

Table 1: Studies of the prevalence of depression in general medical and surgical inpatients included in the systematic review.

Study	Setting	Inclusion criteria	Sample size	Age	% female	Depression interview (interviewer)	Caseness definition	Depression prevalence (%)
Abiodun 1990 (Nigeria ¹)	4 medical & surgical wards in a general hospital	Aged ≥16, well enough to participate, English or Yoruba speaker	275	Age ^a (mean) Medical: 40 Surgical: 38.9	44%	Present State Examination (psychiatrist)	Neurotic depression (ICD-9)	11.3*
Arolt 1996, 1997 (Germany ³)	7 internal medicine & 8 surgical wards (not highly specialised wards) in 1 university and 1 community hospital	Well enough to participate, not suffering from severe psycho-organic symptoms	400 (200 medical, 200 surgical)	Age (mean, SD): Medical: 62.5, 17.9 Surgical: 59.7, 20.0	Medical: 50.5% Surgical: 53.0%	Composite International Diagnostic Interview (psychiatrist)	Major depression (DSM-III-R)	Medical: 6.5 Surgical 6.0
Feldman 1987 (UK ³)	Admissions under the care of 3 general medical teams in a university teaching hospital	Aged ≥17 (after 6 weeks of study aged 17-70), in hospital ≥24 hours, living in local health district, not admitted post-suicide attempt, not too confused or unwell to participate	382	Not stated	Not stated	Stage 1: General Health Questionnaire (cut-off ≥5), 2 additional questions about nervous illness (positive response to either) Stage 2: Present State Examination (not stated)	Depression (CATEGO computer programme, inclusive approach)	6.8*

Fenton 1994 (Canada ³)	Medical wards (not coronary care or medical intensive care) in a university-affiliated community acute care hospital	Aged ≥65, living in local health district, English or French speaker, no cancer diagnosis, no aphasia, not suffering from moderate-severe cognitive impairment	215	Age (mean, SD): 76, 6.9	54%	Diagnostic Interview Schedule (psychiatrist)	Major depression (DSM-III, actuarial approach)	27.4
Hosaka 1999a (Japan ³)	2 mixed (medical/surgical) wards in a general hospital	No dementia or disturbed consciousness, not currently having chemotherapy, no operation in the last 2 weeks	65	Age (mean, SD): Males: 54.9, 15.4 Females: 58.9, 15.5	32.3%	Clinical interview (psychiatrist)	Major depression (DSM-IV)	21.5
Jenkins 1994 (UK ³)	General surgical wards in a university hospital	Aged 16-80, elective or emergency admission, pre-surgery, well enough to participate, able to read & speak English	190	Not stated	Not stated	Stage 1: General Health Questionnaire (cut-off ≥12) Stage 2: Composite International Diagnostic Interview (psychiatrist)	Major depression (DSM-III)	4.7*

Kathol 1992 (USA ³)	Medical wards & medical subspecialty units	Likely to stay in hospital ≥ 3 days, no obvious memory difficulties, not requiring intensive care unit treatment, able to speak English	128	Age (mean): 56	21%	Stage 1: Hamilton Anxiety Scale and Hamilton Depression Rating Scale (cut-off ≥ 6 on either) Stage 2: Structured Diagnostic Assessment Questionnaire (trained interviewer)	Major depression (DSM-III)	33.6*
Kayhan 2013 (Turkey ²)	General and subspecialty medical and surgical wards ^b in a tertiary university hospital	Aged ≥ 18 , hospitalised for ≥ 2 days, medically fit for participation, no mental retardation psychotic disorder or delirium, not in perinatal period	603	Age (mean, SD): 51.07, 15.72	49.6%	Structured Clinical Interview for DSM-IV (psychiatrist)	Major depression (DSM-IV)	8.6
Kigamwa 1991 (Kenya ¹)	8 general medical wards in a national hospital	Well enough to participate, not admitted post- overdose	200	Not stated	Not stated	Stage 1: Self- Reporting Questionnaire (cut- off > 8) Stage 2: Standardised Psychiatric Interview modified version (not stated)	Depressive illness (ICD-9)	13

Koenig 1991 (USA ³)	Medical & neurological services (not intensive care unit) in a VA hospital for male veterans	Aged ≤39 or ≥70, score ≥15 on MMSE, well enough to participate, no severe communication problems	448 (116 younger, 332 older)	26% aged 26-39 74% aged 70-102	0%	Diagnostic Interview Schedule (psychiatrist)	Major depression (DSM-III-R, etiologic approach)	Younger: 22.4 Older: 13.3
Koenig 1993 (USA ³)	General medicine & cardiology services (not coronary care or intensive care units) in a university hospital	Aged ≥60, hospitalised for ≥48-72 hours, not too sedated or cognitively impaired to participate	76 (20 general medicine, 56 cardiology)	Age (mean, SD): General medicine 69.9, 6.0 Cardiology 69.7, 6.5 Range: 60-89	General medicine 70% Cardiology 37.5%	Clinical interview (geropsychiatrist)	Major depression (DSM-III-R, inclusive approach)	13.1
Koenig 1997 (USA ³)	General medicine, cardiology & neurology wards (not coronary care or intensive care units) in a university hospital	Aged ≥60, hospitalised for 3-7 days, not too medically unwell or cognitively impaired to participate, no severe communication problems, not transferred from nursing home/other ward	460	Age (mean): 69.7	52.2%	Interview based on the Diagnostic Interview Schedule (psychiatrist)	Major depression (DSM-IV, etiologic approach)	16.5

Kok 1992,1995 (Netherlands ³)	Medical & surgical wards in a university hospital	Aged ≥65, hospitalised for ≥2 days, physically able to participate, no severe communication problem	188	Age ^a (mean, SD): 74.0, 6.0	41.9%	Stage 1: Beck Depression Inventory (cut-off ≥13), Geriatric Depression Scale (cut-off ≥11), MMSE (cut-off <24) Stage 2: Geriatric Mental State Schedule (psychiatrist)	Major depression (DSM-III-R)	2.7*
Koroglu 2010 (Turkey ²)	Internal medicine wards in a university hospital	Aged 18-75, no delirium, not suffering from terminal-stage cancer	110	Age (mean, SD): 47.2, 15.0	53.6%	Structured Clinical Interview for DSM-IV (not stated)	Major depression (DSM-IV)	15.5*
Kumar 2011 (India ¹)	Medical & surgical wards in a general hospital	Aged ≥60, hospitalised for ≥3 days, physically fit for interview, reliable informant available, not on drugs which could alter cognitive function	120	Age: 83.3% aged 60-75 16.7% aged >75	33%	Semi-structured interview (not stated)	Depression (ICD-10)	25
Lazaro 1991 (Spain ³)	General internal medicine, gastroenterology, pulmonology, cardiology, general surgery, orthopaedic surgery & traumatology wards	Aged ≥65, well enough to participate, no clear cognitive impairment, no severe communication problems	95	Age (mean, SD): Males: 75.0, 6.5 Females: 75.1, SD 6.7	51%*	Clinical Interview Schedule plus clinical interview if psychiatric diagnosis or MMSE <23 (psychiatrist)	Major depression (DSM-III-R)	10

Lazaro 1995 (Spain ³)	Internal medicine, general surgery, traumatology & orthopaedic surgery wards	Aged ≥70, no mental retardation, severe sensorial pathology chronic psychotic disorder, stroke or coma	108	Age (mean, SD): 78.6, 6.3	64.8%	Clinical interview (psychiatrist)	Major depression (DSM-III-R)	4.6
Linka 1999, 2000 (Hungary ³)	Internal medicine department in a general hospital	Aged ≥65, able to cooperate	100	Age (median, IQR): 73.0, 70.0-77.5	64%	Semi-structured interview based on DSM-IV criteria (psychiatrist)	Major depression (DSM-IV)	11.0*
Marchesi 2004 (Italy ³)	Emergency ward (acute medical) & medical departments in a general hospital	Aged 16-65, mentally & physically able to participate, Italian speaker	719 (556 emergency, 163 medical)	Age (mean, SD): 41.8, 14.1	52.2%	Stage 1: General Health Questionnaire (cut-off >4) Stage 2: Mini International Neuropsychiatric Interview (psychiatrist)	Major depression (DSM-IV)	Emergency: 5.7 Medical 11.0
Moayedoddin 2013 (Switzerland ³)	General internal medicine acute care facility in a university hospital	Aged 18-70, well enough to participate, French speaker, no psychotic symptoms or active substance addiction disorder	557	Age (mean, SD): 51.7, 14.0	45.6%	Structured Clinical Interview for DSM-IV (clinical psychologist)	Major depression (DSM-IV)	12.4

Nair 1997 (South Africa ²)	General medical, general surgical & gynaecological wards in an academic general hospital	Aged ≥18, well enough to participate	230	Age (mean, range): 40, 18-82	57%	Stage 1: General Health Questionnaire (cut-off ≥12), screening for abnormal mental state, past psychiatric history, substance abuse Stage 2: Structured Clinical Interview for DSM-III-R (psychiatrist)	Major depression (DSM-III-R)	5.2*
Pakriev 2009 (Russia ³)	Medical wards in a general hospital	Aged 18-59, hospitalised for ≥72 hours	323	37% aged 18-39 31% aged 40-49 32% aged 50-59	54.5%	Mini International Neuropsychiatric Interview (psychiatrist)	Depressive episode ^c (ICD-10 Diagnostic Criteria for Research)	16.4*
Seltzer 1989 (UK ³)	Admissions under the care of general medical teams (not specialist units)	Aged 16-75, emergency admission, well enough to participate, not admitted following deliberate self-harm	97	Not stated	Not stated	Stage 1: General Health Questionnaire (cut-off >9) Stage 2 Clinical Interview Schedule (not stated)	Depressive illness (ICD-9)	18.6*

Sharma 2002 (India ¹)	Medical wards in a teaching hospital	Aged 20-60, no malignancy or neurological illness, well enough to participate, no history of psychiatric illness or substance abuse	154	Age ^a (mean, SD): 38.7, 12.1	25.6%	Stage 1: Beck Depression Inventory (cut-off >10) Stage 2: Schedule for Clinical Assessment in Neuropsychiatry (SCAN) (not stated)	Mild, moderate or severe depression (SCAN)	17.5*
Silverstone 1996 (UK ³)	Medical wards in a university hospital	Emergency admission, hospitalised for ≥7 days, able to communicate well enough for interview, score ≥22 on MMSE	313	Age (mean, SE): DSM-IV diagnosis 65.4, 1.6 No DSM-IV diagnosis: 71.9, 0.9	49%*	Schedule for Clinical Assessment in Neuropsychiatry (not stated)	Major depression (DSM-IV)	7.7
Soeiro 2008 (Brazil ²)	Medical & surgical wards in a tertiary university hospital	Aged ≥18, hospitalised for ≥2 days, not disorientated or confused	253	Age (mean, SD, range) 47.1, 19.0, 18-85	43.1%	Mini International Neuropsychiatric Interview-Plus (trained interviewer)	Major depression (DSM-IV)	29.2
Thalassinos 1992 (France ³)	Internal medicine department of a university hospital	Aged >65, well enough to participate	100	Age (mean, SD): Male 77, 7 Female: 80, 7	71%	Diagnostic Interview Schedule (author)	Major depression (DSM-III)	5
Topitz 2015, Wancata	2 community hospitals	Aged ≥18, well enough to participate	993 (total sample)	Age (total sample): Not stated	% female (total sample): Not stated	Clinical interview schedule (psychiatrist)	Total sample: Depression (DSM-III-R and	Total sample: 13.3

2000 (Austria ³)	Total sample: Internal medical, surgical, gynaecological & physical rehabilitation wards ≥60 years: Internal medical & surgical wards		244 (≥60 years)	Age (≥60 years): 45.1% aged 60-69 32.4% aged 70-79 19.7% aged 80-89 2.9% aged ≥90	% female (≥60 years) 55.70%		score of ≥2 on a 5 point severity scale) ≥60 years: Major depression (DSM-III-R and score of ≥2 on a 5 point severity scale)	≥60 years: 2.9
Uwakwe 2000 (Nigeria ¹)	Medical, surgical & gynaecological wards in a university teaching hospital	Aged ≥60	106	Age (mean, SD): 9.9, 8.4	38.7%	Geriatric Mental State Schedule (psychiatrist)	Depression (ICD-10)	22.6
Yan 2013 (China ²)	General & subspecialty medical & surgical wards ^d in 3 tertiary general hospitals	Aged ≥18, well enough to be participate, no obvious intellectual disorder	784	Age (mean, SD, range) 46.4, 15.8, 18-84	48.7%	Mini International Neuropsychiatric Interview (psychiatrist)	Major depression (DSM-IV)	6.9
Zhong 2010 (China ²)	All wards except infectious diseases & intensive care in two Class II hospitals & one Class III hospital ^e ,	Aged ≥18, no language barrier or severe illness obstructing communication, no obvious cognitive disability	513	Age (mean, SD): 53.7, 16.6	52.8%	Structured Clinical Interview for DSM-IV (psychiatrist)	Major depression (DSM-IV)	9.4

DSM=Diagnostic and Statistical Manual of Mental Disorders, ICD=International Classification of Diseases, MMSE=Mini Mental State Examination VA=Veterans Affairs.

*Calculated using data from paper. ¹ Lower-middle income country, ²Upper-middle income country, ³High income country (World Bank classification). ^a Demographic data only available on larger sample of which subgroup was interviewed. ^b Endocrinology, nephrology, haematology, gastroenterology, rheumatology, oncology, cardiology, chest disease, infectious diseases, dermatology, physical medicine and rehabilitation, neurology, general surgery, chest surgery, cardiovascular surgery, plastic and reconstructive surgery, urology, orthopaedics, otorhinolaryngology, neurosurgery and gynaecology and obstetrics. ^c Depressive episode alone or as part of recurrent depressive disorder or bipolar disorder.

^d Haematology, neurology, nephropathy, gastroenterology, dermatology, integrated Chinese and western medicine, cardiology, endocrinology, respiratory, medical oncology, hand surgery, thoracic surgery, orthopaedics, urinary surgery, neurosurgery, sports medicine, maxillofacial surgery, general surgery, tumor surgery, pancreatic surgery and obstetrics. ^e "Class III (the highest class) hospitals are large comprehensive hospitals integrating the best comprehensive medical services with teaching, research and preventive medicine. They have over 501 hospital beds and are equipped with the most advanced medical equipment and technologies. Class II hospitals provide general medical services for several communities and undertake some training and scientific research tasks. They have 101–500 hospital beds."