

National Maternity and Perinatal Audit

Evaluating Hospital and Crisis Care for Perinatal Mental Health

Based on women and birthing people who gave birth between 1 April 2018 and 31 March 2019 in England

Results Tables

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Introduction

In the [Evaluating Hospital and Crisis Care for Perinatal Mental Health](#) report, we describe the results of a feasibility study using linked existing electronic national datasets to evaluate perinatal mental health services in England. The report used maternity care episode records for all women and birthing people who gave birth in NHS acute hospitals in England between 1 April 2018 and 31 March 2019 available in the Hospital Episode Statistics Admitted Patient Care (HES APC) database. The maternity records were linked to records available in the Mental Health Services Data Set (MHSDS), and its precursor datasets, which include information about inpatient admissions and other secondary care episodes that took place within NHS mental health care providers between 1 April 2006 and 31 March 2019.

The analyses using the linked dataset consisted of four parts:

- We describe the characteristics of women and birthing people according to whether they had contact with secondary mental health services prior to pregnancy.
- We describe secondary mental health services use during pregnancy and in the six months following childbirth for women and birthing people, according to whether they had contact with secondary mental health services prior to pregnancy.
- Groupings of mental health diagnoses are used to describe mental health conditions for women and birthing people with respect to their prognosis and treatment. We describe the main diagnostic groupings for women and birthing people with mental health conditions prior to and during the perinatal period.
- As an illustration of the clinical relevance of linking maternity and mental health datasets, we describe key pregnancy outcomes for all women and birthing people, and their babies, according to whether they had contact with secondary mental health services prior to pregnancy.

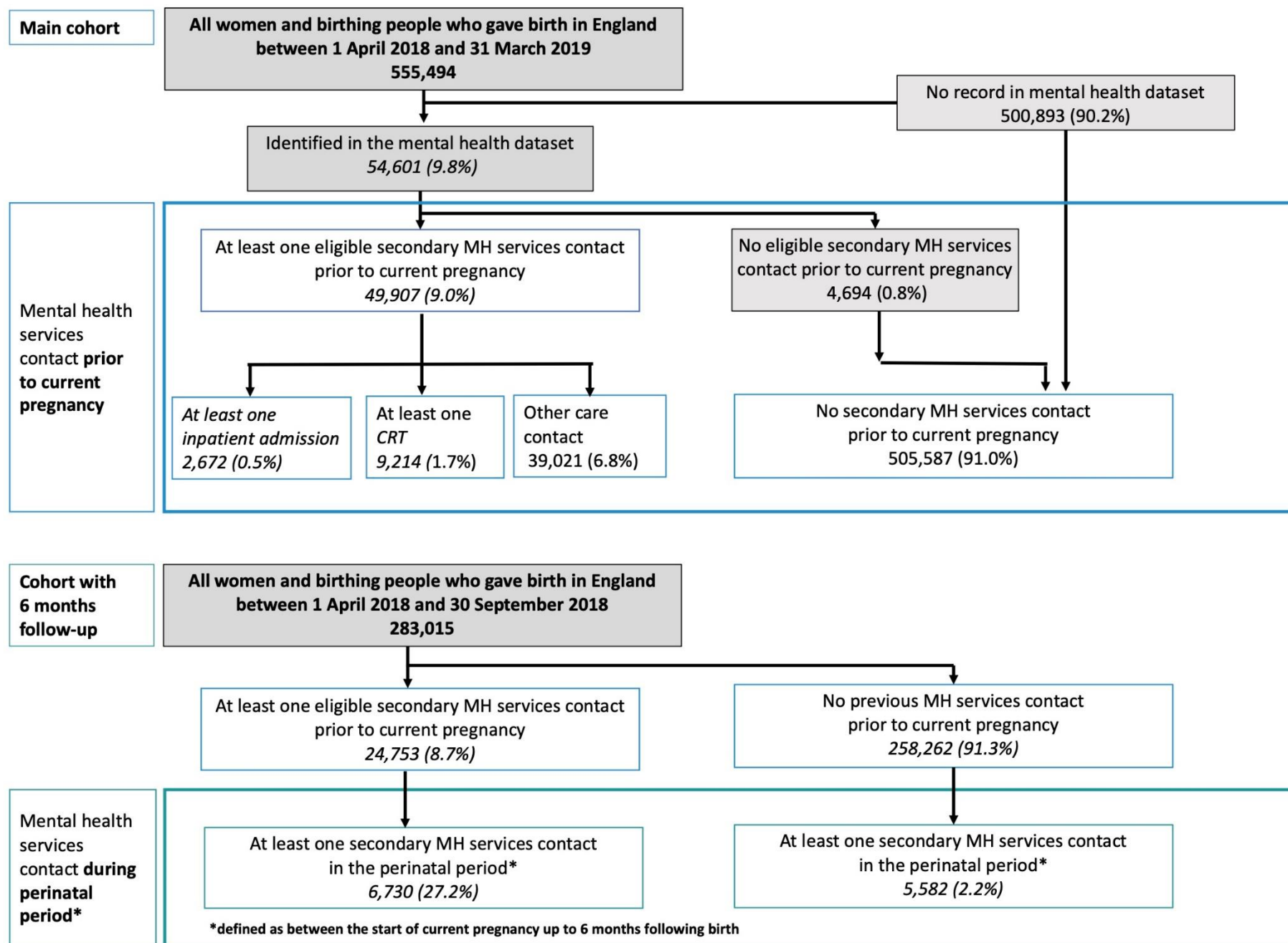
Analyses describing mental health services use and diagnoses prior to current pregnancy and key pregnancy outcomes include all women and birthing people who gave birth between 1 April 2018 and 31 March 2019. For the analysis of mental health services use and diagnosis in the perinatal period, due to availability of MHSDS until the end of 31 March 2019, we restricted the cohort to women and birthing people with at least six months of postnatal follow-up in the mental health data (giving birth in the first half of the study period between 1 April 2018 and 30 September 2018). We report on the perinatal mental services use during pregnancy and up to six months following childbirth.

This document provides the detailed results reported in the [Evaluating Hospital and Crisis Care for Perinatal Mental Health](#) report.

Characteristics of women and birthing people with and without a previous secondary mental health services contact

We identified 555 494 women and birthing people who gave birth in England between 1 April 2018 and 31 March 2019 in Hospital Episode Statistics (HES) (Figure 1). The linkage between HES and the Mental Health Services Data Set (MHSDS) and its precursor datasets, identified 49 907 women and birthing people (9.0%) who had a previous secondary mental health services contact between 1 April 2006 and the start of their pregnancy. Women and birthing people with a previous mental health services contact were on average younger, more likely to be from a white ethnic group, more likely to be multiparous, and more often from more socioeconomically deprived areas (Table 1).

Of the 49 907 women and birthing people with a previous mental health services contact, the highest level of mental health services contact prior to pregnancy was an inpatient admission for 2 672 (5.4%) women and birthing people, a crisis resolution team (CRT) contact for 9 214 (18.5%) and other mental health services contact for 38 021 (76.2%). Of those with a previous mental health services contact, 15 289 women and birthing people (30.6%) had the most recent secondary mental health services contact in the year preceding the current pregnancy and for 15 087 (30.2%) this contact was more than 5 years before the current pregnancy (Table 2).



MH = mental health, CRT = Crisis Resolution Team

Figure 1: Population flow diagram

Table 1: Characteristics of 555 494 women and birthing people with and without previous secondary level mental health (MH) services contact

	No previous MH services contact		Total with any previous MH services contact		Previous contact by type					
					MH Services Inpatient Admission		CRT	Other MH services contact ^a		
	n	%	n	%	n	%	n	%	n	%
Total women and birthing people	505 587		49 907		2 672	5.4	9 214	18.5	38 021	76.1
Age group										
less than 25	81 754	16.2	13 043	26.1	502	18.8	2 575	28.0	9 966	26.2
25-29	140 003	27.7	14 776	29.6	769	28.8	2 977	32.3	11 030	29.0
30 -34	167 857	33.2	12 946	26.0	785	29.4	2 214	24.0	9 947	26.2
35 40	95 459	18.9	7 299	14.6	488	18.2	1 150	12.5	5 661	14.9
40+	20 514	4.0	1 842	3.7	128	4.8	298	3.2	1 416	3.7
Maternal Ethnic Group										
White	340 377	76.0	41 298	88.4	2 019	80.9	7 677	88.0	31 602	89.0
South Asian	54 922	12.2	2 280	4.9	175	7.0	427	4.9	1 678	4.7
Black	21 933	4.9	1 298	2.8	172	6.9	247	2.8	879	2.5
Mixed	8 834	2.0	1 017	2.2	81	3.2	190	2.2	746	2.1
Other	21 832	4.9	828	1.8	48	1.9	182	2.1	598	1.7
Missing (% of total)	57 689	(11.4)	3 186	(6.4)	177	(6.6)	491	(5.3)	2 518	(6.6)
IMD Quintile										
1 Least Deprived	77 112	15.4	5 305	10.7	225	8.5	783	8.5	4 297	11.3
2	86 628	17.3	6 987	14.0	330	12.4	1 155	12.6	5 502	14.5
3	97 673	19.4	8 698	17.5	422	15.9	1 509	16.5	6 767	17.9
4	111 354	22.2	11 444	23.0	629	23.7	2 110	23.0	8 705	23.0
5 Most Deprived	129 280	25.7	17 286	34.8	1 051	39.5	3 617	39.4	12 618	33.3
Missing (% of total)	3 540	(0.7)	187	(0.4)	15	(0.6)	40	(0.4)	132	(0.3)
Multiplicity										
Singleton	497 874	98.5	49 086	98.4	2 630	98.4	9 062	98.4	37 394	98.4
Twins or more	7 713	1.5	821	1.6	42	1.6	152	1.6	627	1.6
Obstetric history										
Nulliparous	210 300	41.6	17 116	34.3	882	33.0	3 219	34.9	13 015	34.2
Multiparous no previous CS	236 295	46.7	25 581	51.3	1 368	51.2	4 682	50.8	19 531	51.4
Multiparous with previous CS	58 992	11.7	7 210	14.4	422	15.8	1 313	14.3	5 475	14.4

^a At least one contact with a non-acute secondary level mental health service (and not a hospital admission or a CRT episode).

Table 2: Time in years between most recent mental health (MH) services contact and start of pregnancy in 49,907 women and birthing people according to type of previous mental health service contact

	Any previous MH services contact		Previous Contact by Type					
			MH Services		CRT		Other MH services contact ^a	
	n	%	n	%	n	%	n	%
Time between most recent MH services contact and the start of pregnancy								
More than 5 years	15 087	30.2	309	11.6	1 931	21.0	12 847	33.8
Between 1 and 5 years	19 531	39.1	770	28.8	3 707	40.2	15 054	39.6
Less than 1 year	15 289	30.6	1 593	59.6	3 576	38.8	10 120	26.6
All	49 907		2 672		9 214		38 021	

^a At least one contact with a non-acute secondary level mental health service (and not a hospital admission or a CRT episode).

Perinatal mental health services use (for women and birthing people with six months postnatal follow-up data)

At least six months of postnatal follow-up mental health services data was available for 283 015 women and birthing people, of these 24 753 (8.7%) had a previous secondary level mental health services contact (Figure 1). Table 3 shows the highest level of care of mental health services contact in the perinatal period (during pregnancy and the postnatal period up to six months following childbirth) for this cohort.

During the whole perinatal period, 12 312 of the 283 015 women and birthing people (4.4%) had a mental health services contact. Of these, 3 240 (26.3%) were with a CPMHT team.

Of the 283 015 women and birthing people, 469 (0.2%) were admitted to mental health inpatient care at least once during the whole perinatal period. Of the 8 438 women and birthing people with a mental health services contact during the current pregnancy, 132 (1.6%) were admitted for inpatient mental health care. In the six-month postnatal period 368 (4.3%) of the 8 486 women and birthing people with mental health services contact were admitted for inpatient mental health care.

Table 3: Highest level of care of mental health (MH) services contacts in the perinatal period (during pregnancy and the postnatal period and up to 6 months following birth) in 283 015 women and birthing people with at least 6-month postnatal follow-up.

	No previous MH services contact		Any previous MH services contact		Total	
	n	%	n	%	n	%
Total in follow-up (with at least 6 months post giving birth)	258 262		24 753		283 015	
At least one contact in <u>the whole perinatal period</u>^b						
All MH services contact	5 582	2.2	6 730	27.2	12 312	4.4
<i>MH services inpatient admission</i>	179	0.1	290	1.2	469	0.2
<i>CRT</i>	439	0.2	726	2.9	1 165	0.4
<i>Other MH services contact^a</i>	4 964	1.9	5 714	23.1	10 678	3.8
CPMHT contact (as a proportion of all MH services contact)	1 443	(25.9)	1 797	(26.7)	3 240	(26.3)
At least one contact during <u>pregnancy</u>^b						
All MH services contact	3 028	1.2	5 455	22.0	8 438	3.0
<i>MH services inpatient admission</i>	30	0.01	102	0.4	132	0.04
<i>CRT</i>	158	0.1	450	1.8	608	0.2
<i>Other MH services contact^a</i>	2 840	1.1	4 903	19.8	7 743	2.7
CPMHT contact (as a proportion of all MH services contact)	708	(23.4)	1 146	(21.0)	1 854	(22.0)
At least one contact in 6 months postnatal^b						
All MH services contact	3 788	1.5	4 698	19.0	8 486	3.0
<i>MH services inpatient admission</i>	152	0.1	216	0.9	368	0.1
<i>CRT</i>	315	0.1	427	1.7	742	0.3
<i>Other MH services contact^a</i>	3 321	1.3	4 055	16.4	7 376	2.6
CPMHT contact (as a proportion of all MH services contact)	1 435	(37.9)	1 531	(32.6)	2 966	(35.0)

^a At least one contact with a non-acute secondary level mental health service (and not a hospital admission or a CRT treatment episode).

^b Perinatal period is defined as the current pregnancy period and from birth and up to 6 months following in those who gave birth in the first half of the cohort year.

MH = Mental Health, CPMHT = community perinatal mental health team.

Grouping of mental health diagnoses

The results in this section describe mental health diagnoses for all those with pre-existing and current pregnancy mental health services contacts and for those with a contact for the first time during the perinatal period.

Mental health diagnosis given prior to pregnancy

This section describes mental health diagnoses given prior to current pregnancy for 49 907 women and birthing people who had a previous secondary mental health services contact (of the 555 494 women and birthing people who gave birth between 1 April 2018 and 31 March 2019).

A high proportion of mental health services contacts had missing diagnoses (Table 4). For women and birthing people whose previous contact was with non-acute secondary mental health services (not inpatient admission or a CRT), 84.2% did not have a diagnosis recorded, in contrast to 12.3% missing for those who had a previous mental health services inpatient admission.

Of women and birthing people with a previous contact that had a diagnosis recorded, the highest proportion had a most recent diagnosis of Group 5 anxiety disorders (24.6%), followed by Group 3 major depressive disorders (22.2%). Of women and birthing people who had a previous mental health services inpatient admission, the highest proportion had a most recent diagnosis of Group 7 Complex trauma and conditions named 'personality disorders' (24.4%).

Table 4: Diagnostic groups according to ICD-10 codes for most recent (primary) mental health (MH) diagnosis given prior to the current pregnancy.

Diagnosis group	Total with any previous MH services contact		Previous Contact by Type					
			MH Services Inpatient Admission		CRT		Other MH services contacts	
	n	%	n	%	n	%	n	%
Total	49 907		2 672		9 219		38 016	
Group 1 Non-affective psychoses	507	4.7	279	11.9	99	3.9	129	2.1
Group 2 Acute affective psychoses	867	8.0	323	13.8	222	8.8	322	5.4
Group 3 Major depressive disorder	2 421	22.2	331	14.1	625	24.7	1 465	24.4
Group 5 Anxiety disorders/ PTSD	2 674	24.6	407	17.4	602	23.8	1 665	27.7
Group 6 Eating disorders	669	6.1	111	4.7	77	3.0	481	8.0
Group 7 Complex trauma and conditions named 'personality disorders'	1 650	15.2	573	24.4	489	19.3	588	9.8
Group 4 Psychoactive substance use	366	3.4	160	6.8	80	3.2	126	2.1
Group 8 All other	1 729	15.9	160	6.8	339	13.4	1 230	20.5
Missing (% of total)	39 024	78.2	328	12.3	6 686	72.5	32 010	84.2

^a At least one contact with a non-acute secondary level mental health service (and not a hospital admission or a CRT treatment episode).

In some cases, there were multiple different diagnoses recorded for one person over time. A problem with reporting the most recent diagnosis is that it may not reflect the primary disorder. This is particularly relevant if psychoactive substance use (Group 4) is the most recent code as it may not reflect the underlying condition. Therefore to try and resolve this issue, the most recent code for each woman or birthing person was selected first if it was from either Group 1-3 or Groups 5-7 and if there were none of those codes, then we report the most recent code of Group 4 or Other.

Table 5 shows diagnostic groups for those who have a most recent primary diagnosis that was either groups 1-3 or groups 5-7, how many had an additional diagnosis in each diagnostic group.

The total number of women and birthing people with any previous mental health services contact with a diagnosis recorded was 10 883 (Table 4). Of these women and birthing people, the greatest number 534 (4.9%) had a combination of group 3 and group 5 diagnoses, followed by 433 (4.0%) with multiple diagnoses of group 5 and groups 6/7.

Table 5: The number of women and birthing people with a primary diagnosis with any additional diagnosis

		Additional diagnosis						
		1	2	3	5	6/7 ^a	4	8
Most recent diagnosis		Non-affective psychoses	Acute affective psychoses	Major depressive disorder	Anxiety disorders (PTSD)	Eating disorders and complex trauma and conditions named 'personality disorders'	Psychoactive substance use	Other
Group								
1	Non-affective psychoses		45	35	34	31	81	119
2	Acute affective psychoses	41		75	68	62	72	160
3	Major depressive disorder	18	42		248	157	114	223
5	Anxiety disorders (PTSD)	17	29	286		189	151	310
6/7 ^a	Eating disorders / complex trauma and conditions named 'personality disorders'	18	64	239	244		270	304
4	Psychoactive substance use							83
8-10	Other							1721

^a Groups 6 and 7 have been combined due to small numbers in group 6

Mental health diagnosis given in the perinatal period

This section describes mental health diagnoses given in the perinatal period for 12 315 women and birthing people who had a secondary mental health services contact in the perinatal period (of the 283 015 women and birthing people who gave birth between 1 April 2018 and 30 September 2018). Of the 12 315 women and birthing people, 5 582 had had no previous secondary mental health services prior to their current pregnancy.

Diagnostic groups for women and birthing people with admissions during the current pregnancy and 6 months following birth, are shown in Table 6. Overall, of women and birthing people having a mental health services contact for the first time during the current pregnancy or six months following birth, 83.9% did not have a diagnosis recorded. Of those that had a diagnosis recorded, the highest proportion had a diagnosis of Group 5 anxiety disorders (34.8%), followed by Group 3 major depressive disorders (31.4%).

For women and birthing people with at least one previous mental health service contact, 56.8% did not have a diagnosis recorded. Of those that had a diagnosis recorded, the highest proportion had a diagnosis of Group 5 anxiety disorders (20.2%), followed by Group 3 major depressive disorders (19.9%) and Group 7 complex trauma and conditions named 'personality disorders' (19.4%).

Table 6: Diagnostic groups for most recent mental health diagnosis for women and birthing people with and without a previous mental health (MH) services contact in the current perinatal period (pregnancy and postnatal 6 months)

	No previous MH services contact		At least one previous inpatient admission or MH services contact	
	Total		Total	
	n	%	n	%
Total	5 582		6 730	
Group 1 Non-affective psychoses	14	1.6	186	6.4
Group 2 Acute affective psychoses	24	2.7	340	11.7
Group 3 Major depressive disorder	281	31.4	578	19.9
Group 5 Anxiety disorders (PTSD)	312	34.8	588	20.2
Group 6 Eating disorders	11	1.2	101	3.5
Group 7 Complex trauma and conditions named 'personality disorders'	17	1.9	565	19.4
Group 4 Psychoactive substance use	11	1.2	109	3.7
Group 8 All other	226	25.2	443	15.2
Missing (% of total)	4 686	83.9	3 820	56.8

^a At least one contact with a non-acute secondary level mental health service (and not a hospital admission or a CRT treatment episode).

Maternal and neonatal outcomes

As an illustration of the clinical relevance of linking maternity and mental health datasets, this chapter describes outcomes for all women and birthing people, and their babies, with and without a record of previous mental health services contact.

Table 7 shows outcomes for 555 494 women and birthing people giving birth between 1 April 2018 and 31 March 2019 and their babies, by previous mental health services contact. These are crude results and have not been adjusted for additional differences that may exist between the comparison groups.

The mode of birth for all women and birthing people was broadly similar, around 60% of those with and without a previous mental health services contact experienced an unassisted vaginal birth (that is a birth without the use of instruments) and around 17% experienced an emergency caesarean birth. The rates of pre-existing or gestational comorbidities were similar between the groups. The rate of the maternal adverse outcome indicator (EMMOI) were similar for women and birthing people with no previous mental health services contact (1.3%) and those with any previous contact (1.4%), however the rate for women and birthing people with a previous mental health services inpatient admission was 3.0%.

The proportion of women and birthing people with postnatal length of stay of more than 3 days was highest for those with a previous mental health services inpatient admission (40.8%), for those with no previous mental health services contact, the equivalent rates were 26.1% for those with any previous mental health services contact and 19.3% for women and birthing people with no previous mental health service contact. Maternal readmission was similar between those with and without a previous mental health services contact (3.1% and 3.6% respectively), the highest rate was seen for women and birthing people with a previous mental health services inpatient admission (5.8%).

Preterm birth (less 37 weeks of gestation) was 6.6% for women and birthing people with no previous mental health services contact and 10.7% with a previous contact. The frequency of ENAOI was 7.0% for babies born to women and birthing people with no previous mental health services contact and 9.4% for those with a previous contact (the rate was highest, 12.8%, for babies born to women and birthing people with a previous mental health services inpatient admission). Rates of perinatal mortality (stillbirth or neonatal death in the first week of life) were similar between the groups.

Table 7: Maternal and perinatal outcomes of women and birthing people with a previous secondary level mental health services contact, and their babies.

	No previous MH services contact		Any previous MH services contact		Previous Contact by Type					
					MH Services Inpatient Admission		CRT		Other MH services contact ^a	
	n	%	n	%	n	%	n	%	n	%
Total	505 587		49 907		2 672		9 214		38 021	
Mode of birth										
Birth without the use of instruments	291 134	57.6	29 966	60.0	1 584	59.3	5 569	60.4	22 813	60.0
Birth with the use of instruments	63 671	12.6	4 769	9.6	236	8.8	809	8.8	3 724	9.8
Emergency caesarean birth	83 755	16.6	8 198	16.4	466	17.4	1 564	17.0	6 168	16.2
Planned caesarean birth	65 312	12.9	6 784	13.6	371	13.9	1 231	13.4	5 182	13.6
Other	1 715	0.3	190	0.4	15	0.6	41	0.4	134	0.4
Comorbidities										
Gestational diabetes	37 096	7.3	3 692	7.4	239	8.9	751	8.2	2 702	7.1
Pre-existing diabetes	4 772	0.9	740	1.5	72	2.7	137	1.5	531	1.4
Preeclampsia	11 824	2.3	1 137	2.3	77	2.9	222	2.4	838	2.2
Pre-existing hypertension	3 538	0.7	368	0.7	33	1.2	75	0.8	260	0.7
EMMOI	6 507	1.3	704	1.4	79	3.0	130	1.4	495	1.3
Length of hospital stay of the birth episode > 3 days	94 237	19.3	12 546	26.1	1 048	40.8	2 541	28.7	8 957	24.5
Maternal readmission within 42 days	14 986	3.1	1 738	3.6	147	5.8	330	3.7	1 261	3.4
3rd or 4th degree perineal tear	11 046	3.1	621	1.8	24	1.3	89	1.4	508	1.9
Gestational age at birth										
Preterm <37 weeks	32 855	6.6	5 261	10.7	357	13.5	1 142	12.5	3 762	10.0
Term ≥37 weeks	464 531	93.4	44 047	89.3	2 280	86.5	7 974	87.5	33 793	90.0
Missing (% of total)	8 201	(1.6)	599	(1.2)	35	(1.3)	98	(1.1)	466	(1.2)
Small for gestational age	29 783	6.0	3 355	6.9	216	8.3	663	7.3	2 476	6.6
ENAOI	34 293	7.0	4 566	9.4	332	12.8	948	10.5	3 286	8.9
Stillbirth	1 868	0.4	193	0.4	15	0.6	28	0.3	150	0.4
Perinatal mortality (stillbirth or neonatal death in first week of life)	2 354	0.5	282	0.6	17	0.7	48	0.5	217	0.6

^a At least one contact with a secondary level mental health service (and not a hospital admission or a CRT episode).