However, compare the findings of the 2011 Taiwanese survey, which suggested (unusually) that problem experience was most pronounced among young affluent men (Chen, Huang, Huang, Lai & Lin 2012). It is also to be noted that certain types of legal problems are associated with socioeconomic advantage, such as those concerning consumer transactions and property ownership. As the Attorney-General's (2009, p. 15) Strategic Framework for Access to Justice in the Federal Civil Justice System set out, 'there is a complex relationship between a person's socio-economic position and the levels of reporting of legal issues'.

Thus, legal problems have been observed to have an additive effect, meaning that the experience of one problem increases the likelihood of experiencing further problems (e.g. Currie 2005; Pleasence et al. 2004a).

Family violence also tends to be more severe where victims have a disability (Brownridge 2006).

FIGURE 1: A VICIOUS CYCLE OF VULNERABILITY



Note: Adapted from Tobin Tyler et al. 2011, p.236.

Bromet, de Girolamo, Demyttenaere, Fayyad, Fukao, Galaon, Gureje, He, Hinkov, Hu, Kovess-Masfety, Matschinger, Medina-Mora, Ormel, Posada-Villa, Sagar, Scott & Kessler 2011; Kessler, Walters & Forthofer 1998; Webster, Daisley & King 1999).5 Illness and disability can also be constituent elements of problems concerning discrimination, employment and government payments. In addition, serious illness can raise a set of distinct legal issues that are not normally encountered in everyday life. For example, the onset of potentially terminal illness, such as many cancers, can raise issues concerning power of attorney/enduring guardianship, wills and superannuation (Boyes & Zucca 2012; Retkin, Rodabaugh & Mochizuki 2011); issues that can affect both patients and their families.

Reflecting the research findings to date, Zuckerman, Sandel, Lawton and Morton's (2008, p. 1616) commentary in *The Lancet* declared that 'virtually all legal needs (ranging from housing issues to domestic violence) are directly or proximally connected to health status'. Similarly, Parmet, Smith & Benedict (2012, p. 21) have argued that:

Law is one of the most important social determinants of health. It helps establish the framework in which individuals and populations live, face disease and injury, and eventually die ... Law is one factor that helps determine other social determinants.

In Australia, in the context of mental illness, the *National Mental Health Policy 2008* also pronounced that 'each episode may have economic and social repercussions, jeopardising education, job and housing security and disrupting relationships' (Department of Health and Ageing 2009, p. 15).

The potential utility of legal and health interventions to be mutually supportive is being recognised, and there are increasing indications of legal advice improving health outcomes (e.g. Balmer & Pleasence 2012; Noone 2012). Recent years have therefore 'seen much effort directed towards the alignment, co-ordination and integration of health and legal services' (Balmer, Pleasence & Buck 2010, p. 589). Zuckerman et al. (2008, p. 1615) reported that 'physicians are now looking to lawyers as colleagues to 'treat' the social determinants of health, and medical-legal partnership is emerging as a key strategy to combat health disparities'. Consequently, in the United States there are now 275 examples of formal medical-legal partnerships, 'involving legal advocacy in healthcare to secure access to benefits and protections' (Minow 2011, p. xv).6

Doctors in the United Kingdom have also been reported to sometimes 'prescribe' legal advice rather than conventional medication (Social Exclusion Unit 2004a), though efforts to formally integrate aspects of service delivery through local Community Legal Service Partnerships and Health Action Zones (Lord Chancellor's Department 2003; Perkins & Macmillen 2005) fell foul of the dismantling of these organisational frameworks. Recent cuts in public spending are also impacting on integration initiatives more generally, such as the phasing out of the large system of Community Legal Advice Centres (CLACs) and Networks (CLANs) which provided integrated social welfare law services (Legal Services Commission 2006; Ministry of Justice 2010). Nevertheless, Citizens Advice (2005) reported that Citizens Advice Bureaux provided outreach information or advice services in 1,154 health settings, and it remains the case that 'around 40 per cent of bureaux outreaches are based in a health

However, the picture is far from uniform across conditions and may vary substantially by demographic characteristics (e.g. Glantz, Chamberlain, Liu, Chung-Cheng, Edwards, van Horn & Recht 2009).

See also http://www.medical-legalpartnership.org/movement.

setting—from GP surgeries to mental health services and hospitals to community health hubs'.⁷

In Australia, recognition that legal problems contribute to, stem from and co-occur with health problems also lies behind initiatives such as the co-location of the West Heidelberg Community Legal Service with the Banyule Community Health in Melbourne (Noone 2007, 2012), the Baker and McKenzie Cancer Patients' Legal Clinic in Melbourne, the New South Wales (NSW) Cancer Council Legal Referral Service (Boyes & Zucca 2012), the broad remit of the Victoria Legal Aid Mental Health and Disability Advocacy Program, and the proposed Advice-Health Alliance in Bendigo, Victoria (Noble 2012a).

This paper

Findings of surveys of legal need in New Zealand and England and Wales suggest that the association between legal problems (in general) and mental illness may be particularly strong (Pleasence & Balmer 2009, p. 135). Findings from England and Wales have also demonstrated that the prevalence of legal problems increases with scores on a measure of psychiatric morbidity—the 12-item General Health Ouestionnaire (GHO-12), which is used to screen for common mental illnesses in the community and non-psychiatric clinical settings (Goldberg & Williams 1988). The proportion of 2007 English and Welsh Civil and Social Justice Survey respondents reporting problems increased from 36 per cent, for those scoring lowest on the GHQ-12, to over 80 per cent for those with the highest scores (Balmer, Pleasence & Buck 2010). Moreover, 'the percentage of respondents reporting multiple problems also increased with psychiatric morbidity, as did the mean number of problems reported' (Balmer et al. 2010, p. 594).

To date, in surveys of legal problems, it has generally not been possible to explore different types of physical impairment separately—and associations are evidently highly context specific. That is, different types of illness/disability will be affected by, and will impact on, people's activities, interactions and relationships in different ways. Also, some types of illness/disability are less visible than others, and so are likely to have less effect on the nature of activities and interactions. An exception was a study by Coumarelos and Wei (2009), based on data from the NSW Legal Needs Survey (Coumarelos et al. 2006), which compared five types of long-term illness or disability, including a few types of physical impairment. It compared mental health problems, sensory (i.e. visual or hearing) disabilities, physical (non-sensory) disabilities, chronic conditions (i.e. long-term illnesses or diseases) and multiple types of illness or

Citizens Advice 12th September 2012, accessed on the 12th November 2012, http://www.citizensadvice.org.uk/index/pressoffice/press_index.htm. disability. Significant differences were found in the experience of legal problems according to type of long-term illness or disability. On average, compared to people with a long-term illness or disability, people with sensory disabilities had significantly lower prevalence, while those with chronic conditions had significantly higher prevalence. However, this study involved only small numbers of respondents with certain types of long-term illness or disability (i.e. mental health problem, sensory disability, multiple types), so further research was warranted. Moreover, there has been no analysis of the association between legal problems and seriousness of physical illness or disability.

In this paper we draw on data from the LAW Survey to explore further the links between legal problems and 'long-term illness or disability' (hereafter 'illness/disability'). Using data unique to the LAW Survey, we examine how the experience of legal problems links to different types of physical illness/disability. We also explore the link between legal problems and the severity of both mental illness and physical illness/disability.

Method

The LAW Survey

Data in the present study come from the 2008 LAW Survey. The LAW Survey provides detailed information on the nature and pattern of respondents' experiences of, and responses to, legal problems (Coumarelos et al. 2012). In all, 20,716 Computer Assisted Telephone Interviews (CATIs) with household residents aged 15 years or over across Australia were conducted by Roy Morgan Research. Just over 2,000 interviews were conducted in each state, apart from NSW and Victoria, in which more than 4,000 interviews were conducted. Random digit dialling was used to yield a quota sample that matched the general population in terms of age, gender, geographical area and cultural and linguistic diversity (CALD) according to the 2006 Census of Population and Housing (Australian Bureau of Statistics (ABS) 2007). Additional quotas (oversamples) were also set for people living in the six local government areas that formed the basis of the 2003 NSW Legal Needs Survey (Coumarelos et al. 2006), those in remote and outer regional areas of Victoria and Indigenous people in Victoria. The average length of interviews was 26 minutes, and the response rate was 60 per cent.8

The LAW Survey covered a broad range of civil, criminal and family law problems, capturing 129 specific types of legal problems. The survey adopted the 'justiciable' problem approach introduced by Genn's (1999) landmark *Paths to Justice* survey.

The response rate was calculated using the American Association for Public Opinion Research (2009) classification.

This approach broadens the scope of legal problems beyond those resolved within the formal justice system to include those that are resolved by non-legal means, remain unresolved or fail to be recognised. The LAW Survey, like Genn's (1999) survey, was carefully limited to include only problems that are 'justiciable' in that, by definition, they have potential legal consequences and remedies, without explicitly labelling the problems as 'legal'. Each problem was described in sufficient detail to allow respondents to say whether they had experienced it without requiring them to assess whether it had legal aspects. The 18 categories of problems used in our analysis are listed in Table 1, along with examples of constituent problem types and an indication of the number and proportion of respondents who reported them.9 Respondents were also asked about how they responded to problems, and extensive demographic information was collected at the outset and conclusion of interviews.

The demographic questions included questions about illness/disability status, type and severity. To establish illness/disability status, all respondents were asked: 'During the last 12 months, have you had any long-term illness or disability that has lasted, or is likely to last, at least 6 months? Please include stress-related, mental health, intellectual as well as physical conditions.' Just fewer than 20 per cent of respondents (19.8%) reported an illness/disability (see Table 2). This figure is only slightly lower than the percentage of 22.8 per cent reported by the largest Australian benchmark survey—the Survey of Disability, Ageing and Carers (SDAC; ABS 2004a).¹¹

The LAW Survey then captured illness/disability type by asking those respondents who reported an illness/disability to describe 'all the long-term illnesses or disabilities' concerned. Interviewers then coded responses into 12 categories: hearing, speech, visual, intellectual, mental, neurological, circulatory, respiratory, arthritis, back, musculo-skeletal and

TABLE 1: PERCENTAGE OF RESPONDENTS REPORTING LEGAL PROBLEMS, BY TYPE OF LEGAL PROBLEM

Problem category	Examples of problems ^a		nts reporting oblems
		%	N
Accidents	Motor accident without injury	7.7	1605
Consumer	Faulty goods, inadequate services, etc.	20.6	4269
Crime	Crime victimisation, offending, etc.	14.3	2954
Debt	Repaying a loan, credit rating, etc.	4.6	944
Discrimination	Based on age, gender, race, disability, etc.	2.4	506
Education	Suspension, exclusion, student fees or loans etc.	2.4	505
Employment	Being sacked, redundancy, harassment, etc.	6.2	1290
Government payments	Eligibility, amount, review, etc.	2.3	485
Government: other	Tax assessment, freedom of information, etc.	9.1	1887
Health: clinical negligence	Inadequate or wrong treatment, consent, etc.	2.2	462
Health: mental health	Inadequate or wrong treatment, detention, etc.	0.5	104
Health: services	Quality of services, access, etc.	1.0	215
Housing: neighbours	Noise, litter, fences, trees, pets, etc.	7.9	1639
Housing: owned	Repossession, planning, rights of way, etc.	2.0	414
Housing: rented	Eviction, rental agreement, bonds, repairs, etc.	2.9	599
Personal injury	Motor accident with injury, work illness, etc.	7.0	1444
Relationship breakdown	Division of money or property, child support, etc.	4.5	935
Other	Insurance dispute, fostering, probate, etc.	9.4	1943
Any problem¹º		49.7	10289

a See Coumarelos et al. (2012), Appendix A1, pp. 261–294, for a copy of the survey instrument.

In all, 129 specific types of problems were presented, and were then grouped within the 18 categories presented in Table 1 for analysis. The 18 new problem categories were formulated to provide good coherence and homogeneity of problems within individual categories, and are somewhat different to the problem categories used by Coumarelos et al. (2012).

If problems that related to health/injury (clinical negligence, health services, mental health and personal injury) were excluded, the percentage of respondents reporting problems was 46.8 per cent (n=9702).

While a number of more recent surveys in Australia have measured long-term illness and disability, the ABS (2010, p. 13) noted that the 'SDAC produces the most conceptually accurate measure of disability'. The slightly lower percentage produced by the LAW Survey compared to the SDAC suggests that the LAW Survey may somewhat underestimate the incidence of long-term illness/disability. For example, the SDAC included people in care accommodation, while the LAW Survey only included residents of private dwellings and may have been less likely to reach some people who are severely restricted by their illness or disability.

TABLE 2: PERCENTAGE OF RESPONDENTS WITH ILLNESS/DISABILITY, BY TYPE OF ILLNESS/DISABILITY

Illness/disability	Examples of illnesses/disabilities	Respo	ndents
type		%	N
Mental health	anxiety, bi-polar, depression, drug/alcohol addiction, schizophrenia	4.7	975
Sensory	hearing, speech or visual impairment	0.8	167
Intellectual/ neurological	ADHD, autism, Down syndrome, dyslexia, Alzheimer's, brain injury, dementia, epilepsy, migraine, multiple sclerosis, Parkinson's	1.5	301
Circulatory	angina, heart attack, hypertension, stroke	2.7	569
Respiratory	asthma, bronchitis, emphysema, respiratory allergies	1.5	316
Mobility	arthritis, back problems, musculo-skeletal conditions (e.g. amputation, cerebral palsy, deformity, osteoporosis, paralysis/limited use of arms/legs, rheumatism, spina bifida)	7.1	1478
Other	AIDS/HIV, anaemia/blood conditions, body organ conditions, cancer, diabetes, poisoning, surgery/treatment complications, thyroid conditions, urinary conditions	6.4	1319
Any		19.8	4095

other. An extensive list of examples was provided to interviewers, to assist them to code illnesses/ disabilities correctly (Coumarelos et al. 2012). Because there were only a relatively small number of people in some categories of illness/disability, we recoded the 12 categories into seven categories. These seven categories are listed in Table 2, along with examples of their constituent illnesses/ disabilities and an indication of the number and proportion of respondents reporting them. Of those respondents who reported an illness/ disability, 23 per cent reported more than one type. It is notable that the percentage of LAW Survey respondents reporting a mental health problem (4.7 per cent) was considerably lower than the estimate of 20 per cent from the 2007 National Survey of Mental Health and Wellbeing of Australians (ABS 2008).12

In addition, respondents who reported an illness/ disability were asked the following question about the severity of their condition: 'During the last 12 months, how much did your condition restrict your daily activities, such as your communication, mobility or self-care?' Options comprised 'Not at all', 'Mildly', 'Moderately', 'Severely' and 'Profoundly'. Twenty-three per cent of respondents with illnesses/ disabilities reported that their condition did not restrict their daily activities at all, 26 per cent reported a mild impact, 32 per cent a moderate impact, 16 per cent a severe impact and 4 per cent a profound impact. For the analysis, the five severity categories were recoded into three: low (i.e. 'not at all' or 'mildly' restricting), moderate (i.e. moderately restricting) and high (i.e. 'severely' or 'profoundly' restricting).

Characteristics of respondents with an illness/disability

Table 3 presents the relationship between illness/ disability and 10 demographic characteristicsgender, age and eight indicators of socioeconomic disadvantage. Compared to other respondents, those with an illness/disability were significantly more likely to be female and older. In addition, respondents with an illness/disability were significantly more likely to be disadvantaged according to several indicators. Specifically, they were more likely to be Indigenous, have lower levels of education, have been unemployed, be single parents, have lived in disadvantaged housing and have received government payments as their main source of income. The relationships of illness/ disability with main language and remoteness were also significant but not in the direction of greater disadvantage for respondents with an illness/ disability: those with an illness/disability were more likely to have English as their main language and to live in regional rather than remote or major city areas. The present findings showing that people with an illness/disability are more likely to be female and older and to suffer multiple disadvantage are consistent with past findings (cf. ABS 2004a; ABS 2004b; Coumarelos & Wei 2009; Howard 1999).

Analysis

Severity of illness/disability

Building upon the findings of Pleasence et al. (2008), Pleasence and Balmer (2009) and Balmer et al. (2010), we first fitted a series of 19 multilevel binary logistic regression models, implemented using MLwiN (Rasbash, Steele, Brown & Goldstein 2009), to test the influence of severity of illness/disability on the experience of legal problems. The dependent variables were binary indicators of whether or not respondents had reported one or more legal problems of particular categories. These categories included 17 of the 18 problem categories

The National Survey of Mental Health and Wellbeing of Australians provides a more comprehensive and systematic measurement of mental health disorders, and is based on two widely used classification systems: the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV); and the WHO International Classification of Diseases, Tenth Revision (ICD-10).

TABLE 3: DEMOGRAPHIC CHARACTERISTICS, BY ILLNESS/DISABILITY STATUS

Demographic variable	Category		s with illness/ bility		her ndents	Significance
		N	%	N	%	p
Gender	Female	2 176	53.1	8 315	50.0	0.004
	Male	1 919	46.9	8 306	50.0	
Age	15–17	100	2.4	943	5.7	0.000
	18–24	294	7.2	2 206	13.3	
	25–34	433	10.6	3 086	18.6	
	35–44	547	13.4	3 160	19.0	
	45–54	707	17.3	2 840	17.1	
	55–64	865	21.1	2 057	12.4	
	65+	1 148	28.0	2 329	14.0	
Education	<year 12<="" td=""><td>1 695</td><td>41.8</td><td>4 799</td><td>29.0</td><td>0.000</td></year>	1 695	41.8	4 799	29.0	0.000
	Year 12	657	16.2	3 489	21.1	
	Post-school	1 707	42.1	8 238	49.8	
Employment status	Unemployed	474	11.6	1 705	10.3	0.048
	Other	3 622	88.4	14 915	89.7	
Family status	Single parent	372	9.1	1114	6.7	0.000
	Other	3 723	90.9	15 507	93.3	
Housing type	Disadvantaged	507	12.4	728	4.4	0.000
	Other	3 589	87.6	15 892	95.6	
Indigenous status	Indigenous	107	2.6	241	1.4	0.000
	Other	3 988	97.4	16 380	98.6	
Main income	Government payment	2 130	52.0	3 365	20.2	0.000
	Other	1 965	48.0	13 255	79.8	
Main language	Non-English	188	4.6	1 210	7.3	0.000
	Other	3 908	95.4	15 411	92.7	
Remoteness	Remote	68	1.7	423	2.5	0.000
	Regional	1 402	34.2	4 992	30.0	
	Major city	2 625	64.1	11 206	67.4	
Overall		4 095		16 621		

Note: N=20 716 respondents, except for education (N=20 585 respondents), which was missing data for 131 respondents. Significant differences (p<0.05) are presented in bold and are based on an adjusted version of the standard chi-square test which applied a second-order Rao-Scott correction to accommodate weighting of the data (Rao & Scott 1984).

set out in Table 1¹³ and two 'overall' problem categories. One overall problem category measured the experience of any type of problem, while the other measured the experience of any problem excluding those intrinsically linked to health or illness/disability status. ¹⁴ The latter category was included to examine whether people with an illness/disability had increased prevalence of legal problems that are not peculiar to them.

The illness/disability independent variable (or predictor) categorised respondents with a disability

according to the severity of their condition (low, moderate or high) and according to whether they had only a mental illness, only a physical condition or both. Thus, this variable was a 10-category indicator that included 'no illness/disability' as the reference category and the following nine illness/disability categories: 'mental-low', 'mental-moderate', 'mentalhigh', 'physical-low', 'physical-moderate', 'physicalhigh', 'both-low', 'both-moderate', 'both-high'. In each model, to take into account the older age profile of respondents with an illness/disability, those in each illness/disability category were age-standardized using the direct method (Armitage, Berry & Matthews 2002). In addition, the models considered other differences in the demographic profile of those with an illness/ disability, such as their greater levels of disadvantage, by including a series of demographic variables as predictors. The full set of predictors used is presented

It was not possible to fit a model for the mental health problem category, due to the overlap between this category and the mental health illness/disability type. By definition, generally only people with a mental health problem could experience a legal problem relating to mental health treatment or care.

The problems excluded from the reduced 'overall' variable were problems concerning clinical negligence, health services, mental health treatment or care, and personal injury.

in Table 4.¹⁵ By including these predictors, the models examined whether illness/disability was related to legal problem experience independently of (or over and above) the effects of demographic characteristics and disadvantage. Predictors were entered simultaneously in each model as main effects only. The data were weighted for survey non-response. Multilevel models (Goldstein, 2003) were used in order to correctly model the hierarchical structure of the datasets. In the LAW Survey, respondents are nested in states. We fitted data as random intercept models that allowed the probability of experiencing problems to vary across states (i.e. acknowledging that respondents within individual states might not be fully independent).

We then fitted a zero-inflated Poisson regression model to investigate links between the severity of illness/disability and the number of legal problems (of any type) reported. This model used the same predictors as the 19 binary logistic regression models, including the 10-category illness/disability variable based on severity. The zero-inflated model accounted for the excess zeros in the 'number of legal problems' dependent variable, due to a majority of respondents having experienced no problems in the preceding 12-month period. The regression produced two models, which are combined—one for problem incidence and one for number of problems.

Type of illness/disability

We then tested the influence of more specific types of illness/disability on problem experience by repeating all of the above regressions with a new illness/disability predictor. ¹⁶ In all other respects, this second series of regressions was identical to the first. The new illness/disability predictor was a ninecategory indicator comprising 'no illness/disability' as the reference category and the following eight illness/disability types: 'sensory only', 'intellectual/ neurological only', 'mental only', 'circulatory only', 'respiratory only', 'mobility only', 'other type only' and 'multiple types'.

Illness/disability, legal problems and multiple disadvantage

Finally, we compared the mean number of characteristics of disadvantage (excluding illness/

The unemployment predictor was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

disability status) for the respondents with an illness/disability who reported legal problems and the remaining respondents to the LAW Survey.

Findings

Severity of illness/disability and legal problem experience

Table 4 presents the results of the binary logistic regression examining the relationship between the severity of illness/disability and the experience of any type of legal problem. It can be seen that illness/disability was strongly associated with the experience of legal problems. In fact, all nine groups of respondents with an illness/disability, regardless of the severity of their condition, were significantly more likely to experience legal problems than respondents with no illness/disability. However, as Pleasence and Balmer (2009) found, the strength of the association increased as the severity of the illness/disability increased. In addition, the strength of association varied by type of illness/disability, with the association being strongest for combined mental and physical illness/disability, and stronger for mental illness alone than for physical illness/ disability alone.

Building on Pleasence and Balmer's (2009) findings, the strengthening of association with severity was seen for each type of illness/disability examined: mental only, physical only and combined mental and physical illness/disability. Thus, those respondents with severe combined mental and physical illness/ disability were particularly vulnerable to legal problems. According to the model, those with combined mental and physical illness/disability of a high severity were more than 10 times as likely to report legal problems as those with no illness/ disability. Overall, 83 per cent of such respondents reported legal problems compared to 47 per cent for those with no illness/disability.¹⁷ Moreover, when we looked at just those respondents under the age of 45 years, 96 per cent with combined mental and physical illness/disability of a high severity reported legal problems, reflecting the fact that problem experience reduced as people moved towards and into retirement across all illness/disability categories.

When we excluded legal problems intrinsically linked to health status, the pattern was very similar. Again, all nine groups with an illness/disability had significantly higher odds of experiencing legal problems than those with no illness/disability, and there was only a small reduction in the size of the

All but two of the 20 regressions were rerun with the new illness/disability predictor variable. It was not possible to run a model for the mental health problem category using the new illness/disability predictor due to the overlap between this problem category and the mental illness/disability type. By definition, only people with a mental illness could experience a problem from the mental health problem category. Also, due to small numbers in some cells, it was not possible to run a model using the new illness/disability predictor for the owned housing problem category.

It is notable that the illness/disability group with the lowest odds—the group with a physical illness/disability of low severity—still had odds of experiencing any type of problem that were almost twice (1.9) as high as the odds for people with no illness/disability.

TABLE 4: REGRESSION RESULTS — PREVALENCE OF ANY TYPE OF LEGAL PROBLEM (BY SEVERITY OF ILLNESS/DISABILITY)

Veriable?	Cotomovico compoved	0	CF -		Odda vatich	/0.59/ CI)
Variable ^a	Categories compared	β	SE	р	Odds ratio ^b	(95% CI)
FIXED EFFECTS						
Illness/disability severity	Mental-low none	1.031	0.154	0.000	2.8	(2.1–3.8)
severity	Physical-low none	0.635	0.077	0.000	1.9	(1.6–2.2)
	Both-low none	1.536	0.245	0.000	4.6	(2.9–7.5)
	Mental-moderate none	1.242	0.172	0.000	3.5	(2.5–4.9)
	Physical-moderate none	1.093	0.137	0.000	3.0	(2.3–3.9)
	Both-moderate none	1.276	0.297	0.000	3.6	(2.0-6.4)
	Mental-high none	1.412	0.397	0.000	4.1	(1.9-8.9)
	Physical-high none	1.086	0.163	0.000	3.0	(2.2-4.1)
	Both-high none	2.391	0.414	0.000	10.9	(4.9–24.6)
Gender	Female male	-0.147	0.046	0.001	0.9	(0.8–0.9)
Education	<year 12="" post-school<="" td="" =""><td>-0.522</td><td>0.044</td><td>0.000</td><td>0.6</td><td>(0.5–0.6)</td></year>	-0.522	0.044	0.000	0.6	(0.5–0.6)
	Year 12 post-school	-0.252	0.041	0.000	0.8	(0.7-0.8)
amily type	Single, no children married, children	-0.148	0.056	0.008	0.9	(0.8–1.0)
	Cohabitee, no children married, children	0.076	0.070	0.278	1.1	(0.9–1.2)
	Married, no children married, children	-0.379	0.038	0.000	0.7	(0.6-0.7)
	Single, children married, children	0.898	0.087	0.000	2.5	(2.1–2.9)
	Cohabitee, children married, children	0.582	0.086	0.000	1.8	(1.5–2.1)
Housing type	Disadvantaged other	0.412	0.059	0.000	1.5	(1.3–1.7)
ndigenous status	Indigenous other	0.115	0.120	0.338	1.1	(0.9–1.4)
Main income	Government payment other	-0.425	0.051	0.000	0.7	(0.6–0.7)
Main language	Non–English English	-0.376	0.070	0.000	0.7	(0.6–0.8)
Remoteness	Remote major city	-0.092	0.154	0.550	0.9	(0.7–1.2)
	Regional major city	-0.120	0.036	0.001	0.9	(0.8–1.0)
Jnemployment	Number of months unemployed	0.054	0.007	0.000	1.1	(1.0–1.1)
Constant		0.304	0.060	0.000		
RANDOM EFFECTS						
State		0.007	0.003	0.020		

a The unemployment predictor was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

Note: N=20 304 respondents. Data were missing for 412 respondents.

odds ratios.¹⁸ Still, 94 per cent of respondents aged under 45 years with high severity combined mental and physical illness/disability reported problems. The figure for severe mental illness/disability alone was 80 per cent, and for severe physical illness/disability alone was 75 per cent.

As is evident from Table 5, illness/disability was associated with the full range of legal problems included in the LAW Survey. All nine illness/disability categories, regardless of severity, were

associated with increased reporting of most of the 17 legal problem categories examined.

For most categories of legal problems the association again strengthened with severity of illness/disability. The notable exception was the accidents category, which comprised road traffic accidents that do not result in injury. This category was associated with mental and physical illness/disability of low severity, but not more severe illness/disability. This finding is not surprising, because, by definition, such accidents are not a cause of illness/disability, and people with more severe illnesses/disabilities will be less likely to be regular drivers and, hence, less likely to be involved in such accidents.

b Odds ratios (ORs) in bold denote significant comparisons. For categorical variables (i.e. all variables in this analysis other than unemployment), a bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of any type than second category. A bolded OR<1.0 indicates that the first category had significantly lower odds. The size of the OR indicates the strength of the relationship. E.g. OR=2.0 means that the odds for the first category were twice those for the second category. OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category. For continuous variables (i.e. unemployment in this analysis), ORs represent changes in odds per unit of measurement (i.e. per month of unemployment).

For low severity, the odds ratios were 2.6 (mental), 1.7 (physical) and 3.2 (both). For moderate severity, they were 3.0 (mental), 2.4 (physical) and 3.3 (both). For high severity, they were 3.5 (mental), 2.6 (physical) and 8.9 (both).

TABLE 5: REGRESSION SUMMARIES — PREVALENCE OF EACH LEGAL PROBLEM CATEGORY (BY SEVERITY OF ILLNESS/DISABILITY)

Variable ^a	Categories compared					Sig	nificant	odds ra	tios in m	Significant odds ratios in model for each problem category $^{\mathtt{b}}$	each p	roblem c	ategory	q J				
		stnebiccA	Consumer	SminƏ	Debt	Discrimination	noitesub∃	Employment	Government payments	other Government:	Health: clinical negligence	Health: services	Housing: neighbours	Housing: benwo	Housing: rented	Personal injury	Relationship breakdown	Other
Illness/disability	Mental-low none	1.9	2.1	2.6	3.1	3.7	3.0	2.7			2.3	9.3	1.6			1.9	1.9	
severity	Physical-low none	4.	6 .		1.7	2.5	2.5	4.	1.3	1.3	5.6	15.5		2.7		3.1		4.
	Both-low none		3.4	2.9	2.8		4.5	3.1	2.3	2.8	3.3	43.5	2.0		4.2	3.9	2.8	2.2
	Mental-moderate none		2.5	2.1		2.5	3.8	2.7	1.9	1.9		19.4	1.7			3.0	1.7	2.1
	Physical-moderate none		2.0	1.9	5.6	5.6	2.7	2.0	1.9	1.9	5.3	25.6	1.7	2.8		4.0	2.1	2.3
	Both-moderate none		5.6	2.8	7.8	11.1	5.1	6.4	3.3		6.5	48.6	2.0		3.5	4.5	5.5	4 L.
	Mental-high none		2.4		3.2	5.2	89.	3.3	2.7	3.0	9.7	28.8			3.1	2.3	4.2	4.
	Physical-high none		3.1	1.6	2.5	4.7	3.3	3.0	2.8	2.5	14.9	93.1	1.8	3.0	2.7	9.9	2.2	2.6
	Both-high none		4.4	5.5	5.6	6.5	5.4		5.9	3.4	6.1	44.9	3.7	5.5	0.9	7.2	3.1	2.9
Gender	Female male		0.8	0.8	0.7			8.0	8.0	0.7	1.3					0.7		0.7
Education	<year 12="" post-school<="" th="" =""><th>0.5</th><th>0.5</th><th>0.7</th><th>8.0</th><th>9.0</th><th></th><th>0.5</th><th>9.0</th><th>9.0</th><th>9.0</th><th></th><th>8.0</th><th>0.5</th><th>0.5</th><th></th><th>0.7</th><th>0.7</th></year>	0.5	0.5	0.7	8.0	9.0		0.5	9.0	9.0	9.0		8.0	0.5	0.5		0.7	0.7
	Year 12 post-school		0.8	6.0				0.7	0.7	0.7	0.7			0.5	0.5		8.0	0.7
Family type	Single, no children married, children		0.7	1.3			0.3	4.	9.0	8.0				9.0		1.3		
	Cohabitee, no children married, children			1.3			0.5								2.2			
	Married, no children married, children	0.7	0.7	0.7	0.5	9.0	0.1	0.7	0.7	8.0			0.7		9.4	0.7	0.4	
	Single, children married, children	1.3		2.2	2.9	2.5	1.6	1.9	1.3	1.4				2.0	2.2	1.7	18.7	2.1
	Cohabitee, children married, children		4.	1 .8	3.4	2.7	1.5		4.1				1.3	4.	3.4	1.6	5.5	1.7
Housing type	Disadvantaged other		4.	1.9	2.2	1.7		6 .	1.3	1.3	2.2	1.9	1.5		t. 1.		1.9	7:7
Indigenous status	Indigenous other			4.1		2.1												
Main income	Government payment other		0.7	0.8			9.0	0.5	1.3			0.7		0.5		0.4		0.7
Main language	Non-English English	0.8	0.7	9.0		1.6			9.0	0.7	1.5							0.5
Remoteness	Remote major city																	
	Regional major city	0.7													0.7			
Unemployment	Number of months unemployed			1.0	1.1	1.1	1.1	1.1	1.1	1.0		1.1	1.0			1.0	1.0	

a The unemployment predictor variable was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

Note: N=20 304 respondents for each model. Data were missing for 412 respondents for each model. It was not possible to run a model for the mental health problem category due to the overlap between this problem category and and the mental illness/disability type. By definition, only people with a mental illness could experience a problem from the mental health problem category.

category were twice those for the second category. OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for in question than the second category. An OR<1.0 indicates that the first category in the comparison had significantly lower odds. The size of the OR indicates the strength of the relationship. E.g. OR=2.0 means that the odds for the first b For categorical variables (i.e. all variables in this analysis other than unemployment), an odds ratio (OR)>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type the first category. For continuous variables (i.e. unemployment in this analysis), ORs represent changes in odds per unit of measurement (i.e. per month of unemployment). Blank cells indicate that the OR was not significant.

At the other extreme, and again unsurprisingly, those with a severe illness/disability were much more likely than those with no illness/disability to report legal problems concerning health services. Once more, this finding reflects levels of exposure to problems among different population groups. So, for example, respondents with a severe physical illness/disability were 93 times more likely than those with no illness/disability to report problems in the health services category.

Outside of the health sphere, severe illness/disability was most strongly associated with legal problems

related to discrimination, relationship breakdown, rented housing, government payments, debt and education. In the last case, those with a severe mental illness/disability were particularly vulnerable, with almost a nine times greater likelihood of having experienced a legal problem than those without an illness/disability.

Severity of illness/disability and the experience of multiple legal problems

Table 6 presents the results of the zero-inflated Poisson regression examining the relationship

TABLE 6: REGRESSION RESULTS — NUMBER OF LEGAL PROBLEMS COMPONENT¹⁹ (BY SEVERITY OF ILLNESS/DISABILITY)

Variable ^a	Categories compared	β	SE	p	Incident rate ratio ^b	(95% CI)
Illness/disability	Mental-low none	0.264	0.132	0.046	1.3	(1.0–1.7)
severity	Physical-low none	0.061	0.097	0.528	1.1	(0.9–1.3)
	Both-low none	0.486	0.171	0.004	1.6	(1.2–2.3)
	Mental-moderate none	0.127	0.135	0.347	1.1	(0.9–1.5)
	Physical-moderate none	0.464	0.135	0.001	1.6	(1.2–2.1)
	Both-moderate none	1.082	0.241	0.000	3.0	(1.8–4.7)
	Mental-high none	0.644	0.194	0.001	1.9	(1.3–2.8)
	Physical-high none	0.838	0.135	0.000	2.3	(1.8–3.0)
	Both-high none	1.303	0.327	0.000	3.7	(1.9–7.0)
Gender	Female male	-0.210	0.061	0.001	0.8	(0.7–0.9)
Education	<year 12="" post-school<="" td="" =""><td>-0.049</td><td>0.077</td><td>0.523</td><td>1.0</td><td>(0.8–1.1)</td></year>	-0.049	0.077	0.523	1.0	(0.8–1.1)
	Year 12 post-school	-0.202	0.074	0.006	0.8	(0.7–0.9)
Family type	Single, no children married, children	0.064	0.082	0.431	1.1	(0.9–1.3)
	Cohabitee, no children married, children	0.052	0.124	0.677	1.1	(0.8–1.3)
	Married, no children married, children	-0.367	0.083	0.000	0.7	(0.6–0.8)
	Single, children married, children	0.446	0.103	0.000	1.6	(1.3–1.9)
	Cohabitee, children married, children	0.463	0.129	0.000	1.6	(1.2–2.0)
Housing type	Disadvantaged other	0.419	0.090	0.000	1.5	(1.3–1.8)
Indigenous status	Indigenous other	0.344	0.246	0.162	1.4	(0.9–2.3)
Main income	Government payment other	0.000	0.076	0.999	1.0	(0.9–1.2)
Main language	Non-English English	-0.009	0.114	0.938	1.0	(0.8–1.2)
Remoteness	Remote major city	0.002	0.146	0.992	1.0	(0.8–1.3)
	Regional major city	0.089	0.068	0.187	1.1	(1.0–1.2)
Unemployment	Number of months unemployed	0.033	0.011	0.002	1.0	(1.0–1.1)
Constant		1.517	0.071	0.000		

a The unemployment predictor variable was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

Note: N=20304 respondents. Data were missing for 412 respondents.

b Incident rate ratios (IRRs) in bold denote significant comparisons. For categorical variables (i.e. all variables in this analysis other than unemployment), a bolded IRR>1.0 indicates that the first category had a significantly higher rate of experiencing legal problems than the second category. A bolded IRR<1.0 indicates that the first category had a significantly lower rate. The size of the IRR indicates the strength of the relationship. E.g. IRR=2.0 means that the incident rate for the first category was twice that for the second category. IRR=0.5 means that the incident rate for the first category was half that for the second category, or, in other words, that the incident rate for the second category was twice that (i.e. 1/0.5=2.0) for the first category. For continuous variables (i.e. unemployment in this analysis), IRRs represent changes in the incident rate per unit of measurement (i.e. per month of unemployment).

The excess zeros component of the zero-inflated Poisson regression model yielded results mirroring those set out in Table 4, confirming that the likelihood of reporting no problems decreased along with the severity of illness/disability.

TABLE 7: MEAN NUMBER OF LEGAL PROBLEMS BY SEVERITY OF ILLNESS/DISABILITY

Illness/disability		All problems			Substantial problem	s
severity	Mean	Standard error	N	Mean	Standard error	N
None	2.1	0.064	16 621	0.5	0.012	16 621
Mental-low	4.8	0.630	319	1.3	0.132	319
Physical-low	2.3	0.172	1 520	0.6	0.043	1 520
Both-low	5.7	1.124	104	1.5	0.364	104
Mental-moderate	4.7	0.558	232	1.6	0.199	232
Physical-moderate	3.6	0.370	904	1.0	0.078	904
Both-moderate	11.3	2.619	105	2.7	0.465	105
Mental-high	9.2	2.019	90	2.9	0.451	90
Physical-high	6.5	0.809	569	1.7	0.147	569
Both-high	11.1	2.263	121	3.2	0.457	121
Overall	2.6	0.066	20 584	0.6	0.013	20 584

between the severity of illness/disability and the number of legal problems experienced. As can be seen from the increasing incident rate ratios, the number of legal problems respondents reported increased with the severity of illness/disability. Again, the strongest association was for combined mental and physical illness/disability, although there was less of a distinction between mental and physical impairment in isolation.

The mean number of legal problems was 11.1 for respondents with a severe combination of mental and physical illness/disability, 9.2 for those with a severe mental illness/disability alone and 6.5 for those with a severe physical illness/disability alone, compared to only 2.1 for those with no illness/disability (see Table 7). For substantial problems—that is, problems that respondents rated as having a 'moderate' or 'severe' impact on their everyday lives—the means were 3.2, 2.9, 1.7 and 0.5, respectively.

Type of illness/disability and legal problem experience

The second series of 19 binary logistic regressions revealed some differences in the prevalence of legal problems according to the eight specific types of illness/disability examined. As can be seen from Table 8, six of the eight specific illness/disability types were associated with an increased overall likelihood of experiencing legal problems, when compared to the absence of illness/disability. The exceptions were for respondents with only a sensory or only a circulatory illness/disability.

Of the respondents with only one type of illness/disability, those with only a mental or only a mobility illness/disability were the most likely to have experienced legal problems. In both cases, such respondents were three times as likely to have reported problems as those with no illness/disability. Only 47 per cent of people without an illness/disability experienced a legal problem, compared to 76 per cent and 62 per cent of these illness/disability

groups, respectively. However, even more likely to report problems were those who had multiple types of illness/disability. The model indicated that they were almost four times as likely to have reported problems as those with no illness/disability, with 63 per cent reporting problems overall.

When we excluded legal problems intrinsically linked to health status, the pattern was very similar. In this case, all of the illness/disability types had increased prevalence, with the exception of sensory illnesses/disabilities. For most associations, a modest reduction in odds ratios was evident.²⁰

Table 9 shows that, compared to respondents with no illness/disability, respondents with each of the eight types of illness/disability had significantly higher odds of experiencing at least some of the 17 specific problem categories examined. Notably, however, some of the illness/disability groups had significantly higher odds for most (13 to 15) of the 17 specific problem categories. These were the groups with only a mental illness/disability, only a mobility illness/disability, only another type of illness/disability or multiple types of illness/disability.

The variation in the types of legal problems that are elevated for different illness/disability types suggests that people with an illness/disability are not a homogenous group and their experience of legal problems is to some extent context specific. That is, intrinsic differences in the nature of illnesses/disabilities (e.g. visibility, type and level of physical, cognitive or emotional restriction or impairment) may impact on life circumstances, activities and social interactions in different ways, and, hence, may provide different opportunities for experiencing different types of legal problems. In addition, the smaller number of respondents affected by some

Of The odds ratio was 2.7 for mental only, 1.8 for intellectual/ neurological only, 1.8 for circulatory only, 1.8 for respiratory only, 2.1 for mobility only, 1.7 for other type only and 3.3 for multiple types.

TABLE 8: REGRESSION RESULTS — PREVALENCE OF ANY TYPE OF LEGAL PROBLEM (BY TYPE OF ILLNESS/DISABILITY)

Variable ^a	Categories compared	β	SE	р	Odds ratio ^b	(95% CI)
FIXED EFFECTS						
Illness/disability type	Mental only none	1.109	0.108	0.000	3.0	(2.5–3.7)
	Sensory only none	0.248	0.271	0.360	1.3	(0.8–2.2)
	Intellectual/neurological only none	0.618	0.125	0.000	1.9	(1.5–2.4)
	Circulatory only none	0.511	0.270	0.058	1.7	(1.0-2.8)
	Respiratory only none	0.666	0.227	0.003	1.9	(1.2-3.0)
	Mobility only none	1.083	0.116	0.000	3.0	(2.4-3.7)
	Other type only none	0.621	0.071	0.000	1.9	(1.6–2.1)
	Multiple types none	1.352	0.118	0.000	3.9	(3.1-4.9)
Gender	Female male	-0.157	0.045	0.000	0.9	(0.8-0.9)
Education	<year 12="" post-school<="" td="" =""><td>-0.542</td><td>0.047</td><td>0.000</td><td>0.6</td><td>(0.5-0.6)</td></year>	-0.542	0.047	0.000	0.6	(0.5-0.6)
	Year 12 post-school	-0.278	0.041	0.000	0.8	(0.7-0.8)
Family type	Single, no children married, children	-0.145	0.057	0.011	0.9	(0.8–1.0)
	Cohabitee, no children married, children	0.100	0.070	0.153	1.1	(1.0–1.3)
	Married, no children married, children	-0.378	0.041	0.000	0.7	(0.6-0.7)
	Single, children married, children	0.904	0.089	0.000	2.5	(2.1–2.9)
	Cohabitee, children married, children	0.592	0.090	0.000	1.8	(1.5–2.2)
Housing type	Disadvantaged other	0.415	0.059	0.000	1.5	(1.3–1.7)
Indigenous status	Indigenous other	0.141	0.127	0.267	1.2	(0.9–1.5)
Main income	Government payment other	-0.403	0.052	0.000	0.7	(0.6-0.7)
Main language	Non-English English	-0.360	0.073	0.000	0.7	(0.6–0.8)
Remoteness	Remote major city	-0.029	0.142	0.838	1.0	(0.7–1.3)
	Regional major city	-0.111	0.037	0.003	0.9	(0.8–1.0)
Unemployment	Number of months unemployed	0.054	0.007	0.000	1.1	(1.0–1.1)
Constant		0.309	0.061	0.000		
RANDOM EFFECTS						
State		0.006	0.003	0.046		

a The unemployment predictor variable was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

types of illness/disability, such as sensory illness/disability, may have militated against finding a greater number of associations.

Type of illness/disability and the experience of multiple problems

Table 10 presents the results of the zero-inflated Poisson regression model examining specific types of illness/disability.

As shown by the incident rate ratios, the number of legal problems that respondents reported varied by illness/disability type, again pointing to associations between legal problems and illness/disability being context specific. As would be expected, the strongest

association was observed for multiple illnesses/disabilities.

The mean number of legal problems reported by those with different types of illness/disability is set out in Table 11. Those with multiple types of illness/disability reported an average of 5.3 legal problems, and those with mental health problems alone reported 5.4 (not taking account of other factors). In contrast, the corresponding mean for people with no illness/disability was only 2.1. For substantial legal problems, the means were 1.5 for people with multiple types of illness disability and 1.6 for people with a mental illness/disability, compared to only 0.5 for those with no illness/disability.

b Odds ratios (ORs) in bold denote significant comparisons. For categorical variables (i.e. all variables in this analysis other than unemployment), a bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category. A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds. The size of the OR indicates the strength of the relationship. E.g. OR=2.0 means that the odds for the first category were twice those for the second category. OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category. For continuous variables (i.e. unemployment in this analysis), ORs represent changes in odds per unit of measurement (i.e. per month of unemployment).

Note: N=20329 respondents for each model. Data were missing for 387 respondents.

TABLE 9: REGRESSION SUMMARIES — PREVALENCE OF EACH LEGAL PROBLEM CATEGORY (BY TYPE OF ILLNESS/DISABILITY)

						:	,	;				,	4				
Variable	Categories compared					Signif	cant od	is ratios	Significant odds ratios in model for each problem category $^{\circ}$	l for eac	n proble	m categ	ory"				
		stnebicoA	Consumer	9min J	Jd∍Ū	Discrimination	noi₃eɔnb∃	Employment	Government Government	other Government:	Health: clinical negligence	Health: Housing:	Housing: neighbours	Housing: rented	Personal injury	Relationship breakdown	Other
Illness/disability type	Mental only none	4.1	2.1	2.3	2.5	3.5	4.3	3.0	1.7	1.7	2.7 1	3.7 1	1.6		2.2	2.2	1.8
	Sensory only none		1.9							2.2	Ď	25.5				2.8	2.3
	Intellectual/neurological only none					3.0		1.8	2.4		1	17.8					
	Circulatory only none		3.0								5.0 4	4.8					
	Respiratory only none						3.2				2	21.5					
	Mobility only none		2.3	2.0	2.0	4.0	1.9	1.8	1.9	1.8	5.5 34	34.1	1.7		7.2	1.8	2.0
	Other type only none		1.6		2.4	2.7	2.4		1.5	1.6	5.2 28	28.6 1	1.3	1.7	2.7	1.5	1.7
	Multiple types none		3.2	2.3	4.6	5.1	4.5	2.0	2.3	2.1	8.3 45.	2	1.9	3.9	4.7	5.6	2.5
Gender	Female male		8.0	0.8	0.7				0.8	0.7					0.7		0.7
Education	<year 12="" post-school<="" td="" =""><td>0.5</td><td>0.5</td><td>0.7</td><td>0.7</td><td>9.0</td><td></td><td>0.5</td><td>0.6</td><td>9.0</td><td>9.0</td><td>0</td><td>ω.</td><td>9.4</td><td></td><td>0.7</td><td>0.7</td></year>	0.5	0.5	0.7	0.7	9.0		0.5	0.6	9.0	9.0	0	ω.	9.4		0.7	0.7
	Year 12 post-school		0.7	6.0				0.7	0.7	0.7)	0.5		0.7	0.7
Family type	Single, no children married, children		0.7	1.3			0.3	4.1	0.8	8.0					4.		
	Cohabitee, no children married, children			1.3			9.0							2.3			
	Married, no children married, children	0.7	0.7	0.8	0.5	9.0	0.1	0.7	0.7	8.0		0	0.7 (4.0	0.7	0.4	
	Single, children married, children			2.2	2.8	2.8	1.7	1.5	1.3	4.1	1.8			2.4	1.8	18.8	2.1
	Cohabitee, children married, children		1.5	1.9	3.2	2.8	4.1	4.1	1.5	1.5	2.5	7	1.3	3.6	1.5	5.4	1.7
Housing type	Disadvantaged other		1.3	1.9	2.2	1.7		1.7	1.4	1.3	1.8 2	2.1 1	1.6	3.9		2.1	1.6
Indigenous status	Indigenous other			1.5		2.1											
Main income	Government payment other		0.7	0.8			9.0	0.5	1.3		1.5				4.0		0.7
Main language	Non-English English	0.8	0.7	9.0		1.7			0.7	0.7	1.6						0.5
Remoteness	Remote major city																
	Regional major city	0.7												8.0			
Unemployment	Number of months unemployed		1.0	1.0	- -	1.	1.1	1.1	1.1	1.0		1.1	1.0		1.0		1.0

a The unemployment predictor variable was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

b For categorical variables (i.e. all variables in this analysis other than unemployment), an odds ratio (OR)>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category. An OR<1.0 indicates that the first category in the comparison had significantly lower odds. The size of the OR indicates the relationship. E.g. OR=2.0 means that the odds for the first category were half those for the second category. OR=0.5 means that the odds for the first category were half those for the second category. OR=0.5 means that the odds for the first category were half those for the second category. the first category. For continuous variables (i.e. unemployment in this analysis), ORs represent changes in odds per unit of measurement (i.e. per month of unemployment). Blank cells indicate that the OR was not significant.

Note: N=20329 respondents for each model. Data were missing for 387 respondents for each model. It was not possible to run a model for the mental health problem category due to the overlap between this problem category and the mental illness/disability type. By definition, only people with a mental illness could experience a problem from the mental health problem category. Also, due to small numbers in some cells, it was not possible to run a model for the owned housing problem category.

TABLE 10: REGRESSION RESULTS — NUMBER OF LEGAL PROBLEMS COMPONENT²¹ (BY TYPE OF ILLNESS/DISABILITY)

Variable ^a	Categories compared	β	SE	p	Incident rate ratio ^b	(95% CI)
Illness/disability	Mental only none	0.273	0.091	0.003	1.3	(1.1–1.6)
type	Sensory only none	0.654	0.313	0.037	1.9	(1.0-3.6)
	Intellectual/neurological only none	0.414	0.247	0.095	1.5	(0.9–2.5)
	Circulatory only none	0.558	0.246	0.023	1.7	(1.1–2.8)
	Respiratory only none	-0.107	0.257	0.676	0.9	(0.5–1.5)
	Mobility only none	0.467	0.103	0.000	1.6	(1.3–2.0)
	Other type only none	0.415	0.150	0.006	1.5	(1.1–2.0)
	Multiple types none	0.710	0.115	0.000	2.0	(1.6–2.5)
Gender	Female male	-0.168	0.056	0.003	0.8	(0.8–0.9)
Education	<year 12="" post-school<="" td="" =""><td>-0.098</td><td>0.076</td><td>0.198</td><td>0.9</td><td>(0.8–1.1)</td></year>	-0.098	0.076	0.198	0.9	(0.8–1.1)
	Year 12 post-school	-0.168	0.072	0.020	0.8	(0.7–1.0)
Family type	Single, no children married, children	0.073	0.084	0.386	1.1	(0.9–1.3)
	Cohabitee, no children married, children	0.062	0.125	0.622	1.1	(0.8–1.4)
	Married, no children married, children	-0.366	0.086	0.000	0.7	(0.6-0.8)
	Single, children married, children	0.472	0.103	0.000	1.6	(1.3–2.0)
	Cohabitee, children married, children	0.490	0.139	0.000	1.6	(1.2–2.1)
Housing type	Disadvantaged other	0.464	0.100	0.000	1.6	(1.3–1.9)
Indigenous status	Indigenous other	0.302	0.158	0.056	1.4	(1.0–1.8)
Main income	Government payment other	0.040	0.077	0.599	1.0	(0.9–1.2)
Main language	Non-English English	0.010	0.114	0.933	1.0	(0.8–1.3)
Remoteness	Remote major city	0.069	0.136	0.610	1.1	(0.8–1.4)
	Regional major city	0.132	0.066	0.045	1.1	(1.0–1.3)
Unemployment	Number of months unemployed	0.036	0.010	0.001	1.0	(1.0–1.1)
Constant		1.466	0.072	0.000	,	

a The unemployment predictor variable was treated as a continuous variable based on the number of months the respondent was unemployed in the 12-month period prior to interview. All other predictors were treated as categorical variables involving a comparison between one chosen category (the reference category) and each other category of that predictor.

Note: N=20329 respondents. Data were missing for 387 respondents.

TABLE 11: MEAN NUMBER OF LEGAL PROBLEMS BY TYPE OF ILLNESS/DISABILITY

Illness/disability type		All problems			Substantial problem	s
	Mean	Standard error	N	Mean	Standard error	N
None	2.1	0.064	16621	0.5	0.012	16621
Mental only	5.4	0.473	643	1.6	0.118	643
Sensory only	3.3	1.135	78	0.8	0.203	78
Intellectual/neurological only	4.3	1.025	178	1.1	0.198	178
Circulatory only	3.0	0.781	268	0.6	0.102	268
Respiratory only	2.0	0.386	155	0.6	0.114	155
Mobility only	4.3	0.443	895	1.1	0.095	895
Other type only	3.1	0.416	838	0.7	0.071	838
Multiple types	5.3	0.494	946	1.5	0.113	946
Overall	2.5	0.066	20621	0.6	0.013	20 621

²¹ The excess zeros component of the zero-inflated Poisson regression model yielded results mirroring those set out in Table 8, confirming that the likelihood of reporting no problems decreased along with the severity of illness/disability.

b Incident rate ratios (IRRs) in bold denote significant comparisons. For categorical variables (i.e. all variables in this analysis other than unemployment), a bolded IRR>1.0 indicates that the first category had a significantly higher rate of experiencing legal problems than the second category. A bolded IRR<1.0 indicates that the first category had a significantly lower rate. The size of the IRR indicates the strength of the relationship. E.g. IRR=2.0 means that the incident rate for the first category was twice that for the second category. IRR=0.5 means that the incident rate for the first category was half that for the second category, or, in other words, that the incident rate for the second category was twice that (i.e. 1/0.5=2.0) for the first category. For continuous variables (i.e. unemployment in this analysis), IRRs represent changes in the incident rate per unit of measurement (i.e. per month of unemployment).

Other demographic variables and legal problem experience

The regression models also show that, independently of illness/disability, a number of other demographic variables or indicators of disadvantage were related to increased prevalence of most of the legal problem categories examined. In particular, single parents, cohabitees with children, people who had lived in disadvantaged housing and people who had been unemployed had significantly increased prevalence of legal problems in many of the models (see Tables 4–6 and 8–10).

Illness/disability, legal problems and multiple disadvantage

Of those who faced substantial legal problems, 30 per cent also reported a long-term limiting illness/disability, with 8 per cent reporting a severe illness/disability. In comparison, only 15 per cent of respondents without substantial legal problems had an illness/disability, with only 2 per cent having a severe illness/disability. Furthermore, of those who had a severe illness/disability, 67 per cent faced one or more legal problems, with 55 per cent reporting substantial legal problems.

We examined the extent of multiple disadvantage for people with an illness/disability who had legal problems via a measure that counted the number of components of disadvantage experienced, excluding illness/disability. The components included were low income, unemployment, disadvantaged housing, single parenthood, being Indigenous, having a non-English main language and living in a remote or outer regional area. Those who reported one or more legal problems and also an illness/disability had 1.0 component of disadvantage on average (in addition to having an illness/disability), compared to 0.8 for others. If only substantial problems and severe illnesses/disabilities were included, then the figures rose to 1.3 and 0.8, respectively.

Discussion

The case for integrated services

The above findings once again confirm the existence of strong links between the experience of legal problems and long-term illness/disability. They build upon previous findings to show that (i) there is a general strengthening of association as severity of illness/disability increases, (ii) associations are particularly strong in the case of mental impairment, but (iii) strong associations are also apparent in the case of particular forms of physical impairment, with the picture evidently being highly context specific. The findings also demonstrate that the neediest clients in the legal services sector tend to be the neediest patients in the health sector, and among the most disadvantaged people in society.

Irrespective of paths of causation, the findings provide support for continued effort into integrating legal, health and human services, and for improving effective referral practices between such services. Such effort will help to maximise the opportunity for life problems to be spotted and addressed within the human services sphere. A more 'seamless service' (United Kingdom Department of Health 2000) for vulnerable clients/patients will also better reflect the experience and perspective of service users, who do 'not usually perceive their problems as single entities' (Noone 2012, p. 27).

However, when the findings are understood in the context of legal problems bringing about, perpetuating, and being brought about by illness/ disability, the case for further integration becomes stronger still.

In so far as illness/disability plays a role in bringing about or exacerbating legal problems, the integration of legal and health services could provide a means to secure timely assistance to prevent problem escalation.

In so far as legal problems cause illness/disability, the availability of legal help becomes directly relevant to health promotion, both in general and in relation to Commonwealth and state government policies aimed at reducing health inequalities. In fact, in the case of some chronic illnesses being prolonged by the persistence of legal problems (e.g. asthma and mould growth/vermin in unsafe housing), legal intervention may be the only effective medical treatment (Tobin Tyler et al. 2011).

Reflecting this, the American Bar Association resolved in 2007 to encourage 'lawyers, law firms, legal services agencies, law schools and bar associations to develop medical-legal partnerships with hospitals, community-based health care providers, and social service organisations to help identify and resolve diverse legal issues that affect patients' health and well-being'.²² This was followed by the American Medical Association resolving in June 2010 to encourage doctors 'to develop medical-legal partnerships and to help identify and resolve diverse legal issues that affect patients' health and well-being'.²³

In Australia, the National Mental Health Policy 2008 has indicated a similar direction of travel, stating that 'much of the effort in mental health promotion needs to occur beyond the healthcare system, in sectors that impact on the daily lives of individuals and communities to support the development of resilience and maintenance of mental well-being. These include housing, education, employment,

²² See, for example, http://www.medical-legalpartnership.org/about-us/pro-bono-partners/american-bar-association>.

²³ Reported in Sandel, Hansen, Kahn et al. (2010).

welfare and justice' (Department of Health and Ageing 2009, p. 13).²⁴

In the case of mental illness, the implications of links with legal problems are particularly pronounced. The links are the strongest. They also touch a significant proportion of the population. Legal problems affect around half of the Australian population each year, with one in five problems reported to lead to or exacerbate stress-related illness (Coumarelos et al. 2012). Mental illness affects one in five people in Australia at any given time, with almost one-half affected over their lifetime (ABS 2008). This is similar to the situation in New Zealand (Oakley-Browne, Wells & Scotts 2006) and the United Kingdom (Singleton, Bumpstead, O'Brian, Lee & Meltzer 2001). Further, it has been estimated that the annual cost of mental illness to Australia is \$20 billion, which includes loss of productivity and labour force participation (ABS 2009). Thus, the potential for legal services to help to mitigate the cost of mental illness is great.

The nature of integrated services

There are an increasing number of tie-ups between legal and health services, with new impetus coming from the Advocacy-Health Alliances initiative in Australia (Noble 2012a). Furthermore, increased integration among a range of human services has become the focus of recent whole-of-government social inclusion policies in several countries, including Australia (Australian Government 2009; Vinson 2009). The present findings provide further support for the potential benefit of integration models that coordinate health and legal services with other human services more broadly, given the strong links of health and legal needs with multiple aspects of socioeconomic disadvantage. Ideally, the range of legal and non-legal services offered within such integration models should be broad, given that many types of illness/disability were found to be associated with increased vulnerability to a wide variety of legal problems.

However, there is no universal model of service integration among human services generally, or between health and legal services more specifically. Service integration is typically conceptualised as a continuum (Cortis, Chan & Hilferty 2009; Fine, Pancharatnam & Thomson 2005; Horwath & Morrison 2007; Lappin 2010; Lennie 2010; Leutz 1999). At one extreme, slight integration involves agencies remaining completely autonomous but developing some cooperative links. At the other extreme, full integration involves agencies combining to form new units with pooled resources. Moderate

integration models usually involve separate agencies harmonising various activities to minimise duplication and can involve a series of increasingly more intensive linkages between separate agencies (Fine et al. 2005).

Thus, for example, slight integration of legal and health services could involve health professionals acting as 'gateways' to legal services through the provision of more systematic referrals to legal services, or could involve bidirectional referrals and cooperative links between health and legal professionals (Coumarelos et al. 2012; Pleasence 2006). The consistent finding from surveys of legal need that health and other non-legal professionals are routinely used by people with legal problems (e.g. Coumarelos et al. 2012; Genn 1999; Pleasence 2006) suggests that even slight integration models involving improved referral have the potential to provide considerable benefit.

More intensive integration models may, for example, involve 'service hubs' or 'one-stop shops' that co-locate legal and health services. Service hubs aim to improve the accessibility of services by providing a convenient entry point, such as a location frequented by the client group. In addition to facilitating referrals between agencies, service hubs can also involve more intensively integrated services by adopting a more client-focused or case management approach across services (Coumarelos et al. 2006; Fine et al. 2005; Forell, McCarron & Schetzer 2005). The present findings provide further support for the likely utility of more intensive integration models that provide more client-focused services for people with illness/disability.

The medical-legal partnership (MLP) model in the United States is one example of integration between legal and health services. In practice, MLPs vary in their level of integration. Although some involve only slight integration via referral networks, many involve more intensive forms of integration whereby legal services are provided in partnership with, or as an integral part of, health care services (National Center for Medical-Legal Partnership 2013). MLPs typically strive to achieve three core integration activities:

- 1. provide legal assistance in the healthcare setting
- 2. transform health and legal institutions and practices, including training of frontline health workers to screen, identify and refer patients with legal needs, joint data tracking of legal and health information, and provision of evidence-based recommendations to improve service delivery
- 3. influence policy change (Lawton, Sandel, Morton, Ta, Kenyon & Zuckerman 2011).²⁵

With regard to the second activity, the I-HELP mnemonic and screening tool has been developed

Related to this, a 2004 report from the United Kingdom's Social Exclusion Unit included an action point to improve access to legal advice for people with mental illness and further integrate some forms of legal and health services (Social Exclusion Unit 2004b).

²⁵ See also http://www.medical-legalpartnership.org.

within the medical-legal partnership model to screen health care patients for unmet legal and other needs in the areas of Income supports. Housing and utilities, Education and employment, Legal status (e.g. immigration) and Personal and family stability (Lawton et al. 2011).²⁶ The present findings suggest that such diagnostic tools that screen for multiple types of everyday problems that can have legal, health, financial and welfare aspects are a valuable starting point for integrated legal and non-legal service delivery. Such tools can provide a means for identifying the full spectrum of legal and other needs faced by an individual, and, hence, the basis for addressing these needs in their entirety. Similar 'legal health check' diagnostic tools are emerging in Australia to identify legal issues across multiple life circumstances in order to provide legal and non-legal assistance.27

In the United Kingdom, as already noted, although some initiatives coordinating health, legal and other human services have been curbed by recent cuts in public spending,²⁸ Citizen's Advice Bureaux outreaches in health settings are still commonplace.²⁹

Clearly, the models of service integration used in the United States and the United Kingdom are likely to provide valuable lessons and points of application for the current Advocacy-Health Alliance movement in Australia (cf. Coumarelos et al. 2012; Noble 2012a). However, if service integration initiatives are to be effective, they must be well suited to local conditions and infrastructure and to their specific target populations. An integration model that is successful in one jurisdiction may need some adaptation to work effectively in a different health care system, a different legal system, a different

²⁶ See also http://www.medical-legalpartnership.org.

population or other unique jurisdictional features. For example, Australia's vast rural and remote areas may mean that the population is too sparse in some areas to support certain types of integrated service delivery (Wakeman, Humphreys, Wells, Kuipers, Entwistle & Jones 2006).

Given the wide variety of potential service integration models, and the specific characteristics of different jurisdictions, future research and evaluation effort could usefully be applied to determine best-practice, cost-effective integrated service models to meet legal and non-legal needs in different populations and locations within Australia.

Challenges to service integration

In addition to determining appropriate models for service integration, there can be many practical obstacles to their successful implementation. Service integration can pose considerable challenges across sectors, across government and within organisations, and requires considerable planning, investment, resources and cooperation if it is to be effective (Buck, Smith, Sidaway & Balmer 2010; Buck, Smith, Sidaway & Scanlan, 2010; Fox Moorhead, Sefton & Wong 2010; Richardson & Patana 2013; Smith & Patel 2010).

Firstly, limited funding can be a challenge. Funding coordinated activities between agencies often falls outside the individual funding guidelines of each agency (Noone 2009). Given that models involving greater levels of service integration tend to require higher set-up costs, the level of integration needs to be matched carefully to the particular needs of client groups. While intensive integration may be particularly beneficial for disadvantaged people with multiple, severe needs, it may be unnecessarily rigid and expensive for others (Fine et al. 2005; Leutz 1999; Richardson & Patana 2013). Nonetheless, the cost of new service integration models needs to be considered in the context of the potential benefits and long-term savings, which might be substantial. For example, in the United Kingdom, the economic impact of legal problems and their consequences on health and other public services was estimated to be at least £13 billion over a 3.5-year period (Pleasence 2006). In the United States, a number of studies evaluating MLPs have reported economic returns on the investment to provide legal assistance in health care facilities (Beeson, McAllister & Regensten 2013; Pettignano, Caley & McLaren 2012; Rodabaugh, Hammond, Myszka & Sandel 2010; Teufel, Werner, Goffinet, Thorne, Brown & Gettinger 2012).

Secondly, competing priorities, ethical obligations and professional duties can also provide substantial impediments to successful multidisciplinary integration. For example, multidisciplinary integration requires shared understanding of the roles and obligations of different agencies; identification of mutually beneficial aspects of

See, for example, the Legal Health Check produced by the Queensland Legal Assistance Forum to assist flood and cyclone victims, http://www.legalaid.qld.gov.au/floods/Documents/Legal_health_check.pdf; the Legal Health Check used to assess the legal and related needs of homeless people in Queensland entering Roma House for accommodation and support services (Encompass 2011); and the Law Check-up produced by Legal Aid NSW for community workers to identify everyday civil law problems, http://lacextra.legalaid.nsw.gov.au/PublicationsResourcesService/PublicationImprints/Files/528.pdf.

For example, recent spending cuts have resulted in the phasing out of CLACs and CLANs (Ministry of Justice 2010). CLACs and CLANs provide another useful example of moderately integrated service delivery across a variety of services. They aimed to address the clusters of legal and non-legal problems commonly experienced by socially excluded groups, through (i) accessible services via co-location or networking (ii) seamless services from reception through to finalisation (iii) integrated services to detect and address multiple, interrelated problems and (iv) tailored services to provide more intensive support for the most vulnerable clients (Buck, Smith, Sidaway & Scanlan 2010; Fox, Moorhead, Sefton & Wong 2010).

²⁹ Citizens Advice 12th September 2012, accessed on the 12th November 2012, http://www.citizensadvice.org.uk/index/pressoffice/press_index.htm.

service delivery; reconciliation of competing policies, objectives and reporting requirements; considerable resourcing and time commitment; and mechanisms of evaluation, accountability and quality assurance (Castles 2008; Galowitz, Tichner, Tremblay & Blatt 2011; National Center for Medical Legal Partnership 2011; Noone 2009, 2012; Pleasence 2006; Scott & Sage 2001).

It is also evident that successful integration of services owes much to the vision of 'champions with passion and influence' (Noble 2012b), who are committed to meeting the challenges that integration presents. Effective integration is more than simple awareness, process or colocation. It requires buy-in from those leading and delivering services, with mutual recognition and support for their shared-purpose and values (e.g. Noone 2012).

Furthermore, in Australia, the fragmented nature of legal services has been identified as an impediment to an integrated service approach to justice (Sackville 2011) and may also hinder coordinating legal service provision with health and other public services. Legal services are often 'siloed' by type of legal matter, legal jurisdiction and eligibility criteria for different types of public legal assistance. This problem-focused approach means that a client's legal needs may not be detected and addressed in their entirety (Coumarelos et al. 2012).

Thus, the practical challenges to effective service integration also point to the need for rigorous evaluation of new service integration initiatives.

The need for evaluation

It is clear that an ad hoc approach to the development of integrated legal and non-legal services would be far from ideal, given limited resources, jurisdictional differences and implementation challenges. Rather, a more systematic approach, informed by rigorous research and evaluation is critical. Research and evaluation can be used to inform:

- relevant models of service integration to meet different types of needs
- the efficacy of integrated services in reaching relevant client groups and producing quality outcomes for clients (e.g. satisfactory legal resolution and good health care)
- the ongoing accountability and cost-efficiency of integrated service provision
- the continued improvement of integrated service provision and the development of best practice models (cf. Coumarelos et al. 2012).

Rigorous evaluation of service programs requires specialist expertise to design suitable methodology, implement and analyse (Lawrence, Fu, Sandel & De Vos 2011). Ideally, evaluation should not be an afterthought but should be built in at the design

stage of new service initiatives given that, once implementation has begun, it is often difficult to collect appropriate baseline measures in order to conduct a rigorous evaluation (Weatherburn 2009). In addition, evaluation is useful not only when a service initiative is first implemented, but also in subsequent implementations, given that numerous factors can affect whether the initiative will successfully 'translate' when rolled out or adapted to a different location or population group (Hunter, Banks & Giddings 2009).

Final remarks

It has been argued that 'ultimately, social determinants play a greater role in health disparities than access to health insurance and health care, which are important pathways to reducing health disparities, but do not address the root causes of illness' (Parmet et al. 2011, p. 5). Likewise, just outcomes to social problems require that all aspects of problems are addressed. The present findings firmly verify the substantial connections between a variety of illnesses/disabilities and a broad range of everyday legal and other social problems reflecting socioeconomic disadvantage. The potential utility of integrated health, legal and broader human services is evident. The challenge now is to determine how to best implement change that delivers this utility.

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