Data supplement to Fazel et al. Patient outcomes following discharge from secure psychiatric hospitals: systematic review and meta-analysis. Br J Psychiatry doi: 10.1192/bjp.bp.114.149997

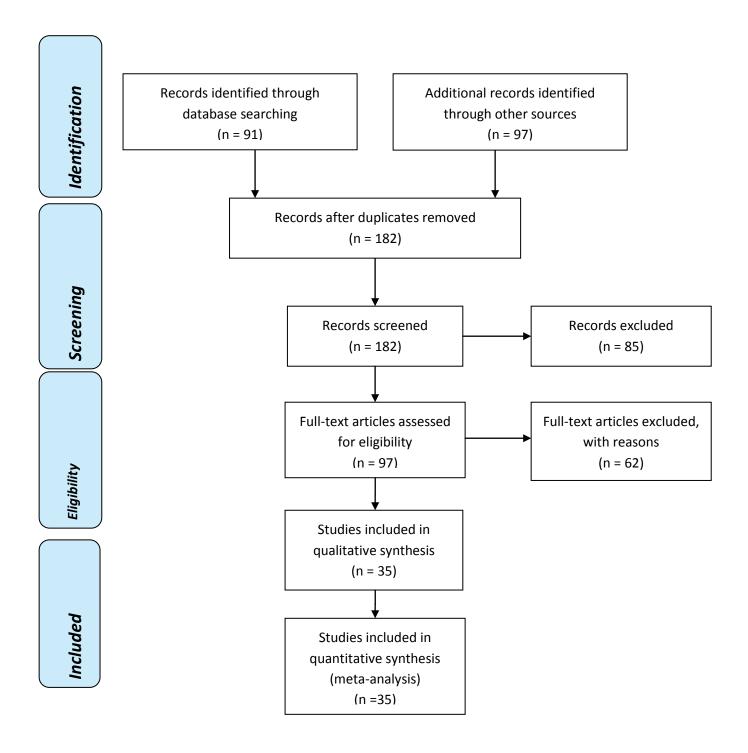


Fig. DS1. PRISMA Flow Diagram showing the flow of information through the different phases of a systematic review. It maps out the number of records identified, included, and excluded.

Table DS1. Study characteristics including sources of data, and study rating (using the Newcastle-Ottawa Quality Assessment Scale for Cohort Studies). Studies are rated out of maximum of six.

Author	Year	Country	Region/Unit/ Hospital	Sample size	% male	Sources of data mortality	Sources of data for readmissions	Sources of data for reconvictions	Study Quality Score (max. 6)
Jones ¹	2011	UK	Broadmoor, Ashworth, Rampton	4393	81.0	Special Hospital Case Register	n/a	n/a	6
Davies ²	2007	UK	Arnold Lodge	595	84.4	The Office of National Statistics	Home Office Mental Health Unit, General Practitioner Registration Database	Offenders' Index, Police National Computer	6
Jamieson ³	2005	UK	Broadmoor, Ashworth, Rampton	223	82.0	The Office of National Statistics	The Office of National Statistics	Offenders' Index, Police National Computer	6
Tabita⁴	2012	Sweden	Orebro County	88	90.9	National Cause of Death Register, Forensic Psychiatric Service Orebro	n/a	Swedish National Council for Crime Prevention	6
Steels ⁵	1998	UK	Broadmoor, Ashworth, Rampton	184	78.0	Special Hospital Case Register	Special Hospital Case Register	Special Hospital Case Register, Home Office	6

Maden ⁶	1000	111/	Dania IIII	242	05.0	Madical	Madiaal	Offered enaily leads	_
iviaden	1999	UK	Denis Hill	243	85.0	Medical records	Medical	Offenders' Index,	6
			Unit, Bethlem				records, NHS	Prison Service	
7		_	Royal Hospital				Central Record	Records	
Fioritti ⁷	2006	Italy	No	No	No	No information	n/a	No information	5
			information	informati	informat				
.0				on	ion				_
Lund ⁸	2013	Sweden	Western	163	100.0	No information	n/a	National Council	6
			Sweden					of Crime	
								Prevention,	
								Central Criminal	
								Records of the	
								National Police	
								Board, National	
								Prison and	
						_		Probation Service	
Edwards ⁹	2002	UK	Three Bridges	152	85.3	n/a	Home Office	Offenders' Index,	6
							Mental Health	cross-referenced	
							Unit Medical	with case-notes	
10							Records		
Simpson ¹⁰	2006	New	Auckland	105	88.0	n/a	Medical	Medical Records	6
11		Zealand					Records		
Cope ¹¹	1993	UK	West	51	74.5	n/a	Case notes	Case notes	6
12			Midlands						
Ong ¹²	2009	Australia	Victoria	25	76.0	n/a	Forensic	Forensic Mental	6
							Mental Health	Health Clinical	
							Clinical	Records	
							Records		
Pasewark ¹³	1982	US	New York	133	83.0	n/a	No data	No data	5
			State						

Skipworth ¹ ⁴	2006	New Zealand	National cohort	135	83.0	n/a	New Zealand Health Information Service Database	The Justice Warehouse Database	6
Nicholson ¹⁵	1991	US	Oklahoma	61	91.8	n/a	Hospital Records	Court Records, Oklahoma State Bureau of Investigation Records	6
Hayes ¹⁶	2014	Australia	New South Wales	197	85.0	n/a	Mental Health Review Tribunal Client Database	Mental Health Review Tribunal Client Database, NSW Bureau of Crime Statistics and Research Re- Offending Database	6
Bogenberg er ¹⁷	1987	US	Hawaii	107	93.0	n/a	Central Register of the Division of Mental Health	Crime Data Center	6
Baxter ¹⁸	1999	UK	Bracton Clinic	63	75.0	n/a	Case notes from Bracton	Home Office Criminal Records Stats, Medical Notes at Local Psychiatric Services at Bracton Clinic	6
Blattner ¹⁹	2009	UK	Edenfield	72	87.0	n/a	Case notes	Case notes	6

			Centre						
Black ²⁰	1982	UK	Broadmoor	125	100	n/a	Broadmoor records, Special Hospitals Research Unit records, Mental Health Index of the Department of Health and Social Security.	Broadmoor records, Special Hospitals Research Unit records, Mental Health Index of the Department of Health and Social Security.	6
Falla ²¹	2000	UK	Trevor Gibbens Unit	85	No informat ion	n/a	No information	Police and Home Office records compared with offences known to the multidisciplinary community care team.	6
Bjorkly ²²	2010	Norway	National cohort	125	87.0	The Central Register of Deaths and Causes of Death	Self-reports	Official Crime Register	5.5
Maden ²³	2004	UK	National cohort	959	88.0	n/a	n/a	Offenders' Index	6
Yoshikawa ² 4	2007	Japan	National cohort	489	84.0	n/a	n/a	Japanese Ministry of Justice Database	6

Buchanan ²⁵	1998	UK	Broadmoor, Ashworth, Rampton	425	82.0	n/a	n/a	Offenders' Index	6
Bailey ²⁶	1992	UK	Park Lane	106	100	n/a	n/a	Home Office	6
Coid ²⁷	2007	UK	7 medium secure units in England	1344	86.6	n/a	n/a	Mental Health Unit at the Home Office	6
Nilsson ²⁸	2011	Sweden	Stockholm	46	89.0	n/a	n/a	Structured research protocol applied to records from Forensic Psychiatric Investigation and Interviews	6
Rice ²⁹	1990	Canada	No information	253	No informat ion	Coroner's Office	n/a	Lieutenant Governor's Review Board, The Royal Canadian Mountain Police, Parole Service	6
Russo ³¹	1994	Italy	Barcelona Hospital (high security)	91	100.0	n/a	n/a	For small towns: Records of municipal authorities, police force, social services, territorial psychiatric	6

								structures, family, priests, voluntary workers. For main towns: penal certificates, subjects during their imprisonment.	
Luettgen ³²	1998	Canada	No data	125	No data	No data	No data	No data	2
Silver ³³	1989	US	Maryland	127	No informat ion	n/a	n/a	FBI Arrest Records	6
Akande ³⁴	2007	UK	Low security	33	76.0	n/a	Data collected by researchers from patients' designated key workers, who had known the patients for at least three months	Data collected by researchers from patients' designated key workers, who had known the patients for at least three months	2
Castro ³⁵	2002	UK	Redford Lodge	49	80.0	n/a	Structured telephone questionnaires	Structured telephone questionnaires	5

Table DS2 Crude death rates (CDRs) for all-cause mortality and suicides in discharged forensic patients. Rates are per 100,000 person-years.

Author, year	Number of deaths from all-causes	Number of suicides	Number of person-years	All-cause CDR (95%CI)	Suicide CDR (95%CI)
Luettgen, 1998 ³²	-	3	730	-	410 (380-1201)
Steels, 1998 ⁵	39	-	2,502	1,559 (1,142-2,123)	-
Maden, 1999 ⁶	20	8	1,544	1,260 (840-1,992)	518 (263-1,019)
Jamieson1, 2005 ³	19	5	1,048	1,813 (1,164-2,814)	-
Jamieson2, 2005 ³	16	1	933	1,715 (1,059-2,768)	-
Fioritti, 2006 ⁷	5	-	177	2,825 (751-4,038)	-
Davies, 2007 ²	57	26	5,593	1,019 (787-1,318)	321 (317-680)
Coid, 2007 ³⁶	20	10	2535	789 (511-1214)	394 (213-724)
Jones, 2011 ¹	-	140	50,520	-	277 (238-332)
Tabita, 2012⁴	20	8	827	2,418 (1,571-3,705)	967 (491-1,898)
Lund, 2013 ⁸	29	-	1,337	2,170 (1,515-3,099)	-

Online Table DS3 Crude readmission rates of discharged forensic psychiatric patients. Rates are per 100,000 personyears.

Author, year	Number of readmissions	Number of person-years	Crude readmission rate (per 100,000 patients) (95% CI)	
Black, 1982 ²⁰	48	625	7,680 (6,245-8646)	
Pasewark, 1982 ¹³	41	665	6,165 (4,577-8,257)	
Bogenberger, 1987 ¹⁷	44	856	5,140 (3,851-6,830)	
Nicholson, 1991 ¹⁵	10	207	4,822 (2,640-8,647)	
Cope, 1993 ¹¹	16	270	5,919 (3,676-9,398)	
Luettgen, 1998 ³²	64	496	12,908 (10,227-16,172)	
Baxter, 1999 ¹⁸	56	340	16,461 (12,899-20,772)	
Maden, 1999 ⁶	175	1,544	11,331 (9,845-13,009)	
Falla, 2000 ²¹	9	289	3,114 (1,646-5,811)	
Edwards, 2002 ⁹	39	760	5,132 (3,776-6,938)	
Jamieson1, 2005³	40	1,048	3,816 (2,815-5,155)	
Jamieson2, 2005 ³	38	932	4,074 (2,982-5,542)	
Simpson, 2006 ¹⁰	19	189	10,583 (6,531-15,167)	

Skipworth, 2006 ¹⁴	108	742	14,546 (12,191-17,264)
Davies, 2007 ²	412	5,593	7,366 (6,711-8,081)
Coid, 2007a ³⁶	94	2,454	3,830 (3,139-4,664)
Akande, 2007	5	118	4,232 (3,130-30,920)
Blattner, 2009 ¹⁹	33	352	9,353 (6,737-12,845)
Ong, 2009 ¹²	12	75	16,000 (9,396-25,917)
Bjørkly, 2010 ²²	30	1,025	2,926 (2,057-4,147)
Hayes, 2013 ³⁷	76	1,327	5,726 (4,599-7,108)

Notes: Jamieson1 refers to 1984 cohort and Jamieson2 refers to 1996 cohort.

Tabld DS4 Readmission rates for populations comparative with forensic psychiatric patients. Rates are per 100,000 person-years.

Study	Country	Population	Crude readmission rate (95%CI)
Lyons, 1997 ³⁸	US	Community patients	35,294 (26,998-43,589)
Kravitz, 1999 ³⁹	US	Offenders with mental disorders (NGRIs) treated in an outpatient programme	55,555 (39,323-71787)
Bernardo, 2001 ⁴⁰	Canada	Community patients	14,666 (11,835-17,497)
Irmiter, 2007 ⁴¹	US	mentally disordered veterans	12,230 (12,102-12,359)
Zhang, 2011 ⁴²	Australia	community patients	3,838 (3,024-4,653)
Current review	Various	forensic patients	7,208 (5,916-8,500)

Table DS5 Crude reoffending rates of discharged forensic psychiatric patients. Rates are per 100,000 person-years.

Author, year	Number of reoffenders	Number of person-years	Crude reoffending rate (per 100,000) (95% CI)
Black, 1982 ²⁰	50	937	6,963 (5,333-51,873)
Pasewark, 1982 ¹³	38	718	5,291 (3,878-7,178)
Bogenberger, 1987 ¹⁷	72	856	8,411 (6,733-10,462)
Silver, 1989 ³³	83	2,159	3,844 (3,112-4,741)
Rice, 1990 ²⁹	103	1,645	6,263 (5,191-7,539)
Nicholson, 1991 ¹⁵	10	207	4,822 (2,640-8,647)
Bailey, 1992 ²⁶	41	636	6,447 (4,787-8,629)
Cope, 1993 ¹¹	4	186	2,156 (842-5,412)
Russo, 1994 ³¹	20	455	4,395 (2,836-6,692)
Reiss, 1996 ⁴³	10	230	4,342 (2,375-7,807)
Steels, 1998 ⁵	76	704	10,789 (8,707-13,269)
Luettgen, 1998 ³²	8	730	1,095 (555-2,147)
Buchanan, 1998 ²⁵	131	4,462	2,936 (2,479-3,473)

Baxter, 1999 ¹⁸	19	246	7,733 (5,006-11,761)
Maden, 1999 ⁶	56	1,544	3,626 (2,803-4,679)
Falla, 2000 ²¹	6	289	2,076 (1,631-4,455)
Edwards, 2002 ⁹	15	760	1,974 (1,200-3,230)
Castro, 2002 ³⁵	6	24	24,244 (17,089-24,489)
Maden, 2004 ²³	145	1,918	7,560 (6,460-8,830)
Jamieson1, 2005³	61	2,364	2,580 (2,014-3,300)
Jamieson2, 2005 ³	35	735	4,763 (3,444-6,552)
Simpson, 2006 ¹⁰	19	189	10,053 (6,530-15,166)
Skipworth, 2006 ¹⁴	20	742	2,694 (1,750-4,123)
Fioritti, 2006 ⁷	10	295	3,390 (1,851-6,127)
Coid, 2007 ²⁷	428	8,332	5,136 (4,682-5,631)
Davies, 2007 ²	264	5,095	5,182 (4,606-5,825)
Yoshikawa, 2007 ²⁴	49	5,281	928 (702-1,224)
Akande 2007 ³⁴	0	126	0 (0-10,427)
Blattner, 2009 ¹⁹	8	353	2,268 (1,153-4,410)

Ong, 2009 ¹²	1	75	1,333 (363-7,174)
Bjorkly, 2010 ²²	13	1,028	1,263 (739-2,150)
Nilsson, 2011 ²⁸	5	165	3,019 (1,296-6,872)
Tabita, 2012 ⁴	24	592	4,053 (2,738-5,959)
Hayes, 2013 (conditional) ³⁷	32	1,327	2,411 (1,713-3,384)
Hayes, 2013 (unconditional) ³⁷	8	400	1,999 (1,016-3,894)
Lund, 2013 ⁸	75	1,337	5,611 (4,500-6,977)

Table DS6 Crude violent reoffending rates of discharged forensic patients.

Author, year	Number of	Number of	Crude violent
	violent reoffenders	person-years	reoffending rate (95% CI)
Reiss, 1996 ⁴³	5	230	1,737 (677-4,380)
Luettgen, 1998 ³²	2	730	273 (75-993)
Maden, 1999 ⁶			2,784 (2,074-
	43	1,544	3,729)
Falla, 2000 ²¹	6	289	2,076 (955-4,455)
Maden, 2004 ²³			3,024 (2,347-
	58	1,918	3,889)
Skipworth, 2006 ¹⁴			3,000 (1,545-
	8	270	5,736)
Coid, 2007 ²⁷			3,584 (2,925-
	90	2,511	4,385)
Davies, 2007 ²			8,403 (7,459-
	53	2,975	9,455)
Yoshikawa, 2007 ²⁴	52	5,281	985 (752-1,289)
Blattner, 2009 ¹⁹	6	378	1,589 (729-3,419)
Bjorkly, 2010 ²²	5	1,028	486 (208-1,133)
Nilsson, 2011 ²⁸			3,019 (1,296-
	20	165	6,873)
Tabita, 2012⁴	4	384	1,041 (405-2,645)
Lund, 2013 ⁸			2,788 (2,231-
	75	1.320	3,481)
Hayes, 2013 ³⁷			1,035 (617-1,730)
(conditional sample)	14	1352	
Hayes, 2013 ³⁷			822 (319-2,096)
(unconditional	4	400	
sample)	4	486	

Table DS7 Violent reoffending of populations comparable with forensic patients.

Study	Country	Population	CROR violent (95%CI)	
Langan, 2002 ⁴⁵	US	released prisoners who violently reoffended	7,200 (7,144-7,256)	
Ministry of Justice Proven Reoffending Statistics, 2011	England and Wales	released prisoners who violently reoffended	25,494 (25,379- 25,609)	
Peck, 2011 (UK Ministry of Justice Statistics Bulletin)	England and Wales	violent offenders qualified for MAPPA	19,896 (19,121-20,695)	
Current review	Various	forensic patients who violently reoffended	3,902 (2,671-5,187)	

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