

Supplementary Table 1. Scenarios involving different combinations of patient identifiers that resulted in missed matches (where sex and date of birth do not match)

Sex	Date of birth	NHS number	Hospital	Local ID	Postcode	Missed matches (% of 3,609)
Scenarios where date of birth is different						
<i>NHS number is the same</i>						
<i>Postcode is the same</i>						
1	0	1	1	1	1	15 (0.4)
1	0	1	1	0	1	2 (0.1)
1	0	1	0	1	1	3 (0.1)
1	0	1	0	0	1	10 (0.3)
<i>Postcode is different</i>						
1	0	1	1	1	0	9 (0.3)
1	0	1	1	0	0	1 (0.0)
1	0	1	0	1	0	1 (0.0)
1	0	1	0	0	0	8 (0.2)
<i>NHS number is different</i>						
<i>Postcode is the same</i>						
1	0	0	1	1	1	10 (0.3)
1	0	0	0	0	1	1 (0.0)
<i>Postcode is different</i>						
1	0	0	1	1	0	4 (0.1)
1	0	0	0	0	0	5 (0.1)
Scenarios where sex is different						
<i>NHS number is the same</i>						
<i>Postcode is the same</i>						
0	1	1	1	1	1	66 (1.8)
0	1	1	1	0	1	7 (0.2)
0	1	1	0	1	1	2 (0.1)
0	1	1	0	0	1	17 (0.5)
<i>Postcode is different</i>						
0	1	1	1	1	0	21 (0.6)
0	1	1	1	0	0	3 (0.1)
0	1	1	0	1	0	2 (0.1)

0	1	1	0	0	0	15 (0.4)
<i>NHS number is different</i>						
<i>Postcode is the same</i>						
0	1	0	1	1	1	14 (0.4)
0	1	0	1	0	1	4 (0.1)
0	1	0	0	0	1	5 (0.1)
<i>Postcode is different</i>						
0	1	0	1	1	0	16 (0.4)
0	1	0	1	0	0	2 (0.1)
0	1	0	0	1	0	2 (0.1)
0	1	0	0	0	0	11 (0.3)
Scenarios where sex and date of birth are different						
0	0	1	1	1	0	8 (0.2)
0	0	1	0	0	0	1 (0.0)
0	0	0	1	1	0	3 (0.1)
0	0	0	0	0	0	518 (14.4)
Reference records (first admission)						1,554
Total						2,340
Scenarios from Table 2						1,269
Total missed matches						3,609

Supplementary Table 2. Odds ratio (95% confidence intervals) for patients having at least one false (n = 115) or missed (n = 1,554) match:
 Alternative parameterization

Socio-economic deprivation	Ethnic minority status	
	White	Ethnic minority
Low	n = 14,307 (reference)	n = 7,683 1.50 (1.09,2.08)
Medium or high	n = 35,255 0.93 (0.72,1.20)	n = 7,117 1.44 (1.04,2.00)

Note. Excludes patients with missing data on socio-economic deprivation.