the centre for
suicide prevention

the national confidential inquiry into suicide
and homicide by people with mental illness

Suicide and psychosis

Mental health services and prisons:

Suicide prevention and patient safety

Jenny Shaw

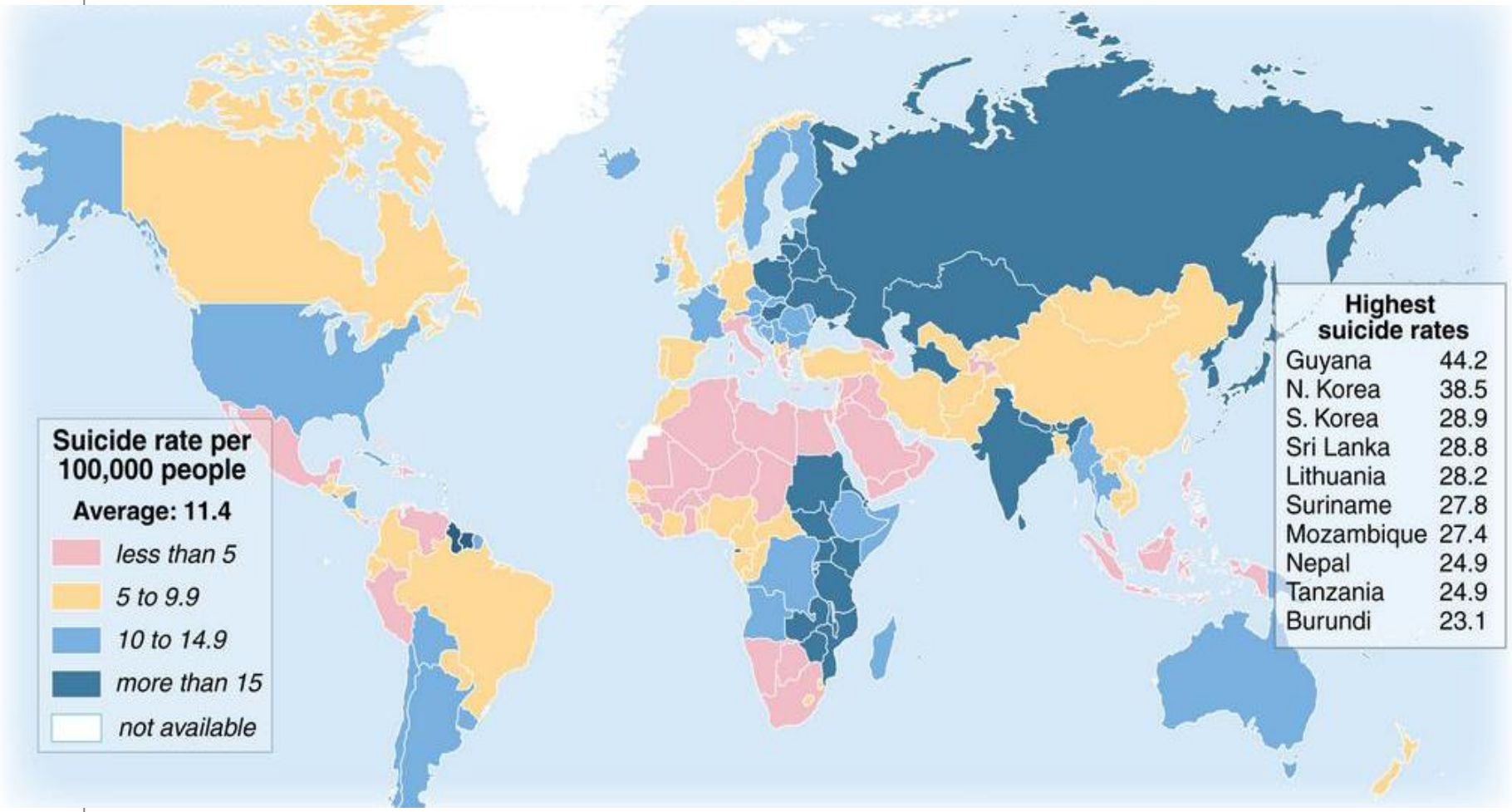
Bergen, September 18th 2014

MANCHESTER
1824

This talk

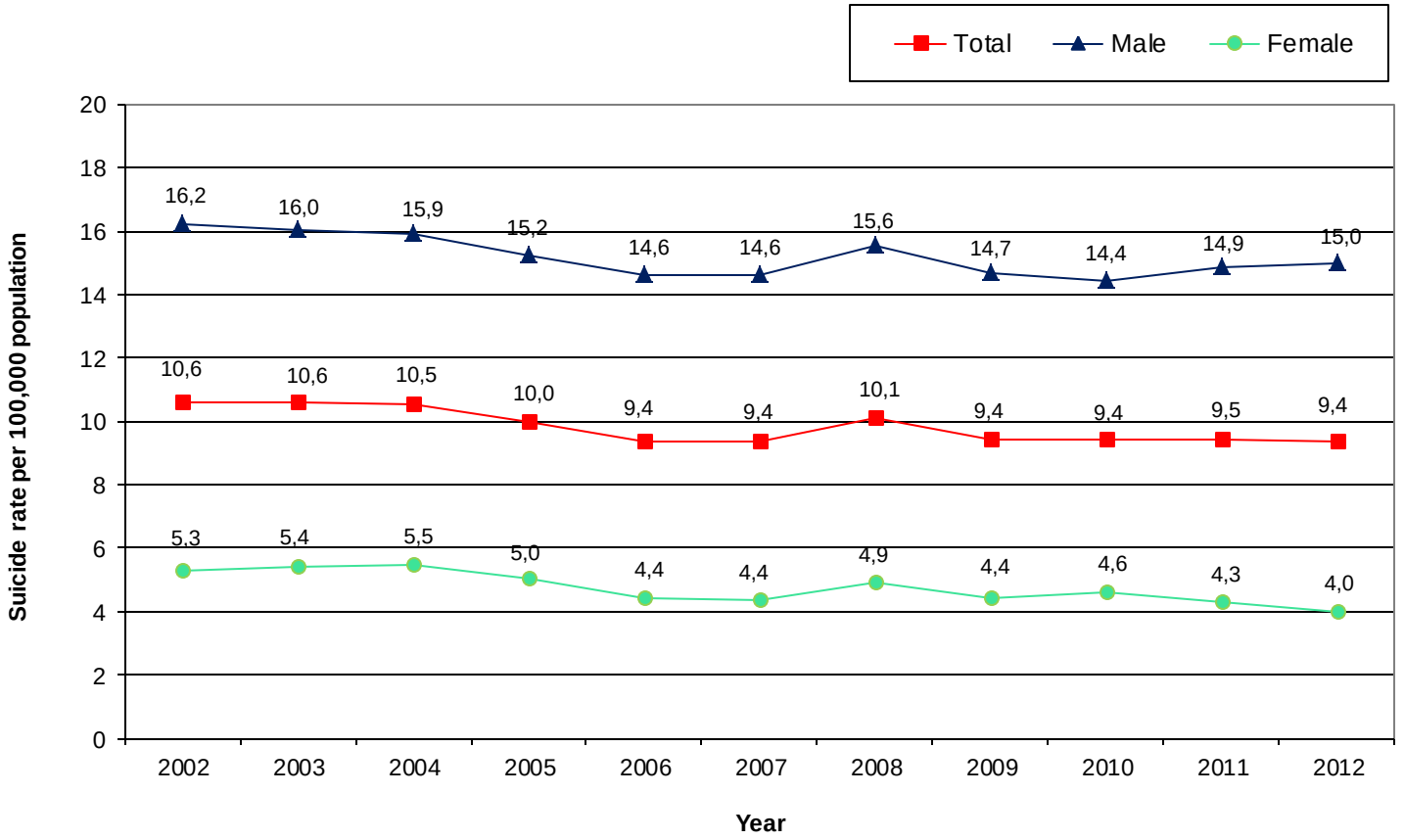
- Suicide in mental health service patients
- Suicide Prevention
- Suicide in prison
- Suicide Prevention in prison

International suicide rates



Source: WHO, 2014

Rates of suicide in the general population, by gender



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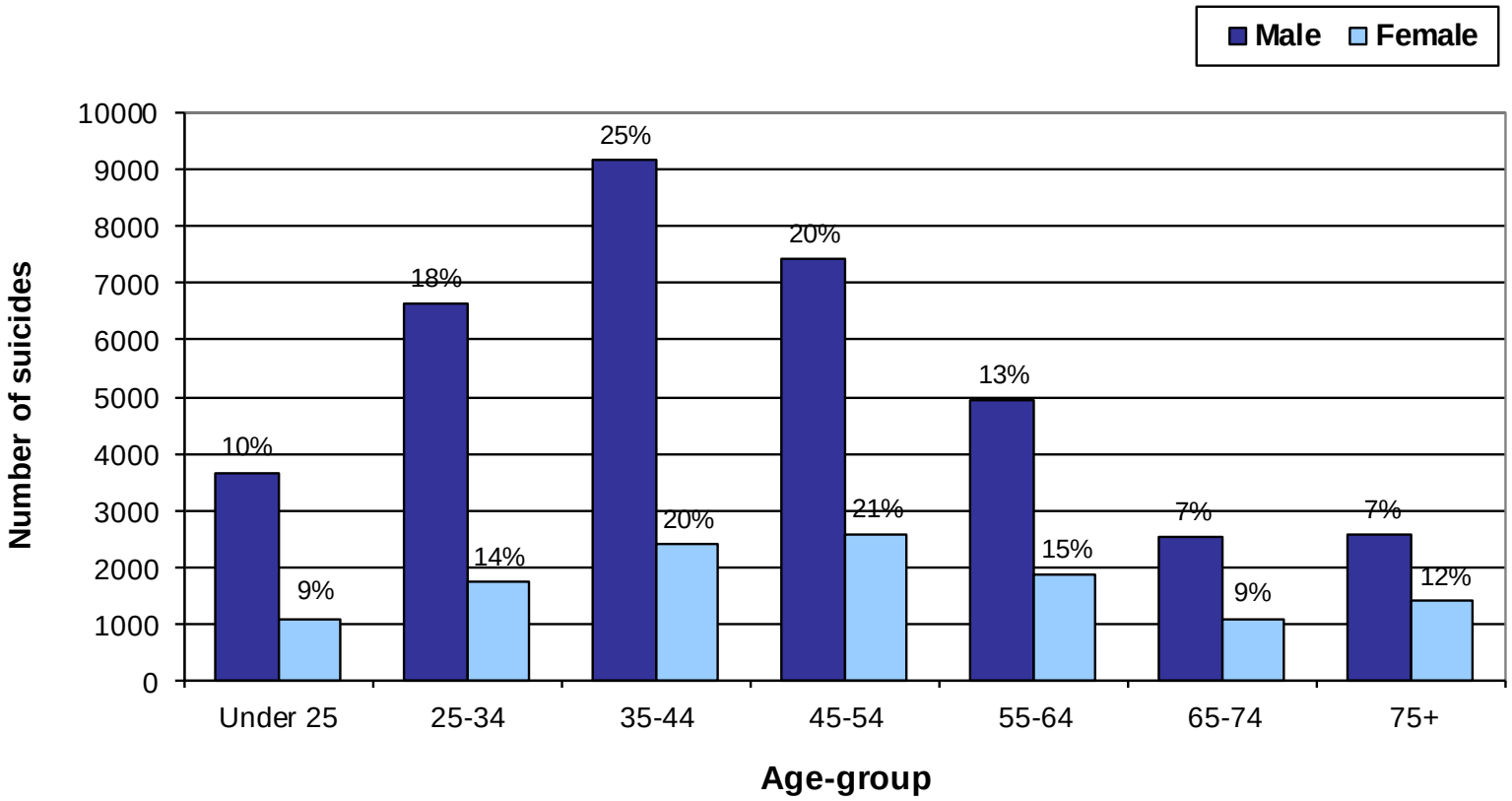
General population suicides: age and gender profile



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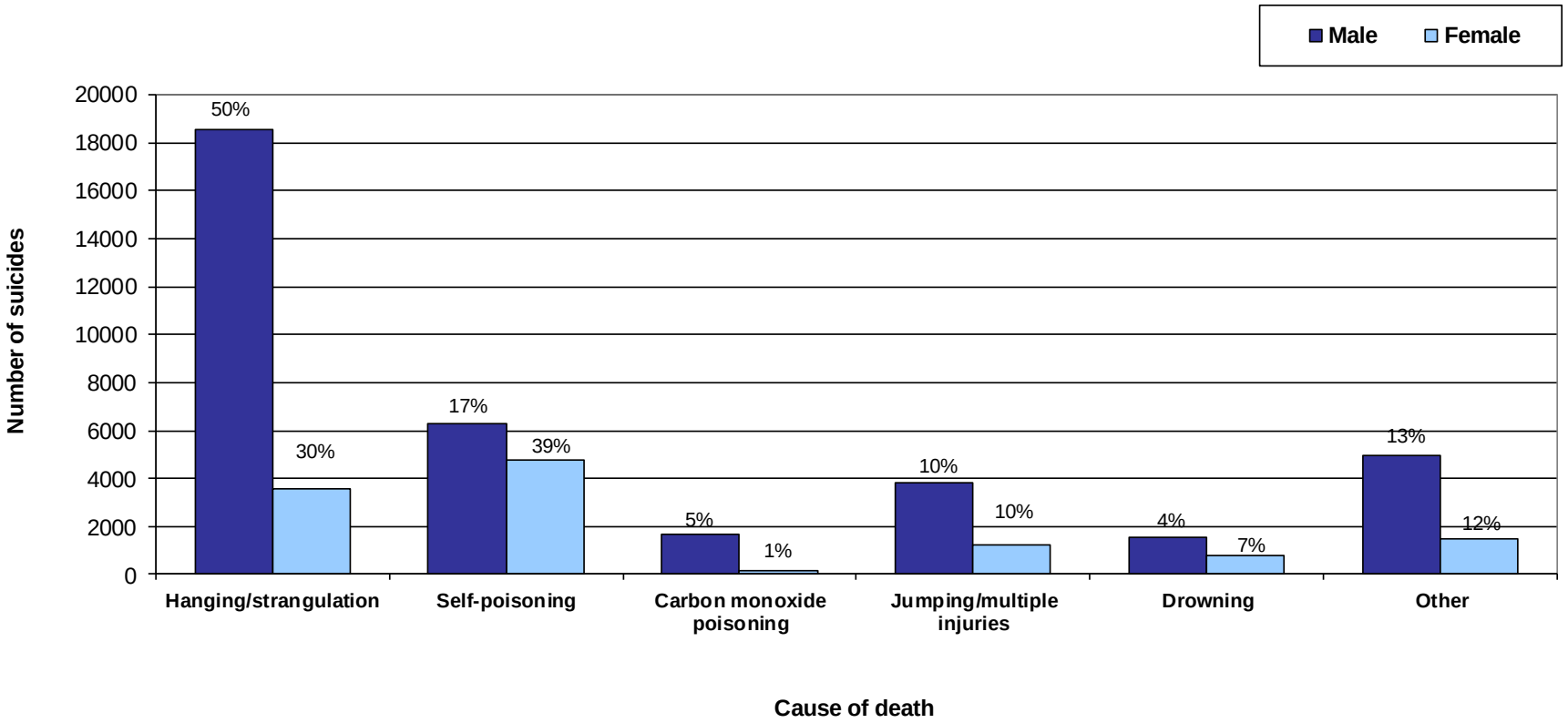
General population suicides: cause of death by gender



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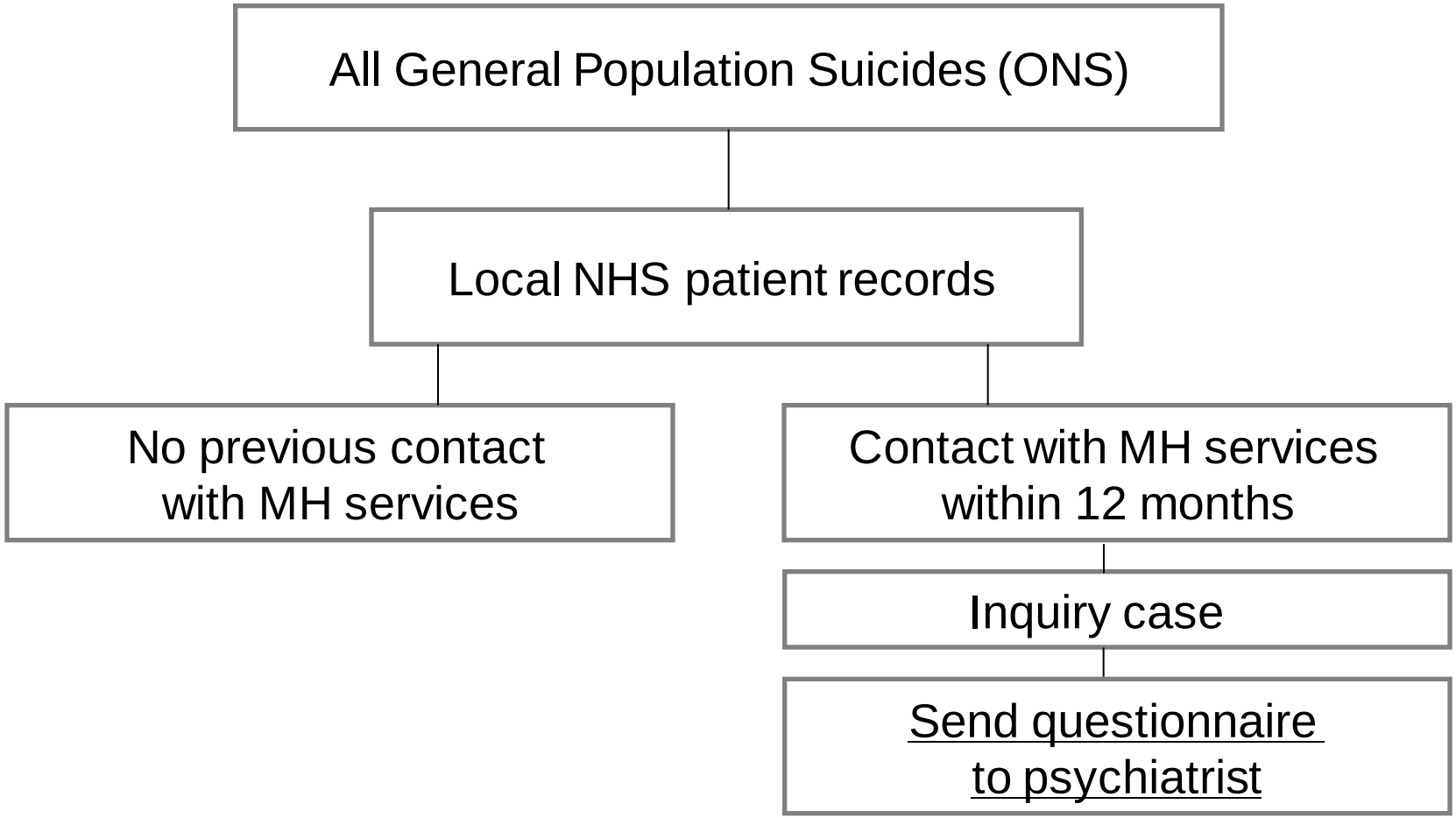
National Confidential Inquiry: Data collection



National Confidential Inquiry

Suicide (UK 1996-2012)

	N
General population	100,329
In contact with MH services	26,216 (26%)

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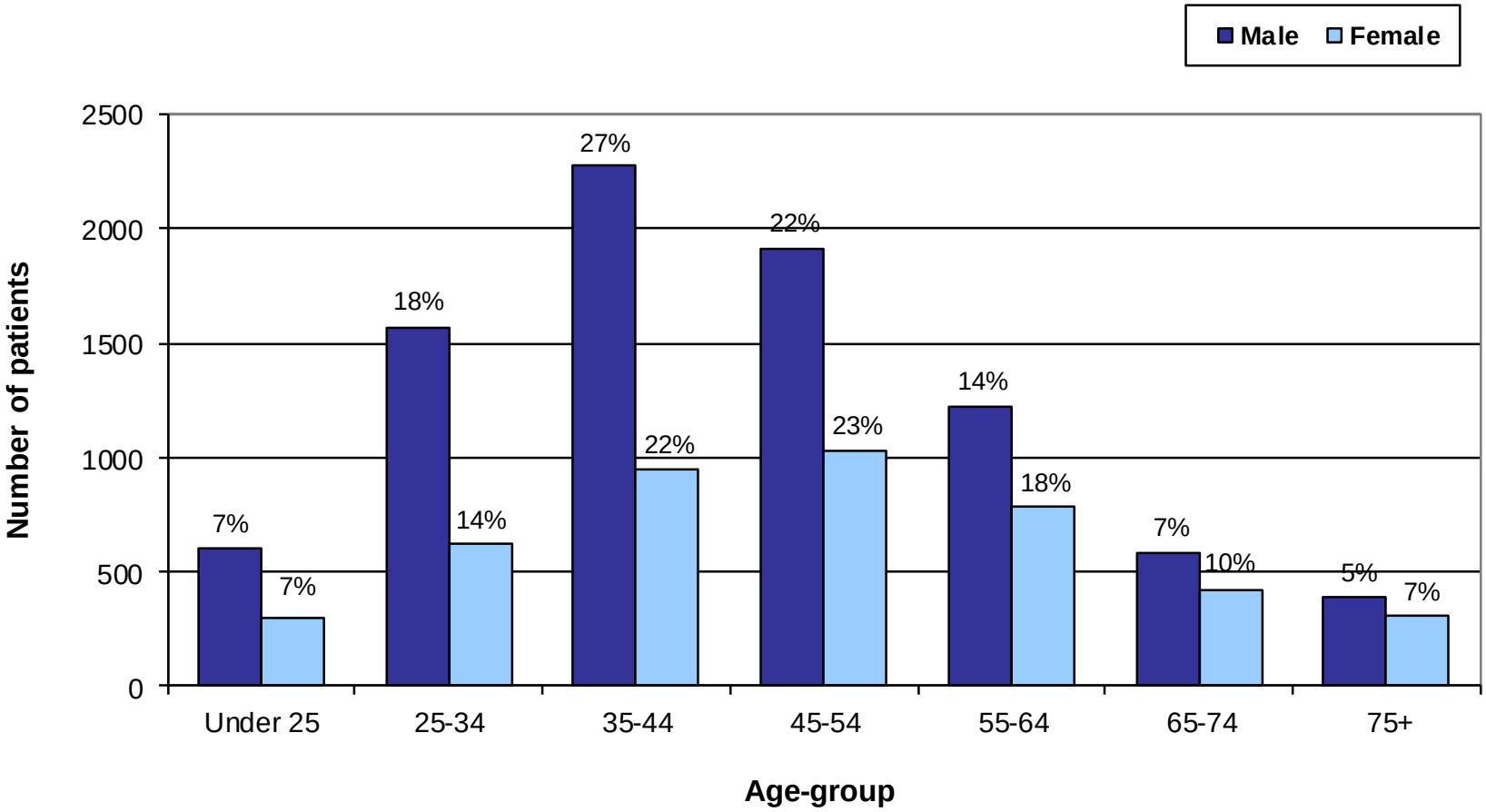
Patient suicides: age and gender profile



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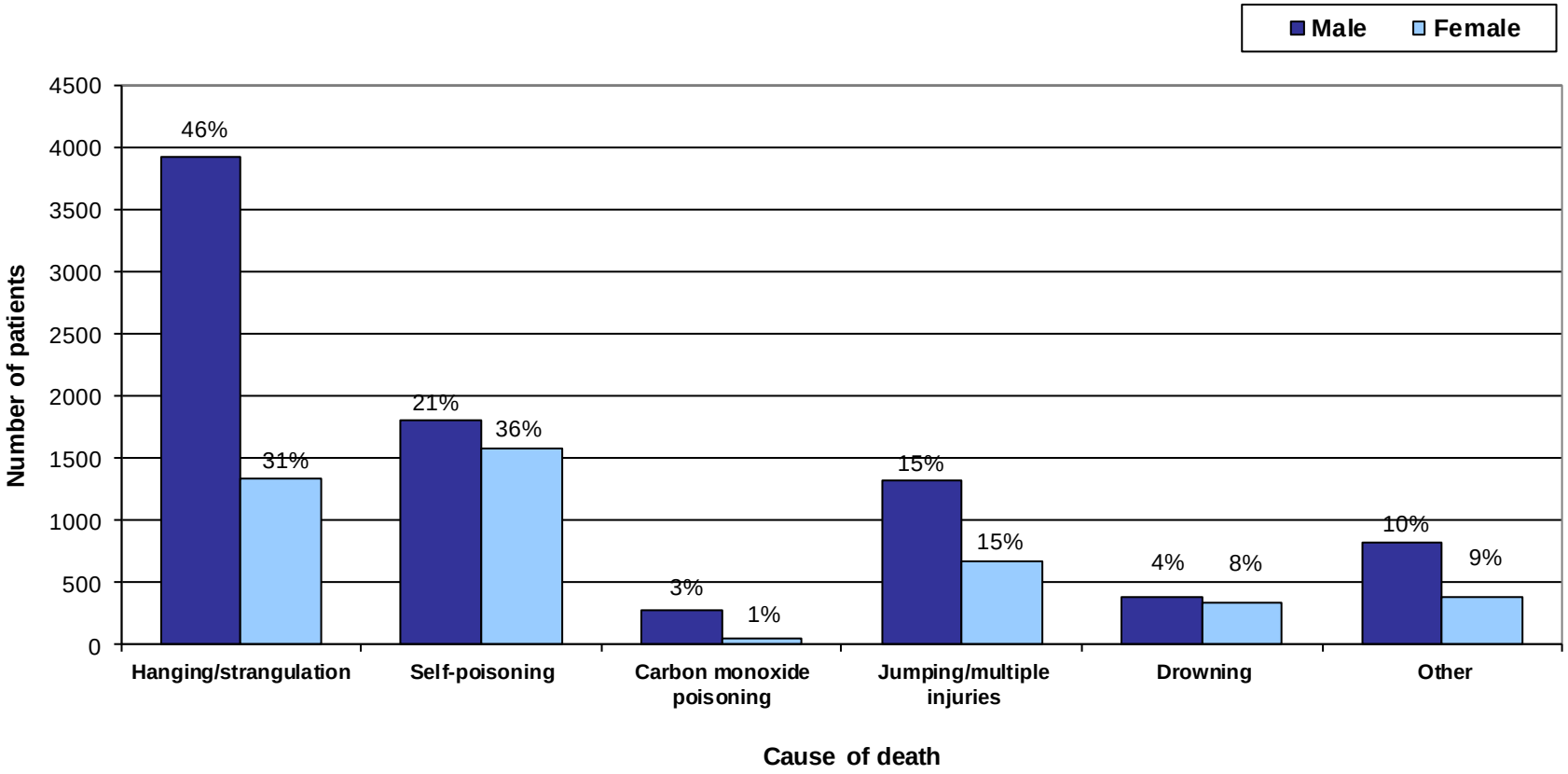
Patient suicides: cause of death by gender



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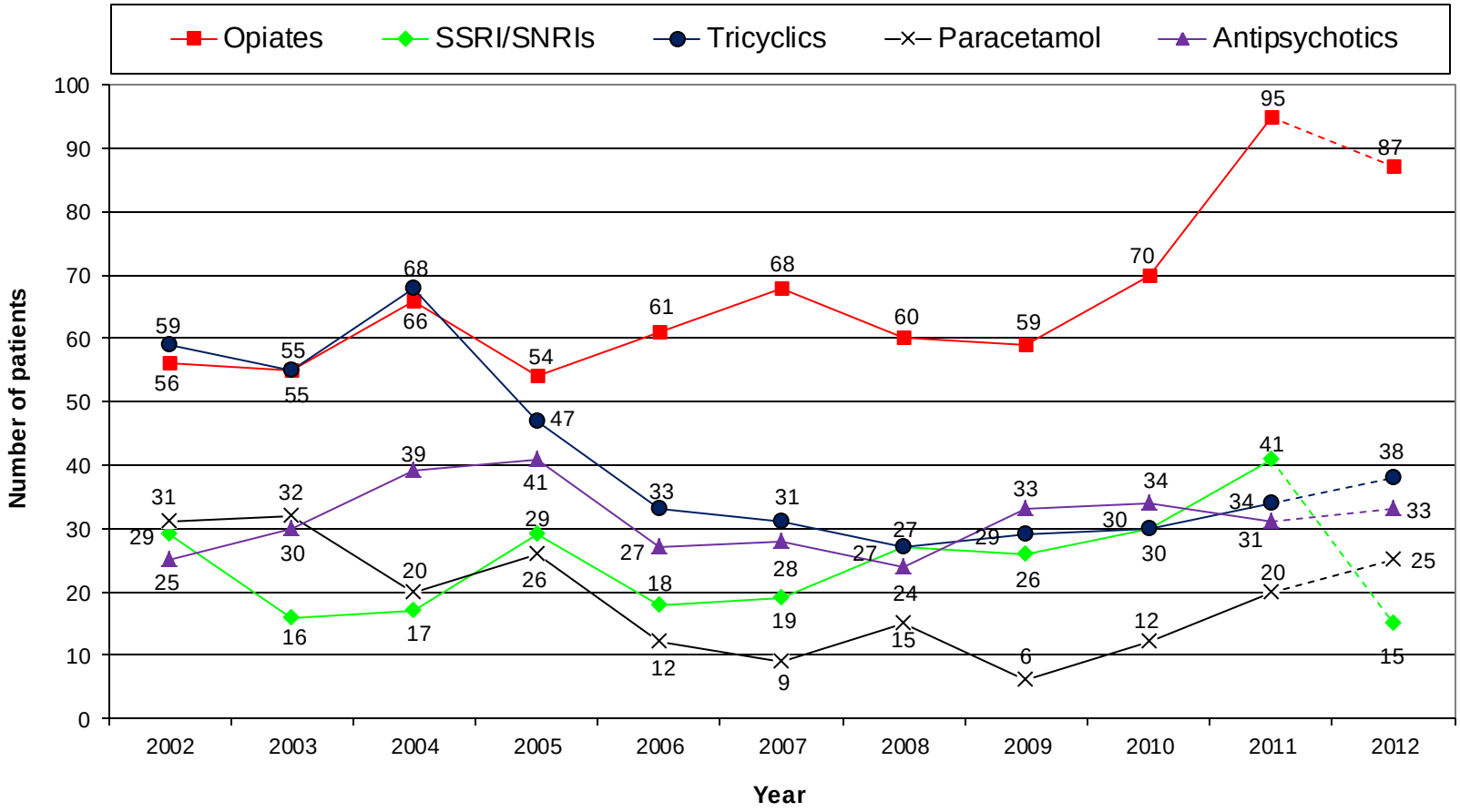
Patient suicides: main substances used in deaths by self-poisoning



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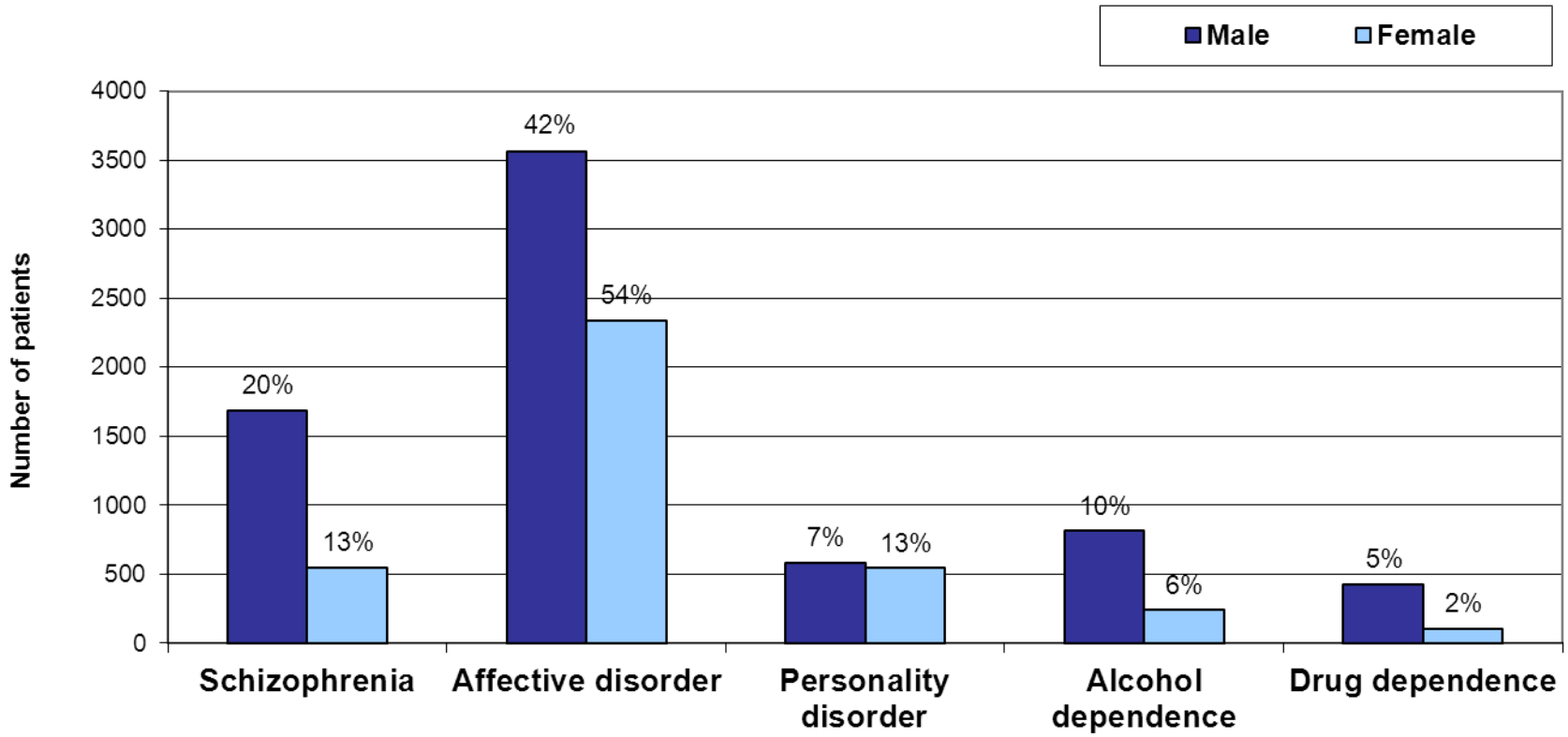
Patient suicides: primary diagnosis by gender



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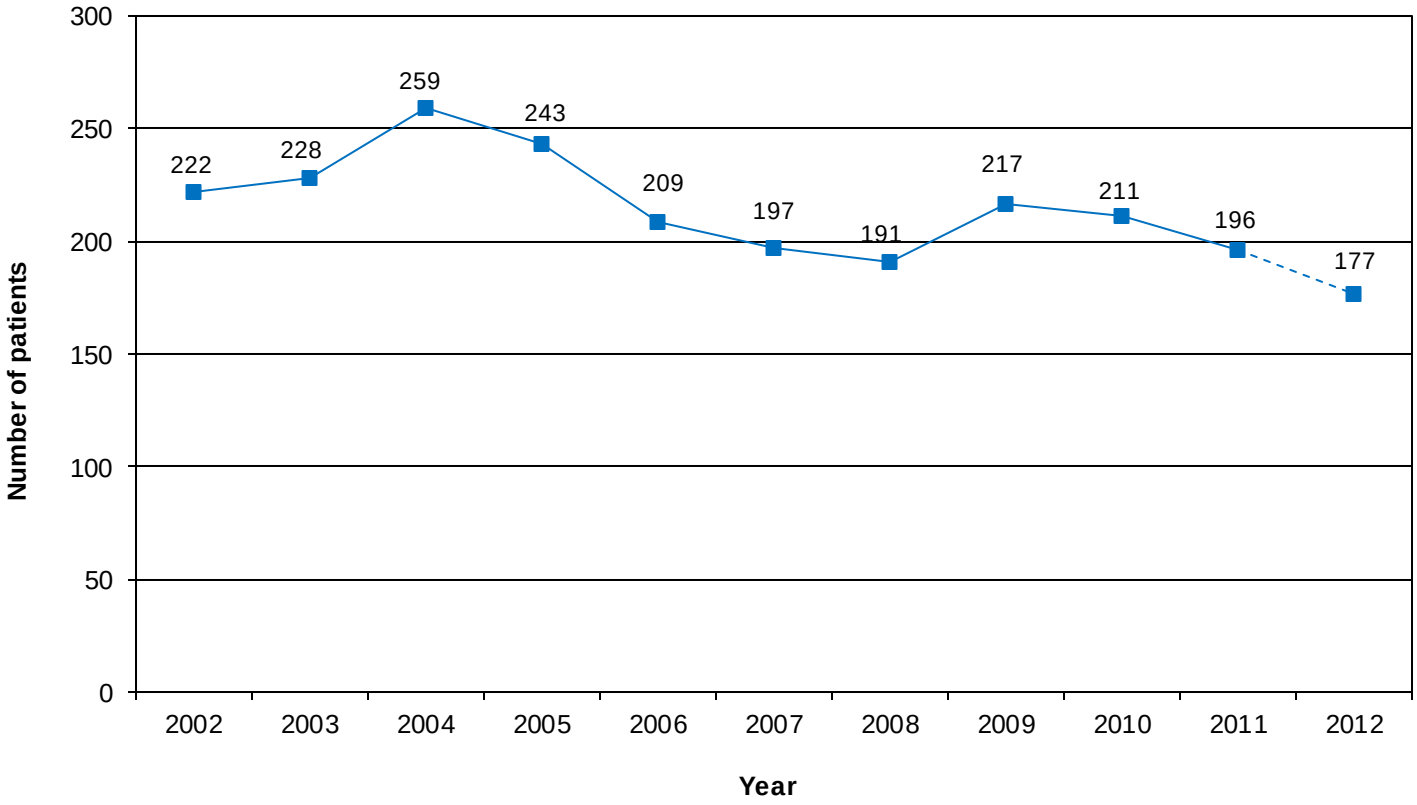
Patient suicide: number of patients with a primary diagnosis of schizophrenia



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Characteristics of patients with schizophrenia

		N=2,234 N	%
Male gender		1,684	75%
Age:	<25	228	10%
	25-44	1,240	56%
	45-64	648	29%
	65+	118	5%
Method:			
	Hanging	736	33%
	Self-poisoning	492	22%
	Jumping	585	26%

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Characteristics of patients with schizophrenia

	N=2,234	
	N	%
Illness duration:		
<12 months	157	7%
>5 years	1,550	70%
Timing of last contact <1 week	1,335	61%
Missed last appointment	490	27%
Non-adherent to medication	505	23%
Short-term risk medium/high	224	11%
Long-term risk medium/high	714	35%

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Risk factors for suicide in patients with schizophrenia

- Male
- Higher IQ
- Living alone
- Recent loss events
- Family history of depression
- Family history of suicide

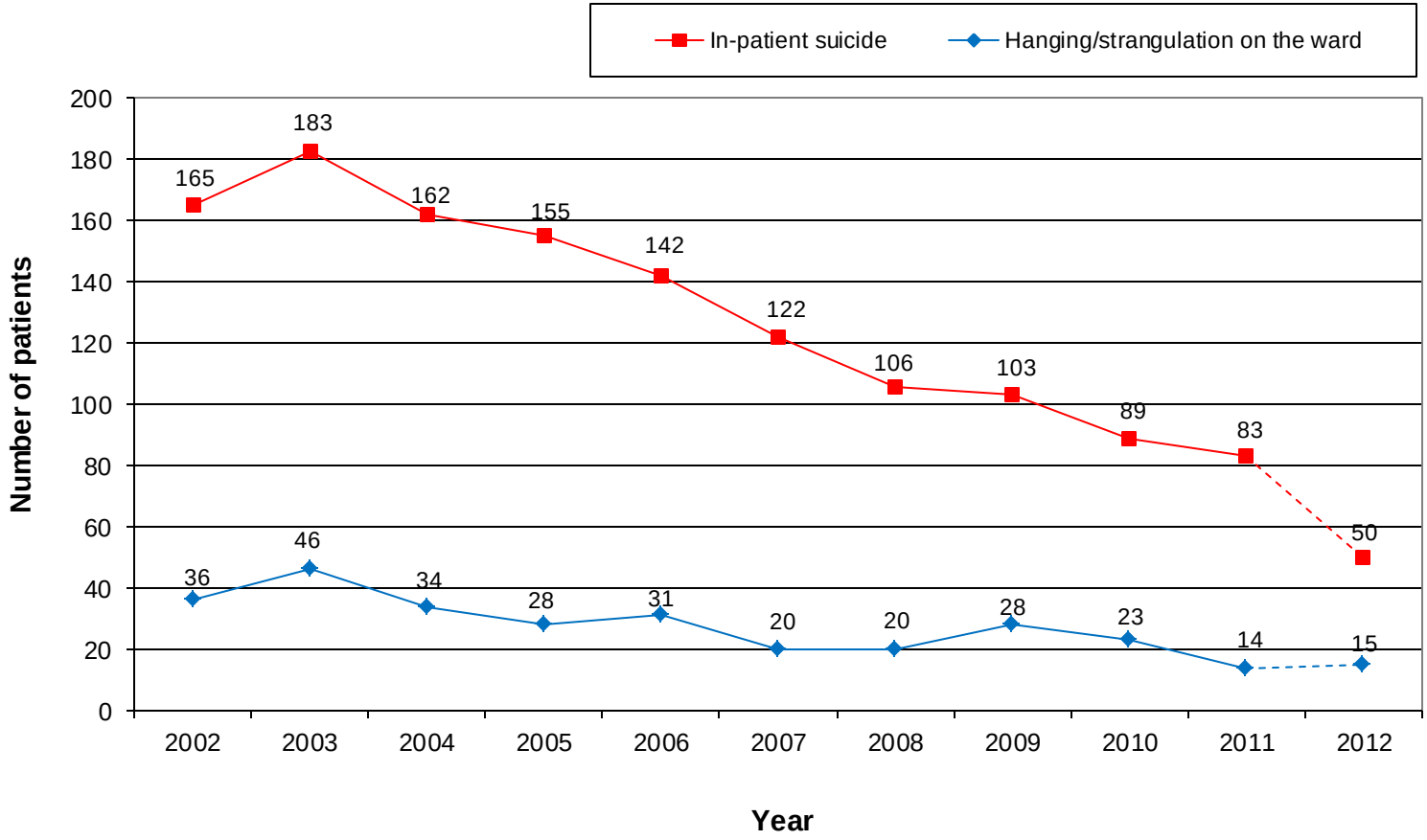
- Depression
- Agitation, hopelessness
- Fear of mental disintegration
- Poor adherence to treatment
- Previous suicide attempt
- Drug misuse

- Delusions and hallucinations = lower risk

Source: Hawton et al, 2005. Schizophrenia and suicide: systematic review of risk factors. BJPsych 2005, 187: 9-20

Sub groups of patients

Patient suicide: number of mental health in-patients; number who died by hanging/strangulation on the ward



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In Patient suicides

- 16% died within first week of admission
- 70% died off the ward
- 38% after absconding

In-patient suicides: 3 groups

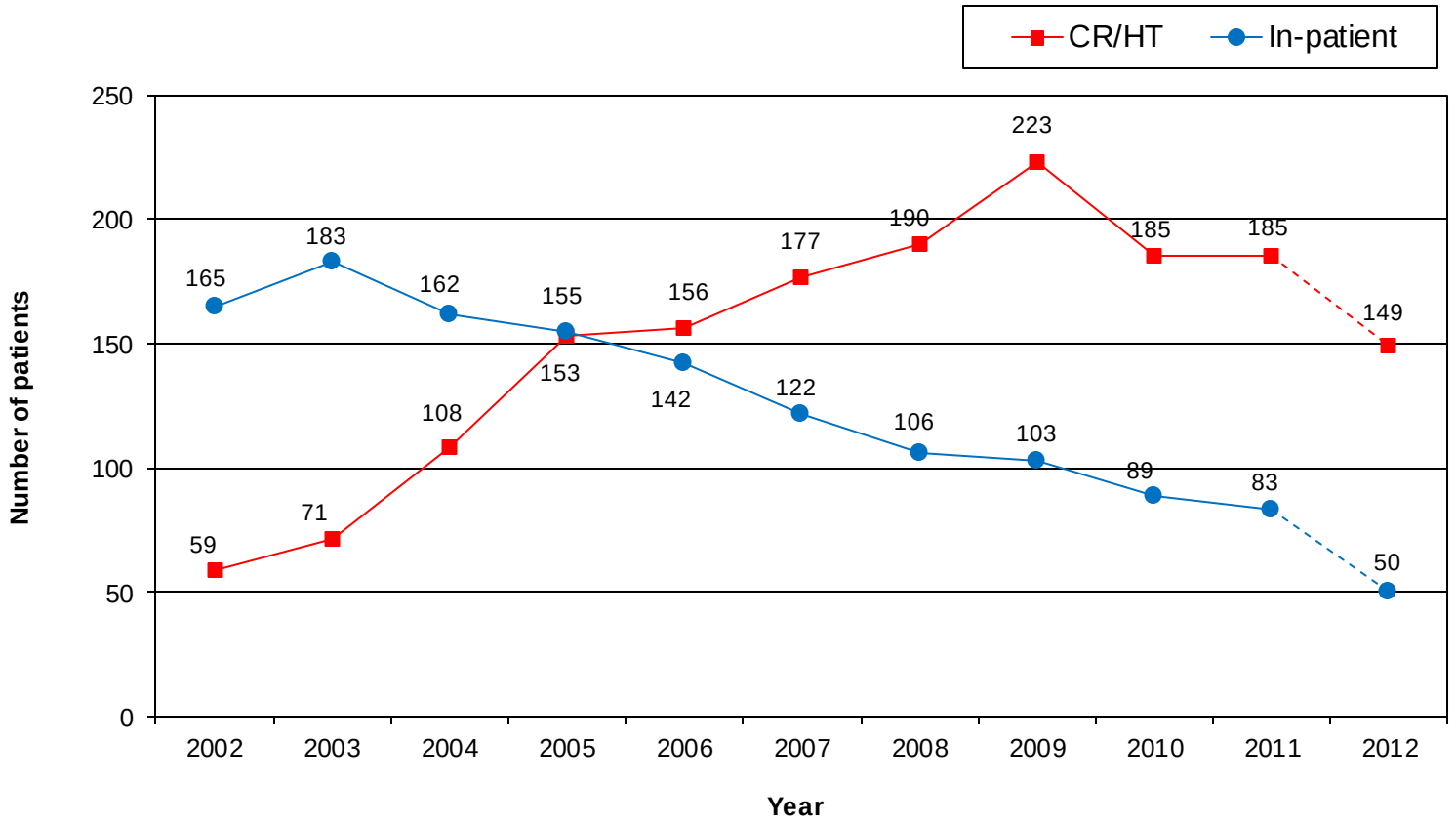
	On ward N=251		Off ward without permission N=227		Off ward with permission N=378	
	N	%	N	%	N	%
Method:						
Hanging	188	75%	63	28%	126	33%
Jumping	5	2%	97	43%	113	30%
Diagnosis:						
Schizophrenia	72	29%	89	40%	99	26%
Affective disorder	122	49%	103	46%	225	60%
Care:						
Under 1 week	50	22%	2	10%	1	2%
MHA	85	34%	56	25%	65	17%
Close observation	117	48%	53	28%	15	13%

Suicide under in-patient observation

- SI reports on all suicides under observations
  - ❖ Policies and procedures
  - ❖ Environment/timing
  - ❖ Staffing issues

- Service user and staff views on observations and alternatives

Patient suicide: number under crisis resolution/home treatment services and mental health in-patients



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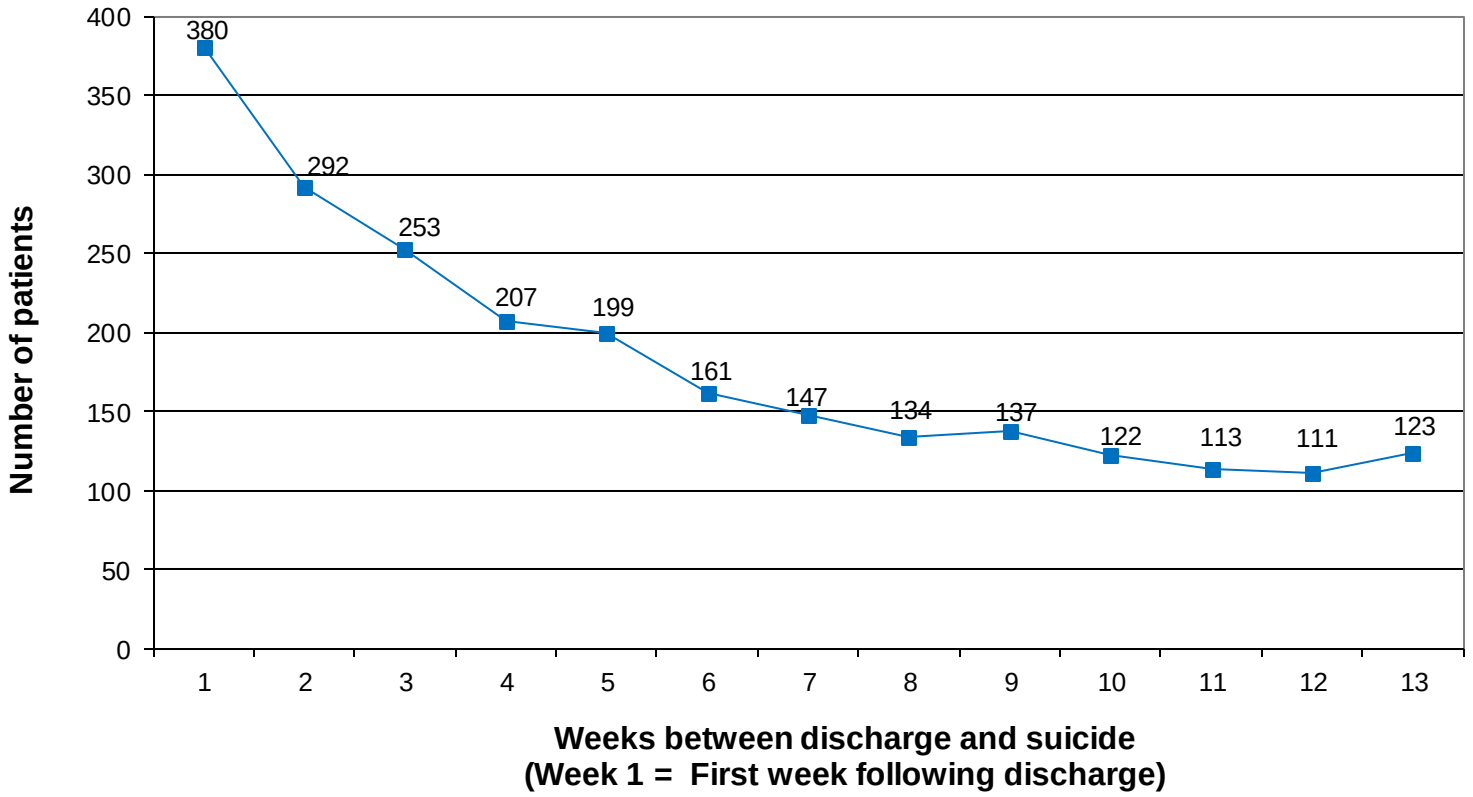
Suicide under crisis resolution/home treatment teams

- 140 suicides per year (England 2003-11)
- Rate higher than among in-patients
  (14.6 per 10,000 CR/HT episodes vs. 8.8 per 10,000 admissions)
- Increase from 80 per year (2003-04) to 163 (2010-11)
- Rate has fallen recently-sustainable?
- 44% lived alone; 49% adverse life events; 34% died <3 months discharge

SOURCE: NCI data, Lancet Psychiatry (2014)

Patient suicide: Number of patient suicides per week following discharge (2002-2012)



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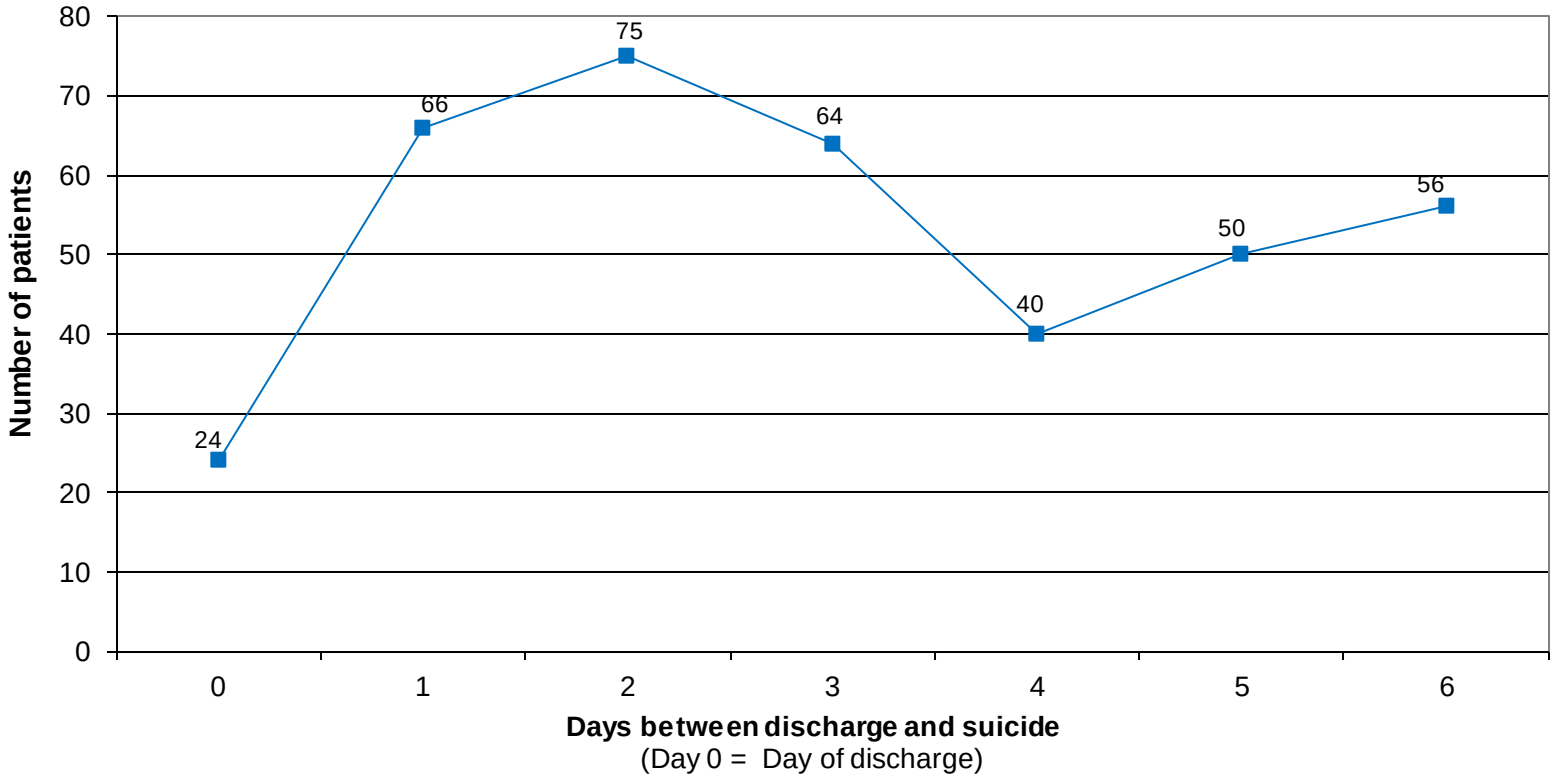
Number of patient suicides per day following discharge (2001-2011)



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Suicide Prevention in patients

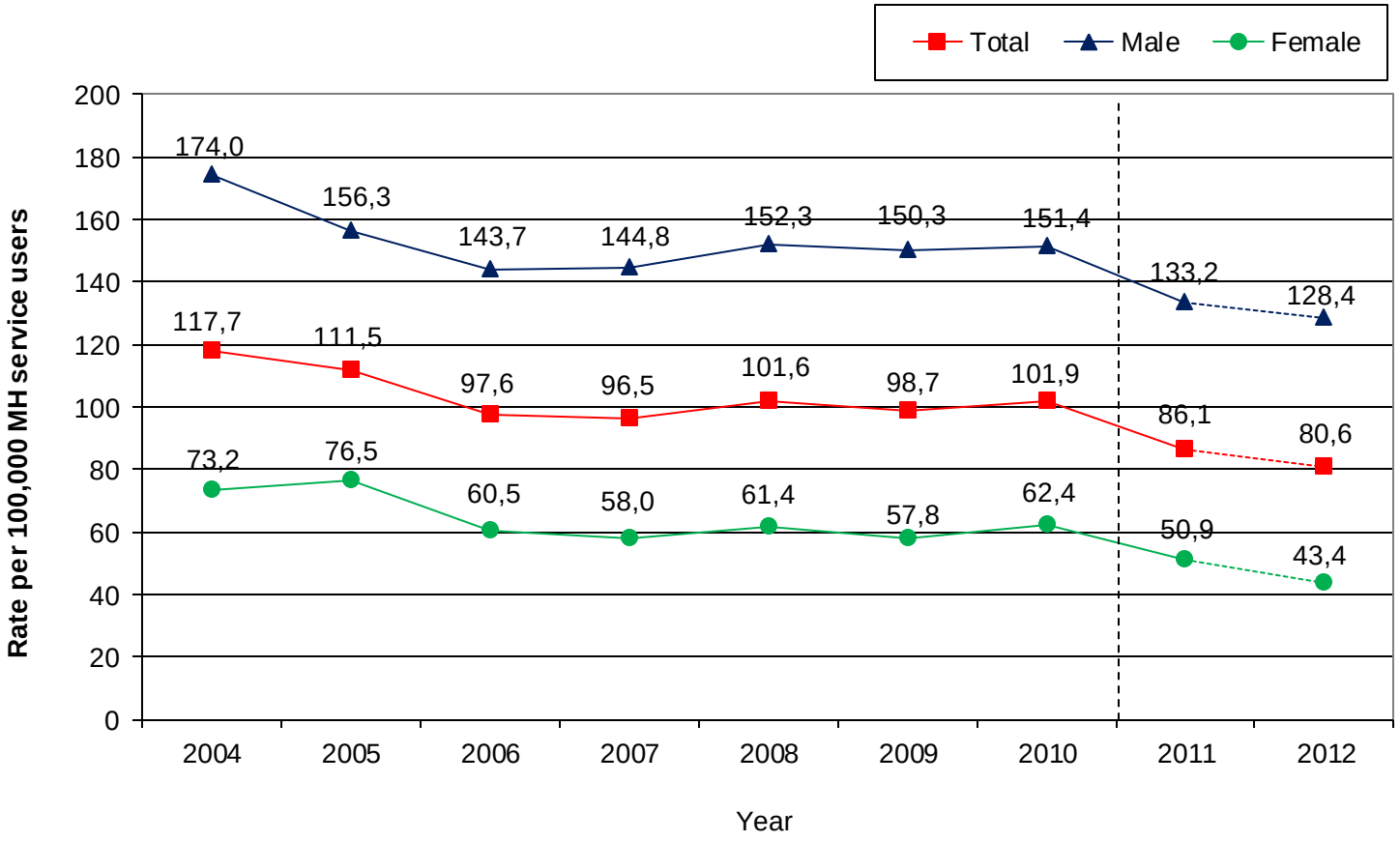
Have we already?

Can we do more?

Shifting the problem?

Can we prevent that?

Rates of suicide per 100,000 mental health service users



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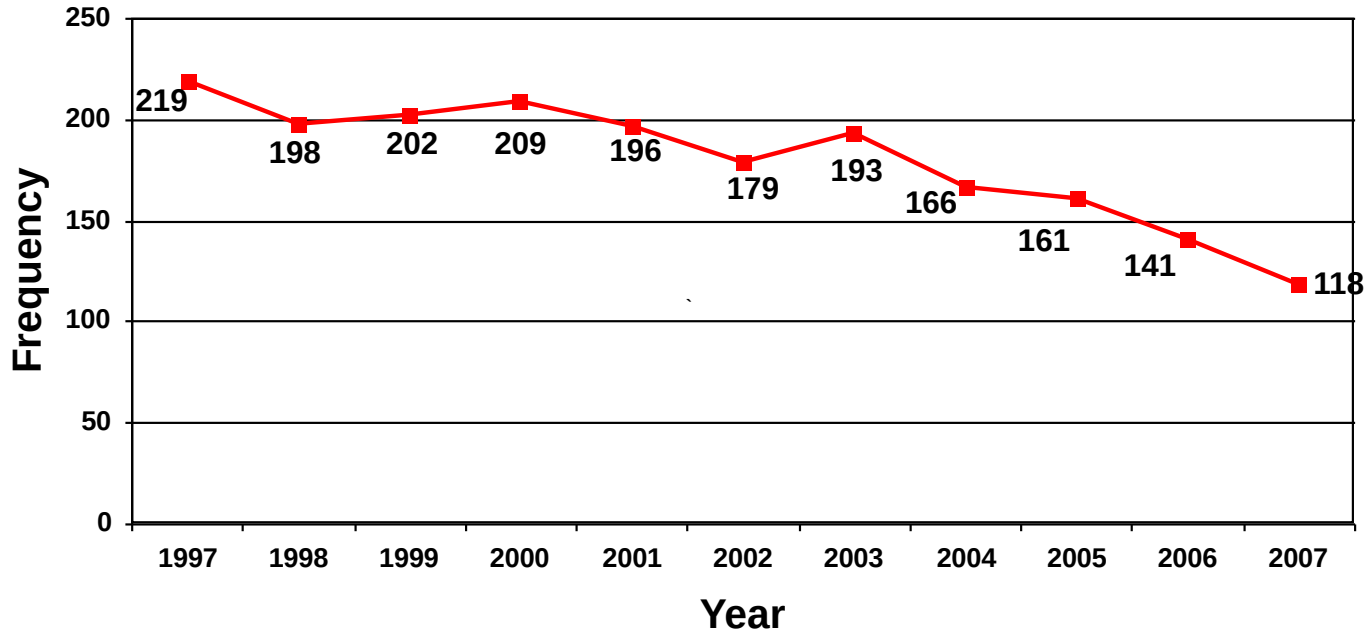
In-patient suicides



Source: National Confidential Inquiry into Suicide and Homicide by People with Mental Illness

Suicide prevention by mental health services (1) In patients

- remove ligature points
- careful supervision post-admission
- Treat affective disorder adequately
- prevent absconding

?CCTV

?Swipe cards

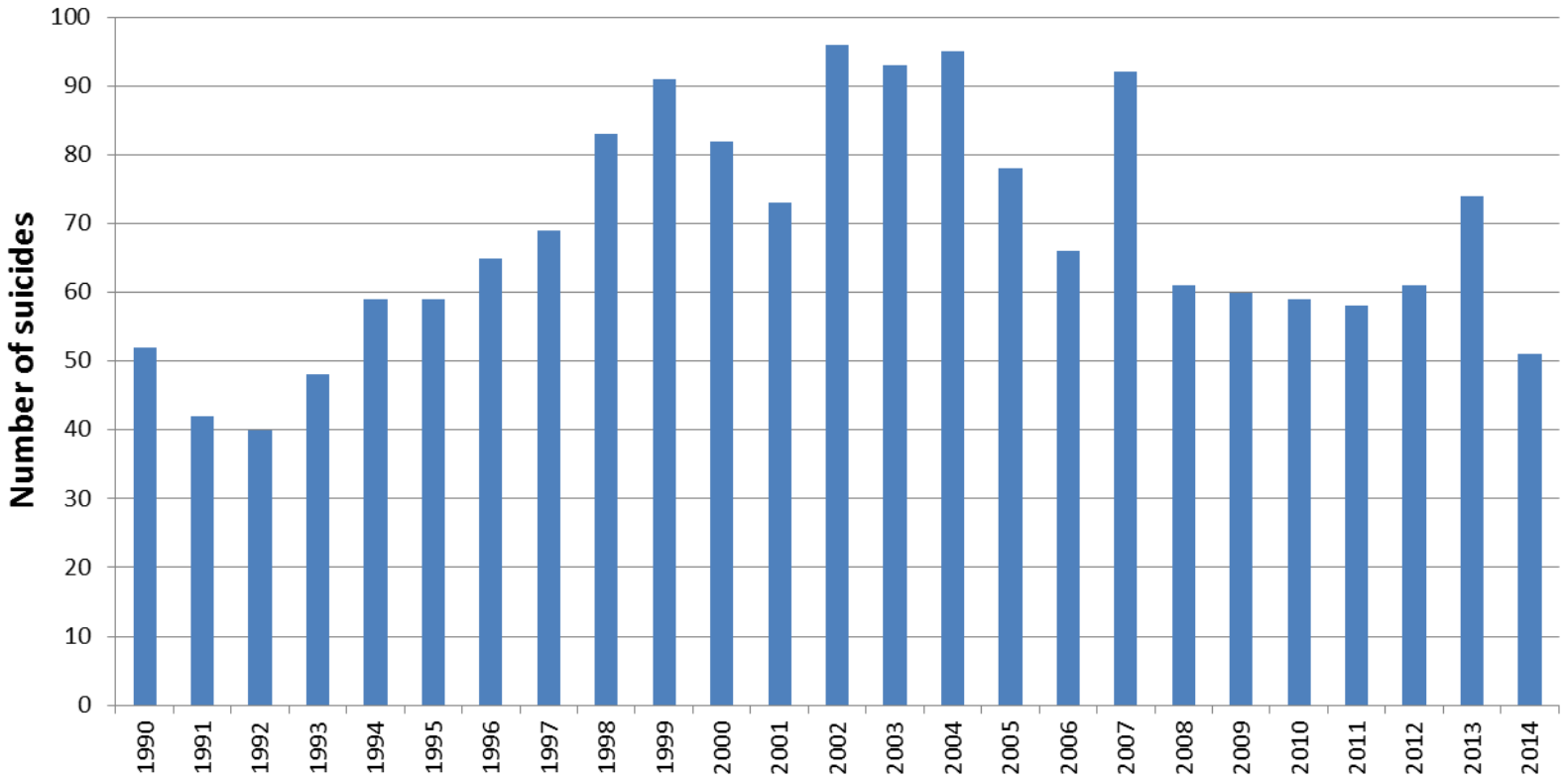
- Risk assessment prior to granting leave-how do risks change in the community?
- Plan for community care when leave granted

Suicide prevention by mental health services (2)Post discharge and community patients

- Risk assessment and care planning on discharge
- early follow up following hospital discharge
- intensive support for high risk patients in the community
- Risk signatures and contingency plans
- BUT bed reduction?
- Bed usage?? Most risky?

Prisons

Suicide in prison in England and Wales



http://www.inquest.org.uk/statistics/deaths-in-prison

Suicides

- 220 self-inflicted deaths were matched to 220 controls (1:1)
- Characteristics of self-inflicted deaths (n = 220)

• Male	208	95%
• Method of death: hanging	197	90%
• ≤ 28 days of reception into prison	78	35%
• Adverse life event within 3mths of death	85	39%

Results 1

Conditional logistic regression Univariate analysis	Case n = 220 %	Control n = 220 %	Odds Ratio (OR)	(95% CI)
Unemployed or long-term sickness benefit	54	40	1.9	(1.2-2.8)
Remand status	33	15	4.3	(2.3-8.0)
History of violence	42	22	3.0	(1.9-4.9)
Single cell accommodation	71	47	3.4	(2.1-5.3)
No social visits in the prison term	45	23	2.7	(1.8-4.2)

Results 2

Conditional logistic regression Univariate analysis	Case	Control	OR	(95% CI)
History of self-harm	52	19	5.8	(3.4-10.0)
History of alcohol misuse	36	24	1.8	(1.2-2.8)
SMI	46	19	4.3	(2.6-7.2)
Previous NHS mental health contact	47	18	4.8	(2.9-8.1)
Previous NHS psychiatric in-patient	25	6	6.0	(2.8-12.7)
Concerns documented re: mental health by external agencies at reception	30	5	7.8	(3.7-16.2)
Referred to psychiatrist in the prison term	43	14	4.8	(2.9-8.1)
Suicide 'at-risk' document opened in the prison term	54	14	9.7	(5.1-18.6)

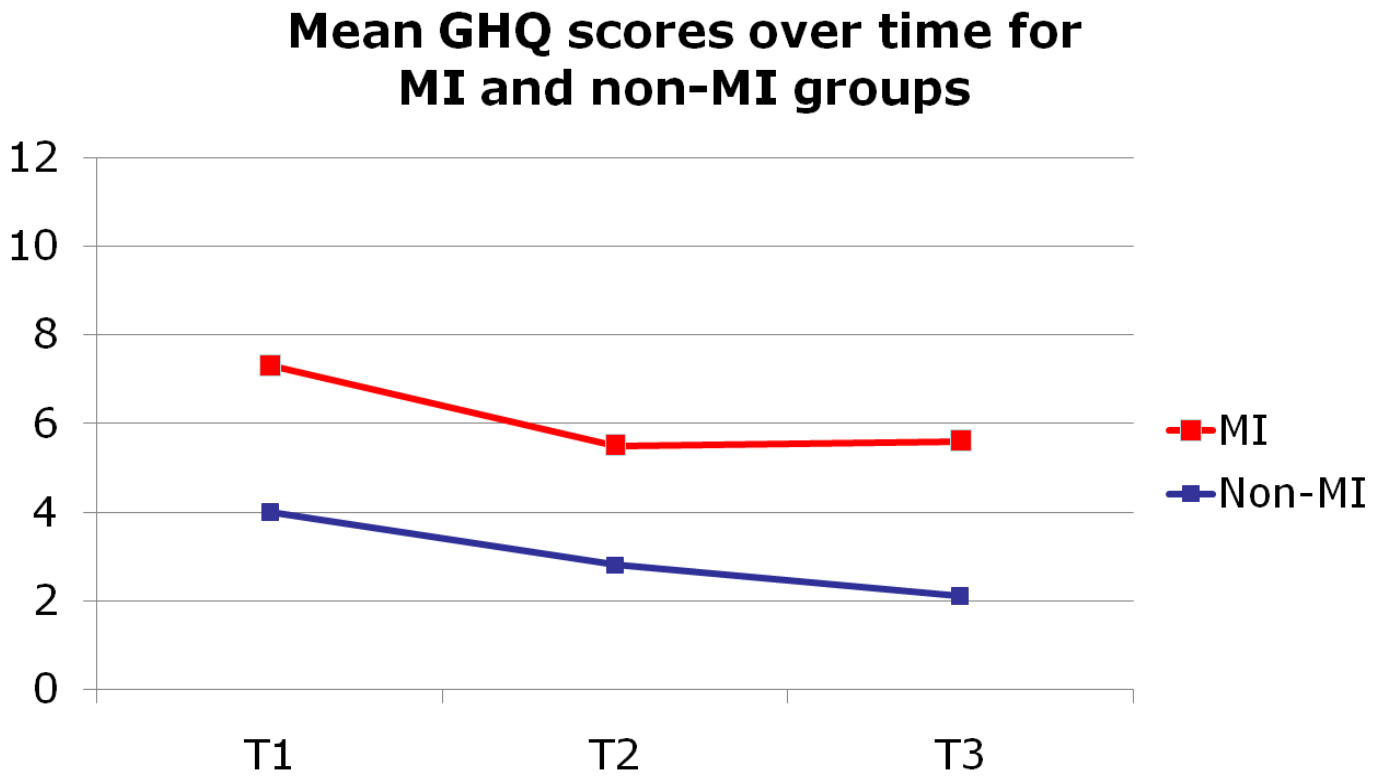
Results: independent risk factors for self-inflicted death

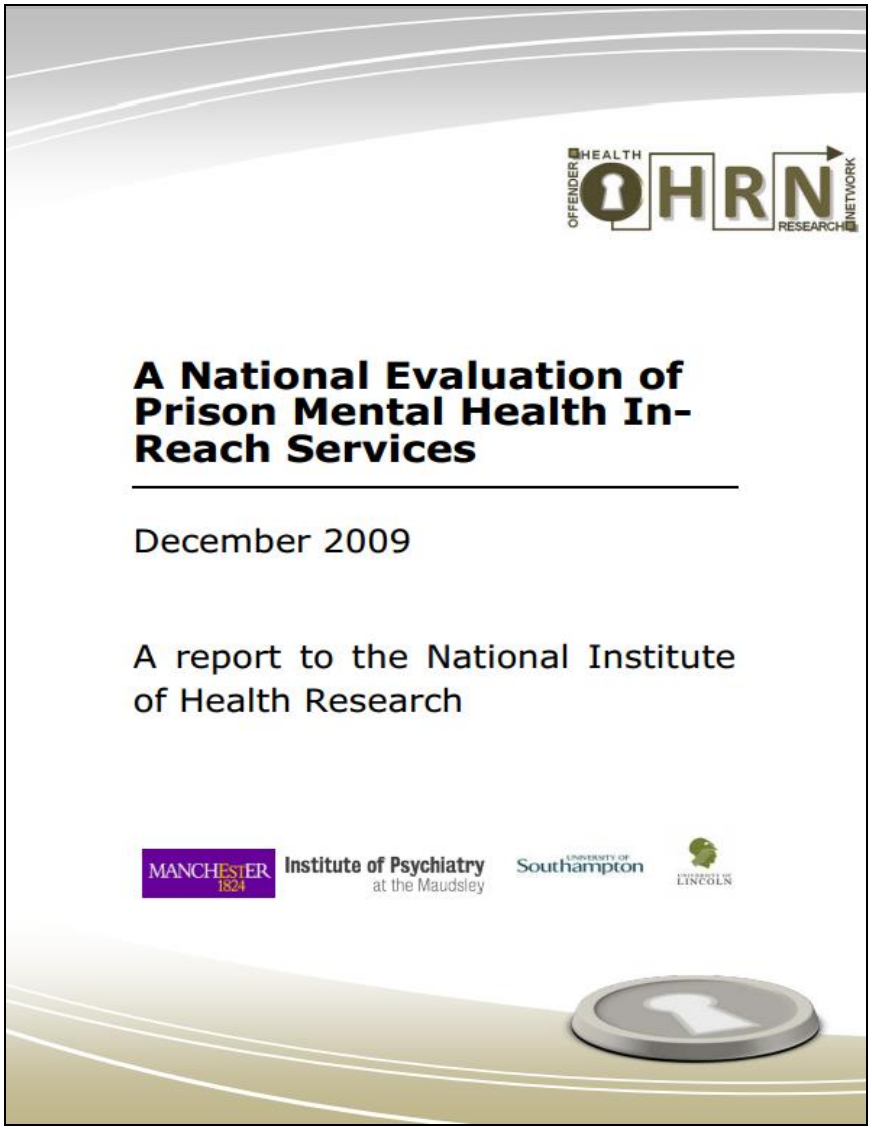
Final multivariate conditional logistic regression model	OR	(95% CI)
Remand status	2.5	(1.1-5.4)
Single cell accommodation	3.2	(1.7-6.1)
No social visits in the prison term	3.3	(1.7-6.2)
Previous NHS mental health contact	2.3	(1.2-4.5)
Suicide 'at-risk' document opened in the prison term	6.4	(3.0-13.9)
Concerns documented re: mental health by external agencies at reception	3.6	(1.4-9.6)

Coming into prison

- Charged/convicted/loss of liberty
- Uncertainty about process/threats/bullying
- Separation from family/friends
- Drug/alcohol misuse/withdrawal
- Mental illness higher prevalence than community
- Mental illness not detected/treated
- Medication prescription (Bowen, 2006)

Reception issues




OFFENDER HEALTH
OHRN
RESEARCH NETWORK
A National Evaluation of Prison Mental Health In-Reach Services
December 2009
A report to the National Institute of Health Research
MANCHESTER 1824
Institute of Psychiatry at the Maudsley
Southampton
LINCOLN

Findings

- Random sample of prisoners in six prisons
- Proportion assessed by inreach teams

	Assessed		Accepted onto caseload	
	n	*%*	*n*	*%*
Prisoners with SMI	126	25	73	13
Prisoners with Schizophrenia	22	60	18	50

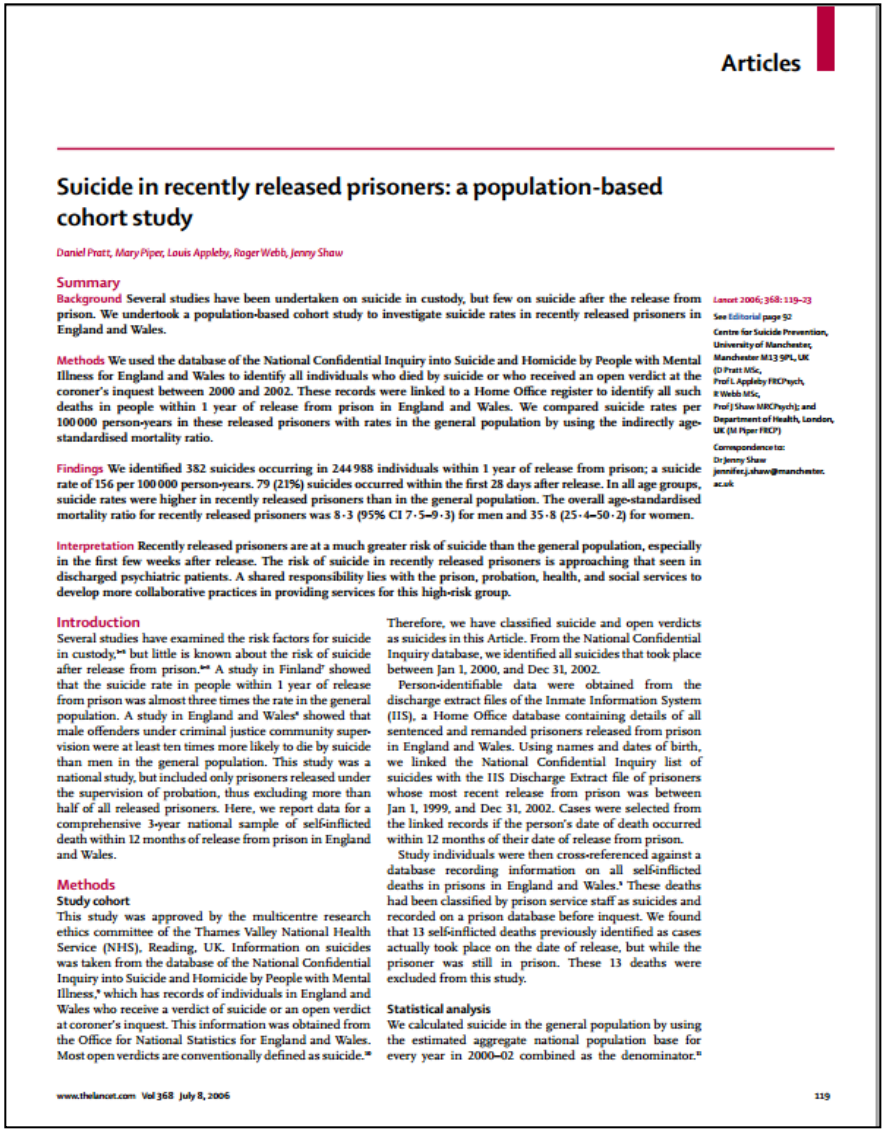
Why?

- Male locals between 10 and 50 per night
- Up to 75% arrive between 6 and 8
- 14 different procedures to complete

Also

- Most prisons using reception screen as main case finding process
- Physical health, well person screen
- Not detected at reception - not detected at all

(Birmingham, Mason, & Grubin, 1996).



Articles

Suicide in recently released prisoners: a population-based cohort study

Daniel Pratt, Mary Piper, Louis Appleby, Roger Webb, Jenny Shaw

Summary

Background Several studies have been undertaken on suicide in custody, but few on suicide after the release from prison. We undertook a population-based cohort study to investigate suicide rates in recently released prisoners in England and Wales.

Methods We used the database of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness for England and Wales to identify all individuals who died by suicide or who received an open verdict at the coroner's inquest between 2000 and 2002. These records were linked to a Home Office register to identify all such deaths in people within 1 year of release from prison in England and Wales. We compared suicide rates per 100 000 person-years in these released prisoners with rates in the general population by using the indirectly age-standardised mortality ratio.

Findings We identified 382 suicides occurring in 244 988 individuals within 1 year of release from prison; a suicide rate of 156 per 100 000 person-years. 79 (21%) suicides occurred within the first 28 days after release. In all age groups, suicide rates were higher in recently released prisoners than in the general population. The overall age-standardised mortality ratio for recently released prisoners was 8·3 (95% CI 7·5–9·3) for men and 35·8 (25·4–50·2) for women.

Interpretation Recently released prisoners are at a much greater risk of suicide than the general population, especially in the first few weeks after release. The risk of suicide in recently released prisoners is approaching that seen in discharged psychiatric patients. A shared responsibility lies with the prison, probation, health, and social services to develop more collaborative practices in providing services for this high-risk group.

Lancet 2006; 368: 119–23
See Editorial page 92

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Introduction

Several studies have examined the risk factors for suicide in custody,[1–4] but little is known about the risk of suicide after release from prison.[3,4] A study in Finland[3] showed that the suicide rate in people within 1 year of release from prison was almost three times the rate in the general population. A study in England and Wales[4] showed that male offenders under criminal justice community supervision were at least ten times more likely to die by suicide than men in the general population. This study was a national study, but included only prisoners released under the supervision of probation, thus excluding more than half of all released prisoners. Here, we report data for a comprehensive 3-year national sample of self-inflicted death within 12 months of release from prison in England and Wales.

Methods

Study cohort

This study was approved by the multicentre research ethics committee of the Thames Valley National Health Service (NHS), Reading, UK. Information on suicides was taken from the database of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness,[5] which has records of individuals in England and Wales who receive a verdict of suicide or an open verdict at coroner's inquest. This information was obtained from the Office for National Statistics for England and Wales. Most open verdicts are conventionally defined as suicide.[6] Therefore, we have classified suicide and open verdicts as suicides in this Article. From the National Confidential Inquiry database, we identified all suicides that took place between Jan 1, 2000, and Dec 31, 2002.

Person-identifiable data were obtained from the discharge extract files of the Inmate Information System (IIS), a Home Office database containing details of all sentenced and remanded prisoners released from prison in England and Wales. Using names and dates of birth, we linked the National Confidential Inquiry list of suicides with the IIS Discharge Extract file of prisoners whose most recent release from prison was between Jan 1, 1999, and Dec 31, 2002. Cases were selected from the linked records if the person's date of death occurred within 12 months of their date of release from prison.

Study individuals were then cross-referenced against a database recording information on all self-inflicted deaths in prisons in England and Wales.[5] These deaths had been classified by prison service staff as suicides and recorded on a prison database before inquest. We found that 13 self-inflicted deaths previously identified as cases actually took place on the date of release, but while the prisoner was still in prison. These 13 deaths were excluded from this study.

Statistical analysis

We calculated suicide in the general population by using the estimated aggregate national population base for every year in 2000–02 combined as the denominator.[6]

Suicide in recently released prisoners: A population-based cohort study.

Pratt, Piper, Appleby, Webb, & Shaw, 2006

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Data matching:
Suicides and released prisoners 2001-2004

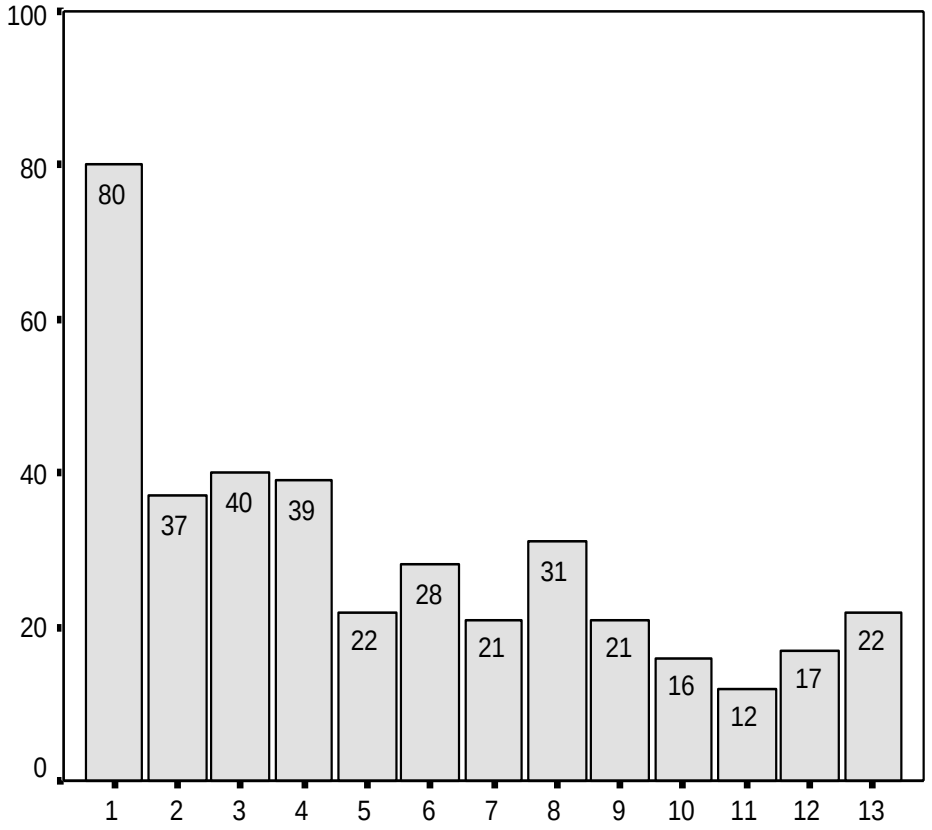
- 256,920 released prisoners
- 14,282 suicides
- 386 suicides within 12 months of release
  - 352 males
  - 34 females

Released prisoners

- Males:
  - 148 suicides per 100,000
  - SMR: 8.28 (95% CI 7.44 – 9.23)

- Females:
  - 174 suicides per 100,000
  - SMR: 35.30 (95% CI 25.13 – 49.59)

Suicide in released prisoners



Time from release (28 day periods)

Case control study

Univariate conditional logistic regression analysis	OR	(95% CI)
Schizophrenia	4.5	(0.97-20.83)
Previous self-harm	3.14	(1.72-5.73)
Under care at release	3.22	(1.53-6.81)
On ACCT at release	2.88	(1.29-6.43)

SMI why?
Proportion plugged into services

- What proportion of people under in-reach engage with CMHTs on release? (Lennox 2013)

ONLINE FIRST

National Study of Suicide in All People With a Criminal Justice History

Roger T. Webb, PhD; Ping Qin, PhD; Hanne Stevens, MSc; Preben B. Mortensen, DrMedSc; Louis Appleby, MD; Jenny Shaw, PhD

Context: Previous research has focused on suicide among male prisoners and ex-prisoners, but little is known about risk in the wider offender population.

Objective: To examine suicide risk over 3 decades among all people processed by a national criminal justice system.

Design: Nested case-control study.

Setting: The whole Danish population.

Participants: Interlinked national registers identified all adult suicides during 1981 to 2006 according to any criminal justice system contact since 1980. Exposure was defined according to history of criminal justice adjudication, up to and including each subject's last judicial verdict before suicide (or date of matching for controls). There were 27 219 suicides and 524 899 controls matched on age, sex, and time, ie, controls were alive when their matched case died.

Main Outcome Measure: Suicide.

Results: More than a third of all male cases had a criminal justice history, but relative risk against the general population was higher for women than men. Independent effects linked with criminal justice exposure persisted with confounder adjustment. Suicide risk was markedly elevated with custodial sentencing, but the strongest effects were with sentencing to psychiatric treatment and with charges conditionally withdrawn. Risk was raised even in people with a criminal justice history but without custodial sentences or guilty verdicts. It was especially high with recent or frequent contact and in people charged with violent offenses.

Conclusions: We examined a section of society in which major health and social problems frequently coexist including offending, psychopathology, and suicidal behavior. The need for developing more far-reaching national suicide prevention strategies is indicated. In particular, improved mental health service provision is needed for all people in contact with the criminal justice system, including those not found guilty and those not given custodial sentences. Our findings also suggest that public services should be better coordinated to tackle co-occurring health and social problems more effectively.

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THE US *NATIONAL STRATEGY for Suicide Prevention* emphasizes the importance of reducing suicide rates among prisoners.[1] Most published research on suicide and the criminal justice system relates to people in custody[2,3] or the postrelease period.[4-6] A national study reported a 9-fold higher risk among US jail inmates compared with the general population in the mid-1980s[7] and another from England and Wales, a 5-fold higher risk among male prisoners during 1978 to 2003.[8] Investigations of suicide among offenders who are not imprisoned are comparatively rare, but elevated risk in this population has also been found.[9-13] Some have suggested that community offenders could be even more vulnerable than prisoners.[11] There has been speculation as to modification of which penal system risk factors might achieve the largest reduction in risk, although prison conditions may not wholly explain the excess risk seen in this population.[14,15] Alternatively, higher risk could reflect raised levels of psychopathology and social adversity in the communities served by prisons.[16] The link between offending and elevated suicide risk constitutes a major public health concern if considered from this wider perspective of all people passing through the criminal justice system.

We examined suicide during 1981 to 2006 in all persons processed by the Danish criminal justice system since 1980. We

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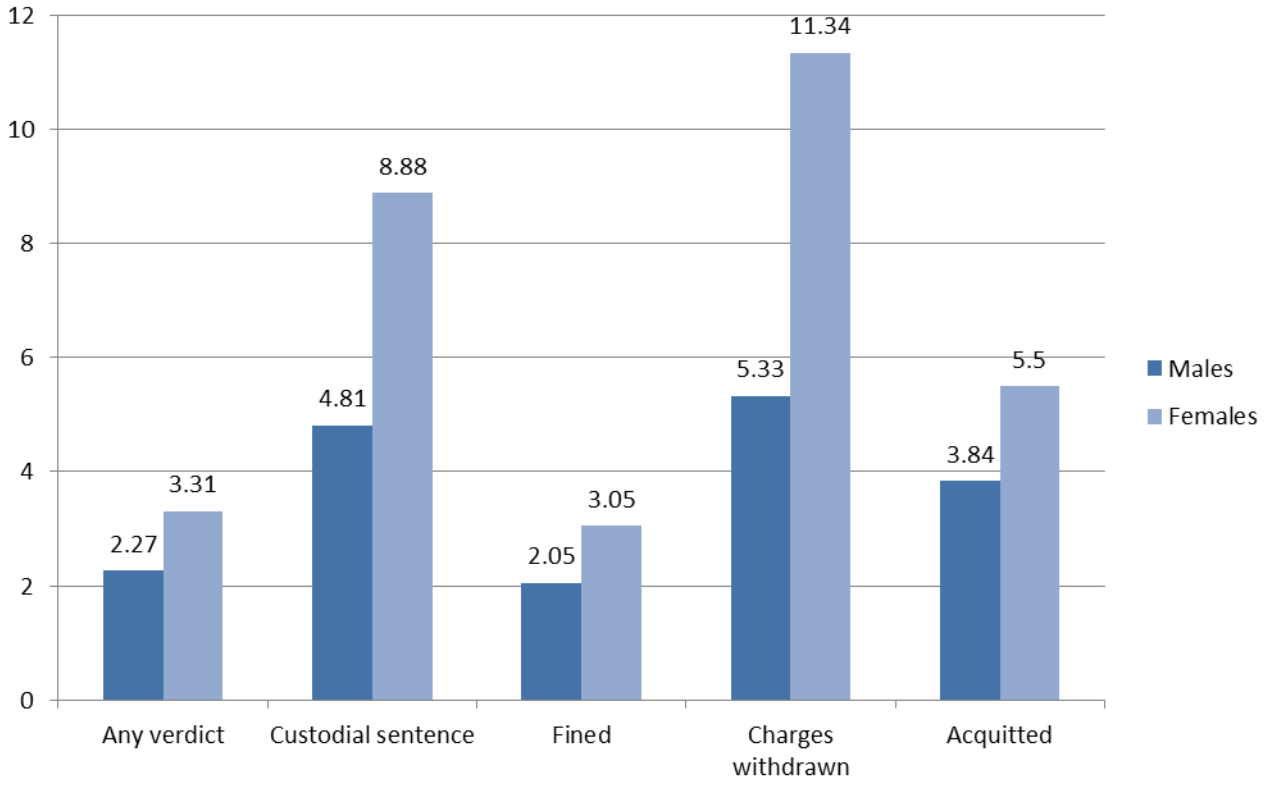
National Study of Suicide in All People With a Criminal Justice History

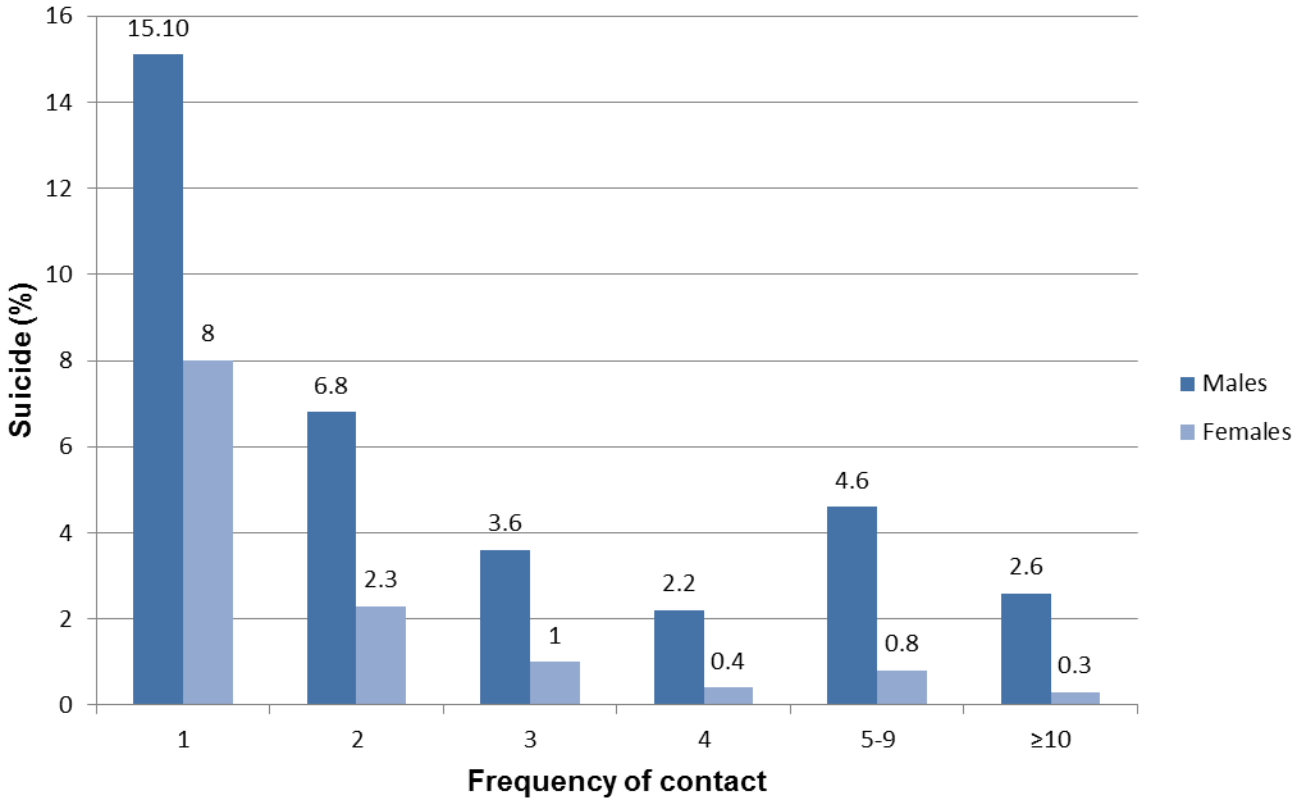
Webb, Qin, Stevens, Mortensen, Appleby, & Shaw, 2011.

- Nested case-control study
- Interlinked Danish national registers
- Suicides 1981 to 2006
- Criminal justice system contact since 1980
- 1/3 of male cases had a criminal justice history
- Relative risk higher for women
- Relative risk higher for those with both CJS contact and psychiatric treatment, compared to neither risk factors.

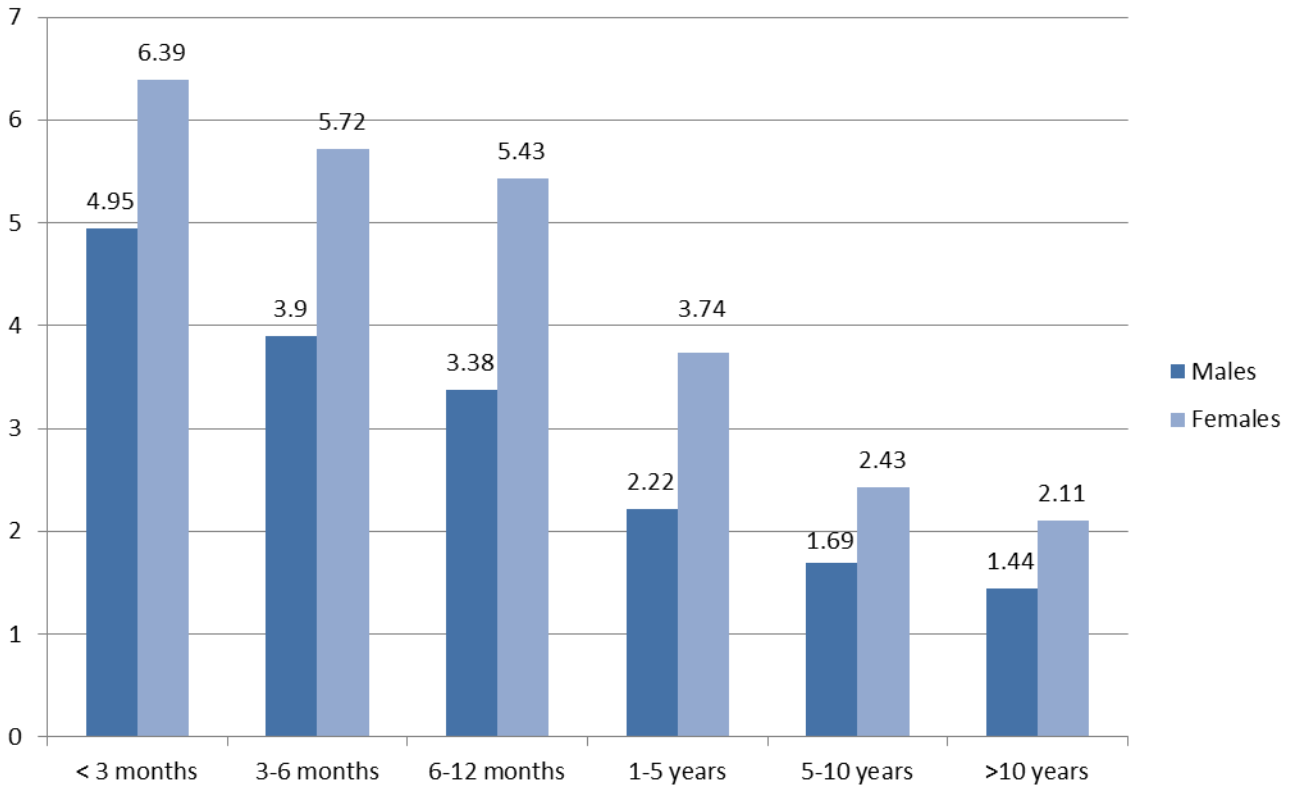
Criminal Justice history and Suicide



Frequency of contact and Suicide



Time since CJS contact and suicide



Suicide prevention

- **Environment**

- Safer cells
- Single cells
- Activity

- **Mental health**

- Improve the general mental health care in prison including pro-active case finding
- Treatment of SMI
- Medication and psychological therapies

Suicide prevention

- **Those at risk in prison**

- improve the assessment and monitoring procedures for those at risk
- identify key 'risky' periods
- increased care at these times

- **Released prisoners**

- Stigma and silos
- Case management for those with SMI on release, Crisp study

- **Wider criminal justice system**

- Mental health services police custody
- Suicide risk assessment

Thank you

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National Confidential Inquiry into Suicide and Homicide by People with Mental Illness

Website:
http://www.bbmh.manchester.ac.uk/cmhr/research/
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