STRESS-testing clinical activity and outcomes for a combined prison inreach and court liaison service:

A three-year observational study of 6177 consecutive male remands.

Conor O'Neill

Introduction: 15 minutes

- Service model for combined remand prison inreach and court liaison service (PICLS)
- Outcomes and activity of PICLS service over three years using Service Assessment Protocol

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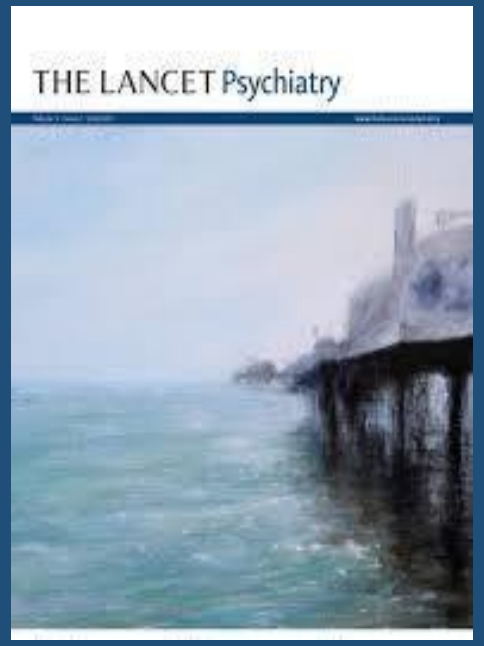
BJPsych The British Journal of Psychiatry (2012)
200, 364–373. doi: 10.1192/bjp.bp.111.096370

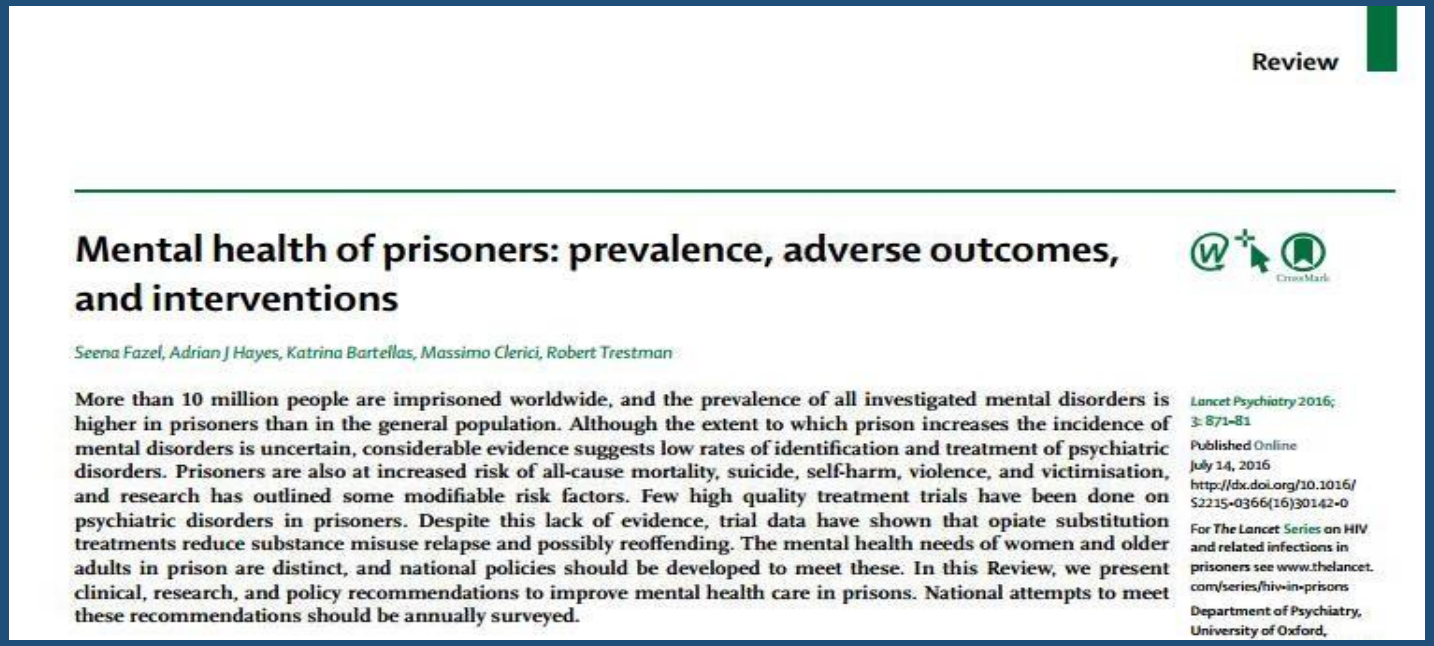
Review article

Severe mental illness in 33 588 prisoners worldwide: systematic review and meta-regression analysis

Seena Fazel and Katharina Seewald

- 109 samples from 24 countries, 1966-2010
- Pooled prevalence psychosis 3.6%
- Stable over time





Review

Mental health of prisoners: prevalence, adverse outcomes, and interventions

Seena Fazel, Adrian J Hayes, Katrina Bartellas, Massimo Clerici, Robert Trestman

More than 10 million people are imprisoned worldwide, and the prevalence of all investigated mental disorders is higher in prisoners than in the general population. Although the extent to which prison increases the incidence of mental disorders is uncertain, considerable evidence suggests low rates of identification and treatment of psychiatric disorders. Prisoners are also at increased risk of all-cause mortality, suicide, self-harm, violence, and victimisation, and research has outlined some modifiable risk factors. Few high quality treatment trials have been done on psychiatric disorders in prisoners. Despite this lack of evidence, trial data have shown that opiate substitution treatments reduce substance misuse relapse and possibly reoffending. The mental health needs of women and older adults in prison are distinct, and national policies should be developed to meet these. In this Review, we present clinical, research, and policy recommendations to improve mental health care in prisons. National attempts to meet these recommendations should be annually surveyed.

Lancet Psychiatry 2016; 3: 871–81

Published Online July 14, 2016 http://dx.doi.org/10.1016/S2215-0366(16)30142-0

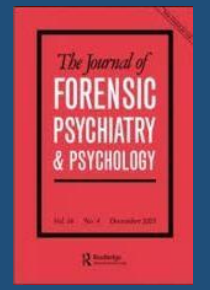
For *The Lancet* Series on HIV and related infections in prisoners see www.thelancet.com/series/hiv-in-prisons

Department of Psychiatry, University of Oxford,

- Enough cross-sectional prevalence studies
- Need longitudinal data

Fazel S, Hayes AJ, Clerici M, Trestman R. Mental health of prisoners: prevalence, adverse outcomes, and interventions. Lancet Psychiatry Online. 2016;9:871–81.

Pakes and Winstone (2010)

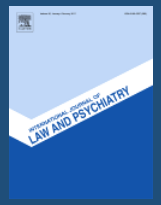


- Audited 101 prison mental health services across England
- Schemes do mental health assessments well but…..
    - lack of coherence in data collection
    - Sporadic proactive screening
    - Questionable sustainability

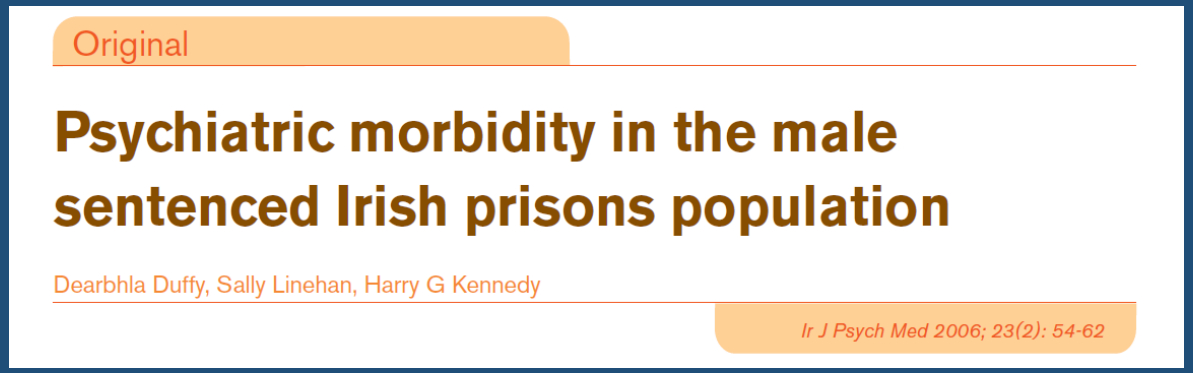
Pakes F, Winstone J. A site visit survey of 101 mental health liaison and diversion schemes in England.
J Forensic Psychiatry Psychol. 2010;21:873–86.

Coid and Ullrich (2011)

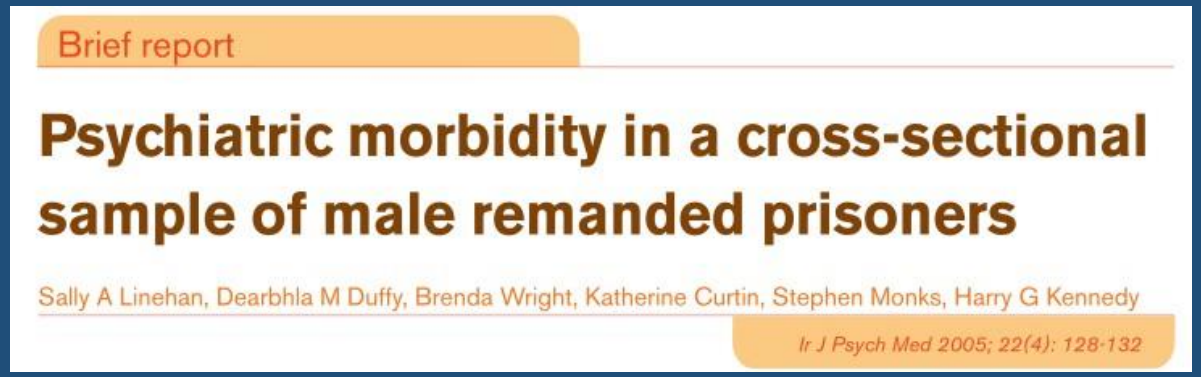
- Psychiatric services “fail to identify psychotic prisoners and provide after care”.
- Need for the public to be reassured that diversion is risk-appropriate



Coid J, Ullrich S. Prisoners with psychosis in England and Wales: diversion to psychiatric inpatient services? Int J Law Psychiatry. 2011;34:99–108.



Psychosis (Cross-sectional)
0.8% active
2.7% six-month
3.8% lifetime



Psychosis (Cross-sectional)
4.5% active
7.6% six-month
12.4% lifetime

Psychosis (Longitudinal remands)
3.8% active (95% CI 2.2-6.6%)
5.1% six-month
9.3% lifetime

2006-2011 study:

1. Identified psychosis at predicted rate
2. Can achieve diversion to healthcare
3. Quality of service sustained over time

- More comprehensive approach required
  - Timeframes
  - Risk-appropriateness

- Outcome standards refined 2012-14:

McInerney et al. International Journal of Mental Health Systems 2013, 7:18
http://www.ijmhs.com/content/7/1/18

INTERNATIONAL JOURNAL OF MENTAL HEALTH SYSTEMS

CASE STUDY Open Access

Implementing a court diversion and liaison scheme in a remand prison by systematic screening of new receptions: a 6 year participatory action research study of 20,084 consecutive male remands

Clare McInerney[1,2†], Mary Davoren[1,2†], Grainne Flynn[1,2†], Diane Mullins[1,2†], Mary Fitzpatrick[3†], Martin Caddow[1†], Fintan Caddow[1†], Sean Quigley[3†], Fergal Black[3†], Harry G Kennedy[1,2†] and Conor O'Neill[1,2*†]

Abstract

Background: A mental health needs assessment in the Irish prison population confirmed findings from other jurisdictions showing high prevalence of severe mental illness, including psychosis amongst those newly committed. We implemented a participatory action research approach in order to provide an integrated mental health prison in-reach and court liaison service for this population.

Results: Following extensive consultation, a two stage screening process was developed which was supplemented by an inter-agency referral management system. During the six years 2006–2011, all 20,084 new remands to the main remand prison serving 58% of the national population were screened. Following the first stage screen, 3,195 received a comprehensive psychiatric assessment. Of these 561 (2.8%) had symptoms of psychosis – corresponding to the prior research finding – and 572 were diverted from the criminal justice system to mental health services (89 to a secure forensic hospital, 164 to community mental health hospitals and 319 to other community mental health services).

Conclusions: We have shown that it is possible to match research findings in clinical practice by systematic screening, to sustain this over a long period and to achieve consistent levels of diversion from the criminal justice system to appropriate mental health services. The sustained and consistent performance of the model used is likely to reflect the use of participatory action research both to find the most effective model and to achieve wide ownership and cooperation with the model of care.

Keywords: Psychiatric illness, Prison psychiatry, Screening, Court liaison, Court diversion

Background

Diversion has been defined as a policy of transferring the mentally ill away from the criminal justice system and into psychiatric care [1,2]. Some writers have limited the definition of diversion to the provision of inpatient admissions, reserving the term "liaison" for non-inpatient community treatment arrangements [2,3]. While there are many descriptions of effective police-station and court-based diversion services for local areas, reviews of diversion services have highlighted inequalities between local areas, and the need for standardisation of approach to enable equal access over larger geographical areas and population aggregates [2-6].

Policy and expert guidelines exist to advise on the organization of mental health services in prisons [4-6]. The UN Declaration of Rights of the Mentally Ill [7] emphasises that persons with major mental illness should

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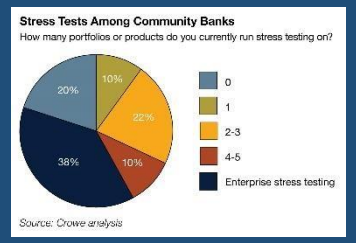
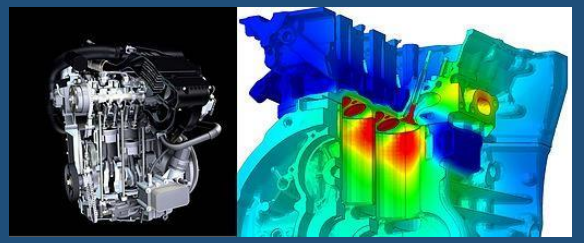
McInerney C, Davoren M, Flynn G, Mullins D, Fitzpatrick M, Caddow M, Caddow F, Quigley S, Black F, Kennedy HG, O'Neill C. Implementing a court diversion and liaison scheme in a remand prison by systematic screening of new receptions: a 6 year participatory action research study of 20,084 consecutive male remands. Int J Mental Health Syst. 2013;7:18

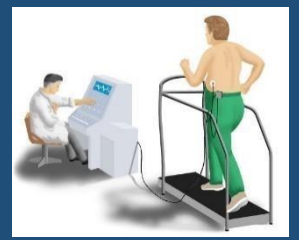
Stress testing

"Deliberately thorough testing used to determine the stability of a given system to confirm intended specifications are being met and help determine modes of failure".

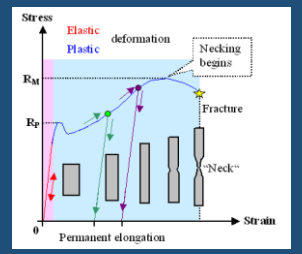
- Used in
  - Engineering
  - Financial systems
  - Information technology
  - Healthcare







- In prison settings, the greatest turnover is in remand settings



PICLS: Service Model

Prison Inreach & Court Liaison Service (PICLS)

- Cloverhill Remand Prison
  - 60% remands nationally

- Multidisciplinary Team
  - Attends 5 days weekly
  - 1 Consultant Psychiatrist
  - 3 Forensic Mental Health Nurses
  - 2-3 Trainee Psychiatrists
  - Housing Officer (Hail Housing)

2-stage Screening (Daily)

Stage 1: (Modified Grubin-7 items)

1. Previous MHS contact (outside prison)
2. Previous antipsychotic/antidepressant medication.
3. Homicide charge
4. Current thoughts DSH
5. History of deliberate self harm
6. Physical Exam
7. Observed unusual behaviour/Placement requirements

Stage 2: (MDT: Next working day)

- Review of previous prison medical records
- Referrals
- Prioritise waiting list

D2 Vulnerable Wing

-Assessment
-Liaison
-Triage
-Court Reports

Triage	
CMH Admission	Major Illness/Major offence or High Risk
Community Diversion	Major Illness/Minor Offence
Prison Management	Minor or no illness

Interagency Meetings: Weekly

Attended by

- PICLS MDT
- Psychology
- Prison Nursing staff
- Prison Governor and D2 staff
- Addiction Counsellor
- Chaplain
- Others as required

- Agenda
  - Patients on D2 vulnerable wing: Risks, Care Plans
  - Self-harm episodes in past week
  - Waiting lists

Multidisciplinary Care Plan Meetings: Fortnightly

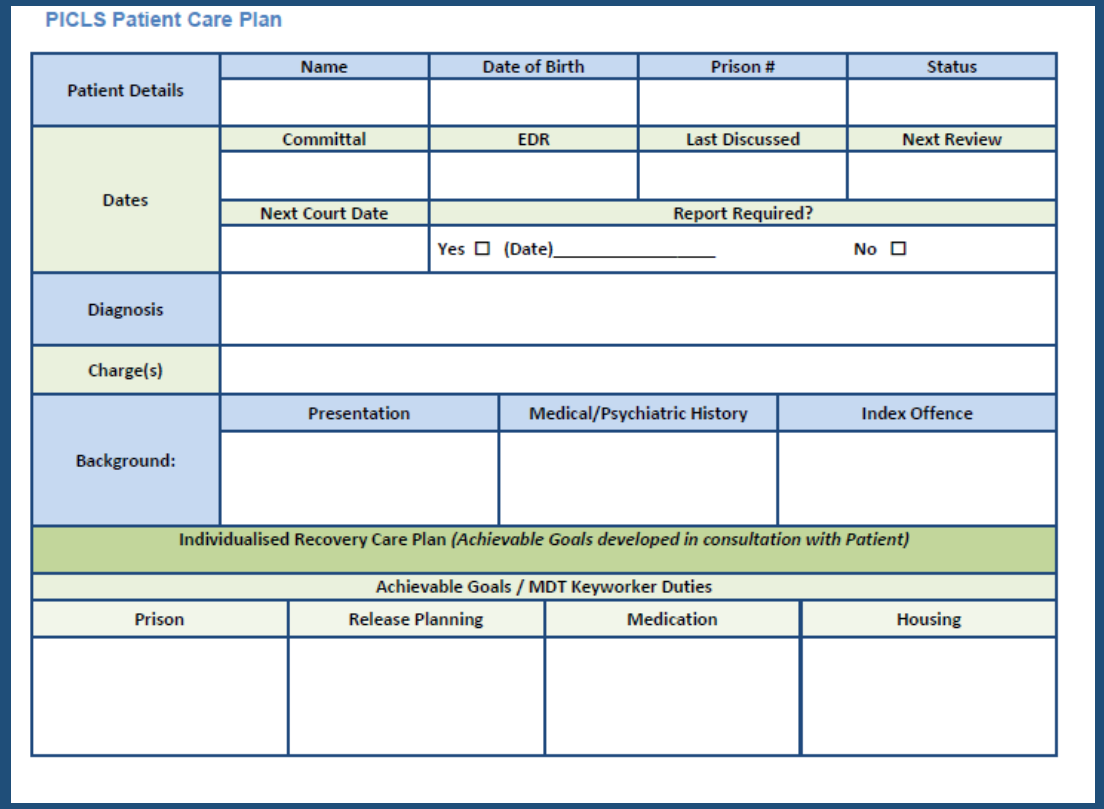
Attended by

- PICLS MDT

Agenda

- Discuss all patients on caseload
  - Care planning
  - Contingency planning
  - Triage

Update “Rolling record” of discharges



PICLS Patient Care Plan

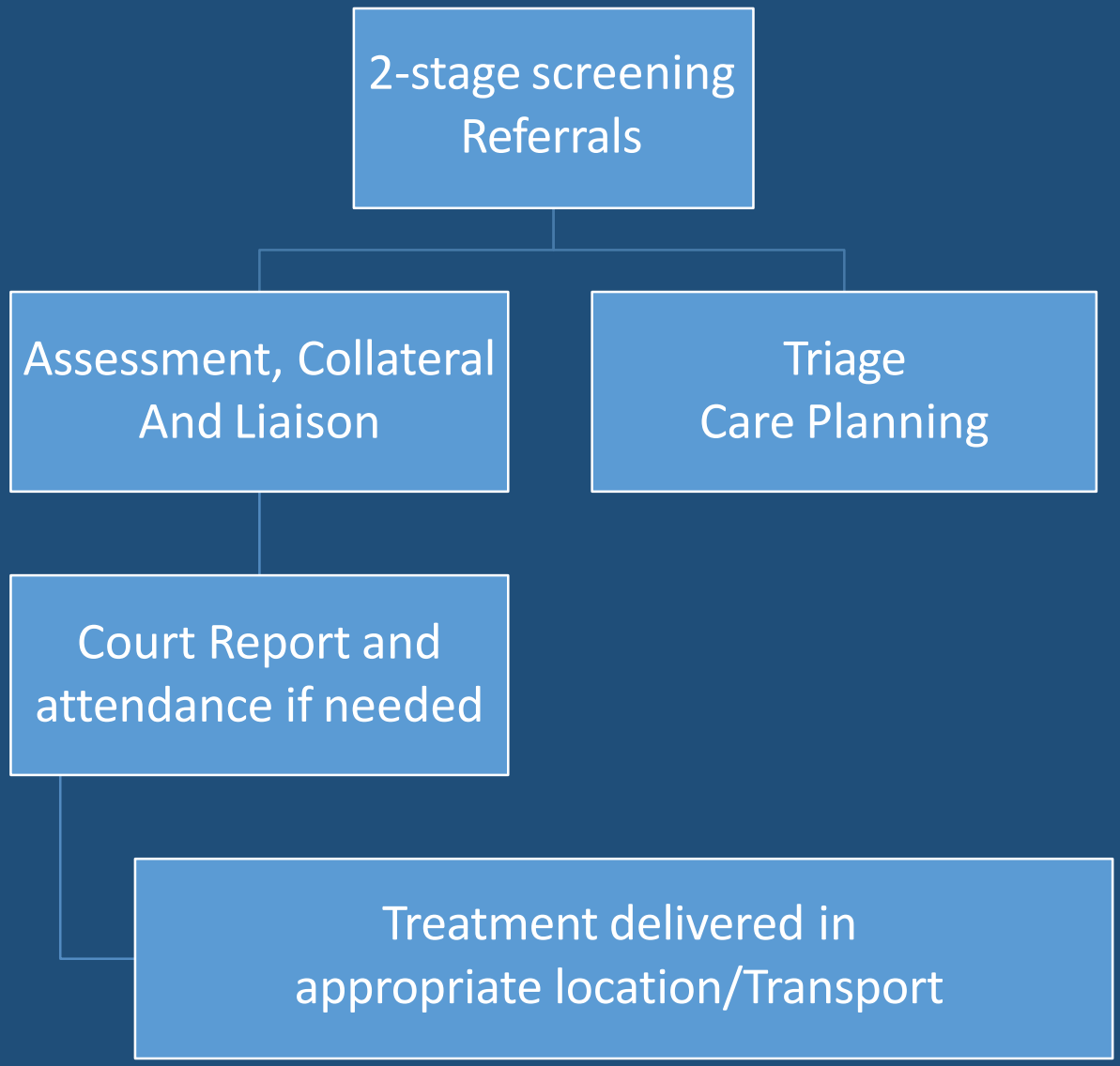
Patient Details	Name	Date of Birth	Prison #	Status
Dates	Committal	EDR	Last Discussed	Next Review
	Next Court Date	Report Required?		
		Yes ☐ (Date)_____		No ☐
Diagnosis				
Charge(s)				
Background:	Presentation	Medical/Psychiatric History	Index Offence	
Individualised Recovery Care Plan *(Achievable Goals developed in consultation with Patient)*				
Achievable Goals / MDT Keyworker Duties				
Prison	Release Planning	Medication	Housing	

“Rolling Record” of activities and outcomes

Descriptive Variable	Format
Date of Birth	Date
Date of Committal	Date
Lifetime history of psychosis	Yes/no
Lifetime history substance misuse	Yes/no
History deliberate self harm	Yes/no
Homeless	Yes/no
History of contact with psychiatric services outside prison	Yes/no
Nationality	Code
Most serious index offence	Code
Violent index offence	Yes/no

Process Variable	Format
Date first assessed	Date
Date of Discharge	Date
Number of assessments	Count
Discharge primary ICD-10 diagnosis	ICD-code
Discharge outcome	Code
Last Dundrum 1 score before outcome	Score
Last Dundrum 1 score before outcome	Score
Self harm episodes during committal	Details/Dates
Active psychotic symptoms following committal	Yes/no

PICLS Model


2-stage screening
Referrals
Assessment, Collateral
And Liaison
Triage
Care Planning
Court Report and
attendance if needed
Treatment delivered in
appropriate location/Transport

Aims

- Examine quantitative measures of clinical efficiency and effectiveness of a prison in-reach and court liaison service over three years.
- Compare rates of identification of psychosis and diversion with previously-reported findings for the previous six years.
- Service Assessment Protocol divided into six domains of activity and outcomes: summarised by the acronym STRESS-Testing.

STRESS-Testing:
Aims & Method

Domain	Aim
Screening, Identification and caseload description	• How many remands were screened? • How many were assessed and taken onto the team caseload? • Is the caseload over time described in terms of diagnosis, co-morbid conditions and offence type? • Is the caseload described in terms of other factors including homelessness, whether or not known to have a past history of self harm and whether or not known to have previous contact with psychiatric services outside prison. • Is the service identifying persons with the most severe acute symptoms, such as active psychotic symptoms at rates in keeping with expected rates based on the existing epidemiological literature?
Transfer of Care	• How many were diverted from the criminal justice system to mental health treatment settings?
Risk-appropriateness of diversions	• Were diversions to forensic inpatient settings, to general psychiatric inpatient settings and to outpatient settings justifiable in terms of risk and clinical need?
Efficiency and Productivity	• What was the delay from committal screening to first comprehensive assessment? • Were persons identified as actively psychotic seen more rapidly than persons without acute psychotic symptoms? • What was the delay from committal and first assessment to diversion? • How many cases were managed and diversions achieved per whole time equivalent employed?
Self-harm	• How many persons deliberately harmed themselves in custody over the study period?
Service Mapping	• Can the service 'map' the flow of all patients through the system, with outcomes at the point of discharge and times to those outcomes? • Can the service map subsequent outcomes for persons admitted to the 'parent' forensic psychiatric unit ?
Testing	• How did the above activity and outcome data compare with previously published findings for the same service in the six years preceding this three-year study?

Screening, Identification, caseload description

Aims:

- How many remands were screened?
- How many assessed and taken onto caseload?
- Is caseload over time described in terms of diagnosis, co-morbid conditions and offence type?
- Is caseload described in terms of factors including homelessness, past history of self-harm and previous contact with psychiatric services outside prison.
- Is the service identifying persons with the most severe acute symptoms, eg active psychotic symptoms at rates in keeping with expected rates?

Screening, Identification and caseload description

Method:

- All new remand episodes to Cloverhill Prison from Jan 2012 to Dec 2014 screened.
- Sentenced episodes (unless also remanded) excluded
- ICD-10 [22] diagnoses based on clinical assessment and collateral, updated at regular multi-disciplinary care planning meetings, based on serial assessments.
- Active psychotic symptoms following committal
- Demographic, clinical and offending data based on collateral.
- Data presented where possible in binary (yes/no) format

Definitions:

- Remand episode: Committals on remand, trial, deportation and extradition.
- Psychotic symptoms: Current hallucinations, delusions and/or thought disorder).
- Violent offence: An act of physical violence on a person and included homicide, assault, robbery, aggravated burglary, contact sexual offences, false imprisonment, driving offences involving injury to others and arson where there was a possibility of injury to others.
- Homelessness: Not having regular accommodation, rough sleeping or residence in homeless shelters at the time of or identified during committal.

Screening, Identification and caseload description

Results:

- 6177 consecutive remand committals screened
  - 60.9% of male remand episodes nationally (6177/10,148)
- 1109 first assessments of 917 individuals
  - 2573 repeat “face to face” assessments
  - 10,504 case note entries
- 4.1% remand committal episodes actively psychotic
  - 251/6177 (95% C.I. 3.6-4.6)

Screening, Identification and caseload description

Results:

- 1109 remand episodes
  - All Male
  - Mean Age 32.8
  - 86% Irish
  - 35% Homeless
  - 23% Active Psychosis
  - 86% Substance Misuse
  - 65% History DSH
  - 35% Violent Index Offence

Table: Demographic and clinical variables for individuals at first remand and all remand episodes for individuals identified through 2-stage screening and referrals to PICLS team 2012-2014.

	Individuals on first remand episode during 2012-14 (N=917)							All remand episodes during 2012-2014 (N=1109)						
Variable	Number Yes	%	95% CI	Number No	%	95% CI	Total (100%)	Number Yes	%	95% CI	Number No	%	95% CI	Total (100%)
Irish nationality	772	84.2%	81.7-86.5	145	15.8%	13.5-18.3	917	952	85.8%	83.7-87.8	157	14.2%	12.2-16.3	1109
Homeless	308	33.6%	30.5-36.7	609	66.4%	63.3-69.5	917	388	35.0%	32.2-37.9	721	65.0%	62.1-67.8	1109
Lifetime Psychosis	252	27.5%	24.6-30.5	665	72.5%	69.5-75.4	917	339	30.6%	27.9-33.4	770	69.4%	66.6-72.1	1109
Active psychosis	192	20.9%	18.3-23.7	725	79.1%	76.3-81.7	917	251	22.6%	20.2-25.2	858	77.4%	74.8-79.8	1109
History substance misuse	781	85.2%	82.7-87.4	136	14.8%	12.6-17.3	917	954	86.0%	83.8-88.0	155	14.0%	12.0-16.2	1109
History deliberate self-harm	571	62.3%	59.0-65.4	346	37.7%	34.6-41.0	917	715	64.5%	61.6-67.3	394	35.6%	32.7-38.4	1109
Violent index offence	329	35.9%	32.8-39.1	588	64.1%	60.9-67.2	917	384	34.6%	31.8-37.5	725	65.4%		1109

Screening, Identification and caseload description

Results: Most serious Index Offence

Primary index offence	Number	%
Homicide	82	7.4
Assault	128	11.5
Robbery/aggravated burglary	96	8.7
Sexual offences	57	5.1
Arson	12	1.1
False imprisonment	5	0.5
Harassment/stalking/threats	30	2.7
Possession of weapons	44	4.0
Burglary, theft, handle stolen property, tax and fraud offences	271	24.4
Breach of barring, protection or safety order	72	6.5
Public order offences, criminal damage, trespass	190	17.1
Driving offences	35	3.2
Drugs offences	45	4.1
Extradition requests/international arrest warrants	15	1.4
Immigration offences	18	1.6
Failure to appear/contempt of court/other non-violent offences	9	0.8
Total	**1109**	**100.0**

Screening, Identification and caseload description

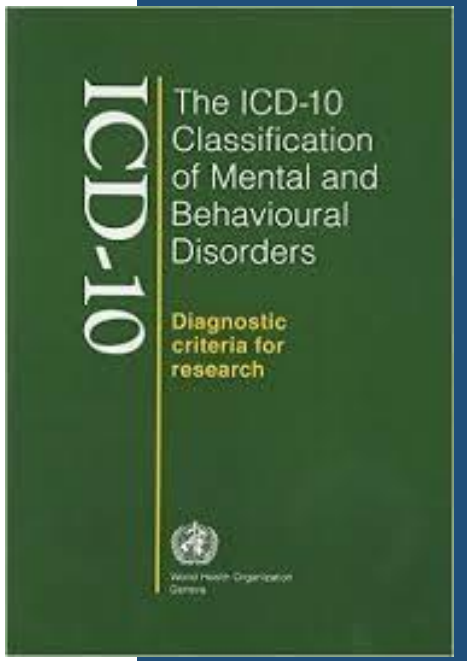
Results:

Primary ICD-10 Diagnosis

- 1109 remands
  - 23% Schizophreniform
  - 39% Substance misuse
  - 18% Personality Disorder
  - 14% other
  - 6% No illness

Table: Primary ICD-10 Diagnoses at discharge/transfer/diversion for new committals receiving psychiatric assessment following post-remand screening (All remand episodes, N=1109).

	Primary ICD-10 Diagnosis	Number	%
F00-09	Organic disorders	17	1.5%
F10-19	Substance Abuse Disorders	426	38.4%
F20-29	Schizophreniform Disorders	255	23.0%
F30-39	Mood Disorders	117	10.6%
F40-59	Neurotic Disorders	7	0.6%
F60-69	Personality disorders	200	18.0%
F70-79	Mental Retardation	14	1.3%
F80-98	Developmental/Childhood Disorders	9	0.8%
	No Mental Illness/Adjustment Reaction	64	5.8%
	Total	**1109**	**100.0**



Domain	Aim
Screening, Identification and caseload description	• How many remands were screened? • How many were assessed and taken onto the team caseload? • Is the caseload over time described in terms of diagnosis, co-morbid conditions and offence type? • Is the caseload described in terms of other factors including homelessness, whether or not known to have a past history of self harm and whether or not known to have previous contact with psychiatric services outside prison. • Is the service identifying persons with the most severe acute symptoms, such as active psychotic symptoms at rates in keeping with expected rates based on the existing epidemiological literature?
Transfer of Care	• How many were diverted from the criminal justice system to mental health treatment settings?
Risk-appropriateness of diversions	• Were diversions to forensic inpatient settings, to general psychiatric inpatient settings and to outpatient settings justifiable in terms of risk and clinical need?
Efficiency and Productivity	• What was the delay from committal screening to first comprehensive assessment? • Were persons identified as actively psychotic seen more rapidly than persons without acute psychotic symptoms? • What was the delay from committal and first assessment to diversion? • How many cases were managed and diversions achieved per whole time equivalent employed?
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Service Mapping	• Can the service 'map' the flow of all patients through the system, with outcomes at the point of discharge and times to those outcomes? • Can the service map subsequent outcomes for persons admitted to the 'parent' forensic psychiatric unit ?
Testing	• How did the above activity and outcome data compare with previously published findings for the same service in the six years preceding this three-year study?

Transfer of care:

Aims

- How many were diverted from the criminal justice system to mental health treatment settings?

Method

- Final disposal outcomes were recorded for all cases.
- Diversion defined as transfer from CJS to mental health care.

Transfer of care:

Results

Outcome	N	%
Did not require psychiatric assessment	5068	82.0%
Discharge to prison GP/Addiction services	546	8.8%
Transfer to in-reach psychiatry service in other Prison	202	3.3%
Community outpatient diversion	208	3.4%
General admission	81	1.3%
Forensic Admission	60	1.0%
Overseas prison transfer	6	0.1%
Remained on PICLS caseload as at 9th April 2015	6	0.1%
Total	6177	100%

Risk-appropriateness of diversions

Aims:

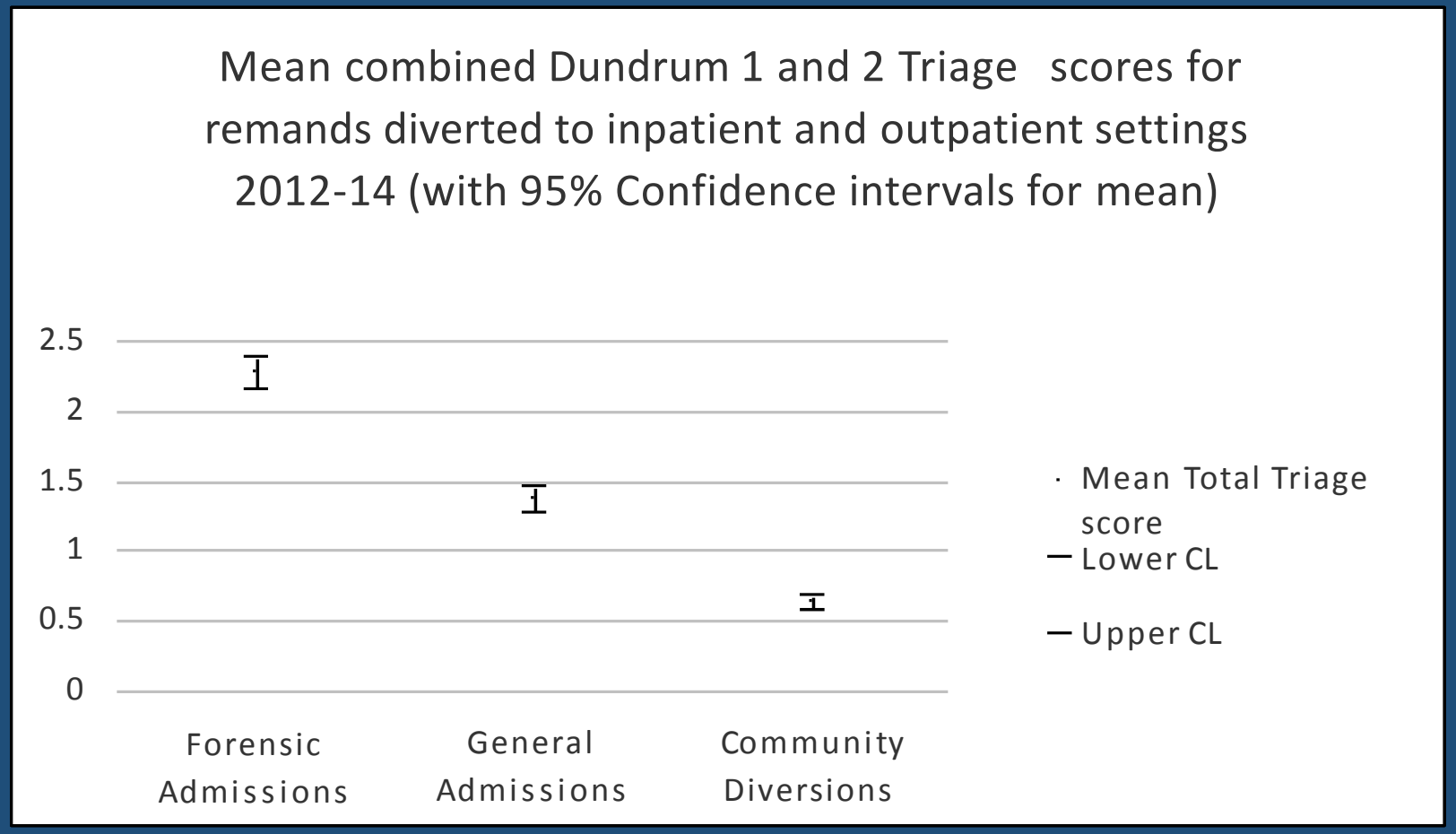
- Were diversions to forensic inpatient settings, to general psychiatric inpatient settings and to outpatient settings justifiable in terms of risk and clinical need?

Method

- DUNDRUM Toolkit: Validated SPJ instrument (Kennedy et al)
  - DUNDRUM-1 (Security) and DUNDRUM-2 (Urgency) mean scores calculated on a weekly basis for persons placed on waiting lists.
  - Score as measured in the week prior to the outcome.

Risk-appropriateness of diversions

Results:



Risk-appropriateness of diversions

Results:

		D-1 triage security score		D-2 triage urgency score		Total (D-1 + D-2) triage score	
	N	Mean (SD)	95 % CI	Mean (SD)	95 % CI	Mean (SD)	95 % (CI)
Forensic admission	60	2.39 (0.07)	2.25–2.53	2.01 (0.07)	1.89 –2.14	2.26 (0.06)	2.15–2.37
General admission	81	1.44 (0.05)	1.35–1.53	1.19 (0.06)	1.07–1.31	1.36 (0.05)	1.26–1.45
Outpatient diversions	208	0.77 (0.03)	0.71–0.82	0.26 (0.02)	0.23–0.30	0.59 (0.02)	0.55–0.63

Efficiency & Productivity

Aims:

- Delay in days from committal screening to assessment?
- Psychotic patients prioritised?
- Delay to healthcare diversion?

Method

- Medians were calculated to moderate the distorting effect of outliers, although means were also calculated.

Efficiency & Productivity

Results:

- Median delay from screening to assessment:
  - Psychotic patients: 2 days
  - Non-psychotic: 3 days

- Median delay to healthcare diversion
  - Forensic admission: Median 19.5 days from committal (17 from 1st assessment)
  - General Admission: 15 days (13)
  - OPD: 15.5 days (11)

- Cases and Diversions per WTE?

Self-Harm

Aims

- How many persons deliberately harmed themselves in custody over the study period?

Method:

- Episodes of self-harm recorded in the prison healthcare medical records system by prison staff.
- Cross-checked on a weekly basis at weekly interagency meeting, with bimonthly review at interagency suicide prevention meetings.

Self-Harm

Results:

- 70 incidents by 48 individuals (range 1-5 episodes)
- 0.8% remand episodes followed by one or more episode DSH
- 0.9% of individuals harmed themselves on one or more occasions

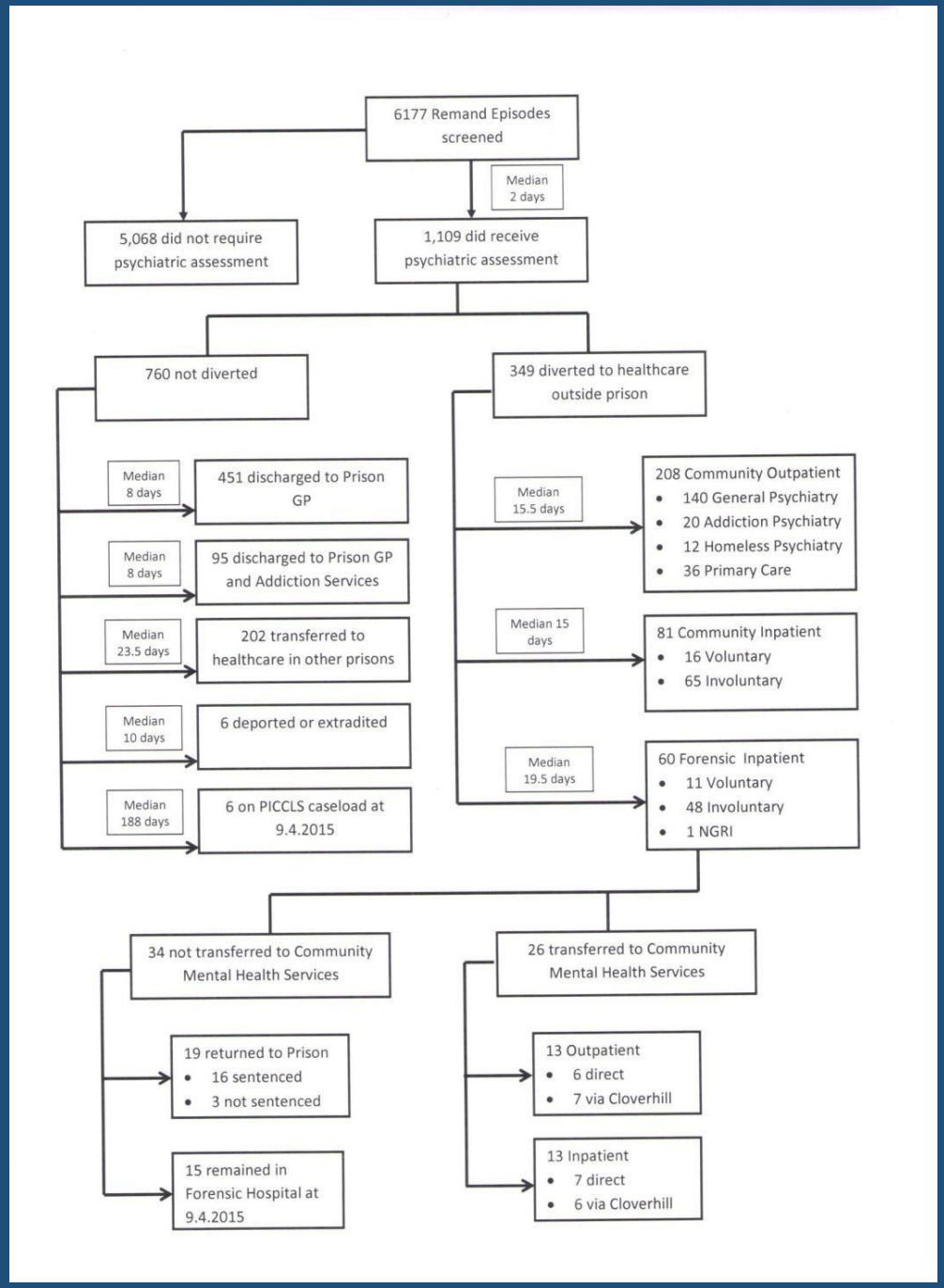
Service Mapping

Aims:

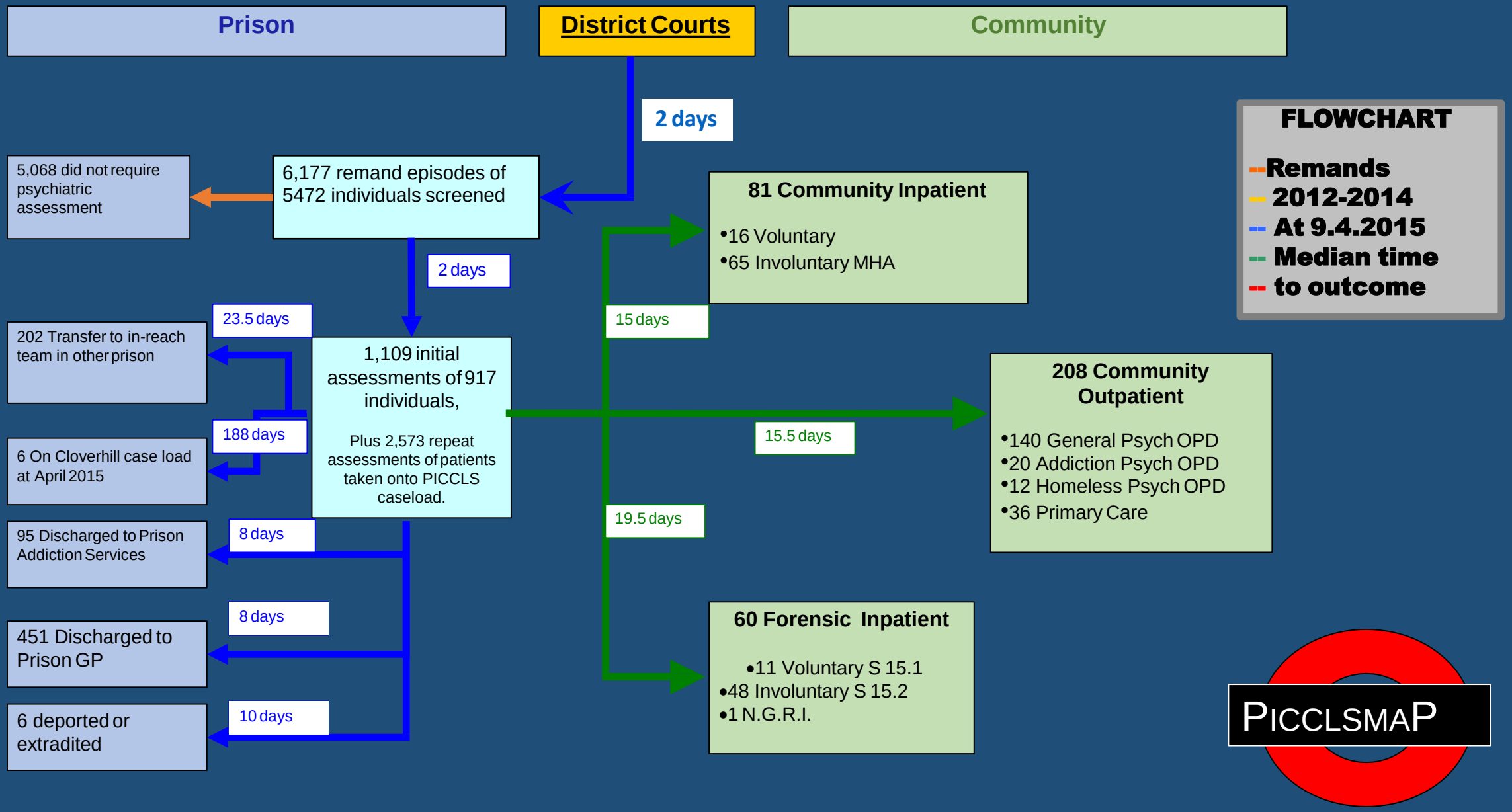
- Can the service ‘map’ the flow of all patients through the system, with discharge outcomes and times to those outcomes?
- Can the service map subsequent outcomes for persons admitted to the ‘parent’ forensic psychiatric unit ?

Method:

- All remands were mapped to show final transfer of care arrangements and the time to assessment and diversion.
- We also recorded subsequent placement arrangements for persons admitted to the Central Mental Hospital to 9th April 2015.


6177 Remand Episodes screened
Median 2 days
5,068 did not require psychiatric assessment
1,109 did receive psychiatric assessment
760 not diverted
349 diverted to healthcare outside prison
Median 8 days
451 discharged to Prison GP
Median 8 days
95 discharged to Prison GP and Addiction Services
Median 23.5 days
202 transferred to healthcare in other prisons
Median 10 days
6 deported or extradited
Median 188 days
6 on PICCLS caseload at 9.4.2015
Median 15.5 days
208 Community Outpatient
140 General Psychiatry
20 Addiction Psychiatry
12 Homeless Psychiatry
36 Primary Care
Median 15 days
81 Community Inpatient
16 Voluntary
65 Involuntary
Median 19.5 days
60 Forensic Inpatient
11 Voluntary
48 Involuntary
1 NGRI
34 not transferred to Community Mental Health Services
26 transferred to Community Mental Health Services
19 returned to Prison
16 sentenced
3 not sentenced
15 remained in Forensic Hospital at 9.4.2015
13 Outpatient
6 direct
7 via Cloverhill
13 Inpatient
7 direct
6 via Cloverhill

Mapping: Counting in, counting out


Prison
District Courts
Community
2 days
5,068 did not require psychiatric assessment
6,177 remand episodes of 5472 individuals screened
2 days
23.5 days
202 Transfer to in-reach team in other prison
188 days
6 On Cloverhill case load at April 2015
1,109 initial assessments of 917 individuals,
Plus 2,573 repeat assessments of patients taken onto PICCLS caseload.
8 days
95 Discharged to Prison Addiction Services
8 days
451 Discharged to Prison GP
10 days
6 deported or extradited
15 days
81 Community Inpatient
•16 Voluntary
•65 Involuntary MHA
15.5 days
208 Community Outpatient
•140 General Psych OPD
•20 Addiction Psych OPD
•12 Homeless Psych OPD
•36 Primary Care
19.5 days
60 Forensic Inpatient
•11 Voluntary S 15.1
•48 Involuntary S 15.2
•1 N.G.R.I.
FLOWCHART
Remands
2012-2014
At 9.4.2015
Median time
to outcome
PICCLSMAP

Domain	Aim
Screening, Identification and caseload description	• How many remands were screened? • How many were assessed and taken onto the team caseload? • Is the caseload over time described in terms of diagnosis, co-morbid conditions and offence type? • Is the caseload described in terms of other factors including homelessness, whether or not known to have a past history of self harm and whether or not known to have previous contact with psychiatric services outside prison. • Is the service identifying persons with the most severe acute symptoms, such as active psychotic symptoms at rates in keeping with expected rates based on the existing epidemiological literature?
Transfer of Care	• How many were diverted from the criminal justice system to mental health treatment settings?
Risk-appropriateness of diversions	• Were diversions to forensic inpatient settings, to general psychiatric inpatient settings and to outpatient settings justifiable in terms of risk and clinical need?
Efficiency and Productivity	• What was the delay from committal screening to first comprehensive assessment? • Were persons identified as actively psychotic seen more rapidly than persons without acute psychotic symptoms? • What was the delay from committal and first assessment to diversion? • How many cases were managed and diversions achieved per whole time equivalent employed?
Self-harm	• How many persons deliberately harmed themselves in custody over the study period?
Service Mapping	• Can the service 'map' the flow of all patients through the system, with outcomes at the point of discharge and times to those outcomes? • Can the service map subsequent outcomes for persons admitted to the 'parent' forensic psychiatric unit ?
Testing	• How did the above activity and outcome data compare with previously published findings for the same service in the six years preceding this three-year study?

Testing:

Aims:

- How did the above activity and outcome data compare with previously published findings for the same service in the six years preceding this three-year study?

- **Method:**
- Compare with findings from 2006-2011 study
- Identification of Psychosis and diversion
- NB Case-mix similar other than increased homelessn

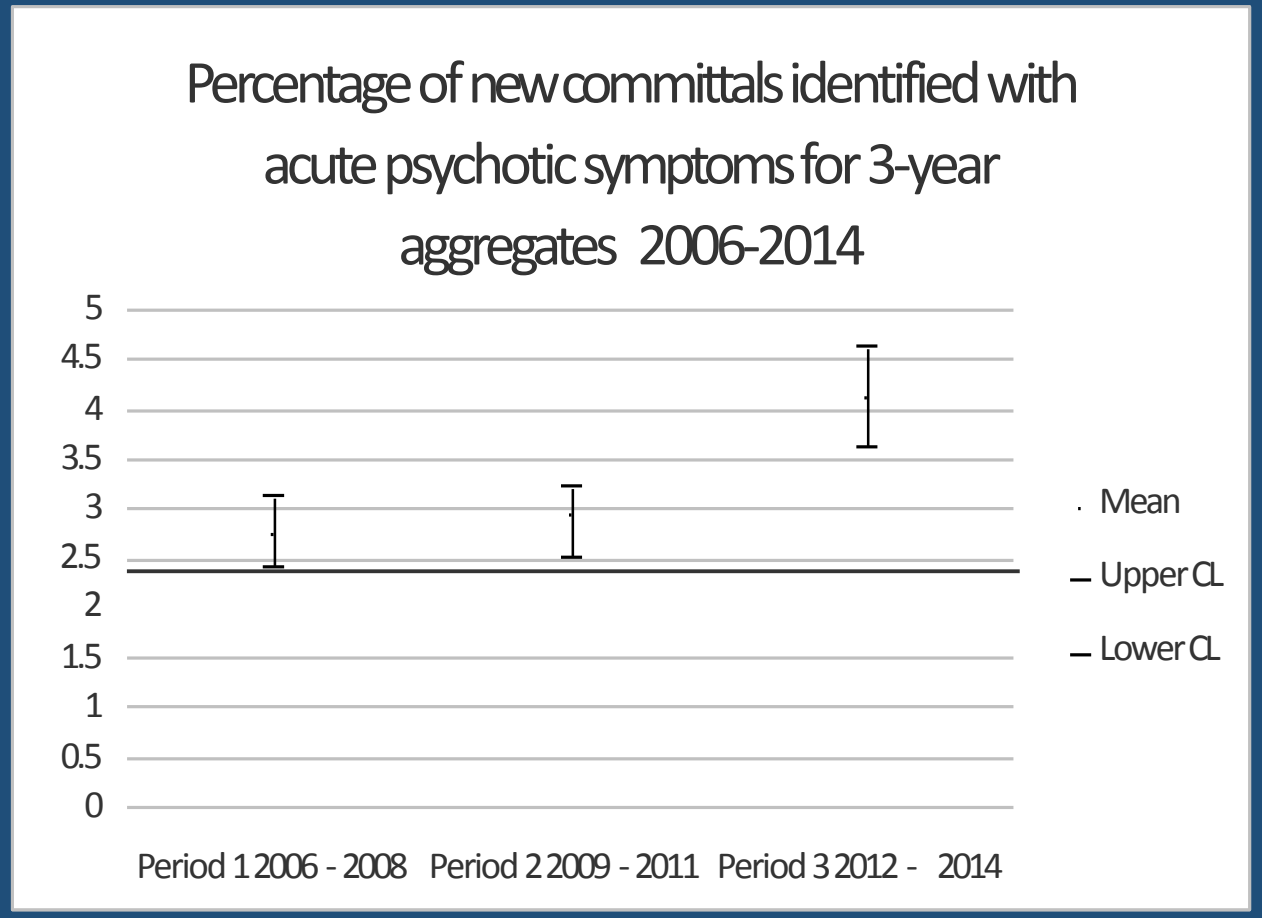
CASE STUDY Open Access

Implementing a court diversion and liaison scheme in a remand prison by systematic screening of new receptions: a 6 year participatory action research study of 20,084 consecutive male remands

Identification and Diversion as proportion of all remands: 2006-2011 and 2012-14

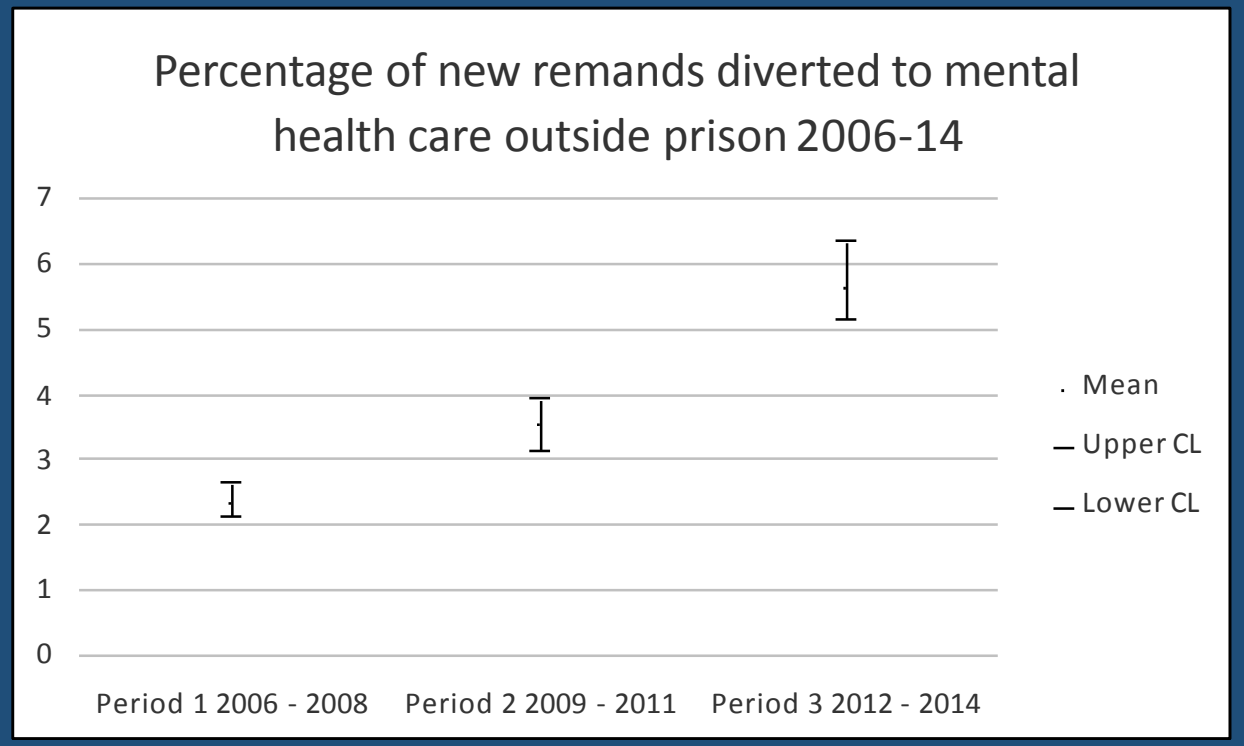
	Total 2006–2011	2012	2013	2014	Total 2012-2014
Number taken onto PICLS caseload	3195	374	375	360	1109
• Percentage (95 % CI)	15.9 % (15.4–16.4)	16.6 % (15.1–18.2)	19.2 % (17.5–21.0)	18.2 % (16.5–20.0)	18.0 % (17.0–18.9)
Number identified as having active psychotic symptoms	561	79	89	83	251
• Percentage (95 % CI)	2.8 % (2.6–3.0)	3.5 % (2.8–4.4)	4.6 % (3.7–5.6)	4.2 % (3.4–5.2)	4.1 % (3.6–4.6)
Number admitted to forensic Hospital	89	18	28	14	60
• Percentage (95 % CI)	0.44 % (0.36–0.55)	0.74 % (0.44–1.17)	1.43 % (0.96–2.07)	0.71 % (0.39–1.19)	0.97 % (0.74–1.25)
Number admitted to General Hospital	164	20	32	29	81
• Percentage (95 % CI)	0.82 % (0.70–0.95)	0.82 % (0.50–1.27)	1.64 % (1.12–2.31)	1.47 (0.99–2.10)	1.31 % (1.04–1.63)
Number diverted to community outpatient facilities	319	58	66	84	208
• Percentage (95 % CI)	1.59 (1.42–1.77)	2.39 % (1.82–3.08)	3.38 (2.62–4.28)	4.25 (3.41–5.24)	3.37 (2.93–3.85)
Number admitted to any hospital (General or forensic)	*252*	*38*	*60/1953*	*43*	*141*
• *Percentage (95 % CI)*	*1.26 % (1.11–1.42)*	*1.57 % (1.11–2.14)*	*3.07 % (2.35–3.94)*	*2.18 (1.58–2.92)*	*2.28 % (1.93–2.69)*
Number diverted to any location (forensic hospital, general hospital or OPD)	*572*	*96*	*126*	*127*	*349*
• *Percentage (95 % CI)*	*2.85 % (2.62–3.09)*	*3.95 (3.21–4.81)*	*6.45 % (5.40–7.63)*	*6.43 (5.39–7.60)*	*5.65 % (5.09–6.26)*

Testing: Identification of Psychosis: 3-year aggregates 2006-2014



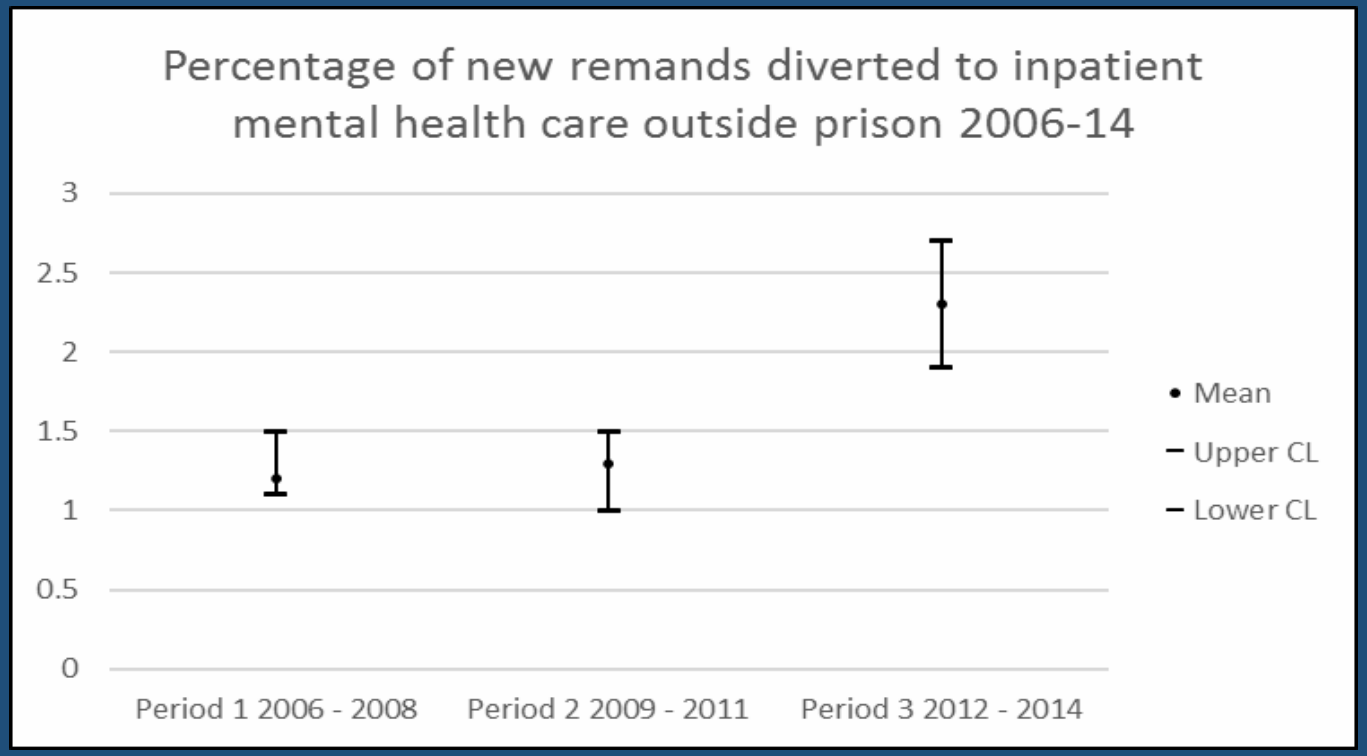
Testing:

All diversions: 3-year aggregates 2006-2014



Testing:

Inpatient diversions: 3-year aggregates 2006-2014



Discussion

Longitudinal data collected as part of normal governance can assist service evaluation. Presented as binary as far as possible.

- Identification of active psychosis within limits expected based on Curtin et al.
- Times to assessment satisfactory. Times to diversion not.
- DUNDRUM Toolkit scores indicate diversions to appropriate levels of security.
- Self harm rates low.
- Counting in, counting out.

Stress may be indicated by evidence of:

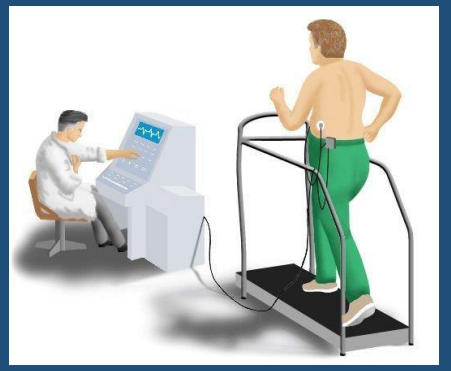
- Missing cases
- Delayed assessment/diversion
- Increasing risk-inappropriate diversions based on DUNDRUM Toolkit scores.

Limitations: Future research

- Male sample only
- Remands only
- Not full national sample
- Recidivism
- Outcomes, not standards
- Changes in general and forensic bed provision over time.
- Arrangements not the same as outcomes

Summary and Conclusions

- 2-stage screening and referral process can enable identification of acute psychosis in keeping with expected rates.
- Identification and risk-appropriate diversion can be sustainably achieved in remand settings.
- Service evaluation model may assist development of outcome standards for other, similar services.



Thank You!

Questions/Comments

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IRISH PRISON SERVICE