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J Epidemiol Community Health 2004;58;552-557
doi:10.1136/jech.2003.014076

EVIDENCE BASED PUBLIC HEALTH POLICY AND PRACTICE

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J Epidemiol Community Health 2004;**58**:552–557. doi: 10.1136/jech.2003.014076

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Accepted for publication 29 October 2003

Study objective: In the United Kingdom, recognition of the links between social and health problems has led to government initiatives such as health action zones. The principles of civil law apply to many types of social problem, and the civil justice system provides one means through which they can be tackled. However, little research has been undertaken into the particular links between problems to which civil legal principles and processes can be applied and morbidity. This study examines these links, and the role of legal advice and services in preventing ill health.
Design: This study examined survey respondents' self reports of longstanding illness/disability and experience of 18 problems to which legal principles can be applied.
Setting: A random national survey conducted across England and Wales.
Participants: 5611 adults drawn from 3348 residential households.
Main results: Significant associations were found between illness/disability and 13 of the problem types. Moreover, experience of greater numbers of problems increased the likelihood of reported illness/disability. In attempting to resolve problems respondents' health also frequently suffered.
Conclusions: This study highlights the contribution that public legal education and legal advice can make to the promotion of public health, and the importance of further integration of health and civil justice initiatives through health action zones, community legal service partnerships, etc, to further this end.

Civil law problems are in most part problems of everyday life; problems people face as constituents of a broad civil society. Following the establishment over the past 30 years of an extensive range of rights and obligations related to children, education, employment, debt, health, housing, and welfare benefits, the problems to which civil legal principles and processes can be applied today involve more issues of basic social wellbeing than ever before.[1] Despite this, little research has been undertaken into the role of such problems in the experience of social exclusion (the "shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown"[2]), or their relation with morbidity. Also, at least until recently, little governmental interest has been exhibited in the utilisation of legal services and processes to tackle problems of social exclusion and public health.[3]

The relation between some types of "justiciable"[4] problem (that is, problems to which the law can be applied, whether or not this is recognised, and whether or not legal processes are invoked) and ill health is readily apparent. Negligent accidents and domestic violence can result in serious physical injury, even death (or miscarriage[5]). They can also have serious psychological effects, manifesting as, for example, post-traumatic stress disorder[6–8] and battered wife syndrome.[6 9] The path of causation is not only one way. Physical or mental incapacity increases vulnerability to domestic violence.[10] Evidently, non-violent "family" problems, including divorce, can also cause long term psychological health problems,[11 12] as well as be brought about by them.[13] This applies to children as well as adult family members.[14]

Likewise, the poor state of repair of rented housing and overcrowded social housing (both of which may be justiciable), are associated with physical and psychological ill health,[15–17] along with homelessness and living in temporary accommodation (both of which commonly follow on from justiciable problems and can themselves involve such problems).[17 18] Furthermore, a secondary analysis of data from the British Household Panel Survey has found that mortgage indebtedness adversely affects health and increases the likelihood that men will visit general practitioners.[19] Thus, it has recently been suggested that "the stress caused by mortgage arrears and repossession needs to be viewed as a major health issue".[17 20] Again, there is also evidence that problems related to housing and homelessness are more likely to be experienced by those suffering from ill health.[17 21]

Other, less apparent, links have also been observed between justiciable problems and ill health. For example, in a recent study of those seeking debt advice from Citizens Advice Bureaux, 62% of respondents reported that their problem led to stress, anxiety or depression, and 27% said they had consequently sought treatment or counselling from a general practitioner (although half of these had received prior treatment; the debt problem having then compounded their situation).[22] Other studies have also linked debt problems to psychological ill health.[23 24] Likewise, links have been identified between discrimination and ill health.[25] Related to this, employment problems (both relating to the acquisition and retention of employment), in their direct link to employment status, are linked to ill health.[26]

Surveys of justiciable problems have been undertaken periodically since the 1930s, when first conducted in the United States.[27] However, such surveys have focused on the incidence of problems, and the actions respondents took to resolve them, rather than their causes and effects. Even Genn's large scale surveys of justiciable problems conducted in England[4] and in Scotland[28] in the late 1990s, which were the largest such surveys conducted to that date, did not include basic questions on respondents' health status.

In this paper we draw upon data from a new random national survey of adults' experiences of justiciable problems, to examine the relation between 18 types of problems (see table 1) and health, and go on to discuss the role of civil law and legal advice in public health strategy. Firstly, it is hypothesised that respondents who experience justiciable problems more often suffer from long term illness/disability.

Table 1 Discrete problem types reported in the survey, and percentage/number of respondents reporting one or more problem of each type

Problem type	Example	%	Number
Consumer	Faulty goods/services (for example, building work)	13.3	748
Neighbours	Anti-social behaviour	8.4	471
Money/debt	Mis-selling of financial products, disputed bills	8.3	465
Employment	Termination/terms of employment	6.1	344
Personal injury	Road accidents, workplace accidents	3.9	217
Housing (renting)	Repairs to property/unfit housing, lease terms	3.8	215
Housing (owning)	Boundaries/rights of way, planning permission	2.4	135
Welfare benefits	Entitlement to/quantification of benefits	2.3	127
Relationship breakdown	Residence/care of children, division of assets	2.2	124
Divorce	–	2.2	122
Children	School exclusion, choice of school	1.9	108
Medical negligence	Negligent medical or dental treatment	1.6	92
Domestic violence	Violence against respondent/children	1.6	88
Discrimination	Disability discrimination, race discrimination	1.4	80
Unfair police treatment	Assault/unreasonable detention by police	0.7	38
Housing (homelessness)	Experience/threat of homelessness	0.6	36
Mental health	Conditions of/care after hospital discharge	0.5	26
Immigration	Obtaining authority to remain in the UK	0.3	18

Secondly, it is hypothesised that as the number of problems increases so does the relative proportion of respondents suffering long term illness/disability. Thirdly, it is hypothesised that the process of resolving problems gives rise to health problems.

METHODS

The LSRC national periodic survey of justiciable problems

The first Legal Services Research Centre (LSRC) national periodic survey of justiciable problems, conducted in the summer of 2001, constitutes the baseline survey in a long term project to gauge the volume of such problems and patterns of consequent advice seeking behaviour across England and Wales.[29] It is the most extensive survey of its kind so far undertaken in this country, and was based on Genn's Nuffield funded ''Paths to Justice'' surveys.[4 28] Respondents were drawn from 3348 residential households out of a random selection of 5829 households, selected from the Postcode Address File, across 73 postcode sectors throughout England and Wales. Ninety two per cent of the 6121 adults over 18 years of age within these households were interviewed, yielding 5611 respondents. The eligible household response rate was therefore 57% (66% where successful contact was made with an adult occupant), and the cumulative in-scope adult response rate was 52%. This compares with other large scale social surveys, such as the Family Expenditure Survey (59% in Britain and 56% in Northern Ireland in 2000/01[30]), Family Resources Survey (65% in 2000/01[31]), and General Household Survey (67% in 2000/01[32]). Thirty three per cent of households contained just one adult, 56% contained two adults, and the remainder contained three or more. The average household size was 2.37, compared with the 2001 census average of 2.36. Twenty five per cent of respondents aged between 25 and 74 years old reported a long term limiting illness or disability, compared with the 2001 census estimate of 24%.

Respondents completed a screening interview, where they were asked if they had experienced a problem in the preceding three years that had been difficult to solve in each of 18 distinct problem categories. The screen interview was carefully constructed to limit (as far as possible) the circumstances reported to those to which legal principles can be applied. Problem types, which covered only civil matters, are listed in table 1, along with examples of constituent sub-categories and the proportion of respondents reporting having experienced one or more problem of each type.

Having identified a problem, respondents were asked about its nature and action taken to resolve it. A range of demographic/household information was also collected, with the screening interview lasting about 16 minutes. If a respondent had experienced at least one problem, they progressed to a main interview, which addressed all aspects of a single problem drawn from those identified through the screening interview (including advice, objectives, costs and outcomes). No main interviews were conducted in respect of neighbours' problems. The main interview lasted about 25 minutes. Interviews were conducted face to face in respondents' own homes and, as with Genn's earlier surveys, were arranged and conducted by the National Centre for Social Research.[33]

Analysis

All respondents were asked ''Do you have any longstanding illness, disability or infirmity? By longstanding I mean anything that has troubled you over a period of time, or that is likely to affect you over a period of time''

Firstly, we used mixed effects binary logistic regression, implemented using MIXNO,[34] to test the influence long term illness/disability (based on this question) and a range of further social and demographic predictors had upon the likelihood of respondents having experienced any justiciable problem and any problem of each of the 18 discrete problem categories. Mixed effects binary logistic regression can be used to analyse correlated binary data resulting from clustered designs. In this study, household is included as a random effect, acknowledging that one household member experiencing a problem may influence the likelihood of that problem for additional members. The model assumes that data within clusters (in this case households) are dependent. The degree of dependency is jointly estimated with the usual model parameters, thus adjusting for dependence resulting from nesting in the data.[34] Accounting for such clustering avoids tests that are too liberal for level 2 (household) covariates and typically result in falsely rejecting the null hypothesis too often.[35] More generally, logistic regression estimates the probabilities (or more correctly the odds ratios) associated with each binary option and how these probabilities vary because of differences in the independent predictor variables.[36] The predictors we used included gender, ethnicity, housing type, use of transport, family type, tenure, economic activity, long term illness/disability, academic qualifications,

receipt of benefits, and income. Income was equivalised to control for dependent family members, and was an approximation of McClement's equivalence scale.[37] Discrete predictors such as tenure and housing type were fitted as n−1 dummy variables for the n categories. Excluded categories were ''detached house'' for house type, ''couple without children'' for family type, and ''rent free'' for tenure. Predictors were entered simultaneously in each model as main effects only. For each mixed effects logistic regression analysis, data for those reporting a long term illness or disability and those not reporting a long term illness or disability experiencing were age standardised to each other and to the general population of England and Wales (using census 2001 data) using the direct method.[38] This resulted in both ill/disabled and non-ill/disabled respondents having equivalent age profiles. This weighting was used in conjunction with weighting for non-response and case study oversampling (described below).

Secondly, we examined whether long term ill/disabled respondents experienced a greater number of problems overall using a mixed effects Poisson regression to model counts of problems. Analysis was implemented using MIXPREG,[39] again with household as a random effect and direct method age standardisation of long term illness or disability. The relative proportion of ill/disabled respondents was also plotted as number of problems increased.

Thirdly, respondents progressing to a main interview who tried to handle the problem alone or obtain advice were asked, ''As a result of trying to sort out this problem, have you experienced any of the things or feelings on this card?'' Among the multiple response options was ''My health has suffered''. We assessed the extent to which health was reported as having suffered as a result of trying to sort out problems, and whether this varied by problem type, using binary logistic regression with main interview problem type as a single discrete predictor. We used indicator contrasts, which was equivalent to fitting dummy variables for each problem type (apart from the reference category, in this case ''unfair police treatment'').

Weighting

Figures and analyses were weighted for non-response using 2001 census data and data from the Family Resources Survey, so as to be generalisable to the population of England and Wales. As the survey included three oversampled ''case study'' areas (Birmingham, Cumbria, and Kirklees)—the aim of which was to examine ecological differences in the experience of justiciable problems—a factor assigning lower weights to respondents in these three areas was included first, to avoid them exerting excessive influence. We then weighted for non-response using data relating to gender, age, and income. Unweighted, LSRC survey respondents were 47% male and 53% female, compared with 48% and 52% respectively across the general population (2001 census). Eight per cent of them were aged between 18 and 24 years, 39% between 25 and 44 years, 27% between 45 and 59 years, and 26% 60 years or older. This compared with 11%, 38%, 25%, and 27% respectively across the general population (2001 census). Sixty four per cent of them were in households with a weekly income of less than £500, 27% in households with a weekly income of between £500 and £999, and 9% in households with a weekly income of £1000 or more. This compared with 61%, 28%, and 10% respectively across the general population (Family Resources Survey[31]).

When using only main interview data, an element was also included to return relative proportions of each problem type to those observed in the screen. This controlled for the main problem selection weighting process that was designed to increase numbers of rare problems covered by main interviews. This element was removed when examining individual problem types in the main survey.

Finally, weighting ultimately involved direct method age standardisation of long term illness or disability.

RESULTS

Table 2 shows mixed effects binary logistic regression parameter estimates for experience of ''any justiciable problem''.

Respondents with a long term illness/disability were significantly more likely to report a problem than those with no illness/disability (odds ratio, Exp (β) = 2.46, $p<0.001$). Additionally, long term illness/disability was a significant predictor of 13 of the 18 discrete problem types (table 3).

Figure 1 shows the percentage of respondents who reported one or more of each of the 18 problem types who were long term ill/disabled. The percentage of long term ill/disabled overall, and of those with one or more problem of any type are also provided for reference.

There was clear evidence of differences in the number of problems reported by long term ill/disabled and all other respondents, $Z_1 = 5.08$, $p<0.001$ (mean problems = 1.19 versus 0.65). This was not simply a consequence of long term ill/disabled respondents being more likely to experience a single problem. Repeating the analysis using only respondents with one or more problems confirmed that long term ill/disabled respondents were still likely to experience more problems than other respondents, $Z_1 = 6.38$, $p<0.001$ (mean problems = 2.42 versus 1.92). Figure 2 shows the relative proportion of long term ill/disabled respondents as the number of problems reported increased.

Overall, around 17% of main survey respondents who acted (either by obtaining advice or handling alone) in response to their problem felt that their health had suffered as a consequence. However, this varied significantly by problem type, with the percentage reporting their health suffering ranging from less than 5% to over 60%. Numbers and percentages of respondents reporting their health suffering for each problem type are presented in table 4, along with odds ratios (and their 95% confidence intervals).

DISCUSSION

Justiciable problems and health status

Our findings indicate a significant association between individuals' experience of justiciable problems and health status. Because the health status question used in the LSRC survey addressed only respondents' circumstances at the time of interview, we have not been able to establish a path of causation. However, the nature of the problems studied and findings from other studies provide suggestions of causal links. Consistent with our findings, it has been found elsewhere that accidents, domestic violence, relationship breakdown, poor quality housing, and debt can bring about health problems, and also that ill health increases the likelihood of experiencing domestic violence, relationship breakdown, and poor quality housing. Evidently, mental health problems can also bring about related justiciable problems (for example, concerning conditions of hospital discharge) and, along with physical health problems, can form a basis for discrimination, employment, and welfare benefits problems. These problems, in turn, in increasing individuals' levels of stress might also be expected to impact on health.[2 40]

We did not find a direct link between homelessness or divorce and ill health. In the first case, there are a number of reasons such a link might not have been observed through the LSRC survey. Firstly, the number of respondents reporting homelessness problems was very small (see table 1). Secondly, the LSRC survey sample includes only

Table 2 Mixed effects binary logistic regression parameter estimates for the experience of "any justiciable problem"

					95% CI for odds ratio	
		Z	p	Odds ratio	Lower	Upper
Fixed effects						
Ethnicity	White	0.47	0.64	1.09	0.75	1.58
Gender	Male	−0.19	0.85	0.99	0.85	1.14
Use of transport	Yes	1.59	0.11	1.25	0.95	1.65
Long term illness or disability	Yes	8.82	<0.001	2.46	2.01	3.00
Receiving benefits	No	−3.62	<0.001	0.63	0.49	0.81
Academic qualifications	No	−8.42	<0.001	0.39	0.31	0.48
Economically active	No	0.50	0.62	1.06	0.85	1.32
Housing type	Semi	−0.26	0.80	0.97	0.76	1.24
	Terrace	2.04	0.04	1.32	1.01	1.72
	Flat	3.80	<0.001	2.04	1.41	2.94
Family type	Couple children	3.29	0.001	1.49	1.18	1.89
	Lone parent	6.59	<0.001	5.01	3.10	8.10
	Single no children	2.51	<0.012	1.37	1.07	1.74
Tenure	Own	−0.28	0.78	0.94	0.60	1.46
	Mortgage	2.78	0.005	1.85	1.20	2.86
	Rent public	3.24	0.001	2.20	1.37	3.55
	Rent private	3.63	<0.001	2.54	1.53	4.20
Equivalised income		3.31	<0.001	1.04	1.02	1.07
Constant		−4.87	<0.001	4.00	1.95	8.21
Random effects*						
Household†		3.31	<0.001‡			

*Random effect variance term, expressed as a standard deviation; †β = 0.04, SE = 0.12, intracluster correlation = 0.37; ‡one tailed p value (all fixed effects p values are two tailed).

respondents who have been homeless in the past, rather than respondents who are currently homeless. However, we did observe that respondents' health was frequently reported to have suffered as a result of attempts to resolve homelessness problems. Turning to divorce, it is to be noted that whereas the simple fact of divorce was not itself associated significantly with ill health, associated problems of relationship breakdown (that is, problems concerning the residence and care of children, financial support, and the division of assets) *were* associated strongly with ill health.

Law, legal services, and public health policy

Links between justiciable problems and ill health have clear public health policy implications. In so far as such problems bring about ill health, their prevention, amelioration, and resolution should be a public health policy objective. The promotion of public awareness of a broad range of legal rights/obligations (through both general public education and basic individual advice) should be regarded as both a justice and public health issue. The law, legal services, legal processes, and other structured dispute resolution processes

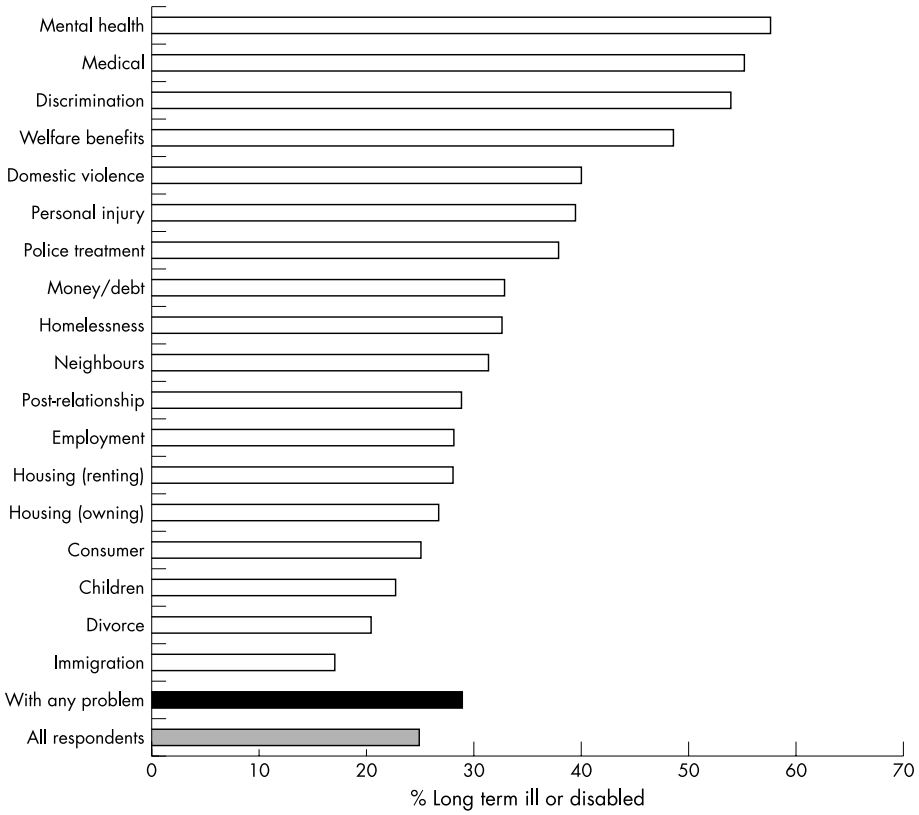

Figure 1 Percentage of long term ill/disabled respondents among those with one or more problem within each of the 18 problem types, one or more problem of any type and overall.

Table 3 Significance of long term illness or disability as a predictor of each of the eighteen discrete problem types

Problem type	Z	p	Odds ratio	95% CI for odds ratio	
				Lower	Upper
Discrimination	5.08	<0.001	7.81	3.53	17.27
Consumer	4.63	<0.001	1.83	1.41	2.36
Employment	5.65	<0.001	2.40	1.77	3.25
Neighbours	2.49	0.013	1.73	1.12	2.66
Housing (owning)	2.06	0.039	2.01	1.03	3.92
Housing (renting)	2.46	0.014	2.01	1.15	3.52
Homelessness	0.19	0.85	1.17	0.23	6.03
Money/debt	6.89	<0.001	2.79	2.08	3.74
Welfare benefits	3.77	<0.001	2.62	1.59	4.32
Divorce	0.007	0.99	1.00	0.53	1.89
Post-relationship	3.58	<0.001	3.58	1.78	7.21
Domestic violence	3.95	<0.001	4.85	2.22	10.62
Children	1.30	0.19	1.95	0.71	5.32
Personal injury	6.78	<0.001	3.28	2.33	4.62
Medical negligence	5.15	<0.001	5.97	3.02	11.78
Mental health*	2.16	0.03	4.89	1.16	20.61
Immigration	0.14	0.89	1.31	0.03	56.39
Unfair police treatment	0.81	0.42	2.10	0.35	12.76
Any problem	8.82	<0.001	2.46	2.01	3.00

*Model was fitted without the random household effect because of lack of convergence.

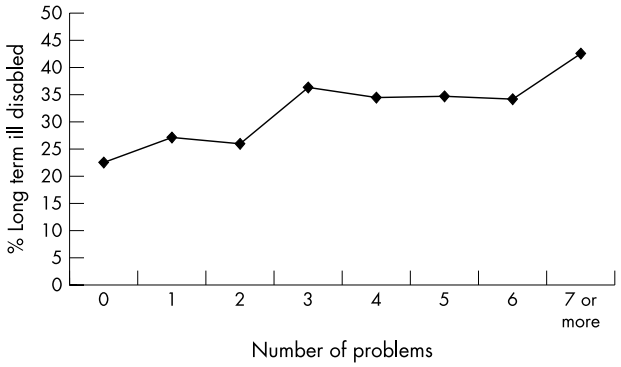

Figure 2 Percentage of ill/disabled respondents with *n* problems.

allied to the law (for example, mediation[41]) should—in addressing and providing means to resolve those problems that lead to ill health—be recognised as able to promote both social justice and public health. Also, the ability of legal services to mitigate the stresses of acting to resolve problems—whether simply through taking over responsibility for achieving problem resolution, or through the provision of general emotional support and advice[42]—should also be recognised as contributing to public health. In so far as ill health brings about justiciable problems, the role of health professionals in directing those potentially affected towards appropriate sources of advice should be recognised and developed. Allied to this, the role of health professionals in identifying problems more generally, and directing those affected towards appropriate sources of advice should be recognised and developed.

To some extent the roles set out above are recognised in England and Wales.[43 44] Although this recognition is still limited, in bringing legal services to bear on matters of public health, and incorporating health services within the infrastructure of civil justice, the development of the Community Legal Service,[45] Community Legal Service Partnerships,[46] and health action zones[47] hold much promise. The development of patient advice and liaison services[48] (some already operating as part of the broad Community Legal Service and accredited for quality of advice by the Legal Services Commission[49]), the

Table 4 Number and percentage of respondents in reporting that their health suffered as a result of sorting out their problem and the associated odds ratios from the binary logistic regression analysis

Problem type	Health did not suffer		Health suffered			95% CI for odds ratio	
	Number	%	Number	%	Odds ratio	Lower	Upper
Discrimination	18	64.3	10	35.7	0.58	0.16	2.13
Consumer	374	94.0	24	6.0	3.02	0.95	9.61
Employment	142	78.0	40	22.0	0.83	0.27	2.62
Housing (owning)	64	95.5	3	4.5	6.11	1.03	36.20
Housing (renting)	82	82.8	17	17.2	1.21	0.36	4.10
Homelessness	3	33.3	6	66.7	0.19	0.04	0.92
Money/debt	194	89.8	22	10.2	1.65	0.52	5.28
Welfare benefits	59	75.6	19	24.4	0.68	0.21	2.21
Divorce	44	75.9	14	24.1	0.74	0.22	2.53
Post-relationship	44	80.0	11	20.0	0.80	0.23	2.80
Domestic violence	22	59.5	15	40.5	0.29	0.08	1.01
Children	51	82.3	11	17.7	1.11	0.30	4.07
Personal injury	51	63.8	29	36.3	0.38	0.12	1.21
Medical negligence	26	61.9	16	38.1	0.30	0.09	1.05
Mental health	5	45.5	6	54.5	0.22	0.05	1.06
Immigration	5	62.5	3	37.5	0.22	0.04	1.29
Police treatment	13	86.7	2	13.3	–	–	–

Note, neighbours' problems did not progress to a main interview.

development of partnerships between health centres and advice agencies (enabling general and legal advice to be provided on-site in health centres[49 50]) and training for health professionals in problem identification (such as is in relation to domestic violence[6]) provide means to provide early advice in relation to problems that follow on from health problems, and referral for advice on problems that have led to ill health or can be identified by health professionals in the course of treating or counselling patients. The development of health impact assessments by health action zones, which can draw upon knowledge and experience within the Community Legal Service,[49] also provide a ready means to integrate legal services into public health policy. There is, though, still a great way to go to integrate properly civil justice and public health policy and services, and much potential gain still to be made in further integration. There is also unrealised potential to address health inequalities through further integration, for, as we describe elsewhere, aside from ill health and disability, justiciable problems are significantly associated with other elements of ''social exclusion''—such as unemployment, very low income, and lone parenthood[29]—and can seemingly play a part in both bringing it about and worsening its character.[51]

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Funding: this project was funded by the Legal Services Commission and the Lord Chancellor's Department.

Competing interests: this study is funded by the Department of Constitutional Affairs and the Legal Services Commission. The Legal Services Research Centre is the research division of the Legal Services Commission.

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