

**The impact of Recovery College enrolment on health service use and patient outcomes:
A retrospective matched cohort study drawing on routinely collected data**

Supplementary Material

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Supplementary Methods

Control matching

Student enrolment details (name, date of birth, Recovery College enrolment date) were sent securely from SLaM Recovery College to the National Institute for Health and Care Research (NIHR) Biomedical Research Centre (BRC) at SLaM who manage the CRIS system. Students were identified within CRIS so that the research team could be provided with an anonymised dataset comprising SLaM Recovery College students and all SLaM service users who were 16 years or older at their first attended contact with SLaM services. This dataset contained sociodemographic and clinical variables and was used for control matching. Controls were identified using 1:4 caliper matching without replacement (STATA module '*calipmatch*' <https://github.com/michaelstepner/calipmatch>). The search for matched controls was performed 'greedily', meaning it was possible that some students would end up either unmatched or with less than four matches because all possible matching controls had already been matched with another case.

Table S1: Unit costs for health care resource use

Mental Health resource use from SLAM			
Resource use variable collected	Cost description	Source	Unit cost
Bed days	Acute Mental Health Care [code: 10MHPS]	National Cost Collection 2023/24	£575
Home Treatment Team events	Crisis Resolution Team/Home Treatment Service [code: A02]	National Cost Collection 2023/24	£338
Liaison psychiatry in emergency departments	Psychiatric Liaison Service [code: A11]	National Cost Collection 2023/24	£355
Community Mental Health Team events	Community Mental Health Team – Functional [code: A06]	National Cost Collection 2023/24	£280
Mental Health Act detention	Mental Health Care Cluster Initial Assessment – Psychotic Crisis [code: MHCC14]	National Cost Collection 2020/21	£612*
	Ambulance – see & convey [code: 04]	National Cost Collection 2023/24	£459
General hospital resource use from HES			
Bed days	Weighted average of Admitted Patient Care, Regular Day or Night Admissions	National Cost Collection 2023/24	£400
A&E attendances	Weight average of Emergency Care, all services	National Cost Collection 2023/24	£273
Outpatient appointments	Weight average of Outpatient Care, all services	National Cost Collection 2023/24	£176
A&E=Accident& Emergency; HES=Hospital Episode Statistics; SLAM=South London and Maudsley NHS Foundation Trust *unit cost £533 in 2020/21 prices, inflated to 2023/24 using PSSRU 2024 [https://kar.kent.ac.uk/109563/]			

Table S2: Mental health service use in pre- and post-index date periods presented as both medians and IQRs and means and SDs alongside results from unadjusted and adjusted negative binomial regression models

6 months	Student (N=1 435)		Control (N=4 665)			
	6m pre	6m post	6m pre	6m post		
	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Active SLam days	181 (88 to 184)	182 (86 to 184)	0 (0 to 181)	0 (0 to 182)		
Inpatient admissions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
All bed days	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
HTT events	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Liaison events	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
CMHT events	7 (2 to 14)	6 (1 to 14)	0 (0 to 2)	0 (0 to 2)		
MHA detentions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Active SLam days	136.65 (67.76)	136.84 (72.44)	63.45 (81.54)	62.90 (82.38)		
Inpatient admissions	0.35 (0.85)	0.19 (0.65)	0.09 (0.47)	0.09 (0.45)	0.60 (0.44 to 0.83)*	0.56 (0.41 to 0.76)**
All bed days	13.95 (38.64)	9.26 (34.10)	3.03 (17.46)	2.78 (16.83)	0.73 (0.36 to 1.44)	0.58 (0.30 to 1.11)
HTT events	2.45 (8.48)	1.23 (5.89)	0.46 (3.25)	0.45 (3.21)	0.51 (0.27 to 0.98)*	0.39 (0.21 to 0.74)*
Liaison events	0.43 (1.46)	0.21 (1.06)	0.12 (0.68)	0.11 (0.68)	0.55 (0.37 to 0.82)*	0.43 (0.30 to 0.64)**
CMHT events	10.21 (13.37)	10.08 (15.22)	2.74 (6.22)	2.96 (7.58)	0.91 (0.76 to 1.09)	0.87 (0.73 to 1.03)
MHA detentions	0.26 (0.77)	0.16 (0.96)	0.08 (0.41)	0.08 (0.40)	0.59 (0.42 to 0.85)*	0.51 (0.37 to 0.72)**
12 months	Student (N=1 293)		Control (N=4 197)			
	12m pre	12m post	12m pre	12m post		
	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Active SLam days	341 (125 to 365)	366 (126 to 366)	4 (0 to 305)	0 (0 to 323)		
Inpatient admissions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
All bed days	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
HTT events	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Liaison events	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
CMHT events	11 (3 to 26)	10 (2 to 27)	0 (0 to 5)	0 (0 to 5)		
MHA detentions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Active SLam days	250.19 (136.86)	258.78 (145.01)	123.43 (154.07)	120.12 (157.3)		
Inpatient admissions	0.52 (1.26)	0.30 (0.96)	0.15 (0.66)	0.13 (0.62)	0.66 (0.49 to 0.91)*	0.60 (0.44 to 0.81)*
All bed days	23.21 (66.57)	16.65 (60.08)	5.43 (29.70)	4.90 (28.51)	0.79 (0.42 to 1.51)	0.57 (0.31 to 1.06)
HTT events	3.44 (10.10)	1.99 (8.18)	0.87 (5.05)	0.78 (4.48)	0.64 (0.35 to 1.15)	0.49 (0.28 to 0.88)*
Liaison events	0.65 (1.90)	0.39 (1.62)	0.23 (0.98)	0.19 (1.02)	0.72 (0.51 to 1.02)	0.62 (0.45 to 0.87)*
CMHT events	17.90 (23.41)	18.32 (26.29)	5.35 (11.41)	5.54 (12.72)	0.99 (0.82 to 1.19)	0.90 (0.75 to 1.08)
MHA detentions	0.35 (1.03)	0.26 (1.34)	0.12 (0.52)	0.11 (0.50)	0.75 (0.53 to 1.06)	0.69 (0.49 to 0.95)*
5 years	Student (N=206)		Control (N=670)			
	5y pre	5y post	5y pre	5y post		
	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Active SLam days	1075 (352 to 1775)	937 (372 to 1827)	429.5 (54 to 1173)	154 (0 to 1016)		
Inpatient admissions	0 (0 to 1)	0 (0 to 0)	0 (0 to 1)	0 (0 to 0)		
All bed days	0 (0 to 24)	0 (0 to 0)	0 (0 to 3)	0 (0 to 0)		
HTT events	0 (0 to 9)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Liaison events	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)	0 (0 to 0)		

CMHT events	41·5 (10 to 94)	34 (9 to 84)	8 (1 to 42)	2 (0 to 24)		
MHA detentions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Active SLAM days	1030·70 (662·09)	988·79 (668·45)	657·58 (654·99)	546·13 (686·59)		
Inpatient admissions	1·43 (3·23)	0·98 (2·92)	0·94 (2·58)	0·48 (1·74)	1·35 (0·72 to 2·56)	1·27 (0·72 to 2·25)
Bed days	62·00 (209·24)	36·31 (141·85)	25·26 (86·08)	19·21 (86·77)	0·77 (0·26 to 2·28)	0·54 (0·19 to 1·54)
HTT events	9·09 (19·84)	6·13 (17·73)	4·83 (17·30)	3·61 (14·77)	0·90 (0·34 to 2·42)	0·70 (0·27 to 1·79)
Liaison psychiatry	1·49 (3·59)	1·32 (3·93)	1·09 (3·58)	0·84 (4·12)	1·14 (0·61 to 2·14)	1·03 (0·57 to 1·85)
CMHT events	71·81 (108·00)	58·86 (74·69)	30·82 (53·80)	25·95 (54·79)	0·97 (0·64 to 1·48)	1·06 (0·71 to 1·59)
MHA detentions	0·77 (2·16)	0·62 (1·92)	0·57 (1·69)	0·35 (1·28)	1·29 (0·62 to 2·70)	1·11 (0·58 to 2·14)
CI=confidence interval; CMHT=Community Mental Health Teams; HTT=Home Treatment Team; IQR=interquartile range; IRR=incident rate ratio; MHA=Mental Health Act; SD=standard deviation; SLAM=South London and Maudsley NHS Foundation Trust *p<0·05, **p<0·001 The IRRs presented are coefficients of the interaction term – treatment*time – for each follow-up period. Adjusted models included ethnicity, smoking status, and F6 diagnosis.						

Table S3: Impact of Recovery College enrolment on mental health service costs							
	Student N=1 435		Control N=4 665				
	Mean (SD)		Mean (SD)				
Costs (£)	6 months pre	6 months post	6 months pre	6 months post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	7990·23 (22168·78)	5322·04 (19567·42)	1733·2 (10005·8)	1586·03 (9644·47)	0·73 (0·52 to 1·02)	0·56 (0·35 to 0·90)*	-3277·61 (-5878·24 to -676·97)*
HTT events	830·13 (2862·33)	426·07 (2005·21)	153·89 (1094·3)	150·72 (1081·64)	0·51 (0·34 to 0·78)**	0·38 (0·24 to 0·61)**	-587·17 (-823·02 to -351·32)**
Liaison psychiatry	158·93 (548·37)	77·25 (377·39)	43·85 (239·47)	39·08 (240·79)	0·55 (0·38 to 0·82)**	0·41 (0·28 to 0·59)**	-97·61 (-130·71 to -64·51)**
CMHT events	2857·44 (3751·58)	2823·87 (4259·72)	765·41 (1740·03)	824·97 (2116·38)	0·91 (0·79 to 1·05)	0·87 (0·74 to 1·01)	-218·63 (-586·90 to 149·64)
MHA detentions	275·36 (826·91)	170·71 (1028·31)	82·79 (433·43)	85·75 (422·86)	0·60 (0·40 to 0·89)*	0·40 (0·24 to 0·67)**	-175·00 (-264·43 to -85·58)**
Total	12112·07 (23587·49)	8819·93 (20868·63)	2779·13 (11099·66)	2686·55 (10864·24)	0·75 (0·60 to 0·95)*	0·66 (0·52 to 0·83)*	-3828·27 (-5630·55 to -2025·99)*
	Student N=1 293		Control N=4 197				
	Mean (SD)		Mean (SD)				
Costs (£)	12 months pre	12 months post	12 months pre	12 months post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	12964 (37428·02)	8949·76 (33063·67)	3103·48 (16973·74)	2705·17 (15829·7)	0·80 (0·56 to 1·13)	0·56 (0·36 to 0·87)*	-4461·51 (-8282·94 to -640·09)*
HTT events	1133·46 (3309·55)	665·69 (2703·69)	282·51 (1650·56)	253·86 (1486·91)	0·64 (0·44 to 0·92)*	0·49 (0·33 to 0·74)*	-683·12 (-984·11 to -382·14)*
Liaison psychiatry	246·51 (783·06)	138·26 (566·89)	79·38 (342·23)	67·51 (368·44)	0·73 (0·51 to 1·03)	0·60 (0·43 to 0·84)*	-99·58 (-144·81 to -54·35)*
CMHT events	4995·95 (6461·07)	4947·25 (7113·11)	1471·85 (3144·78)	1512·69 (3485·02)	0·99 (0·86 to 1·14)	0·90 (0·77 to 1·05)	-235·61 (-919·39 to 448·18)
MHA detentions	376·3 (1091·18)	259·77 (1374·51)	126·58 (573·32)	121·56 (539·76)	0·75 (0·51 to 1·10)	0·64 (0·40 to 1·02)	-132·68 (-256·47 to -8·89)
Total	19716·22 (39581·51)	14960·73 (34964·61)	5063·79 (18736·86)	4660·79 (17688·04)	0·83 (0·66 to 1·05)	0·70 (0·56 to 0·88)*	-5028·40 (-8223·23 to -1833·57)*
	Student N=206		Control N=670				
	Mean (SD)		Mean (SD)				
Costs (£)	5 years pre	5 years post	5 years pre	5 years post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	36337·37 (107749·98)	18573·74 (74166·2)	15986·37 (64921·71)	7915·56 (40726·77)	0·77 (0·34 to 1·75)	0·54 (0·20 to 1·47)	-11207·53 (-32732·37 to 10317·31)
HTT events	2822·52 (6549·97)	1665·17 (5456·19)	1309·32 (5116·84)	698·67 (3265·58)	0·90 (0·47 to 1·72)	0·69 (0·31 to 1·53)	-1439·75 (-3650·74 to 771·25)
Liaison psychiatry	636·69 (1935·28)	389·44 (1726·08)	297·77 (955·53)	204·56 (917·23)	1·14 (0·58 to 2·27)	1·00 (0·54 to 1·84)	-4·22 (-251·55 to 243·12)
CMHT events	16116·78 (22409)	11540·93 (15419·12)	6886·77 (12739·16)	4335·17 (9923·65)	0·97 (0·69 to 1·37)	1·07 (0·74 to 1·54)	-756·75 (-7340·99 to 5827·50)
MHA detentions	1030·18 (2806·08)	586·34 (2922·25)	513·38 (1673·99)	280·07 (1068·47)	1·29 (0·66 to 2·54)	0·97 (0·39 to 2·43)	-19·38 (-732·64 to 693·88)
Total	56943·54 (116602·67)	32755·62 (79840·41)	24993·61 (72900·16)	13434·03 (46904)	0·86 (0·51 to 1·44)	0·80 (0·49 to 1·33)	-12614·60 (-35365·96 to 10136·75)
CI=confidence interval; CMHT=Community Mental Health Teams; HTT=Home Treatment Team; IRR=incident rate ratio; MHA=Mental Health Act; SD=standard deviation							
*p<0·05, **p<0·001							
The IRRs presented are exponentiated coefficients of the interaction term – treatment*time – for each follow-up period· Estimated models at GLM with Gamma family and log link· Costs in £ at 2022/23 prices· Adjusted models included ethnicity, smoking status, and F6 diagnosis·							

Table S4: Other all-cause hospital use in pre- and post-index date periods presented as both medians and IQRs and means and SDs alongside results from unadjusted and adjusted negative binomial regression models

	Student (N=1 193)		Control (N=3 508)			
	6m pre	6m post	6m pre	6m post		
6 months	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Inpatient admissions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
<i>Emergency admissions</i>	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
<i>Elective admissions</i>	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Bed days	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Emergency department attendances	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)		
Outpatient appointments	0 (0 to 2)	0 (0 to 2)	0 (0 to 1·5)	0 (0 to 2)		
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Inpatient admissions	0·27 (1·94)	0·26 (2·39)	0·28 (1·59)	0·30 (1·66)	0·91 (0·67 to 1·23)	0·90 (0·66 to 1·21)
<i>Emergency admissions</i>	0·11 (0·41)	0·09 (0·38)	0·11 (0·45)	0·12 (0·55)	0·80 (0·54 to 1·17)	0·78 (0·53 to 1·14)
<i>Elective admissions</i>	0·16 (1·90)	0·17 (2·29)	0·13 (1·47)	0·15 (1·52)	0·96 (0·61 to 1·50)	0·97 (0·62 to 1·51)
Bed days	1·08 (5·64)	0·76 (4·58)	2·09 (12·45)	2·66 (14·94)	0·55 (0·36 to 0·84)*	0·53 (0·35 to 0·81)*
Emergency department attendances	0·84 (1·92)	0·64 (1·64)	0·69 (2·08)	0·69 (3·25)	0·75 (0·61 to 0·93)*	0·74 (0·60 to 0·91)*
Outpatient appointments	1·55 (3·79)	1·61 (3·77)	1·54 (4·35)	1·61 (4·70)	0·99 (0·80 to 1·22)	0·99 (0·80 to 1·22)
	Student (N=1 072)		Control (N=3 158)			
	12m pre	12m post	12m pre	12m post		
12 months	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Inpatient admissions	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
<i>Emergency admissions</i>	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
<i>Elective admissions</i>	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)		
Bed days	0 (0 to 1)	0 (0 to 0)	0 (0 to 1)	0 (0 to 1)		
Emergency department attendances	1 (0 to 2)	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)		
Outpatient appointments	0 (0 to 3)	1 (0 to 3·5)	0 (0 to 3)	0 (0 to 3)		
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Inpatient admissions	0·52 (3·58)	0·52 (4·89)	0·60 (3·32)	0·57 (3·23)	1·06 (0·81 to 1·38)	1·06 (0·81 to 1·38)
<i>Emergency admissions</i>	0·19 (0·64)	0·16 (0·64)	0·24 (0·85)	0·21 (0·81)	0·93 (0·66 to 1·30)	0·92 (0·66 to 1·28)
<i>Elective admissions</i>	0·32 (3·51)	0·35 (4·74)	0·29 (3·13)	0·31 (3·06)	1·02 (0·70 to 1·49)	1·02 (0·70 to 1·49)
Bed days	2·09 (11·39)	1·59 (9·25)	4·23 (23·37)	4·80 (26·46)	0·67 (0·46 to 0·96)*	0·66 (0·46 to 0·96)*
Emergency department attendances	1·42 (2·58)	1·19 (2·71)	1·34 (4·08)	1·26 (4·09)	0·89 (0·74 to 1·08)	0·90 (0·75 to 1·09)
Outpatient appointments	2·88 (5·89)	3·35 (7·38)	3·03 (7·78)	3·08 (7·46)	1·14 (0·94 to 1·40)	1·14 (0·94 to 1·40)
	Student (N=1 80)		Control (N=529)			
	5y pre	5y post	5y pre	5y post		
5 years	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>		
Inpatient admissions	0 (0 to 2)	1 (0 to 2)	1 (0 to 3)	1 (0 to 3)		
<i>Emergency admissions</i>	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)		
<i>Elective admissions</i>	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)	0 (0 to 1)		
Bed days	1 (0 to 5)	1 (0 to 4)	2 (0 to 7)	1 (0 to 8)		
Emergency department attendances	3 (1 to 5)	2 (1 to 6)	3 (1 to 6)	2 (0 to 5)		
Outpatient appointments	5 (1·5 to 15)	6·5 (2 to 21·5)	5 (1 to 15)	6 (1 to 17)		

	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
Inpatient admissions	1·71 (3·22)	1·79 (2·89)	2·50 (5·56)	2·82 (11·34)	0·93 (0·61 to 1·42)	0·96 (0·63 to 1·45)
<i>Emergency admissions</i>	0·81 (1·81)	0·67 (1·62)	1·14 (2·80)	1·04 (5·06)	0·90 (0·53 to 1·52)	0·96 (0·57 to 1·61)
<i>Elective admissions</i>	0·85 (2·36)	1·08 (2·25)	1·09 (4·24)	1·55 (9·64)	0·89 (0·51 to 1·55)	0·89 (0·51 to 1·55)
Bed days	6·18 (13·55)	6·67 (23·79)	18·21 (99·32)	20·44 (103·10)	0·96 (0·54 to 1·71)	0·99 (0·56 to 1·77)
Emergency department attendances	4·53 (6·78)	4·58 (6·29)	6·34 (16·91)	6·20 (24·79)	1·03 (0·72 to 1·48)	1·07 (0·75 to 1·52)
Outpatient appointments	11·99 (18·66)	16·95 (30·56)	11·60 (19·03)	13·85 (21·80)	1·18 (0·83 to 1·69)	1·19 (0·83 to 1·70)
CI=confidence interval; IQR=interquartile range; IRR=incident rate ratio; SD=standard deviation *p<0·05, **p<0·001 The IRRs presented are coefficients of the interaction term – treatment*time – for each follow-up period. Adjusted models included F6 diagnosis.						

Table S5: Impact of Recovery College enrolment on other all-cause hospital use costs							
	Student (N=1 193)		Control (N=3 508)				
	Mean (SD)		Mean (SD)				
Costs (£)	6 months pre	6 months post	6 months pre	6 months post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	431·31 (2247·45)	323·4 (1883·82)	875·13 (5168·25)	1116·49 (6155·53)	0·55 (0·32 to 0·93)*	0·53 (0·31 to 0·91)*	-376·36 (-687·93 to -64·78)*
Emergency department attendances	231·63 (525·74)	176·17 (449·34)	187·43 (566·64)	188·51 (883·46)	0·75 (0·58 to 0·99)*	0·74 (0·56 to 0·98)*	-58·89 (-111·90 to -5·88)*
Outpatient appointments	273·16 (665·03)	282·24 (662·47)	271·89 (764·7)	283·49 (826·49)	0·99 (0·78 to 1·25)	0·99 (0·78 to 1·25)	-3·04 (-68·62 to 62·54)
Total	936·1 (2726·05)	781·81 (2268·17)	1334·46 (5517·95)	1588·5 (6614·2)	0·68 (0·50 to 0·93)*	0·67 (0·49 to 0·91)*	-443·04 (-792·03 to -94·04)*
	Student (N=1 072)		Control (N=3 158)				
	Mean (SD)		Mean (SD)				
Costs (£)	12 months pre	12 months post	12 months pre	12 months post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	905·58 (4604·51)	654·12 (3670·28)	1794·74 (9824·16)	2063·14 (10850·8)	0·67 (0·39 to 1·16)	0·66 (0·38 to 1·15)	-435·91 (-1044·06 to 172·24)
Emergency department attendances	420·07 (926·47)	327·55 (747·48)	376·56 (1165·81)	356·79 (1354·31)	0·89 (0·71 to 1·13)	0·90 (0·72 to 1·13)	-33·61 (-112·31 to 45·10)
Outpatient appointments	518·03 (1041·16)	563·32 (1247·17)	542·39 (1350·92)	537·06 (1293·06)	1·15 (0·92 to 1·42)	1·14 (0·92 to 1·42)	74·27 (-46·41 to 194·95)
Total	1843·68 (5226·28)	1544·99 (4272·01)	2713·69 (10550·6)	2956·99 (11553·13)	0·83 (0·61 to 1·13)	0·82 (0·59 to 1·12)	-412·43 (-1084·95 to 260·09)
	Student (N=180)		Control (N=529)				
	Mean (SD)		Mean (SD)				
Costs (£)	5 years pre	5 years post	5 years pre	5 years post	Unadjusted IRR (95% CI)	Adjusted IRR (95% CI)	Marginal Effects £ (95% CI)
Bed days	5129·73 (25631·66)	3448·46 (19543·12)	8163·51 (35179·73)	6248·6 (31556·31)	0·96 (0·40 to 2·32)	0·99 (0·42 to 2·35)	-465·50 (-5465·83 to 4534·83)
Emergency department attendances	1620·95 (2999·59)	1055·86 (3129·57)	1701·71 (4441·47)	1106·83 (4095·63)	1·03 (0·62 to 1·71)	1·08 (0·63 to 1·85)	101·46 (-750·05 to 952·97)
Outpatient appointments	2141·9 (3358·26)	1799·86 (3480·09)	2321·21 (4674·46)	1707·92 (3373·6)	1·18 (0·80 to 1·76)	1·19 (0·79 to 1·78)	480·37 (-545·97 to 1506·71)
Total	8892·57 (27447·88)	6304·18 (21609·11)	12186·43 (37309·43)	9063·35 (33685·73)	1·07 (0·61 to 1·86)	1·10 (0·64 to 1·90)	112·80 (-5364·83 to 5590·43)
CI=confidence interval; IRR=incident rate ratio; SD=standard deviation *p<0·05, **p<0·001 The IRRs presented are exponentiated coefficients of the interaction term – treatment*time – for each follow-up period. Estimated models at GLM with Gamma family and log link. Costs in £ at 2023/24 prices. Adjusted models included F6 diagnosis.							

Table S6· Impact of Recovery College enrolment on HoNOS scores: Before-and-after study in students only									
	6 months (N=475)			12 months (N=793)			5 years (N=979)		
	<i>Pre-index date</i>	<i>Post--index date</i>	<i>Change over time</i>	<i>Pre-index date</i>	<i>Post--index date</i>	<i>Change over time</i>	<i>Pre-index date</i>	<i>Post--index date</i>	<i>Change over time</i>
<i>HoNOS item</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>IRR or OR (95% CI)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>OR (95% CI)</i>	<i>Median (IQR)</i>	<i>Median (IQR)</i>	<i>OR (95% CI)</i>
1. Agitated behaviour	0 (0 to 1)	0 (0 to 1)	*OR=0·70 (0·55 to 0·91)	0 (0 to 1)	0 (0 to 1)	*OR=0·75 (0·62 to 0·91)	0 (0 to 1)	0 (0 to 1)	*OR=0·76 (0·63 to 0·91)
2. Self-injury	0 (0 to 1)	0 (0 to 0)	OR=0·82 (0·61 to 1·09)	0 (0 to 1)	0 (0 to 0)	*OR=0·76 (0·61 to 0·96)	0 (0 to 1)	0 (0 to 0)	**OR=0·63 (0·51 to 0·78)
3. Problem drinking or drugs	0 (0 to 1)	0 (0 to 1)	OR=1·02 (0·77 to 1·36)	0 (0 to 1)	0 (0 to 1)	OR=0·96 (0·77 to 1·20)	0 (0 to 1)	0 (0 to 1)	OR=0·93 (0·77 to 1·14)
4. Cognitive problems	0 (0 to 1)	0 (0 to 1)	OR=0·91 (0·69 to 1·20)	0 (0 to 1)	0 (0 to 1)	OR=0·97 (0·79 to 1·19)	0 (0 to 1)	0 (0 to 1)	OR=0·96 (0·80 to 1·15)
5. Physical illness	0 (0 to 1)	0 (0 to 1)	OR=1·10 (0·86 to 1·40)	0 (0 to 1)	0 (0 to 2)	OR=1·19 (0·99 to 1·44)	0 (0 to 1)	0 (0 to 2)	*OR=1·25 (1·06 to 1·48)
6. Hallucinations	0 (0 to 2)	0 (0 to 1)	*OR=0·75 (0·59 to 0·97)	0 (0 to 2)	0 (0 to 1)	*OR=0·81 (0·66 to 0·98)	0 (0 to 2)	0 (0 to 1)	*OR=0·78 (0·66 to 0·93)
7. Depressed mood	1·5 (1 to 2)	1 (1 to 2)	*OR=0·74 (0·59 to 0·93)	1 (1 to 2)	1 (1 to 2)	OR=0·87 (0·73 to 1·04)	1 (1 to 2)	1 (1 to 2)	*OR=0·83 (0·71 to 0·98)
8. Other mental problems	2 (1 to 3)	2 (1 to 2)	*OR=0·76 (0·60 to 0·95)	2 (1 to 3)	2 (1 to 2)	*OR=0·77 (0·65 to 0·92)	2 (1 to 3)	2 (1 to 3)	*OR=0·84 (0·72 to 0·99)
9. Relationship problems	1 (0 to 2)	1 (0 to 2)	OR=0·93 (0·74 to 1·16)	1 (0 to 2)	1 (0 to 2)	OR=0·91 (0·77 to 1·09)	1 (0 to 2)	1 (0 to 2)	OR=0·89 (0·76 to 1·04)
10. Daily living problems	1 (0 to 2)	0 (0 to 1)	OR=0·86 (0·67 to 1·09)	1 (0 to 2)	0 (0 to 1)	OR=0·89 (0·74 to 1·07)	1 (0 to 1)	0 (0 to 1)	OR=0·91 (0·77 to 1·08)
11. Living conditions	0 (0 to 1)	0 (0 to 1)	OR=0·90 (0·69 to 1·16)	0 (0 to 1)	0 (0 to 1)	OR=0·93 (0·76 to 1·14)	0 (0 to 1)	0 (0 to 1)	OR=0·96 (0·80 to 1·16)
12. Occupational problems	1 (0 to 2)	1 (0 to 2)	OR=0·81 (0·64 to 1·02)	1 (0 to 2)	1 (0 to 2)	*OR=0·79 (0·66 to 0·95)	1 (0 to 2)	1 (0 to 2)	OR=0·88 (0·75 to 1·04)
HoNOS=Health of the Nation Outcome Scale; IQR=interquartile range; IRR=incident rate ratio; OR=odds ratio *p<0·05, **p<0·001 The overall change in HoNOS scores was evaluated using negative binomial regression, accounting for data overdispersion· Individual HoNOS items were examined through ordinal regression to appropriately reflect their ordinal scale·									

Table S7: Impact of Recovery College enrolment on mental health service use: Before-and-after study in student group			
	6 months Student N=1 435	12 months Student N=1 293	5 years Student N=206
	<i>IRR (95% CI)</i>	<i>IRR (95% CI)</i>	<i>IRR (95% CI)</i>
Inpatient admissions	0·55 (0·45 to 0·68)**	0·58 (0·47 to 0·72)**	0·69 (0·42 to 1·14)
Bed days	0·66 (0·44 to 1·00)	0·72 (0·48 to 1·07)	0·59 (0·25 to 1·35)
HTT events	0·50 (0·34 to 0·74)*	0·58 (0·40 to 0·83)*	0·67 (0·33 to 1·37)
Liaison psychiatry	0·49 (0·37 to 0·65)**	0·60 (0·47 to 0·77)**	0·89 (0·55 to 1·44)
CMHT events	0·99 (0·89 to 1·09)	1·02 (0·92 to 1·14)	0·82 (0·63 to 1·06)
MHA detentions	0·61 (0·48 to 0·79)**	0·73 (0·57 to 0·94)*	0·80 (0·42 to 1·50)
CI=confidence interval; CMHT=Community Mental Health Team; HTT= Home Treatment Team; IRR=incident rate ratio; MHA=Mental Health Act			
*p<0·05, **p<0·001			

Table S8: Impact of Recovery College enrolment on other all-cause hospital use: Before-and-after study in student group			
	6 months Student N=1 193	12 months Student N=1 072	5 years Student N=180
	<i>IRR (95% CI)</i>	<i>IRR (95% CI)</i>	<i>IRR (95% CI)</i>
Inpatient admissions	0·97 (0·75 to 1·26)	1·00 (0·79 to 1·27)	1·05 (0·76 to 1·46)
Emergency admissions	0·84 (0·61 to 1·15)	0·81 (0·61 to 1·08)	1·08 (0·70 to 1·67)
Elective admissions	1·08 (0·74 to 1·58)	1·11 (0·80 to 1·54)	0·82 (0·53 to 1·28)
Bed days	0·70 (0·50 to 0·98)*	0·76 (0·56 to 1·02)	1·27 (0·84 to 1·91)
Emergency department attendances	0·76 (0·64 to 0·90)*	0·83 (0·72 to 0·97)*	1·23 (0·87 to 1·75)
Outpatient appointments	1·03 (0·87 to 1·22)	1·16 (0·98 to 1·37)	1·41 (1·05 to 1·90)*
CI=confidence interval; IRR=incident rate ratio			
*p<0·05, **p<0·001			