

Article title: Density of Patient-Sharing Networks: Impact on the Value of Parkinson Care

Journal name: International Journal of Health Policy and Management (IJHPM)

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Supplementary file 1

Table S1. Odds ratios for logistic regression on health outcomes (adjusted)															
Parameter	Pneumonia			Orthopedic injuries			PD-related hospitalization			All PD-related complications			Mortality		
	Estim.	95% C.I.	P-value	Estim.	95% C.I.	P-value	Estim.	95% C.I.	P-value	Estim.	95% C.I.	P-value	Estim.	95% C.I.	P-value
(intercept)	0.113	0.083 - 0.154	<0.001	0.418	0.309 - 0.566	<0.001	0.666	0.456 - 0.973	0.036	0.778	0.556 - 1.090	0.144	0.000	0.000 - 0.000	<0.001
log(Density score)	0.926	0.889 - 0.964	<0.001	0.899	0.864 - 0.936	<0.001	1.023	0.971 - 1.079	0.392	0.901	0.862 - 0.941	<0.001	0.962	0.926 - 1.000	0.052
Age	1.028	1.024 - 1.032	<0.001	1.014	1.010 - 1.018	<0.001	0.964	0.960 - 0.969	<0.001	1.015	1.011 - 1.019	<0.001	1.129	1.124 - 1.135	<0.001
Sex (woman)	1.134	1.059 - 1.215	<0.001	1.520	1.417 - 1.630	<0.001	0.969	0.887 - 1.059	0.491	1.404	1.296 - 1.522	<0.001	0.665	0.621 - 0.713	<0.001
Duration of PD	0.971	0.921 - 1.023	0.271	1.063	1.009 - 1.120	0.022	1.421	1.318 - 1.533	<0.001	1.072	1.011 - 1.136	0.019	1.136	1.076 - 1.198	<0.001
PD in 2008	1.168	1.028 - 1.327	0.017	0.988	0.870 - 1.123	0.858	1.054	0.892 - 1.248	0.537	1.053	0.911 - 1.215	0.483	1.193	1.051 - 1.354	0.007
Number of providers per patient	1.014	1.000 - 1.027	0.042	1.064	1.049 - 1.080	<0.001	1.080	1.063 - 1.098	<0.001	1.074	1.056 - 1.093	<0.001	0.828	0.815 - 0.841	<0.001
Number of patients per provider	0.844	0.809 - 0.881	<0.001	0.931	0.893 - 0.970	0.001	0.983	0.928 - 1.040	0.547	0.888	0.849 - 0.929	<0.001	0.868	0.837 - 0.900	<0.001
AUC	0.601			0.606			0.671			0.616			0.788		
N	14,361			14,361			14,361			14,361			20,603		

Table S2. Parameter estimates for regression on log-transformed healthcare utilization (adjusted)																		
Parameter	Number of neurologist visits			Number of physiotherapist visits			Number of occupational therapist visits			Number of speech & language therapist visits			Number of dietician visits			Number of psychologist visits		
	Estim.	95% C.I.	P-value	Estim.	C.I.	P-value	Estim.	C.I.	P-value	Estim.	C.I.	P-value	Estim.	C.I.	P-value	Estim.	C.I.	P-value
(intercept)	1.009	0.958 - 1.061	<0.001	1.150	1.046 - 1.254	<0.001	-0.313	-0.462 - 0.164	<0.001	0.678	0.450 - 0.906	<0.001	-1.038	-1.232 - 0.844	<0.001	-0.171	-0.362 - 0.019	0.078
log(Density score)	0.068	0.062 - 0.075	<0.001	0.052	0.038 - 0.065	<0.001	0.048	0.028 - 0.068	<0.001	0.024	-0.009 - 0.057	0.156	-0.013	-0.043 - 0.017	0.409	-0.032	-0.061 - 0.003	0.029
Age	-0.015	-0.015 - 0.014	<0.001	0.013	0.011 - 0.014	<0.001	0.013	0.011 - 0.014	<0.001	0.002	-0.001 - 0.005	0.143	0.015	0.013 - 0.018	<0.001	-0.004	-0.006 - 0.001	0.003
Sex (female)	-0.045	-0.057 - 0.033	<0.001	0.036	0.011 - 0.060	0.004	0.070	0.039 - 0.101	<0.001	-0.157	-0.209 - 0.105	<0.001	0.061	0.017 - 0.106	0.006	0.029	-0.020 - 0.079	0.243
Duration of PD	-0.140	-0.143 - 0.136	<0.001	-0.065	-0.072 - 0.057	<0.001	-0.115	-0.125 - 0.105	<0.001	-0.121	-0.137 - 0.105	<0.001	-0.145	-0.160 - 0.131	<0.001	-0.115	-0.131 - 0.100	<0.001
PD in 2008	0.370	0.351 - 0.390	<0.001	0.367	0.328 - 0.407	<0.001	0.382	0.333 - 0.431	<0.001	0.399	0.322 - 0.476	<0.001	0.426	0.357 - 0.496	<0.001	0.158	0.079 - 0.237	<0.001
Number of providers per patient	0.021	0.018 - 0.024	<0.001	0.179	0.173 - 0.184	<0.001	0.053	0.047 - 0.059	<0.001	0.049	0.039 - 0.058	<0.001	0.020	0.012 - 0.028	<0.001	-0.005	-0.015 - 0.005	0.347
Number of patients per provider	-0.010	-0.017 - 0.003	0.003	-0.175	-0.189 - 0.161	<0.001	-0.056	-0.078 - 0.035	<0.001	-0.041	-0.078 - 0.003	0.032	-0.041	-0.072 - 0.009	0.012	-0.014	-0.042 - 0.013	0.310
R ²	0.248			0.212			0.065			0.040			0.080			0.054		
N	33,703			33,474			14,534			8,895			6,490			6,437		

Table S3. Parameters of regression on log-transformed healthcare costs (adjusted)						
Parameter	Without costs for PD-related complication costs			With costs for PD-related complication costs		
	Estim.	C.I.	P-value	Estim.	C.I.	P-value
(intercept)	3.319	3.221 - 3.417	<0.001	3.539	3.443 - 3.635	<0.001
Log(Density score)	-0.018	-0.031 - -0.006	0.005	-0.030	-0.043 - -0.018	<0.001
Age	0.043	0.042 - 0.044	<0.001	0.043	0.041 - 0.044	<0.001
Sex (woman)	0.132	0.109 - 0.155	<0.001	0.133	0.110 - 0.155	<0.001
Duration of PD	0.032	0.025 - 0.039	<0.001	0.036	0.030 - 0.043	<0.001
PD in 2008	0.458	0.421 - 0.496	<0.001	0.413	0.377 - 0.450	<0.001
Number of providers per patient	0.015	0.010 - 0.020	<0.001	0.015	0.010 - 0.020	<0.001
Number of patients per provider	-0.075	-0.087 - -0.062	<0.001	-0.079	-0.092 - -0.067	<0.001
R²	0.206			0.210		
N	35,414			35,414		

Table S4. Regression on the log-transformed density scores (adjusted)			
Parameter	estimates	95% CI	P-value
(intercept)	0.648	0.620-0.675	<0.001
% ParkinsonNet provider visits	1.164	1.145 – 1.184	<0.001
Number of providers per patient	0.005	0.002-0.009	0.004
Number of patients per provider	0.191	0.183 – 0.199	<0.001
R²	0.325		
N	36639		