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DOES HAVING A CHRONIC PHYSICAL CONDITION AFFECT THE LIKELIHOOD OF TREATMENT SEEKING FOR A MENTAL HEALTH PROBLEM AND DOES THIS VARY BY ETHNICITY?*

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Abstract

Objective—The comorbidity of mental disorders with chronic physical conditions is known to have important clinical consequences, but it is not known whether mental-physical comorbidity influences mental health treatment seeking. This study investigates whether the presence of a chronic physical condition influences the likelihood of seeking treatment for a mental health problem, and whether that varies among ethnic subgroups in New Zealand.

Methods—Analyses were based on a subsample (n = 7,435) of The New Zealand Mental Health Survey, a nationally representative household survey of adults (response rate 73.3%). Ethnic subgroups (Maori and Pacific peoples) were oversampled. DSM-IV mental disorders were measured face-to-face with the Composite International Diagnostic Interview (CIDI 3.0). Ascertainment of chronic physical conditions was via self-report.

Results—In the general population, having a chronic medical condition increased the likelihood of seeking mental health treatment from a general practitioner (OR: 1.58), as did having a chronic pain condition (OR: 2.03). Comorbid chronic medical conditions increased the likelihood of seeking mental health treatment most strongly among Pacific peoples (ORs: 2.86–4.23), despite their being less likely (relative to other ethnic groups) to seek mental health treatment in the absence of physical condition comorbidity.

Conclusion—In this first investigation of this topic, this study finds that chronic physical condition comorbidity increases the likelihood of seeking treatment for mental health problems. This provides reassurance to clinicians and health service planners that the difficult clinical

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problem of mental-physical comorbidity is not further compounded by the comorbidity itself constituting a barrier to mental health treatment seeking.

Keywords

mental disorders; chronic illness; comorbidity; treatment; ethnicity

INTRODUCTION

Mental disorders and chronic physical conditions co-occur with greater than chance likelihood [1–4]. This phenomenon of mental-physical comorbidity has important clinical implications. For example, the co-occurrence of mental disorders with physical conditions results in a greater-than-additive association with disability [5, 6]. Mental disorders have also been found to increase the morbidity and mortality associated with physical conditions [7, 8]. Mental disorders should be treated whether or not they are comorbid with chronic physical conditions, but given the clinical consequences of mental-physical comorbidity, it is important to establish that the co-occurrence of a physical condition does not in itself constitute a barrier to mental disorder treatment.

Barriers to treatment of mental disorders among those with physical comorbidity can occur at different stages. They may occur in the physician's office, and prior research has suggested that detection of depression and other mental disorders in primary care settings is made more difficult by the presence of physical symptoms or conditions [9, 10]. Physicians may be distracted by the physical complaints, may be keen to rule out possible organic causes, or time constraints may prevent both somatic and psychological complaints being addressed [9, 10].

Barriers to treatment may also occur at an earlier stage by influencing whether or not a patient seeks treatment in the first place. Although, on the face of it, it seems unlikely that the presence of physical symptoms or conditions would reduce the likelihood of an individual visiting their general practitioner, it is conceivable that a physical condition could reduce the likelihood of treatment seeking specifically for a mental health problem. This could be either because physical symptoms obscure recognition (by the patient) of the mental health problem, or because of a perception among those with severe chronic physical conditions that co-occurring emotional distress is natural and not requiring of specific treatment [11].

We are not aware of any prior research that addresses this question: does having a chronic physical condition influence (reduce or increase) the likelihood of seeking treatment from health services *in relation to a mental health problem?* Moreover, most prior research on mental-physical comorbidity and treatment has been conducted in primary care samples (rather than in the general population). This is appropriate when the focus is on detection of mental disorders by primary care physicians, but not when the focus is on treatment *seeking*. People living in the community with mental disorders may seek treatment from a range of healthcare and non-healthcare service providers.

There is a further dimension to this topic that has not received attention in prior research: whether any association between physical comorbidity status and treatment seeking for a mental health problem differs by ethnicity. The New Zealand population consists of a number of distinct ethnic groups, including: *Maori*, the indigenous population, comprising 11% of the New Zealand adult population; the *Pacific* population (immigrants and their New Zealand born descendants from islands in the South Pacific: 5% of the adult population); and the remainder of the New Zealand population (*Other*) who are mostly descended from British and European immigrants. Prior analyses of this survey dataset have revealed that

Maori and Pacific peoples are less likely to seek treatment in relation to their mental health compared with other New Zealanders, a difference that holds after age and socioeconomic differences between the ethnic groups are taken into account [12]. However, those prior analyses did not explore treatment seeking among those with mental-physical comorbidity.

This study used The New Zealand Mental Health Survey 2003/4 (NZMHS), a nationally representative survey of DSM-IV mental disorders in community-dwelling adults which also screened for a number of chronic physical conditions, to investigate the following two research questions:

1. does the presence of a chronic physical condition (experienced in the past 12 months) influence the likelihood of seeking treatment for a mental health problem (experienced in the past 12 months); and
2. are there ethnic group differences in any association observed between physical condition comorbidity status and treatment seeking for a mental health problem?

METHODS

Survey Sample

Te Rau Hinengaro: The New Zealand Mental Health Survey 2003/4 was a general population survey involving face-to-face interviews with 12,992 adults aged 16 and over. Interviews were conducted by professional lay interviewers from October 2003 to December 2004 with a response rate of 73.3%. Written informed consent was obtained from all participants and ethics review and approval was obtained from the 14 New Zealand regional ethics committees. Internal sub-sampling was used to reduce respondent burden by dividing the interview into two parts. Part 1 included the core diagnostic assessment of mood disorders, alcohol use disorders, and most of the anxiety disorders. Part 2 included the remainder of mental disorders and additional information relevant to a wide range of survey aims, including assessment of chronic physical conditions. All respondents completed Part 1. All Part 1 respondents who met criteria for any mental disorder and a probability sample of other respondents were administered Part 2. The Part 2 respondents (n = 7,435) used in this study were weighted by the inverse of their probability of selection for Part 2 of the interview to adjust for differential sampling. A more detailed description of the survey methods is provided elsewhere [13, 14].

Measures

Mental disorders were assessed with the World Mental Health-Composite International Diagnostic Interview (WMH-CIDI), now the CIDI 3.0 [15]. This fully-structured interview ascertains lifetime prevalence of disorder (disorder occurring at any age up to the age at interview) plus recency of episodes or symptoms, from which 12-month and 30-day prevalence are derived. All disorders were assessed using the definitions and criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) [16]. CIDI organic exclusion rules were imposed. The 12-month mental disorders in the category “any 12-month mental disorder” include: *mood disorder* (major depressive disorder, dysthymia, bipolar disorder); *anxiety disorders* (panic disorder, agoraphobia, specific phobia, social phobia, obsessive compulsive disorder, post-traumatic stress disorder, generalized anxiety disorder); and *substance use disorders* (alcohol abuse and dependence, drug abuse and dependence).

Ethnicity status was determined using the ethnicity question from the 2001 New Zealand Census of Population and Dwellings. In the NZMHS Maori and Pacific peoples were oversampled relative to their proportion in the population in order to ensure robust statistical

estimates. A mixture of targeting and screening was used. This doubled the number of Maori and quadrupled the number of Pacific people in the sample relative to their proportions in the population (see Table 1).

Sociodemographic correlates included age at interview, self-identified ethnicity (Maori, Pacific, Other), educational qualifications, and equivalized household income. Educational qualifications were assessed using the 2001 census questions about school and post-school qualifications. A modification of the revised Jensen equivalence scale for household income [17] was used account for the number of adults and the number of children in the household.

Chronic physical conditions were screened for in the Part 2 subsample using a checklist adapted from the U.S. Health Interview Schedule. Respondents were asked: "*Have you ever had … arthritis or rheumatism; chronic back or neck problems; frequent or severe headaches; any other chronic pain; seasonal allergies like hay fever; a stroke; a heart attack*." They were then asked: "*Did a doctor or other health professional ever tell you that you had … heart disease; high blood pressure; asthma; tuberculosis; any other chronic lung disease (like COPD or emphysema); diabetes or high blood sugar; an ulcer in the stomach or intestine; HIV infection or AIDS; epilepsy or seizures; cancer*." For conditions that could have remitted, participants were asked if they still had the condition in the past 12 months. This article uses those conditions reported to be experienced in the past 12 months and groups them into three categories: *any medical condition* (stroke, heart attack, heart disease, high blood pressure, asthma, tuberculosis, other chronic lung disease, diabetes, ulcer, HIV/AIDS, epilepsy, cancer); *any pain condition* (arthritis, chronic back or neck pain, frequent or severe headaches, other chronic pain); and *any physical condition* (any condition in either the medical or pain category).

Treatment Seeking—In the interview all respondents were asked "*Did you ever in your lifetime go to see any of the professionals on this list for problems with your emotions, nerves, mental health or your use of alcohol or drugs*." An extensive list of treatment providers was then presented (from which categorization of treatment sector was derived). Respondents were also asked about treatment in the past 12 months (used in this study). The treatment sectors included in this analysis include the *mental health specialty sector* (psychiatrist, and non-psychiatrist mental health specialists; use of mental health helpline; overnight admission for mental health problems); the *general medical sector* (general practitioner, other medical doctor, nurse, occupational therapist or any healthcare professional); *any health care* (either mental health specialty or general medical sector); and *any non-health care* (religious or spiritual advisor, counselor outside of mental health sector, complementary and alternative medicine provider).

Statistical Analysis

Estimates were weighted to take into account the probability of selection; to adjust for intentional oversampling of Maori and Pacific peoples; to adjust for non-response; and to post-stratify by age, sex, and ethnicity to the 2001 census population. Cross-tabulations estimated the percent reporting seeking treatment for a mental health problem in the past 12 months in the whole population, and then among the subpopulation with any 12 month mental disorder, for each ethnic group. Cross-tabulations also estimated the percent reporting a physical condition in one of the three categories (any medical condition, any pain condition, any physical condition) by general and 12-month mental disorder populations and by ethnic group.

Multiple logistic regression models were developed to estimate the association between chronic physical condition status (yes/no) and treatment seeking for a mental health problem in each of three service sectors. Separate models were run for each of the three physical

condition categories as independent variable, and for treatment seeking in each sector as dependent variable. All models adjusted for age, sex, ethnicity, educational attainment, household income. Further models were run including an interaction term for ethnicity and the independent variable. The significance of interactions was determined with Wald F tests. Because there were significant interactions between medical condition status and ethnicity in the association with treatment seeking, additional models were run separately for each ethnic group to illuminate the nature of the interactions. Taylor series linearization [18] was used to approximate the variance of estimates using SUDAAN 9.0.1 [19] to adjust for the complex sampling design. Associations are considered statistically significant at $p < 0.05$.

RESULTS

Patterns of Treatment Seeking among Ethnic Groups

The unadjusted percents seeking treatment for a mental health problem in the different treatment sectors are shown in Table 2 for each ethnic group. As expected, treatment seeking is higher among those with a 12-month mental disorder, and also higher in the general medical relative to mental health specialty sector, since the former incorporates primary care. Pacific people are the least likely of the three ethnic groups to seek treatment, a pattern that is accentuated among those with a 12-month mental disorder where, for example, only 16% sought treatment in the general medical sector relative to 31% among Other New Zealanders.

Chronic Physical Condition Status among Ethnic Groups

The descriptive data in Table 3 show that Pacific peoples in the general population are less likely to report experiencing a chronic physical condition than the other two ethnic groups. The right hand half of the table shows the percentages with mental-physical comorbidity; that is, the percentages of those with any 12-month mental disorder who also report experiencing a chronic physical condition in the past 12 months. Here, too, the general pattern is for physical comorbidity to be less prevalent among Pacific people with a mental disorder relative to the other ethnic groups (52% versus 64% for Maori and Other).

Associations between Physical Condition Status and Treatment Seeking

Having a chronic physical condition significantly increases the likelihood of seeking treatment for a mental health problem in the general population (Table 4), particularly in the general medical (OR: 1.97) and non-healthcare sectors (OR: 1.90). For those with a pain condition, or any physical condition, there is no ethnic group difference in the association between physical condition status and treatment seeking. For those with a medical condition, however, there is a significant ethnic group difference in this association in relation to treatment seeking in the general medical, any healthcare sectors, and any non-healthcare sectors. The nature of this interaction is described below (see Table 6).

Table 5 repeats the regression models shown in Table 4, but this time among the subgroup with any 12-month mental disorder. In this subpopulation, having a physical condition is only weakly associated with treatment seeking for a mental health problem, with associations generally only significant in relation to seeking treatment in the general medical sector and in the non-healthcare sector. Again, there are significant ethnic group differences in the associations between having a medical condition and treatment seeking.

Ethnic Group Differences

Table 6 demonstrates that although the experience of a chronic medical condition in the general population increases the likelihood of seeking treatment for a mental health problem for all ethnic groups, the magnitude of associations is considerably higher for Pacific people.

This ethnic contrast is also evident among those with 12-month mental disorders where having a medical condition increases likelihood of treatment seeking for a mental health problem by Pacific people around four-fold (general medical sector: OR 3.79; any healthcare provider: 3.99; any non-healthcare provider: 4.23). This finding contrasts with the descriptive findings presented earlier where Pacific people are, in general, less likely to seek treatment for a mental health problem relative to other ethnic groups.

DISCUSSION

This study investigated associations between self-reported chronic physical conditions (present in the past 12 months) and treatment seeking in the past 12 months for mental health problems. The results indicate that having a chronic physical condition increases the likelihood of treatment seeking for a mental health problem, although this association is stronger in the general population than in the subpopulation with 12-month mental disorders. This association is consistent across all ethnic groups for those with chronic pain conditions, but for those with chronic medical conditions the association is substantially stronger among Pacific peoples than in the other ethnic groups.

It is reassuring to find that in this general population study, the presence of a comorbid physical condition does not reduce treatment seeking for mental health problems. This finding alleviates concern that physical conditions might obscure recognition of mental disorder symptoms (by the sufferer) or that those with a serious medical condition might be hesitant about seeking help in relation to accompanying emotional distress.

Not only did this study find that mental-physical comorbidity presented no barrier to mental health treatment seeking; we found that it actually increased its likelihood. It is unclear why this should be so, but the stronger associations in the general population (than in the population with mental disorders) suggests one possible explanation. People with sub-threshold mental health problems might be uncertain about the appropriateness of seeking help for them. In such cases, having a chronic physical ailment might make it easier to initiate treatment seeking from a general practitioner, and then, once the consultation is underway, to ask about mental health symptoms. It would be useful to explore this possibility in future research.

A noteworthy feature of these results is the contrast between the findings for Maori and Pacific peoples, given that these groups have many similarities in terms of age structure and socioeconomic status. One possible explanation is suggested by the results of a previous study by one of us on the SF-36 factor structure among Maori, Pacific, and Other ethnic groups [20]. That study showed quite different patterns of responding between Maori and Pacific peoples, that suggested that Pacific people's model of health is less clearly dichotomized into separate and independent physical and mental components than is the case for Maori and Other New Zealand ethnic groups. A speculative interpretation of the current study results in the context of those SF-36 study findings might be that because physical and mental health may be less clearly demarcated among Pacific cultures, physical ill-health has greater emotional resonance, or increases the salience of associated mental health problems in Pacific people, such that it increases their likelihood of seeking treatment for their mental health. Another possible explanation is that there is greater severity of physical conditions in Pacific people by the time they seek help and are diagnosed. Future research, perhaps using a qualitative methodology, would be helpful to shed light on the interaction between culture and factors that hinder or facilitate treatment seeking. This would be of value to healthcare policy makers and clinicians.

The main limitation of this study is that medical conditions were assessed on the basis of self-report of diagnoses rather than independent verification by a medical practitioner, although this limitation is somewhat mitigated by the generally good agreement between self-report of medical diagnoses and physician or medical record confirmation of those diagnoses [21, 22]. With regard to the pain conditions, self-report is generally regarded as the preferred method of case ascertainment, but there is greater potential for the influence of mood on symptom reporting. This is less of an issue in the present study because the main findings involve the medical rather than pain conditions. These limitations should be balanced against the study strengths: a large, general population sample with diagnostic assessment of mental disorders and sufficient over-sampling of ethnic groups to investigate differences among them.

In conclusion, in what we believe to be the first investigation of this topic, the results provide reassurance that mental-physical comorbidity does not constitute a barrier to seeking treatment for mental health problems, and indeed, it facilitates it.

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Table 1

Sample Characteristics in the New Zealand Mental Health Survey (NZMHS)

	Whole (Part I) sample (*n* = 12,992)		Part 2 subsample (*n* = 7,435)		
	Number	**Unweighted (%)**	**Number**	**Unweighted (%)**	**Weighted (%)**
Sex					
Male	5634	43.3	3016	40.6	48.0
Female	7358	56.6	4419	59.4	52.0
Age (years)					
16–24	1535	11.8	1027	13.8	15.7
25–44	5304	40.8	3215	43.2	39.7
45–64	3909	30.1	2266	30.5	29.6
65+	2244	17.3	927	12.5	15.0
Prioritized ethnicity					
Maori	2595	20.0	1643	22.1	11.2
Pacific	2236	17.2	1339	18.0	4.5
Other	8161	62.8	4453	59.9	84.3

Table 2

Number and Percent Seeking Treatment for a Mental Health Problem in the General Population, and in the Subpopulation with Any 12-Month Mental Disorder, by Ethnic Group[a]

	In general population Treatment setting				In subpopulation with any 12 month DSM-IV mental disorder Treatment setting			
	Mental health specialty	General medical	Any health care provider	Any non-healthcare provider	Mental health specialty	General medical	Any health care provider	Any non-healthcare provider
Ethnic group	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)
Maori	154 **6.27** (5.12, 7.67)	235 **8.25** (6.86, 9.90)	319 **12.15** (10.14, 14.13)	105 **3.80** (2.94, 4.90)	111 **14.60** (11.74, 18.01)	178 **20.39** (16.92, 24.36)	238 **29.34** (25.33, 33.69)	79 **9.11** (6.83–12.07)
Pacific	64 **3.27** (2.31, 4.60)	138 **6.74** (5.26, 8.61)	172 **8.77** (7.02, 10.90)	58 **2.95** (1.95, 4.44)	46 **9.26** (6.11, 13.78)	88 **16.38** (11.72, 22.43)	111 **22.26** (16.91, 28.70)	39 **8.16** (4.75–13.68)
Other	376 **5.12** (4.48, 5.85)	757 **9.36** (8.52, 19.27)	930 **12.07** (11.04, 13.19)	253 **3.84** (3.24, 4.53)	271 **17.29** (15.16, 19.64)	510 **30.76** (28.10, 33.55)	610 **37.91** (35.04, 40.87)	163 **10.67** (8.90–12.74)

[a]All *N*s are unweighted sample observations; all other estimates are weighted, but not adjusted for covariates. All percents are bolded for clarity.

Table 3

Number and Percent with a Chronic Physical Condition (Experienced in the Past 12 Months) in the General Population, and in the Subpopulation with Any 12-Month Mental Disorder, by Ethnic Group[a]

	In general population			In subpopulation with any 12-month DSM-IV mental disorder		
	Type of Physical condition			Type of physical condition		
	Any medical	Any pain	Any physical	Any medical	Any pain	Any physical
Ethnic group	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)	No. % (95% CI)
Maori	771 **46.46** (42.98, 49.97)	710 **37.13** (33.77, 40.62)	986 **58.32** (54.60, 61.94)	395 **53.34** (48.88, 57.75)	362 **44.88** (40.48, 49.35)	484 **63.77** (59.65, 67.71)
Pacific	501 **34.27** (30.05, 38.76)	421 **26.44** (22.77, 30.48)	641 **41.89** (37.86, 46.03)	234 **43.89** (37.82, 50.15)	200 **33.97** (27.93, 40.57)	292 **51.87** (45.07, 58.60)
Other	2034 **42.63** (40.58, 44.71)	2058 **39.32** (37.31, 41.36)	2789 **56.71** (54.60, 58.80)	737 **48.22** (44.97, 51.49)	780 **49.24** (46.07, 52.41)	987 **64.00** (60.60, 67.27)

[a]All *N*s are unweighted sample observations; all other estimates are weighted, but not adjusted for covariates. **All percents are bolded for clarity.**

Table 4

Multivariate-Adjusted Association between Having a Chronic Physical Condition and Treatment Seeking for a Mental Health Problem, **in the General Population**, by Treatment Sector

	Treatment sector							
	Mental health specialty	**Ethnic group interaction[b]**	**General medical**	**Ethnic group interaction[b]**	**Any health care provider**	**Ethnic group interaction[b]**	**Any non- healthcare provider**	**Ethnic group interaction[b]**
Type of physical condition	**OR[a] (95% CI)**	***p***	**OR (95% CI)**	***p***	**OR (95% CI)**	***p***	**OR (95% CI)**	***p***
Any medical condition	1.54 (1.20, 1.97)	NS	1.58 (1.32, 1.88)	2.33 $p = 0.09$	1.57 (1.32, 1.87)	3.43 $p = 0.03$	1.60 (1.17, 2.19)	4.32 $p = 0.01$
Any pain condition	1.68 (1.26, 2.24)	NS	2.03 (1.69, 2.45)	NS	1.83 (1.53, 2.19)	NS	2.44 (1.70, 3.49)	NS
Any physical condition	1.63 (1.21, 2.20)	NS	1.97 (1.62, 2.38)	NS	1.84 (1.51, 2.24)	NS	1.90 (1.33, 2.71)	NS

[a]Reference group: those without the specified physical condition.

[b]Test of interaction between ethnic group and physical condition status in predicting treatment seeking in each sector.

Table 5

Multivariate-Adjusted Association between Having a Chronic Physical Condition and Treatment Seeking for a Mental Health Problem, **in the Subpopulation with Any 12-Month DSM-IV Mental Disorder**, by Treatment Sector

	Treatment sector							
	Mental health specialty	Ethnic group interaction[b]	General medical	Ethnic group interaction[b]	Any health care provider	Ethnic group interaction[b]	Any non- healthcare provider	Ethnic group interaction[b]
Type of physical condition	OR[a] (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*	OR (95% CI)	*p*
Any medical condition	1.06 (0.79, 1.04)	NS	1.33 (1.07, 1.66)	4.37 $p = 0.01$	1.21 (0.98, 1.51)	6.17 $p = 0.002$	1.43 (0.98, 2.07)	6.34 $p = 0.002$
Any pain condition	1.17 (0.84, 1.65)	NS	1.38 (1.10, 1.74)	NS	1.28 (1.02, 1.61)	NS	2.16 (1.49, 3.13)	NS
Any physical condition	1.03 (0.74, 1.44)	NS	1.33 (1.05, 1.69)	NS	1.19 (0.95, 1.50)	NS	1.68 (1.16, 2.44)	NS

[a]Reference group: those without the specified physical condition.

[b]Test of interaction between ethnic group and physical condition status in predicting treatment seeking in each sector.

Table 6

Multivariate-Adjusted Associations between Having a Chronic Medical Condition and Treatment Seeking for a Mental Health Problem, in the General Population, and in the Subpopulation with Any 12-Month DSM-IV Mental Disorder, by Ethnicity and Treatment Sector

	In general population			In subpopulation with any 12-month DSM-IV disorder		
	Treatment sector					
	General medical	Any healthcare provider	Any non-healthcare provider	General medical	Any healthcare provider	Any non-healthcare provider
Ethnic group	OR[a] (95% CI)	OR (95% CI)	OR (95% CI)	OR[a] (95% CI)	OR (95% CI)	OR (95% CI)
Maori	1.74 (1.20, 2.51)	1.53 (1.09, 2.14)	0.95 (0.55, 1.64)	1.36 (0.88, 2.08)	1.12 (0.75, 1.67)	0.60 (0.33, 1.09)
Pacific	2.86 (1.58, 5.17)	3.30 (1.94, 5.63)	4.38 (1.96, 9.78)	3.79 (1.69, 8.47)	3.99 (2.03, 7.86)	4.23 (1.74, 10.28)
Other	1.53 (1.26, 1.86)	1.54 (1.26, 1.87)	1.65 (1.14, 2.39)	1.25 (0.98, 1.61)	1.15 (0.90, 1.48)	1.58 (1.01, 2.45)

[a]Reference group: those without a chronic medical condition.