

## Supplementary Tables/Information

**Supplementary Table 1:** The factors associated with disability at discharge from inpatient stroke care hospital for Physiotherapy, Occupational Therapy, Speech and Language Therapy and Psychology – As produced from the single fully adjusted multilevel mixed effects ordinal logistic regression model.

Disability on Discharge (mRS)		Physiotherapy N=96537 Coef(95% C.I.)	Occupational Therapy N=92542 Coef(95% C.I.)	Speech and Language Therapy N=61206 Coef(95% C.I.)	Psychology 6074 Coef(95% C.I.)
Average Minutes of Therapy per Day of Stay		1.009(1.008,1.010)	0.979(0.978,0.980)	0.975(0.974,0.977)	0.945(0.934,0.955)
<b>Admission related factors</b>					
Team Count		0.92(0.86,0.99)	1.001(0.931,1.077)	0.98(0.90,1.06)	0.90(0.73,1.10)
Time from Entry		1.009(1.005,1.014)	1.01(1.01,1.02)	1.01(1.00,1.01)	1.006(0.994,1.018)
Day of Entry (Mon)					
	Tuesday	0.995(0.955,1.037)	0.99(0.95,1.03)	0.99(0.94,1.04)	0.95(0.81,1.13)
	Wednesday	0.997(0.956,1.040)	0.96(0.92,1.01)	0.98(0.93,1.03)	0.88(0.74,1.04)
	Thursday	0.91(0.87,0.95)	0.88(0.84,0.91)	0.89(0.84,0.93)	0.99(0.83,1.17)
	Friday	0.83(0.80,0.86)	0.80(0.77,0.84)	0.82(0.77,0.86)	0.85(0.72,1.00)
	Saturday	0.96(0.92,1.01)	0.94(0.90,0.99)	0.97(0.92,1.02)	1.09(0.91,1.31)
	Sunday	1.02(0.98,1.07)	1.04(1.00,1.09)	1.05(0.99,1.10)	0.93(0.78,1.11)
Time from entry to 1st Stroke Unit		1.001(1.000,1.001)	1.000(1.000,1.001)	1.000(1.000,1.000)	1.001(1.000,1.002)
Time of Entry(00.00-07.59)					
	08:00+	0.86(0.83,0.90)	0.83(0.80,0.86)	0.85(0.81,0.89)	0.86(0.75,0.99)
	16:00+	0.92(0.89,0.96)	0.91(0.87,0.94)	0.92(0.87,0.96)	0.88(0.75,1.02)
<b>Patient-related factors</b>					
Age		0.98(0.97,0.98)	0.98(0.98,0.99)	0.97(0.97,0.98)	1.01(0.99,1.04)
Age Squared		1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.000)
Gender (Female)					
	Male	1.005(0.982,1.029)	0.99(0.96,1.01)	1.03(1.00,1.06)	1.005(0.914,1.105)
Ethnicity (White)					
	asian, inc. chinese	0.98(0.92,1.04)	0.98(0.91,1.04)	0.94(0.87,1.02)	1.01(0.79,1.29)
	black	1.14(1.05,1.25)	1.14(1.05,1.24)	1.12(1.01,1.23)	1.04(0.82,1.33)
	mixed	1.13(0.93,1.36)	1.13(0.94,1.37)	0.99(0.77,1.26)	0.80(0.44,1.46)
	not known	1.04(0.99,1.09)	1.03(0.98,1.09)	1.01(0.95,1.08)	1.02(0.85,1.22)

	other	0.98(0.90,1.07)	0.97(0.88,1.06)	0.97(0.87,1.08)	1.03(0.76,1.40)
Social Deprivation Highest to Lowest (1)	2	0.99(0.95,1.02)	0.99(0.95,1.02)	0.99(0.95,1.03)	1.02(0.89,1.17)
	3	0.99(0.96,1.03)	1.000(0.964,1.036)	0.99(0.95,1.03)	1.05(0.91,1.22)
	4	0.96(0.93,1.00)	0.98(0.94,1.02)	0.97(0.92,1.01)	1.12(0.96,1.31)
	Missing	0.95(0.88,1.03)	0.93(0.85,1.01)	0.92(0.83,1.02)	0.84(0.63,1.12)
	Congestive Heart Failure	Yes	1.17(1.12,1.23)	1.13(1.08,1.19)	1.23(1.15,1.31)
Hypertension	Yes	0.96(0.94,0.99)	0.97(0.95,1.00)	0.95(0.92,0.98)	1.03(0.94,1.14)
Atrial Fibrillation	Yes	1.10(1.06,1.13)	1.06(1.03,1.09)	1.11(1.08,1.15)	1.05(0.93,1.19)
Diabetes	Yes	1.14(1.11,1.17)	1.12(1.09,1.16)	1.10(1.06,1.14)	1.12(1.00,1.26)
Previous Stroke/TIA?	Yes	0.95(0.93,0.98)	0.94(0.92,0.97)	0.94(0.91,0.97)	1.003(0.899,1.118)
Disability at transfer from previous team (mRS)	1	0.69(0.51,0.93)	0.68(0.50,0.92)	0.72(0.49,1.04)	0.85(0.34,2.13)
	2	0.91(0.69,1.18)	0.97(0.74,1.27)	1.04(0.75,1.43)	1.02(0.46,2.25)
	3	1.53(1.18,1.99)	1.64(1.26,2.14)	1.53(1.12,2.11)	1.57(0.72,3.42)
	4	2.7(2.1,3.5)	2.8(2.2,3.7)	2.5(1.9,3.5)	2.7(1.3,5.9)
	5	5.4(4.1,7.1)	5.3(4.0,7.0)	4.5(3.3,6.2)	6.4(2.9,13.9)
Pre-morbid disability (mRS, 0)	1	1.47(1.42,1.52)	1.42(1.37,1.47)	1.35(1.29,1.41)	1.22(1.07,1.39)
	2	2.17(2.09,2.25)	2.11(2.03,2.19)	1.88(1.79,1.98)	1.50(1.28,1.75)
	3	3.2(3.1,3.3)	3.0(2.9,3.1)	2.6(2.5,2.7)	2.6(2.2,3.1)
	4	4.9(4.6,5.1)	4.6(4.3,4.8)	3.8(3.5,4.0)	3.1(2.5,4.0)
	5	6.3(5.8,6.9)	6.0(5.5,6.6)	4.6(4.1,5.1)	7.8(4.4,14.0)
Stroke Type (Infarction)	Haemorrhage	1.63(1.57,1.69)	1.58(1.52,1.65)	1.49(1.42,1.56)	1.19(1.05,1.36)
Stroke Severity (NIHSS, Mild)	Moderate(5-14)	1.51(1.40,1.62)	1.47(1.37,1.58)	1.68(1.53,1.84)	1.55(1.26,1.90)
	Severe(15-20)	2.5(2.3,2.8)	2.29(2.09,2.51)	2.6(2.3,2.9)	2.10(1.60,2.76)
	Very Severe(>20)	2.34(2.10,2.60)	2.13(1.91,2.38)	2.4(2.1,2.7)	1.76(1.28,2.41)
Stroke Impairment Categories (Motor Only)	Loss-Con	1.34(1.25,1.44)	1.13(1.04,1.21)	1.09(1.00,1.19)	0.93(0.69,1.26)
	Mo-Co-Se	1.06(1.01,1.10)	1.01(0.97,1.05)	1.000(0.948,1.056)	1.12(0.95,1.32)
	Mo-Co	1.01(0.97,1.05)	0.92(0.89,0.96)	0.88(0.84,0.93)	0.95(0.80,1.11)
	Mo-Se	0.91(0.87,0.94)	0.92(0.88,0.96)	0.95(0.89,1.01)	1.08(0.90,1.28)
	No-Mo	0.78(0.74,0.82)	0.72(0.69,0.76)	0.71(0.66,0.76)	0.75(0.62,0.92)
	None	0.87(0.82,0.92)	0.78(0.74,0.83)	1.23(1.13,1.34)	0.86(0.66,1.11)

Organisation- related factors					
72hr Swallow assess (No)	Yes	1.46(1.40,1.51)	1.18(1.14,1.23)	1.74(1.66,1.82)	1.29(1.13,1.47)
72hr Clinical Assessment(No)	Yes	0.88(0.83,0.93)	0.72(0.68,0.76)	0.98(0.93,1.03)	
No. any assessments (0-3)		0.92(0.90,0.94)	1.09(1.06,1.11)	0.81(0.79,0.83)	0.95(0.90,1.01)
Thrombolysis available (24hrs day)	Non-24hrs/UA	1.23(0.90,1.67)	1.28(0.93,1.75)	1.11(0.82,1.51)	1.17(0.74,1.88)
Ward Round 7d per wk	Yes	0.999(0.816,1.224)	1.03(0.83,1.27)	0.93(0.77,1.14)	0.75(0.56,1.01)
Median Length of stay in Unit		0.99(0.97,1.01)	0.99(0.97,1.01)	0.99(0.97,1.01)	0.98(0.95,1.00)
Team Type (RATa)	RATc	1.13(1.00,1.28)	1.12(0.99,1.26)	1.10(0.96,1.26)	1.42(1.08,1.87)
	NRAT	0.97(0.67,1.40)	1.05(0.71,1.54)	0.98(0.67,1.42)	1.46(0.82,2.60)
	NAIT	1.14(0.37,3.47)	1.87(0.59,5.87)	1.22(0.41,3.60)	1.54(0.30,7.98)
Qualified Nurses (WTE/ 10bds)		1.01(0.98,1.05)	1.01(0.98,1.05)	1.01(0.98,1.05)	1.03(0.98,1.07)
Nurse support workers (WTE/ 10bds)		0.94(0.90,0.99)	0.93(0.88,0.97)	0.94(0.90,0.99)	0.96(0.90,1.03)
Qualified Therapists (WTE/ 10bds)		1.05(0.85,1.30)	1.27(1.03,1.55)	1.23(0.90,1.67)	0.84(0.47,1.50)
Therapy support worker (WTE/ 10bds)		0.79(0.57,1.11)	1.13(0.87,1.46)	1.006(0.611,1.657)	3.3(0.8,12.9)
No. Therapies available 6/7 days/ wk (0)	1	0.90(0.68,1.18)	0.89(0.67,1.17)	0.84(0.65,1.09)	0.92(0.63,1.36)
	2 or more	1.02(0.84,1.24)	1.06(0.86,1.30)	0.99(0.82,1.19)	0.95(0.72,1.26)
Access to Social Wk in 5days (Yes)	No	1.11(0.66,1.88)	1.19(0.70,2.05)	1.10(0.66,1.82)	0.64(0.30,1.37)
Access to ESD Team	Non-spec ESD	0.94(0.67,1.31)	0.99(0.70,1.39)	1.08(0.78,1.49)	0.92(0.61,1.39)
	None	0.98(0.78,1.24)	0.98(0.77,1.25)	1.05(0.83,1.32)	0.71(0.49,1.04)
Access to CRT	Yes	0.93(0.77,1.12)	0.93(0.77,1.13)	0.92(0.77,1.10)	0.85(0.65,1.12)
Constant	Cut Point 1	-1.77	-1.75	-2.37	-1.48
	Cut Point 2	-0.4	-0.36	-1.03	-0.1
	Cut Point 3	0.54	0.6	-0.12	1.02
	Cut Point 4	1.65	1.74	0.96	2.37
	Cut Point 5	3.18	3.35	2.49	4.37
	Cut Point 6	4.28	4.53	3.7	6.11
Team	Var(Cons)	0.31	0.34	0.29	0.27

SIC = NIHSS defined Stroke Impairment Category, Loss-Con = Any Loss of Consciousness, Motor = Motor only impairments (most common group), Mo-Co-Se = Motor + Cognitive + Sensory impairments, Mo-Co = Motor + Cognitive Impairments only, Mo-Se = Motor + Sensory Impairments only, No-Mo = Any other Non-motor impairment combination, mRS = modified Rankin Score, RATa = SSNAP defined Routinely Admitting Team with median length of stay <7days (i.e. approx acute care team), RATc = SSNAP defined RAT with median LOS>7days (i.e. approx. acute & rehab team), NRAT = SSNAP defined Non-RAT (i.e. inpatient team), NAIT = SSNAP Non Acute Inpatient Team (i.e. a rehab inpatient team), ESD = Early Support Discharge Team, CRT = Community Rehab team, WTE = Whole Time Equivalent, and NA = Not available or model dropped due to perfect prediction/collinearity.

**Supplementary Table 2:** The factors associated with inpatient length of stay for Physiotherapy, Occupational Therapy, Speech and Language Therapy and Psychology – As produced from the single fully adjusted multilevel mixed effects ordinal logistic regression model.

Length of Inpatient Stay / Model Covariates (Ref Cat)		Physiotherapy N=96,537 RR(95% C.I.)	Occupational Therapy N=92,542 RR(95% C.I.)	Speech and Language Therapy N=61,206 RR(95% C.I.)	Psychology N=6,074 RR(95% C.I.)
Average Min Therapy per Day of Stay		0.994(0.994,0.995)	0.981(0.982,0.982)	0.971(0.969,0.972)	0.932(0.928,0.936)
<b>Admission related factors</b>					
Team Count		1.02(0.98,1.05)	1.05(1.01,1.08)	1.03(0.99,1.07)	0.92(0.85,0.99)
Time from Entry		1.008(1.006,1.010)	1.007(1.005,1.009)	1.006(1.004,1.009)	1.007(1.002,1.011)
Day of Entry (Mon)	Tuesday	1.02(1.00,1.04)	1.02(1.00,1.04)	1.001(0.979,1.023)	1.007(0.951,1.066)
	Wednesday	1.03(1.01,1.05)	1.01(1.00,1.03)	1.003(0.981,1.026)	0.99(0.94,1.05)
	Thursday	0.97(0.95,0.99)	0.96(0.94,0.98)	0.95(0.93,0.97)	0.99(0.93,1.04)
	Friday	0.95(0.93,0.97)	0.94(0.92,0.96)	0.96(0.94,0.98)	1.003(0.946,1.063)
	Saturday	0.98(0.96,1.00)	0.97(0.95,0.99)	0.97(0.95,1.00)	1.02(0.96,1.08)
	Sunday	0.998(0.979,1.018)	0.999(0.980,1.019)	0.999(0.976,1.022)	0.99(0.93,1.05)
Time from entry to 1st Stroke Unit		1.001(1.000,1.001)	1.000(1.000,1.001)	1.000(1.000,1.000)	1.000(1.000,1.001)
Time of Entry(00.00-07.59am)	08:00+	0.94(0.92,0.95)	0.93(0.92,0.95)	0.96(0.94,0.98)	0.91(0.86,0.95)
	16:00+	0.95(0.93,0.97)	0.95(0.93,0.97)	0.98(0.96,1.00)	0.94(0.89,0.99)
<b>Patient-related factors</b>					
Age		1.01(1.01,1.01)	1.01(1.01,1.01)	1.02(1.01,1.02)	1.01(1.00,1.02)
Age Squared		1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.000)
Gender (Female)	Male	1.01(1.00,1.02)	1.001(0.991,1.012)	1.01(1.00,1.02)	1.02(0.98,1.05)
Ethnicity (White)	asian, inc. chinese	0.998(0.968,1.029)	0.98(0.95,1.01)	0.999(0.963,1.037)	0.998(0.913,1.090)
	black	1.08(1.04,1.13)	1.09(1.05,1.13)	1.06(1.01,1.11)	1.09(1.00,1.19)
	mixed	1.11(1.01,1.21)	1.10(1.01,1.20)	1.17(1.05,1.30)	1.002(0.812,1.235)
	not known	0.995(0.971,1.019)	0.99(0.97,1.02)	1.005(0.977,1.034)	0.98(0.92,1.05)
	other	1.01(0.97,1.06)	0.99(0.95,1.04)	1.02(0.97,1.07)	1.05(0.94,1.17)

Social Deprivation Highest to Lowest (1)	2	0.99(0.98,1.01)	0.996(0.981,1.012)	1.001(0.983,1.020)	0.996(0.949,1.045)
	3	0.98(0.97,1.00)	0.99(0.97,1.00)	0.99(0.97,1.01)	1.003(0.952,1.057)
	4	0.99(0.97,1.00)	0.99(0.97,1.01)	1.002(0.981,1.022)	1.03(0.97,1.08)
	Missing	0.94(0.91,0.98)	0.93(0.90,0.97)	0.93(0.89,0.98)	0.90(0.81,1.00)
Congestive Heart Failure	Yes	0.98(0.96,1.00)	0.98(0.96,1.00)	0.98(0.96,1.01)	0.999(0.933,1.071)
Hypertension	Yes	1.02(1.01,1.03)	1.02(1.01,1.03)	1.03(1.01,1.04)	1.04(1.00,1.07)
Atrial Fibrillation	Yes	1.02(1.00,1.03)	1.01(1.00,1.02)	1.008(0.993,1.023)	1.02(0.98,1.06)
Diabetes	Yes	1.03(1.02,1.04)	1.03(1.02,1.04)	0.99(0.98,1.01)	1.04(1.00,1.08)
Previous Stroke/TIA?	Yes	0.98(0.97,0.99)	0.98(0.97,0.99)	0.98(0.97,1.00)	0.97(0.93,1.01)
Disability at transfer from previous team (mRS)	1	0.68(0.60,0.78)	0.68(0.60,0.77)	0.69(0.59,0.81)	0.76(0.56,1.05)
	2	0.86(0.77,0.96)	0.89(0.80,0.99)	0.94(0.83,1.08)	1.001(0.765,1.309)
	3	0.99(0.88,1.11)	1.02(0.91,1.13)	1.04(0.92,1.19)	1.13(0.87,1.48)
	4	1.14(1.02,1.28)	1.18(1.06,1.31)	1.15(1.01,1.31)	1.25(0.96,1.62)
	5	1.33(1.18,1.49)	1.34(1.20,1.49)	1.31(1.15,1.49)	1.40(1.08,1.83)
Pre-morbid disability (mRS, 0)	1	1.05(1.04,1.07)	1.05(1.03,1.06)	1.01(1.00,1.03)	1.05(1.00,1.10)
	2	1.08(1.06,1.10)	1.06(1.04,1.08)	1.03(1.01,1.06)	0.99(0.94,1.05)
	3	1.08(1.07,1.10)	1.04(1.02,1.06)	1.009(0.989,1.030)	1.04(0.99,1.10)
	4	1.01(0.99,1.04)	0.97(0.95,0.99)	0.94(0.92,0.96)	1.05(0.97,1.14)
	5	0.93(0.89,0.97)	0.87(0.84,0.91)	0.84(0.81,0.88)	0.85(0.70,1.03)
Stroke Type (Infarction)	Haemorrhage	1.21(1.19,1.23)	1.20(1.18,1.22)	1.13(1.11,1.15)	1.08(1.03,1.13)
Stroke Severity (NIHSS, Mild)	Moderate(5-14)	1.27(1.23,1.32)	1.26(1.22,1.30)	1.23(1.18,1.29)	1.17(1.08,1.26)
	Severe(15-20)	1.44(1.38,1.51)	1.40(1.34,1.46)	1.42(1.35,1.49)	1.33(1.21,1.46)
	Very Severe(>20)	1.34(1.28,1.41)	1.32(1.26,1.38)	1.36(1.29,1.43)	1.27(1.14,1.42)
Stroke Impairment Categories (Motor Only)	Loss-Con	<b>0.93(0.90,0.96)</b>	0.92(0.89,0.95)	0.96(0.93,1.00)	1.09(0.98,1.20)
	Mo-Co-Se	1.03(1.01,1.05)	1.02(1.00,1.04)	1.04(1.02,1.07)	1.06(1.01,1.13)
	Mo-Co	0.998(0.981,1.016)	0.98(0.97,1.00)	1.009(0.987,1.031)	1.04(0.99,1.10)
	Mo-Se	0.94(0.92,0.96)	0.94(0.93,0.96)	0.98(0.95,1.01)	0.98(0.92,1.04)
	No-Mo	0.90(0.88,0.92)	0.90(0.88,0.92)	0.92(0.89,0.95)	0.93(0.86,1.00)
	None	0.998(0.973,1.024)	0.97(0.95,1.00)	1.15(1.11,1.20)	1.09(0.99,1.19)
<b>Organisation- related factors</b>					

72hr Swallow assess (No)	Yes	1.16(1.14,1.18)	1.07(1.05,1.09)	1.23(1.20,1.25)	1.13(1.08,1.19)
72hr Clinical Assessment(No)	Yes	0.80(0.78,0.82)	0.73(0.72,0.75)	0.96(0.94,0.98)	NA
No. any assessments (0-3)		0.996(0.987,1.005)	1.05(1.04,1.06)	0.92(0.91,0.93)	0.97(0.95,0.99)
Thrombolysis available (24hrs day)	Non-24hrs/UA	1.13(0.97,1.32)	1.11(0.95,1.30)	1.09(0.93,1.29)	1.23(0.97,1.55)
Ward Round 7d per wk	Yes	1.04(0.94,1.15)	1.06(0.95,1.17)	1.04(0.93,1.16)	1.04(0.89,1.21)
Median Length of stay in Unit		1.03(1.02,1.04)	1.03(1.02,1.04)	1.03(1.02,1.04)	1.02(1.00,1.03)
Team Type (RATa)	RATc	1.12(1.05,1.18)	1.11(1.05,1.17)	1.12(1.05,1.19)	1.29(1.15,1.45)
	NRAT	0.90(0.75,1.08)	0.92(0.76,1.11)	0.98(0.80,1.20)	1.08(0.82,1.43)
	NAIT	0.84(0.49,1.46)	0.999(0.571,1.747)	1.15(0.64,2.07)	0.75(0.33,1.70)
Qualified Nurses (WTE/ 10bds)		0.97(0.96,0.99)	0.97(0.95,0.99)	0.98(0.96,0.99)	0.99(0.97,1.01)
Nurse support workers (WTE/ 10bds)		1.05(1.02,1.07)	1.05(1.02,1.07)	1.05(1.02,1.08)	1.07(1.03,1.11)
Qualified Therapists (WTE/ 10bds)		0.97(0.87,1.08)	1.06(0.96,1.17)	0.95(0.80,1.13)	0.91(0.67,1.23)
Therapy support worker (WTE/ 10bds)		1.12(0.95,1.33)	1.10(0.97,1.25)	1.17(0.89,1.54)	1.37(0.65,2.86)
No. Therapies available 6/7 days/ wk (0)	1	1.08(0.94,1.24)	1.08(0.95,1.24)	1.10(0.95,1.27)	1.06(0.87,1.29)
	2 or more	0.98(0.89,1.08)	0.99(0.90,1.10)	0.99(0.90,1.10)	1.16(1.00,1.34)
Access to Social Wk in 5days (Yes)	No	0.93(0.71,1.21)	0.98(0.75,1.28)	0.94(0.71,1.24)	0.88(0.59,1.32)
Access to ESD Team	Non-spec ESD	0.98(0.83,1.16)	1.02(0.86,1.21)	1.02(0.85,1.22)	0.87(0.70,1.07)
	None	1.07(0.95,1.21)	1.06(0.94,1.19)	1.09(0.96,1.23)	0.95(0.79,1.14)
Access to CRT	Yes	0.99(0.90,1.08)	0.97(0.89,1.07)	0.98(0.88,1.08)	0.92(0.80,1.06)
Constant	Cut Point 1	8.1(5.8,11.3)	8.6(6.3,11.8)	9.5(6.8,13.4)	10.2(5.7,18.4)
	ln(Alpha)	-0.53	-0.56	-0.63	-1.07
Team	Var(Cons)	0.08	0.09	0.09	0.1

SIC = NIHSS defined Stroke Impairment Category, Loss-Con = Any Loss of Consciousness, Motor = Motor only impairments (most common group), Mo-Co-Se = Motor + Cognitive + Sensory impairments, Mo-Co = Motor + Cognitive Impairments only, Mo-Se = Motor + Sensory Impairments only, No-Mo = Any other Non-motor impairment combination, mRS = modified Rankin Score, RATa = SSNAP defined Routinely Admitting Team with median length of stay <7days (i.e. approx acute care team), RATc = SSNAP defined RAT with median LOS>7days (i.e. approx. acute & rehab team), NRAT = SSNAP defined Non-RAT (i.e. inpatient team), NAIT = SSNAP Non Acute Inpatient Team (i.e. a rehab inpatient team), ESD = Early Support Discharge Team, CRT = Community Rehab team, WTE = Whole Time Equivalent, and NA = Not available or model dropped due to perfect prediction/collinearity.

**Supplementary Table 3:** The factors associated with Home destination at discharge from inpatient stroke care hospital for Physiotherapy, Occupational Therapy, Speech and Language Therapy and Psychology – As produced from the single fully adjusted multilevel mixed effects ordinal logistic regression model.

Destination on Discharge (home)		Physiotherapy N=96,537 OR(95% C.I.)	Occupational Therapy n-92,542 OR(95% C.I.)	Speech and Language Therapy N=61,206 OR(95% C.I.)	Psychology N=6,074 OR(95% C.I.)	
Average Min Therapy per Day of Stay		0.985(0.984,0.986)	1.015(1.013,1.017)	1.004(1.002,1.007)	1.026(1.011,1.041)	
<b>Admission related factors</b>						
Team Count		1.19(1.07,1.32)	1.10(0.99,1.22)	1.12(0.98,1.27)	1.18(0.88,1.59)	
Time from Entry		0.98(0.98,0.99)	0.98(0.98,0.99)	0.98(0.98,0.99)	0.999(0.982,1.016)	
Day of Entry (Mon)	Tuesday	0.99(0.93,1.05)	0.997(0.941,1.056)	0.99(0.92,1.07)	1.20(0.96,1.50)	
	Wednesday	0.94(0.89,1.00)	0.97(0.91,1.02)	0.98(0.91,1.05)	1.09(0.87,1.36)	
	Thursday	1.11(1.05,1.18)	1.15(1.09,1.22)	1.13(1.05,1.21)	1.03(0.82,1.30)	
	Friday	1.16(1.09,1.22)	1.20(1.13,1.27)	1.16(1.08,1.25)	1.07(0.86,1.34)	
	Saturday	0.997(0.940,1.058)	1.02(0.96,1.08)	0.98(0.91,1.06)	0.98(0.77,1.24)	
	Sunday	0.96(0.90,1.02)	0.95(0.90,1.01)	0.96(0.89,1.04)	1.09(0.86,1.37)	
	Time from entry to 1st Stroke Unit	1.000(0.999,1.000)	1.000(0.999,1.000)	1.000(1.000,1.001)	0.999(0.998,1.000)	
Time of Entry(00.00-07.59)	08:00+	1.15(1.10,1.22)	1.19(1.13,1.25)	1.11(1.04,1.18)	1.01(0.84,1.22)	
	16:00+	1.08(1.02,1.14)	1.09(1.03,1.15)	1.02(0.95,1.09)	0.83(0.68,1.01)	
<b>Patient-related factors</b>						
Age		1.06(1.05,1.07)	1.05(1.04,1.06)	1.07(1.06,1.08)	1.04(1.01,1.07)	
Age Squared		0.999(0.999,0.999)	0.999(0.999,1.000)	0.999(0.999,0.999)	1.000(0.999,1.000)	
Gender (Female)	Male	0.97(0.94,1.00)	0.97(0.94,1.00)	0.95(0.92,0.99)	0.89(0.78,1.01)	
	Ethnicity (White)	asian, inc. chinese	1.42(1.29,1.57)	1.42(1.29,1.56)	1.58(1.40,1.79)	1.51(1.09,2.08)
		black	1.02(0.89,1.16)	1.02(0.89,1.16)	1.14(0.98,1.34)	1.14(0.82,1.58)
		mixed	0.96(0.73,1.26)	0.91(0.69,1.20)	1.19(0.82,1.72)	2.14(1.00,4.59)
		not known	0.95(0.88,1.02)	0.94(0.88,1.02)	0.96(0.88,1.06)	0.92(0.72,1.17)
		other	1.27(1.10,1.45)	1.23(1.07,1.41)	1.29(1.08,1.54)	1.13(0.73,1.73)
Social Deprivation Highest to Lowest (1)	2	1.02(0.98,1.07)	1.02(0.98,1.07)	0.99(0.93,1.05)	1.03(0.86,1.25)	

	3	1.006(0.958,1.056)	1.01(0.96,1.06)	0.99(0.93,1.06)	1.16(0.95,1.42)
	4	1.07(1.01,1.12)	1.05(1.00,1.11)	1.05(0.98,1.12)	1.15(0.94,1.43)
	Missing	1.31(1.17,1.47)	1.35(1.21,1.51)	1.22(1.05,1.41)	1.28(0.86,1.92)
Congestive Heart Failure	Yes	0.96(0.90,1.03)	0.99(0.92,1.06)	0.93(0.85,1.01)	1.03(0.78,1.36)
Hypertension	Yes	1.04(1.01,1.08)	1.04(1.00,1.07)	1.04(1.00,1.09)	0.98(0.86,1.12)
Atrial Fibrillation	Yes	0.97(0.93,1.01)	1.001(0.962,1.042)	0.98(0.94,1.03)	0.92(0.78,1.08)
Diabetes	Yes	0.95(0.91,0.99)	0.96(0.93,1.00)	0.97(0.92,1.02)	0.95(0.81,1.11)
Previous Stroke/TIA?	Yes	1.12(1.08,1.16)	1.12(1.08,1.16)	1.10(1.05,1.16)	1.02(0.88,1.18)
Disability at transfer from previous team (mRS)	1	1.21(0.84,1.77)	1.14(0.79,1.65)	1.37(0.86,2.16)	0.85(0.25,2.91)
	2	1.13(0.82,1.56)	1.07(0.78,1.47)	1.14(0.78,1.68)	0.95(0.33,2.72)
	3	0.78(0.56,1.07)	0.72(0.53,0.99)	0.83(0.57,1.22)	0.55(0.20,1.54)
	4	0.57(0.41,0.78)	0.54(0.39,0.73)	0.59(0.40,0.86)	0.46(0.17,1.28)
	5	0.38(0.27,0.52)	0.38(0.28,0.53)	0.45(0.30,0.66)	0.27(0.10,0.78)
Pre-morbid disability (mRS, 0)	1	0.86(0.82,0.90)	0.88(0.84,0.92)	0.88(0.83,0.93)	0.81(0.68,0.96)
	2	0.72(0.69,0.76)	0.76(0.72,0.80)	0.75(0.70,0.80)	0.80(0.65,0.98)
	3	0.61(0.57,0.64)	0.68(0.64,0.72)	0.64(0.59,0.68)	0.61(0.49,0.77)
	4	0.51(0.48,0.55)	0.59(0.55,0.64)	0.60(0.54,0.65)	0.72(0.52,0.99)
	5	0.48(0.41,0.56)	0.61(0.52,0.71)	0.64(0.54,0.76)	1.29(0.62,2.67)
Stroke Type (Infarction)	Haemorrhage	0.64(0.61,0.68)	0.65(0.62,0.69)	0.66(0.62,0.71)	0.80(0.67,0.96)
Stroke Severity (NIHSS, Mild)	Moderate(5-14)	0.70(0.64,0.78)	0.72(0.65,0.80)	0.67(0.59,0.76)	0.95(0.72,1.26)
	Severe(15-20)	0.45(0.39,0.51)	0.49(0.43,0.55)	0.47(0.40,0.55)	0.63(0.43,0.92)
	Very Severe(>20)	0.42(0.35,0.49)	0.45(0.39,0.53)	0.42(0.35,0.51)	0.70(0.45,1.09)
Stroke Impairment Categories (Motor Only)	Loss-Con	<b>0.88(0.78,0.98)</b>	1.009(0.901,1.130)	0.97(0.85,1.10)	1.06(0.69,1.62)
	Mo-Co-Se	0.94(0.89,0.99)	0.99(0.93,1.04)	0.98(0.91,1.05)	1.04(0.84,1.29)
	Mo-Co	0.97(0.92,1.02)	1.06(1.01,1.12)	1.10(1.03,1.18)	1.12(0.90,1.38)
	Mo-Se	1.13(1.06,1.19)	1.11(1.05,1.18)	1.07(0.98,1.17)	1.18(0.94,1.48)
	No-Mo	1.12(1.05,1.19)	1.23(1.16,1.31)	1.17(1.07,1.28)	1.22(0.94,1.59)
	None	1.11(1.03,1.19)	1.25(1.16,1.34)	0.89(0.79,0.99)	1.26(0.91,1.74)
<b>Organisation- related factors</b>					
72hr Swallow assess (No)	Yes	0.77(0.73,0.80)	0.88(0.83,0.93)	0.67(0.63,0.72)	0.82(0.69,0.97)



72hr Clinical Assessment(No)	Yes	1.21(1.12,1.31)	1.24(1.16,1.32)	1.16(1.08,1.24)	NA
No. any assessments (0-3)		1.003(0.975,1.032)	0.91(0.88,0.94)	1.10(1.06,1.15)	1.01(0.93,1.10)
Thrombolysis available (24hrs day)	Non-24hrs/UA	0.68(0.44,1.06)	0.67(0.42,1.06)	0.72(0.45,1.14)	0.51(0.24,1.09)
Ward Round 7d per wk	Yes	1.29(0.96,1.73)	1.32(0.97,1.80)	1.37(1.01,1.86)	1.49(0.92,2.41)
Median Length of stay in Unit		1.03(1.00,1.06)	1.04(1.01,1.07)	1.03(1.00,1.06)	1.02(0.98,1.07)
Team Type (RATa)	RATc	0.99(0.83,1.17)	1.007(0.848,1.198)	1.12(0.92,1.37)	1.27(0.85,1.89)
	NRAT	0.97(0.57,1.65)	0.86(0.49,1.50)	1.02(0.57,1.80)	1.16(0.46,2.92)
	NAIT	0.27(0.06,1.31)	0.16(0.03,0.84)	0.29(0.06,1.52)	0.98(0.91,1.06)
Qualified Nurses (WTE/ 10bds)		0.98(0.93,1.03)	0.98(0.93,1.03)	0.97(0.92,1.02)	0.97(0.87,1.09)
Nurse support workers (WTE/ 10bds)		1.02(0.95,1.08)	1.02(0.95,1.09)	1.03(0.96,1.10)	1.41(0.54,3.72)
Qualified Therapists (WTE/ 10bds)		0.69(0.51,0.94)	0.66(0.49,0.89)	0.76(0.47,1.22)	1.19(0.12,12.00)
Therapy support worker (WTE/ 10bds)		2.32(1.44,3.76)	1.37(0.94,1.99)	1.52(0.70,3.27)	NA
No. Therapies available 6/7 days/ wk (0)	1	1.14(0.77,1.69)	1.14(0.76,1.71)	1.16(0.77,1.74)	1.04(0.56,1.94)
	2 or more	1.01(0.76,1.34)	0.94(0.70,1.27)	1.01(0.76,1.35)	1.15(0.72,1.84)
Access to Social Wk in 5days (Yes)	No	0.64(0.30,1.37)	0.62(0.28,1.37)	0.65(0.30,1.42)	0.51(0.14,1.78)
Access to ESD Team	Non-spec ESD	1.48(0.91,2.39)	1.54(0.93,2.53)	1.58(0.96,2.59)	2.04(1.03,4.02)
	None	2.07(1.48,2.91)	2.13(1.49,3.05)	2.07(1.45,2.95)	3.0(1.7,5.5)
Access to CRT	Yes	0.87(0.66,1.14)	0.85(0.64,1.13)	0.88(0.66,1.16)	0.76(0.48,1.18)
Constant		0.57(0.22,1.46)	0.54(0.21,1.39)	0.19(0.07,0.51)	0.57(0.07,4.46)
Team	Var(Cons)	0.66	0.73	0.7	0.85

SIC = NIHSS defined Stroke Impairment Category, Loss-Con = Any Loss of Consciousness, Motor = Motor only impairments (most common group), Mo-Co-Se = Motor + Cognitive + Sensory impairments, Mo-Co = Motor + Cognitive Impairments only, Mo-Se = Motor + Sensory Impairments only, No-Mo = Any other Non-motor impairment combination, mRS = modified Rankin Score, RATa = SSNAP defined Routinely Admitting Team with median length of stay <7days (i.e. approx acute care team), RATc = SSNAP defined RAT with median LOS>7days (i.e. approx. acute & rehab team), NRAT = SSNAP defined Non-RAT (i.e. inpatient team), NAIT = SSNAP Non Acute Inpatient Team (i.e. a rehab inpatient team), ESD = Early Support Discharge Team, CRT = Community Rehab team, WTE = Whole Time Equivalent, and NA = Not available or model dropped due to perfect prediction/collinearity.

**Supplementary Table 4:** The factors associated with Mortality at discharge from inpatient stroke care hospital for Physiotherapy, Occupational Therapy, Speech and Language Therapy and Psychology – As produced from the single fully adjusted multilevel mixed effects ordinal logistic regression model.

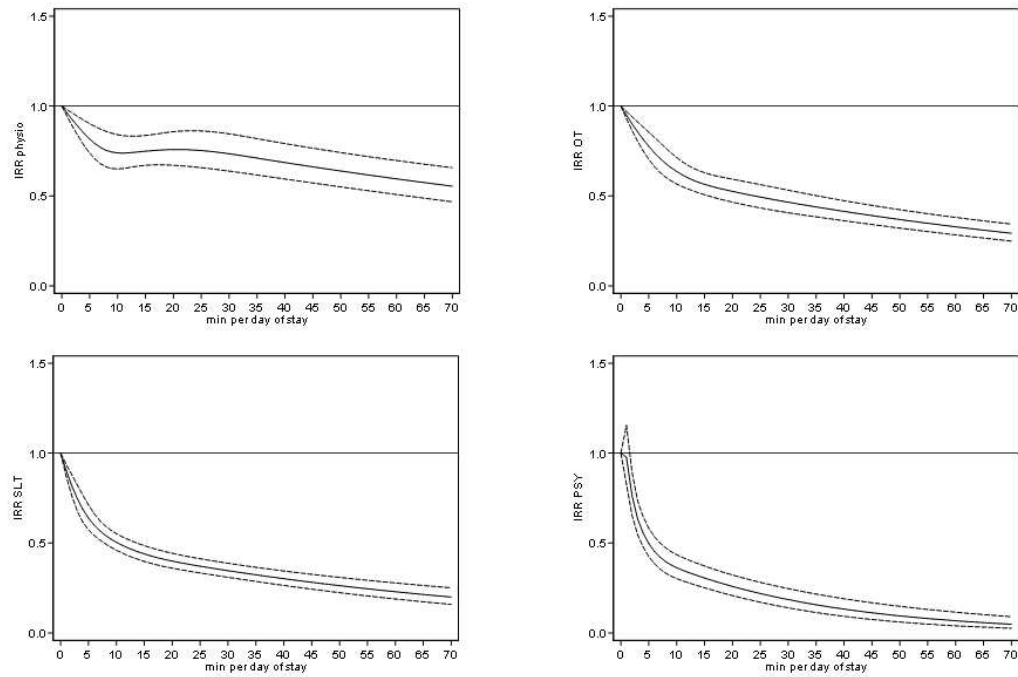
Mortality /Model Covariates (Ref cat)		Physiotherapy N=96,537 OR(95% C.I.)	Occupational Therapy N=92,542 OR(95% C.I.)	Speech and Language Therapy N=61,206 OR(95% C.I.)	Psychology N=6,074 OR(95% C.I.)
Average Min Therapy per Day of Stay		0.975(0.972,0.978)	0.883(0.879,0.887)	0.945(0.940,0.950)	0.843(0.786,0.904)
<b>Admission related factors</b>					
Team Count		0.78(0.68,0.90)	0.89(0.76,1.04)	0.85(0.73,0.99)	1.19(0.72,1.97)
Time from Entry		0.99(0.98,1.00)	0.99(0.98,1.00)	0.99(0.98,1.00)	0.98(0.94,1.01)
Day of Entry (Mon)	Tuesday	0.92(0.85,1.00)	0.97(0.88,1.06)	0.93(0.85,1.03)	0.78(0.50,1.23)
	Wednesday	0.98(0.90,1.06)	0.99(0.90,1.08)	0.95(0.87,1.05)	0.70(0.44,1.12)
	Thursday	0.91(0.84,0.99)	0.93(0.85,1.03)	0.89(0.81,0.98)	1.02(0.66,1.57)
	Friday	0.77(0.71,0.84)	0.82(0.74,0.90)	0.78(0.70,0.85)	0.72(0.45,1.16)
	Saturday	0.90(0.83,0.98)	0.93(0.85,1.03)	0.89(0.81,0.98)	0.85(0.52,1.37)
	Sunday	0.98(0.89,1.06)	1.002(0.909,1.104)	0.96(0.87,1.06)	0.91(0.57,1.47)
	Time from entry to 1st Stroke Unit	1.000(1.000,1.001)	1.000(1.000,1.001)	1.000(1.000,1.001)	1.002(1.000,1.004)
Time of Entry(00.00-07.59)	08:00+	0.86(0.80,0.92)	0.83(0.77,0.90)	0.87(0.80,0.94)	0.86(0.59,1.25)
	16:00+	0.90(0.83,0.97)	0.87(0.80,0.95)	0.88(0.80,0.96)	0.87(0.58,1.31)
<b>Patient-related factors</b>					
Age		1.01(0.99,1.03)	1.02(1.00,1.05)	1.002(0.978,1.026)	0.99(0.89,1.11)
Age Squared		1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.000)	1.000(1.000,1.001)
Gender (Female) Ethnicity (White)	Male	1.42(1.35,1.49)	1.36(1.28,1.43)	1.43(1.35,1.51)	1.50(1.15,1.95)
	asian, inc.	0.68(0.57,0.80)	0.69(0.57,0.84)	0.61(0.50,0.75)	0.49(0.19,1.28)
	chinese				
	black	0.80(0.64,1.02)	0.86(0.66,1.11)	0.82(0.64,1.06)	0.85(0.39,1.86)
	mixed	1.35(0.88,2.09)	1.27(0.78,2.08)	1.05(0.60,1.82)	3.2(0.9,11.7)
	not known	0.92(0.82,1.03)	0.88(0.77,1.00)	0.89(0.78,1.01)	0.81(0.46,1.44)
	other	0.76(0.60,0.96)	0.77(0.59,1.00)	0.81(0.62,1.05)	1.003(0.406,2.477)
	2	0.99(0.93,1.07)	1.01(0.93,1.09)	0.98(0.91,1.06)	0.59(0.40,0.87)

Social Deprivation Highest to Lowest (1)	3	1.03(0.96,1.10)	1.06(0.97,1.14)	1.006(0.928,1.090)	0.82(0.57,1.20)
	4	1.004(0.931,1.082)	1.02(0.93,1.11)	1.002(0.920,1.091)	0.91(0.63,1.32)
	Missing	0.85(0.73,0.99)	0.78(0.64,0.94)	0.78(0.65,0.93)	0.28(0.12,0.63)
Congestive Heart Failure	Yes	1.53(1.41,1.66)	1.52(1.39,1.66)	1.55(1.42,1.70)	1.48(0.97,2.26)
Hypertension	Yes	0.94(0.90,0.98)	0.95(0.91,1.01)	0.95(0.90,1.00)	0.96(0.74,1.24)
Atrial Fibrillation	Yes	1.37(1.31,1.44)	1.36(1.29,1.44)	1.38(1.30,1.46)	1.36(1.03,1.79)
Diabetes	Yes	1.21(1.14,1.28)	1.16(1.09,1.24)	1.19(1.12,1.27)	1.05(0.77,1.45)
Previous Stroke/TIA?	Yes	0.90(0.85,0.94)	0.88(0.83,0.93)	0.89(0.84,0.94)	1.37(1.04,1.81)
Disability at transfer from previous team (mRS)	1	0.54(0.17,1.75)	0.51(0.15,1.68)	0.31(0.09,1.10)	0.59(0.03,10.59)
	2	0.97(0.41,2.30)	0.81(0.33,1.98)	0.92(0.41,2.10)	0.41(0.05,3.63)
	3	1.41(0.60,3.30)	1.08(0.45,2.63)	0.99(0.44,2.21)	0.38(0.05,3.11)
	4	2.21(0.95,5.14)	1.56(0.65,3.75)	1.35(0.60,3.01)	0.46(0.06,3.71)
	5	4.2(1.8,9.9)	2.7(1.1,6.5)	2.32(1.04,5.18)	0.72(0.09,5.87)
Pre-morbid disability (mRS, 0)	1	1.34(1.25,1.44)	1.27(1.17,1.37)	1.35(1.24,1.46)	1.39(0.96,2.02)
	2	1.59(1.48,1.72)	1.49(1.37,1.62)	1.60(1.47,1.74)	1.70(1.14,2.53)
	3	1.68(1.57,1.80)	1.39(1.29,1.50)	1.70(1.57,1.84)	2.17(1.49,3.14)
	4	1.65(1.52,1.80)	1.25(1.13,1.37)	1.70(1.55,1.87)	1.31(0.75,2.28)
	5	1.28(1.11,1.47)	0.90(0.77,1.06)	1.29(1.10,1.50)	1.36(0.43,4.36)
Stroke Type (Infarction)	Haemorrhage	1.45(1.36,1.55)	1.29(1.19,1.40)	1.25(1.15,1.35)	0.93(0.64,1.35)
Stroke Severity (NIHSS, Mild)	Moderate(5-14)	1.92(1.55,2.38)	1.76(1.39,2.23)	1.85(1.47,2.35)	1.78(0.88,3.62)
	Severe(15-20)	3.0(2.4,3.8)	2.32(1.80,2.99)	2.7(2.1,3.5)	1.47(0.64,3.37)
	Very Severe(>20)	2.6(2.0,3.3)	1.91(1.45,2.51)	2.35(1.79,3.08)	1.59(0.67,3.81)
Stroke Impairment Categories (Motor Only)	Loss-Con		1.58(1.37,1.81)	1.42(1.23,1.64)	1.97(0.98,3.99)
	Mo-Co-Se	1.22(1.10,1.34)	1.16(1.04,1.30)	1.13(1.01,1.27)	1.41(0.85,2.33)
	Mo-Co	1.17(1.06,1.29)	1.02(0.92,1.14)	1.04(0.93,1.16)	1.12(0.67,1.87)
	Mo-Se	0.86(0.75,0.97)	0.89(0.77,1.02)	0.88(0.75,1.03)	0.95(0.51,1.77)
	No-Mo	0.86(0.75,1.00)	0.80(0.68,0.94)	0.78(0.65,0.93)	1.30(0.67,2.54)
	None	1.88(1.66,2.14)	1.55(1.34,1.79)	1.92(1.64,2.24)	0.99(0.45,2.20)
<b>Organisation- related factors</b>					

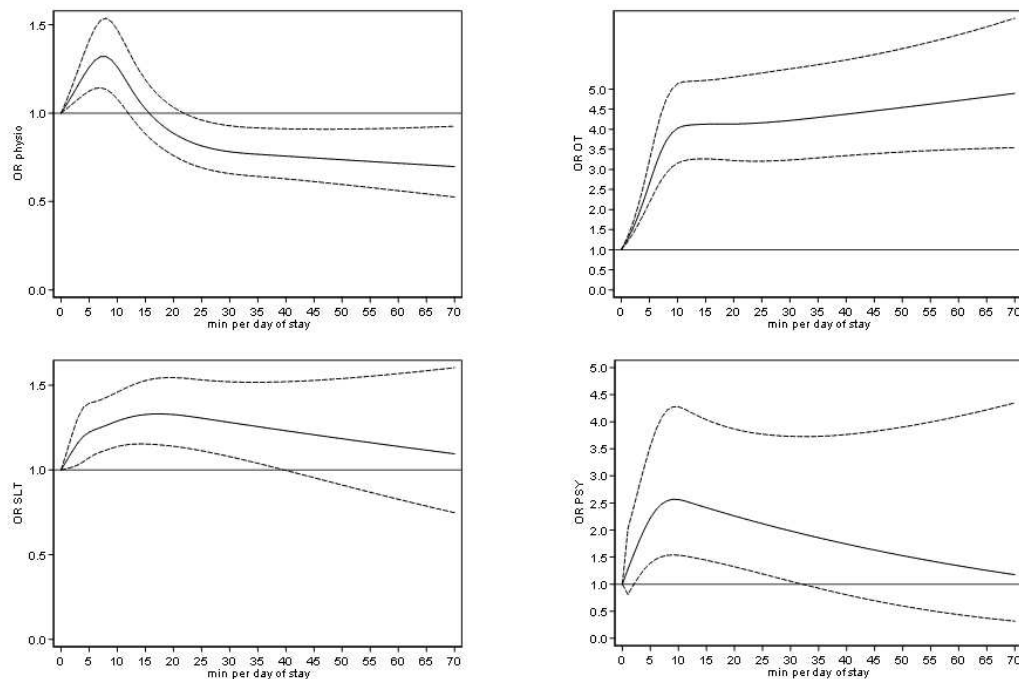
72hr Swallow assess (No)	Yes	1.59(1.47,1.71)	1.19(1.08,1.30)	1.74(1.60,1.89)	1.54(1.06,2.25)
72hr Clinical Assessment(No)	Yes	1.43(1.29,1.60)	1.15(1.04,1.29)	1.16(1.06,1.26)	
No. any assessments (0-3)		0.97(0.97,0.98)	0.88(0.88,0.89)	0.94(0.94,0.95)	0.84(0.79,0.91)
Thrombolysis available (24hrs day)	Non-24hrs/UA	0.92(0.73,1.15)	0.81(0.60,1.09)	0.79(0.63,1.00)	1.58(0.88,2.82)
Ward Round 7d per wk	Yes	0.91(0.79,1.05)	0.93(0.76,1.12)	0.86(0.74,1.00)	0.71(0.50,1.01)
Median Length of stay in Unit		1.02(1.01,1.04)	1.02(0.99,1.04)	1.02(1.01,1.04)	1.03(1.00,1.06)
Team Type (RATa)	RATc	1.05(0.92,1.20)	0.95(0.80,1.14)	1.03(0.89,1.18)	1.04(0.69,1.58)
	NRAT	0.92(0.66,1.26)	1.03(0.68,1.56)	0.95(0.68,1.33)	0.70(0.32,1.54)
	NAIT	0.11(0.03,0.38)	0.26(0.06,1.12)	0.12(0.03,0.41)	0.998(0.942,1.058)
Qualified Nurses (WTE/ 10bds)		0.96(0.94,0.98)	0.97(0.94,1.00)	0.96(0.94,0.98)	1.02(0.94,1.11)
Nurse support workers (WTE/ 10bds)		1.04(1.01,1.08)	1.03(0.99,1.08)	1.05(1.01,1.08)	0.62(0.33,1.17)
Qualified Therapists (WTE/ 10bds)		0.97(0.84,1.13)	1.54(1.27,1.87)	1.02(0.81,1.28)	1.62(0.34,7.76)
Therapy support worker (WTE/ 10bds)		1.30(1.03,1.65)	1.20(0.95,1.52)	1.37(0.95,1.99)	NA
No. Therapies available 6/7 days/ wk (0)	1	1.12(0.92,1.36)	1.04(0.80,1.34)	1.12(0.92,1.37)	1.23(0.77,1.95)
	2 or more	0.98(0.85,1.12)	1.04(0.86,1.25)	0.99(0.86,1.14)	0.83(0.58,1.18)
Access to Social Wk in 5days (Yes)	No	0.82(0.57,1.17)	0.84(0.51,1.37)	0.83(0.57,1.19)	1.66(0.83,3.31)
Access to ESD Team	Non-spec ESD	0.96(0.75,1.22)	1.02(0.74,1.41)	1.08(0.85,1.38)	1.84(1.12,3.01)
	None	1.01(0.85,1.20)	0.99(0.79,1.25)	0.97(0.81,1.15)	0.99(0.59,1.67)
Access to CRT	Yes	0.96(0.84,1.10)	1.04(0.87,1.24)	1.006(0.879,1.151)	0.56(0.40,0.80)
Constant		0.004(0.001,0.015)	0.006(0.002,0.026)	0.01(0.00,0.05)	0.01(0.00,1.15)
Team	Var(Cons)	0.13	0.25	0.13	0.06

SIC = NIHSS defined Stroke Impairment Category, Loss-Con = Any Loss of Consciousness, Motor = Motor only impairments (most common group), Mo-Co-Se = Motor + Cognitive + Sensory impairments, Mo-Co = Motor + Cognitive Impairments only, Mo-Se = Motor + Sensory Impairments only, No-Mo – Any other Non-motor impairment combination, mRS = modified Rankin Score, RATa = SSNAP defined Routinely Admitting Team with median length of stay <7days (i.e. approx acute care team), RATc = SSNAP defined RAT with median LOS>7days (i.e. approx. acute & rehab team), NRAT = SSNAP defined Non-RAT (i.e. inpatient team), NAIT = SSNAP Non Acute Inpatient Team (i.e. a rehab inpatient team), ESD = Early Support Discharge Team, CRT = Community Rehab team, WTE = Whole Time Equivalent, and NA = Not available or model dropped due to perfect prediction/collinearity.

**Supplementary Figure 1.** Cubic Splines Plot of the rate Ratio (95% CI) of length of stay per minute of Therapy/ inpatient day of stay (referenced to zero) - As produced from the full adjusted multilevel mixed effects ordinal logistic regression model.

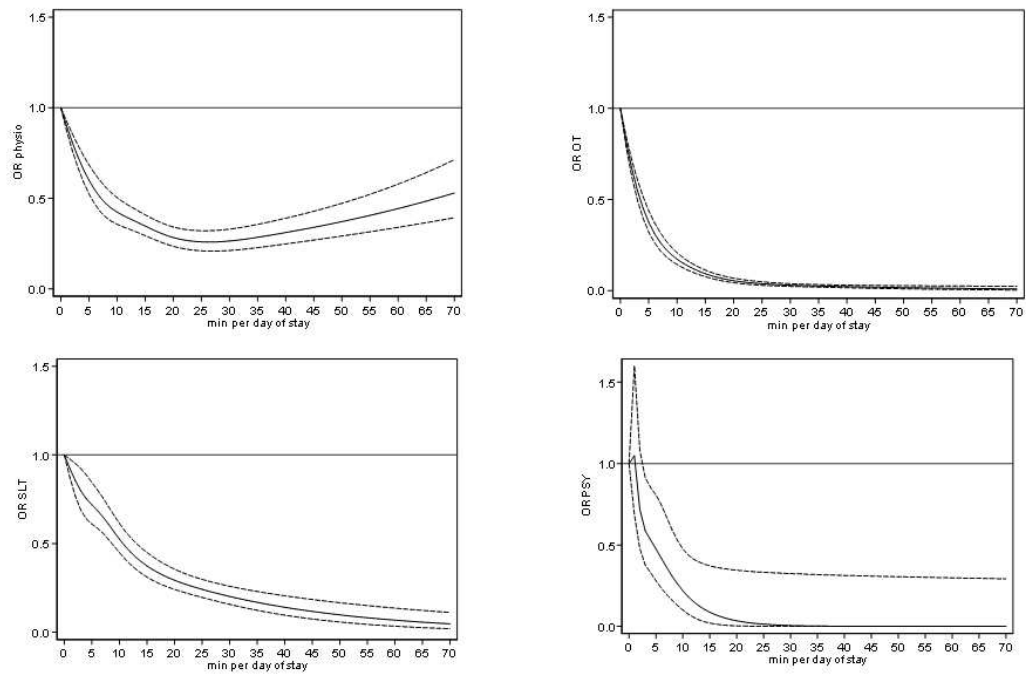


**Supplementary Figure 2.** Cubic Splines Plot of the Odds Ratio (95% CI) for Home on discharge per minute of therapy / inpatient day of stay (referenced to zero) – As produced from the fully adjusted multilevel mixed effects regression model



□

**Supplementary Figure 3.** Cubic Spline Plot of the Odds Ratio (95% CI) for death on discharge per min of therapy/ inpatient day of stay (referenced to zero) - As produced from the fully adjusted multilevel mixed effects ordinal regression



**Supplementary Table 5:** The full model associated with total therapy per day of stay and Disability, Home on Discharge, Mortality, and Length of inpatient stay– As produced from the single fully adjusted multilevel mixed effects ordinal logistic regression model.

Total Therapy per day of stay		Disability (mRs) N=104,163 OR(95% C.I.)	Home on Discharge N=104,163 OR(95% C.I.)	Mortality N=104,163 OR(95% C.I.)	Length of Inpatient Stay N=104,163 RR(95% C.I.)	
Average Minutes of Therapy per Day of Stay		0.995(0.994,0.994)	1.000(0.999,1.001)	0.966(0.964,0.964)	0.990(0.990,0.990)	
Patient received PT	Yes	1.441(1.369,1.369)	0.654(0.610,0.610)	1.197(1.092,1.092)	1.608(1.572,1.572)	
Patient received OT	Yes	0.527(0.503,0.503)	1.805(1.696,1.696)	0.302(0.281,0.281)	1.720(1.688,1.688)	
Patient received SLT	Yes	1.703(1.658,1.658)	0.632(0.609,0.609)	1.416(1.339,1.339)	1.684(1.665,1.665)	
Patient received Clinical Psyc	Yes	1.363(1.291,1.291)	0.952(0.883,0.883)	0.465(0.401,0.401)	2.066(2.020,2.020)	
<b>Admission related factors</b>						
Team Count		0.971(0.907,0.907)	1.135(1.028,1.028)	0.814(0.713,0.713)	1.063(1.033,1.033)	
Time from Entry		1.007(1.003,1.003)	0.987(0.980,0.980)	0.990(0.982,0.982)	1.008(1.006,1.006)	
Day of Entry (Mon)		Tuesday	0.987(0.948,0.948)	0.996(0.942,0.942)	0.928(0.855,0.855)	
		Wednesday	0.977(0.938,0.938)	0.954(0.902,0.902)	0.974(0.897,0.897)	
		Thursday	0.867(0.833,0.833)	1.145(1.084,1.084)	0.900(0.830,0.830)	0.951(0.935,0.935)
		Friday	0.784(0.754,0.754)	1.206(1.143,1.143)	0.761(0.701,0.701)	0.936(0.921,0.921)
		Saturday	0.931(0.893,0.893)	1.021(0.964,0.964)	0.894(0.821,0.821)	0.958(0.941,0.941)
Time from entry to 1st Stroke Unit		1.000(1.000,1.000)	1.000(0.999,0.999)	1.000(1.000,1.000)	1.000(1.000,1.000)	
Time of Entry(00.00-07.59)		08:00+	0.837(0.808,0.808)	1.187(1.129,1.129)	0.833(0.776,0.776)	
		16:00+	0.921(0.887,0.887)	1.084(1.028,1.028)	0.891(0.826,0.826)	0.952(0.937,0.937)
<b>Patient-related factors</b>						
Age		0.984(0.978,0.978)	1.053(1.044,1.044)	1.034(1.014,1.014)	1.009(1.006,1.006)	
Age Squared		1.000(1.000,1.000)	0.999(0.999,0.999)	1.000(1.000,1.000)	1.000(1.000,1.000)	
Gender (Female)		Male	0.995(0.973,0.973)	0.972(0.942,0.942)	1.398(1.334,1.334)	
		Asian, inc.	0.967(0.908,0.908)	1.383(1.261,1.261)	0.654(0.552,0.552)	1.003(0.975,0.975)
Ethnicity (White)		Chinese	0.967(0.908,0.908)	1.383(1.261,1.261)	0.654(0.552,0.552)	
		black	1.128(1.040,1.040)	1.005(0.888,0.888)	0.842(0.673,0.673)	1.068(1.030,1.030)



	mixed	1.153(0.963,0.963)	0.906(0.695,0.695)	1.349(0.873,0.873)	1.090(1.007,1.007)
	not known	1.031(0.980,0.980)	0.953(0.888,0.888)	0.914(0.817,0.817)	0.996(0.975,0.975)
	other	0.990(0.909,0.909)	1.199(1.052,1.052)	0.874(0.700,0.700)	1.000(0.962,0.962)
Social Deprivation Highest to Lowest (1)	2	0.986(0.954,0.954)	1.021(0.975,0.975)	0.998(0.932,0.932)	0.999(0.985,0.985)
	3	0.989(0.956,0.956)	1.012(0.965,0.965)	1.036(0.966,0.966)	0.990(0.976,0.976)
	4	0.973(0.938,0.938)	1.061(1.009,1.009)	1.021(0.948,0.948)	0.993(0.978,0.978)
	Missing	0.917(0.847,0.847)	1.327(1.191,1.191)	0.761(0.646,0.646)	0.948(0.916,0.916)
Congestive Heart Failure	Yes	1.190(1.135,1.135)	0.972(0.908,0.908)	1.575(1.454,1.454)	0.970(0.951,0.951)
Hypertension	Yes	0.967(0.945,0.945)	1.046(1.014,1.014)	0.952(0.909,0.909)	1.018(1.008,1.008)
Atrial Fibrillation	Yes	1.084(1.054,1.054)	0.984(0.947,0.947)	1.374(1.308,1.308)	1.004(0.992,0.992)
Diabetes	Yes	1.132(1.101,1.101)	0.946(0.911,0.911)	1.177(1.112,1.112)	1.022(1.010,1.010)
Previous Stroke/TIA?	Yes	0.945(0.921,0.921)	1.121(1.083,1.083)	0.883(0.840,0.840)	0.978(0.968,0.968)
Disability at transfer from previous team (mRS)	1	0.885(0.679,0.679)	1.079(0.782,0.782)	0.454(0.169,0.169)	0.752(0.675,0.675)
	2	1.337(1.058,1.058)	0.937(0.708,0.708)	1.188(0.586,0.586)	0.918(0.836,0.836)
	3	2.286(1.809,1.809)	0.635(0.480,0.480)	1.844(0.918,0.918)	0.998(0.910,0.910)
	4	4.011(3.176,3.176)	0.457(0.346,0.346)	2.856(1.425,1.425)	1.125(1.026,1.026)
	5	7.779(6.125,6.125)	0.307(0.229,0.229)	5.470(2.721,2.721)	1.237(1.126,1.126)
Pre-morbid disability (mRS, 0)	1	1.461(1.414,1.414)	0.861(0.824,0.824)	1.295(1.209,1.209)	1.044(1.029,1.029)
	2	2.164(2.084,2.084)	0.726(0.688,0.688)	1.519(1.411,1.411)	1.056(1.039,1.039)
	3	3.052(2.940,2.940)	0.615(0.583,0.583)	1.466(1.369,1.369)	1.049(1.033,1.033)
Stroke Type (Infarction)	4	4.401(4.191,4.191)	0.543(0.504,0.504)	1.244(1.145,1.145)	0.984(0.964,0.964)
	5	5.219(4.789,4.789)	0.550(0.476,0.476)	0.833(0.729,0.729)	0.928(0.896,0.896)
	Haemorrhage	1.666(1.607,1.727)	0.621(0.589,0.653)	1.461(1.367,1.561)	1.184(1.167,1.202)
Stroke Severity (NIHSS, Mild)	Moderate(5-14)	1.483(1.385,1.385)	0.715(0.650,0.650)	1.915(1.566,1.566)	1.246(1.207,1.207)
	Severe(15-20)	2.327(2.133,2.133)	0.473(0.417,0.417)	2.744(2.207,2.207)	1.350(1.300,1.300)
	Very Severe(>20)	2.186(1.973,1.973)	0.443(0.380,0.380)	2.241(1.769,1.769)	1.308(1.253,1.253)
Stroke Impairment Categories (Motor Only)	Loss-Con	1.305(1.219,1.219)	0.899(0.807,0.807)	1.601(1.421,1.421)	0.897(0.873,0.873)
	Mo-Co-Se	0.989(0.950,0.950)	1.007(0.954,0.954)	1.179(1.070,1.070)	0.984(0.968,0.968)
	Mo-Co	0.900(0.867,0.867)	1.094(1.041,1.041)	1.077(0.979,0.979)	0.934(0.919,0.919)
	Mo-Se	0.925(0.888,0.888)	1.090(1.031,1.031)	0.861(0.761,0.761)	0.950(0.933,0.933)

	No-Mo	0.709(0.677,0.677)	1.237(1.165,1.165)	0.827(0.720,0.720)	0.872(0.854,0.854)
	None	0.798(0.756,0.756)	1.198(1.118,1.118)	1.574(1.390,1.390)	0.998(0.976,0.976)
<b>Organisation- related factors</b>					
72hr Swallow assess (No)	Yes	1.440(1.395,1.395)	0.758(0.726,0.726)	1.248(1.168,1.168)	1.211(1.195,1.195)
72hr Clinical Assessment(No)	Yes	0.847(0.833,0.833)	1.101(1.077,1.077)	0.902(0.876,0.876)	<b>0.898(0.892,0.892)</b>
Thrombolysis available (24hrs day)	Non-24hrs/UA	1.237(0.920,0.920)	0.670(0.427,0.427)	0.920(0.699,0.699)	1.113(0.961,0.961)
Ward Round 7d per wk	Yes	1.019(0.837,0.837)	1.272(0.943,0.943)	0.891(0.745,0.745)	1.060(0.961,0.961)
Median Length of stay in Unit		0.991(0.973,0.973)	1.038(1.008,1.008)	1.027(1.008,1.008)	1.025(1.015,1.015)
	RATc	1.064(0.951,0.951)	1.011(0.862,0.862)	1.001(0.857,0.857)	1.097(1.044,1.044)
Team Type (RATa)	NRAT	0.988(0.691,0.691)	0.837(0.489,0.489)	0.957(0.657,0.657)	0.876(0.736,0.736)
	NAIT	1.488(0.504,0.504)	0.223(0.044,0.044)	0.213(0.052,0.052)	1.046(0.618,0.618)
Qualified Nurses (WTE/ 10bds)		1.010(0.978,0.978)	0.970(0.924,0.924)	0.971(0.944,0.944)	0.969(0.954,0.954)
Nurse support workers (WTE/ 10bds)		0.943(0.903,0.903)	1.025(0.959,0.959)	1.033(0.992,0.992)	1.048(1.025,1.025)
No. Therapies available 6/7 days/ wk (0)	1	0.904(0.699,0.699)	1.097(0.741,0.741)	1.169(0.922,0.922)	1.084(0.954,0.954)
	2 or more	1.077(0.893,0.893)	0.968(0.727,0.727)	1.148(0.969,0.969)	0.987(0.899,0.899)
Access to Social Wk in 5days (Yes)	No	1.062(0.642,0.642)	0.651(0.302,0.302)	0.693(0.442,0.442)	0.913(0.711,0.711)
Access to ESD Team	Non-spec ESD	0.925(0.672,0.672)	1.649(1.013,1.013)	1.013(0.753,0.753)	1.014(0.865,0.865)
	None	1.016(0.809,0.809)	2.082(1.473,1.473)	1.009(0.818,0.818)	1.115(0.996,0.996)
Access to CRT	Yes	0.941(0.785,0.785)	0.839(0.637,0.637)	1.010(0.857,0.857)	0.987(0.902,0.902)
Constant	Cut Point 1	-1.53(-2.14,-0.93)			
	Cut Point 2	-0.17(-0.78,0.44)			
	Cut Point 3	0.76(0.16,1.37)			
	Cut Point 4	1.87(1.26,2.48)			
	Cut Point 5	3.39(2.78,3.99)			
	Cut Point 6	4.46(3.85,5.07)			
Constant			0.57(0.24,1.39)	0.008(0.003,0.027)	3.44(2.58(4.58)
Team	Var(Cons)	0.29(0.24,0.36)	0.69(0.56,0.85)	0.21(0.17,0.27)	0.07(0.06,0.09)
Overdispersion	ln(alpha)				-0.70(-0.71,-0.69)