

Supplements

Supplementary Table S1. Characteristics of nursing homes included in our study sample (n=12,576) and nursing homes excluded from the study (n=3,281)*

	Nursing homes included in the study sample (n=12,576)	Nursing homes excluded from the study (n=3,281)	p-value
	Mean±SD or N (%)		
Nursing home characteristic			
Percentage of racial/ethnic minority residents, %	19.7±21.7	22.8±23.8**	<.001
Total number of beds	108.2±59.2	92.3±58.5	<.001
Number of residents	88.9±52.8	72.8±50.7	<.001
Ownership			
For-profit	8,861 (70.5)	2415 (73.6)	<.001
Non-profit	2,938 (23.4)	657 (20.0)	<.001
Government owned	777 (6.2)	209 (6.4)	0.686
Chain affiliated	7,490 (59.6)	1221 (51.3)	<.001
Hospital affiliated	398 (3.2)	237 (8.5)	<.001
Percentage of Medicaid residents, %	60.1±22.1	58.2±29.6	.0025
Percentage of Medicare residents, %	13.4±12.0	16.7±21.4	<.001
Case mix index score	1.3±0.1	1.3±0.3	<.001
RN hours per resident day	0.7±0.4	0.8±0.7	<.001
Total nurse hours per resident day	3.8±0.8	4.1±1.2	<.001
Overall five-star rating	3.1±1.4	3.2±1.5	.011
County characteristic			
Total # of Covid-19 cases as of May 31, x1k	5.0±14.3	7.8±17.1	<.001
Total # of Covid-19 deaths as of May 31, x1k	0.3±0.9	0.4±1.0	<.001
Total populationx100k	7.7±16.8	10.8±20.6	<.001
Percentage population ≥65 years, %	16.9±4.0	15.8±3.8	<.001
Medium household income x \$1k	56.4±15.0	57.2±14.8	.0123
Percentage population with high school graduation, %	87.5±5.3	86.9±6.1	<.001
Market competition for nursing home care	78.9±24.8	82.7±23.1	<.001

* Nursing homes were excluded because they did not report COVID-19 data for the week ending May 31, did not pass CMS' quality assurance check for reported data, or had missing information on the composition of racial/ethnic minority residents.

**for excluded nursing homes that did not have missing information on the composition of racial/ethnic minority residents.

Supplementary Table S2. Full model results – 2-part model for weekly number of new COVID-19 confirmed cases among nursing home residents

(Std. Err. adjusted for clustering on County_name)

weekly_case_res	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
logit						
qrt2_minority	.2213206	.0984573	2.25	0.025	.0283477	.4142934
qrt3_minority	.3658721	.1177676	3.11	0.002	.1350519	.5966924
qrt4_minority	.5654761	.1245822	4.54	0.000	.3212994	.8096528
beds	.0026087	.0012836	2.03	0.042	.0000929	.0051245
num_resident	.0060582	.0015161	4.00	0.000	.0030866	.0090298
nfp	-.0449905	.0853616	-0.53	0.598	-.2122961	.1223151
gov	-.5796669	.1934185	-3.00	0.003	-.9587601	-.2005736
chain	.0174332	.0615713	0.28	0.777	-.1032443	.1381107
_Ihospbase_2	-.5271379	.3005016	-1.75	0.079	-1.11611	.0618345
pctmcaid	-.002322	.0017195	-1.35	0.177	-.0056921	.0010481
pctmcare	-.000606	.0033375	-0.18	0.856	-.0071473	.0059354
avg_casemix	.2975679	.1952161	1.52	0.127	-.0850486	.6801845
rn_hprd	-.2990704	.1353121	-2.21	0.027	-.5642772	-.0338637
total_hprd	.0069004	.0597412	0.12	0.908	-.1101901	.1239909
overall	.0022556	.0256067	0.09	0.930	-.0479325	.0524438
cnty_casek_nonh	.0003797	.0022658	0.17	0.867	-.0040612	.0048206
tot_pop_100k	.0179759	.003058	5.88	0.000	.0119824	.0239694
pct_65	-.0206646	.0157286	-1.31	0.189	-.0514921	.0101629
med_inc_k	.0202784	.0037182	5.45	0.000	.0129909	.0275659
pct_hs	-.0435531	.0112896	-3.86	0.000	-.0656802	-.0214259
competition	.0066541	.0025222	2.64	0.008	.0017107	.0115974
_Istate_2	-.9788983	.4040475	-2.42	0.015	-1.770817	-.1869798
_Istate_3	-.8613454	.5083384	-1.69	0.090	-1.85767	.1349796
_Istate_4	-1.958717	.3377471	-5.80	0.000	-2.620689	-1.296745
_Istate_5	-.1287857	.3278325	-0.39	0.694	-.7713255	.5137542
_Istate_6	.2268831	.3222338	0.70	0.481	-.4046835	.8584498
_Istate_7	1.14984	.2570111	4.47	0.000	.6461072	1.653572
_Istate_8	-.8065602	.3018725	-2.67	0.008	-1.39822	-.214901
_Istate_9	-.1537593	.2746533	-0.56	0.576	-.6920699	.3845514
_Istate_10	0	(omitted)				
_Istate_11	-.330248	.3669446	-0.90	0.368	-1.049446	.3889501
_Istate_12	-1.516512	1.015299	-1.49	0.135	-3.506461	.4734364
_Istate_13	-.1321808	.267704	-0.49	0.621	-.656871	.3925095
_Istate_14	-.2774598	.3051511	-0.91	0.363	-.875545	.3206254
_Istate_15	-2.806477	.8392788	-3.34	0.001	-4.451433	-1.16152
_Istate_16	-.0025577	.3227159	-0.01	0.994	-.6350692	.6299539
_Istate_17	.2588075	.2799184	0.92	0.355	-.2898225	.8074375
_Istate_18	.2316504	.2808183	0.82	0.409	-.3187433	.7820441
_Istate_19	.296535	.3000929	0.99	0.323	-.2916362	.8847062
_Istate_20	-1.143453	.8082194	-1.41	0.157	-2.727534	.4406277
_Istate_21	.1090953	.2892595	0.38	0.706	-.4578429	.6760336
_Istate_22	.1856685	.3442901	0.54	0.590	-.4891277	.8604647
_Istate_23	-.7477059	.352466	-2.12	0.034	-1.438526	-.0568853
_Istate_24	.3282738	.2981625	1.10	0.271	-.256114	.9126616
_Istate_25	0	(omitted)				
_Istate_26	-.6941738	.3059534	-2.27	0.023	-1.293832	-.094516
_Istate_27	-.2458747	.775875	-0.32	0.751	-1.766562	1.274812
_Istate_28	-.1841406	.3566514	-0.52	0.606	-.8831645	.5148833
_Istate_29	.3832696	.4689443	0.82	0.414	-.5358444	1.302384
_Istate_30	1.000121	.2843244	3.52	0.000	.442855	1.557386
_Istate_31	-.8224137	.4720351	-1.74	0.081	-1.747585	.102758
_Istate_32	-1.150104	.3298866	-3.49	0.000	-1.79667	-.503538
_Istate_33	-.2336047	.272288	-0.86	0.391	-.7672794	.30007
_Istate_34	-.1947725	.2694948	-0.72	0.470	-.7229726	.3334277
_Istate_35	-1.764861	.4215029	-4.19	0.000	-2.590992	-.9387305

_Istate_36	-2.537319	1.088917	-2.33	0.020	-4.671556	-.4030813
_Istate_37	.0498111	.2607306	0.19	0.848	-.4612115	.5608336
_Istate_38	.0523173	.3047229	0.17	0.864	-.5449286	.6495632
_Istate_39	-.2578799	.3040581	-0.85	0.396	-.8538229	.3380631
_Istate_40	-.547085	.5113592	-1.07	0.285	-1.549331	.4551607
_Istate_41	-1.499719	.3851333	-3.89	0.000	-2.254566	-.7448712
_Istate_42	-1.318528	.2617646	-5.04	0.000	-1.831577	-.8054786
_Istate_43	-.8714994	.4144638	-2.10	0.035	-1.683834	-.0591652
_Istate_44	-.4651832	.3319073	-1.40	0.161	-1.115709	.1853431
_Istate_45	0	(omitted)				
_Istate_46	-.9222316	.4002842	-2.30	0.021	-1.706774	-.1376889
_Istate_47	-.3387897	.3440293	-0.98	0.325	-1.013075	.3354953
_Istate_48	0	(omitted)				
_Istate_49	-.4529145	1.126168	-0.40	0.688	-2.660163	1.754334
_cons	-.4762874	.968046	-0.49	0.623	-2.373623	1.421048

glm						
qrt2_minority	-.0612514	.1522909	-0.40	0.688	-.3597362	.2372333
qrt3_minority	-.0527761	.1575098	-0.34	0.738	-.3614897	.2559374
qrt4_minority	.1181105	.1441819	0.82	0.413	-.1644808	.4007018
beds	.003234	.0029899	1.08	0.279	-.0026262	.0090941
num_resident	-.0059718	.003296	-1.81	0.070	-.012432	.0004883
nfp	.101428	.1485675	0.68	0.495	-.189759	.3926149
gov	.2614088	.2568038	1.02	0.309	-.2419174	.764735
chain	-.0450957	.0841999	-0.54	0.592	-.2101244	.1199331
_Ihosbase_2	-.8370123	.3425457	-2.44	0.015	-1.50839	-.165635
pctmcaid	.0027409	.0026608	1.03	0.303	-.0024743	.007956
pctmcare	.0005007	.006015	0.08	0.934	-.0112885	.0122899
avg_casemix	.2099613	.3972136	0.53	0.597	-.568563	.9884857
rn_hprd	-.1525482	.2141713	-0.71	0.476	-.5723162	.2672198
total_hprd	-.1799898	.0975091	-1.85	0.065	-.3711041	.0111245
overall	.0132529	.0337928	0.39	0.695	-.0529796	.0794855
cnty_casek_nonh	.0017104	.0014174	1.21	0.228	-.0010676	.0044885
tot_pop_100k	-.0044858	.0027551	-1.63	0.103	-.0098858	.0009142
pct_65	-.0166261	.0163846	-1.01	0.310	-.0487395	.0154872
med_inc_k	-.005238	.0044694	-1.17	0.241	-.0139978	.0035218
pct_hs	-.0213743	.0155773	-1.37	0.170	-.0519052	.0091566
competition	-.0045086	.0027876	-1.62	0.106	-.0099721	.0009549
_Istate_2	-.2917585	.4495948	-0.65	0.516	-1.172948	.5894311
_Istate_3	.4617146	.519272	0.89	0.374	-.5560398	1.479469
_Istate_4	.5981467	.3844073	1.56	0.120	-.1552777	1.351571
_Istate_5	.345467	.3747323	0.92	0.357	-.3889949	1.079929
_Istate_6	1.499331	.5177029	2.90	0.004	.4846523	2.51401
_Istate_7	.7118453	.3958215	1.80	0.072	-.0639506	1.487641
_Istate_8	.0580845	.3453546	0.17	0.866	-.6187981	.7349671
_Istate_9	-.2433219	.3597657	-0.68	0.499	-.9484498	.461806
_Istate_10	0	(omitted)				
_Istate_11	.8136584	.552485	1.47	0.141	-.2691923	1.896509
_Istate_12	-.1484332	.3717643	-0.40	0.690	-.8770778	.5802115
_Istate_13	.3827408	.3647473	1.05	0.294	-.3321509	1.097632
_Istate_14	-.2519406	.386753	-0.65	0.515	-1.009963	.5060813
_Istate_15	1.073359	.3520761	3.05	0.002	.3833027	1.763416
_Istate_16	.5030454	.3468825	1.45	0.147	-.1768318	1.182923
_Istate_17	.3422448	.3495329	0.98	0.328	-.3428271	1.027317
_Istate_18	.5343118	.3436351	1.55	0.120	-.1392006	1.207824
_Istate_19	.8505738	.3953381	2.15	0.031	.0757252	1.625422
_Istate_20	.3872081	.3101028	1.25	0.212	-.2205822	.9949984
_Istate_21	1.246042	.3366981	3.70	0.000	.5861254	1.905958
_Istate_22	1.093204	.3458235	3.16	0.002	.4154029	1.771006
_Istate_23	.6969301	.3750326	1.86	0.063	-.0381203	1.431981
_Istate_24	.6726143	.3602906	1.87	0.062	-.0335424	1.378771

_Istate_25	0	(omitted)				
_Istate_26	.5396696	.3585811	1.51	0.132	-.1631364	1.242476
_Istate_27	.1760627	.3597475	0.49	0.625	-.5290294	.8811548
_Istate_28	-.3948647	.3608473	-1.09	0.274	-1.102112	.312383
_Istate_29	1.198922	.4248933	2.82	0.005	.3661464	2.031698
_Istate_30	.774899	.3778309	2.05	0.040	.0343641	1.515434
_Istate_31	.2729192	.4773683	0.57	0.568	-.6627055	1.208544
_Istate_32	.6274803	.3129552	2.01	0.045	.0140994	1.240861
_Istate_33	.5968087	.3807297	1.57	0.117	-.1494079	1.343025
_Istate_34	.5085409	.3504175	1.45	0.147	-.1782647	1.195347
_Istate_35	-.0613406	.5408175	-0.11	0.910	-1.121323	.9986422
_Istate_36	-1.173424	.3257427	-3.60	0.000	-1.811868	-.5349796
_Istate_37	.7816934	.4515916	1.73	0.083	-.1034098	1.666797
_Istate_38	.6794831	.3396955	2.00	0.045	.0136921	1.345274
_Istate_39	.4452588	.3199838	1.39	0.164	-.1818979	1.072415
_Istate_40	.1036501	.4310884	0.24	0.810	-.7412677	.9485679
_Istate_41	.3281753	.404516	0.81	0.417	-.4646614	1.121012
_Istate_42	.1742519	.3819573	0.46	0.648	-.5743705	.9228744
_Istate_43	1.852609	.4751041	3.90	0.000	.921422	2.783796
_Istate_44	.0188949	.3458715	0.05	0.956	-.6590007	.6967906
_Istate_45	0	(omitted)				
_Istate_46	1.145621	.4722964	2.43	0.015	.2199369	2.071305
_Istate_47	.3779739	.3669545	1.03	0.303	-.3412437	1.097192
_Istate_48	0	(omitted)				
_Istate_49	.5484366	.3574142	1.53	0.125	-.1520824	1.248956
_cons	-.0870253	1.337267	-0.07	0.948	-2.70802	2.533969

Variable labels:

qrt2_minority	NH with medium proportion of racial/ethnic minority residents (1/0)
qrt3_minority	NH with medium-high prop. of racial/ethnic minority residents (1/0)
qrt4_minority	NH with high proportion of racial/ethnic minority residents (1/0)
beds	# of certified beds
num_resident	average daily resident census
nfp	non-profit (1/0)
gov	government owned (1/0)
chain	chain affiliation (1/0)
_lhospbase_2	hospital affiliated (1/0)
Pctmcaid	% of Medicaid residents in the NH
Pctmcare	% of Medicare residents in the NH
avg_casemix	NH case mix index
rn_hprd	RN staffing hrs/resident day
total_hprd	total nurse hrs/resident day (RN+LPN/LVN+CNA)
overall	5-star rating for overall quality of care
cnty_casek_nonh	county number of COVID-19 cases as of May 31
tot_pop_100k	county population size in 100k
pct_65	county % of older population (65+)
med_inc_k	county median household income in \$1000
pct_hs	county % of population with high school graduation
competition	county-level competition for nursing home residents
Istate#	indicators for states

Supplementary Table S3. Full model results – 2-part model for weekly number of new COVID-19 related deaths among nursing home residents

(Std. Err. adjusted for clustering on County_name)

weekly_covdeat~s	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
logit						
qrt2_minority	.2519161	.1079376	2.33	0.020	.0403622	.4634699
qrt3_minority	.3592293	.1236301	2.91	0.004	.1169188	.6015398
qrt4_minority	.4405758	.1323808	3.33	0.001	.1811141	.7000375
beds	.0027959	.0013953	2.00	0.045	.0000612	.0055306
num_resident	.0052476	.0016575	3.17	0.002	.0019989	.0084963
nfp	-.0257405	.1053754	-0.24	0.807	-.2322724	.1807915
gov	-.088166	.1963233	-0.45	0.653	-.4729526	.2966205
chain	.0640335	.0689244	0.93	0.353	-.0710559	.1991229
_Ihosbase_2	-.4902453	.3478825	-1.41	0.159	-1.172082	.1915919
pctmcaid	-.0030277	.0019177	-1.58	0.114	-.0067863	.0007309
pctmcare	.0007055	.0033573	0.21	0.834	-.0058746	.0072857
avg_casemix	.3623389	.1701349	2.13	0.033	.0288806	.6957972
rn_hprd	-.3477345	.1640133	-2.12	0.034	-.6691946	-.0262745
total_hprd	-.0946535	.0705583	-1.34	0.180	-.2329452	.0436382
overall	.0032675	.0290489	0.11	0.913	-.0552353	.0617703
cnty_deathk_nonh	-.1219071	.0225478	-5.41	0.000	-.1661	-.0777142
tot_pop_100k	.0225334	.0029416	7.66	0.000	.0167679	.0282989
pct_65	-.0249703	.0177323	-1.41	0.159	-.059725	.0097844
med_inc_k	.0196789	.0045434	4.33	0.000	.010774	.0285838
pct_hs	-.0489881	.0125454	-3.90	0.000	-.0735766	-.0243995
competition	.0077047	.0033737	2.28	0.022	.0010924	.0143169
_Istate_2	-.8768177	.5737434	-1.53	0.126	-2.001334	.2476987
_Istate_3	-.8804116	.3965361	-2.22	0.026	-1.657608	-.103215
_Istate_4	-1.738803	.4279447	-4.06	0.000	-2.57756	-.9000471
_Istate_5	.0563966	.4475053	0.13	0.900	-.8206976	.9334908
_Istate_6	1.43927	.3524764	4.08	0.000	.7484292	2.130111
_Istate_7	2.011698	.3780657	5.32	0.000	1.270703	2.752693
_Istate_8	-.1989408	.4084913	-0.49	0.626	-.9995691	.6016875
_Istate_9	.4214599	.3903974	1.08	0.280	-.343705	1.186625
_Istate_10	0	(omitted)				
_Istate_11	-.173241	.5532263	-0.31	0.754	-1.257545	.9110627
_Istate_12	-.642243	1.045132	-0.61	0.539	-2.690664	1.406178
_Istate_13	.4481444	.3601616	1.24	0.213	-.2577592	1.154048
_Istate_14	.4353067	.4053887	1.07	0.283	-.3592406	1.229854
_Istate_15	-1.910617	.8879502	-2.15	0.031	-3.650967	-.1702667
_Istate_16	-.1390804	.4539398	-0.31	0.759	-1.028786	.7506253
_Istate_17	.8554098	.3800023	2.25	0.024	.1106189	1.600201
_Istate_18	1.527728	.3787923	4.03	0.000	.7853084	2.270147
_Istate_19	.8346513	.434625	1.92	0.055	-.0171981	1.686501
_Istate_20	-.1784771	.8482184	-0.21	0.833	-1.840955	1.484
_Istate_21	.8303051	.3670882	2.26	0.024	.1108255	1.549785
_Istate_22	.9920963	.5078899	1.95	0.051	-.0033496	1.987542
_Istate_23	-.3925354	.5382607	-0.73	0.466	-1.447507	.6624362
_Istate_24	1.099673	.4287548	2.56	0.010	.2593291	1.940017
_Istate_25	0	(omitted)				
_Istate_26	-.3446544	.3921433	-0.88	0.379	-1.113241	.4239324
_Istate_27	.4799537	.9922622	0.48	0.629	-1.464845	2.424752
_Istate_28	-.3866637	.5347059	-0.72	0.470	-1.434668	.6613405
_Istate_29	.52837	.6470891	0.82	0.414	-.7399013	1.796641
_Istate_30	1.275815	.4031436	3.16	0.002	.4856684	2.065962
_Istate_31	-.6466991	.5804822	-1.11	0.265	-1.784423	.4910252
_Istate_32	-1.085823	.6465006	-1.68	0.093	-2.35294	.1812953
_Istate_33	.2508399	.392217	0.64	0.522	-.5178913	1.019571
_Istate_34	-.0042681	.3917308	-0.01	0.991	-.7720465	.7635102
_Istate_35	-.8983341	.4440752	-2.02	0.043	-1.768706	-.0279626

_Istate_36	-1.587539	.9916976	-1.60	0.109	-3.53123	.3561528
_Istate_37	.6817873	.4097263	1.66	0.096	-.1212616	1.484836
_Istate_38	1.259271	.4803614	2.62	0.009	.31778	2.200762
_Istate_39	-.1826454	.4401607	-0.41	0.678	-1.045345	.6800538
_Istate_40	-.7583851	.8831238	-0.86	0.390	-2.489276	.9725057
_Istate_41	-1.605806	.5291721	-3.03	0.002	-2.642964	-.5686473
_Istate_42	-1.537063	.4515561	-3.40	0.001	-2.422097	-.6520291
_Istate_43	-1.628416	1.115451	-1.46	0.144	-3.81466	.5578271
_Istate_44	.1460788	.4276504	0.34	0.733	-.6921005	.9842581
_Istate_45	0	(omitted)				
_Istate_46	-.8135767	.3886603	-2.09	0.036	-1.575337	-.0518165
_Istate_47	.1343441	.4846563	0.28	0.782	-.8155648	1.084253
_Istate_48	-1.397812	1.074137	-1.30	0.193	-3.503081	.7074575
_Istate_49	.3927539	1.161904	0.34	0.735	-1.884537	2.670044
_cons	-.4958035	1.120259	-0.44	0.658	-2.691471	1.699864

glm						
qrt2_minority	.0022214	.1513639	0.01	0.988	-.2944465	.2988892
qrt3_minority	-.3234491	.1481648	-2.18	0.029	-.6138468	-.0330513
qrt4_minority	-.2298614	.1667618	-1.38	0.168	-.5567085	.0969857
beds	.0012032	.0025373	0.47	0.635	-.0037698	.0061761
num_resident	-.0056675	.0028788	-1.97	0.049	-.0113099	-.0000252
nfp	.048217	.1047104	0.46	0.645	-.1570116	.2534456
gov	.2536048	.2569124	0.99	0.324	-.2499343	.7571438
chain	-.1600324	.0823489	-1.94	0.052	-.3214332	.0013684
_Ihospbase_2	-.1566808	.2642826	-0.59	0.553	-.6746651	.3613036
pctmcaid	.0039646	.0021539	1.84	0.066	-.0002569	.0081862
pctmcare	.0023076	.0042633	0.54	0.588	-.0060484	.0106635
avg_casemix	.6329551	.7815229	0.81	0.418	-.8988016	2.164712
rn_hprd	.0666853	.1677517	0.40	0.691	-.2621019	.3954726
total_hprd	-.1515859	.0873188	-1.74	0.083	-.3227276	.0195558
overall	-.0300026	.0353392	-0.85	0.396	-.0992661	.0392609
cnty_casek_nonh	-.0043072	.0033082	-1.30	0.193	-.0107911	.0021768
tot_pop_100k	.0066973	.0028675	2.34	0.020	.0010772	.0123175
pct_65	-.0177605	.0135893	-1.31	0.191	-.0443951	.0088741
med_inc_k	-.0024094	.004313	-0.56	0.576	-.0108627	.0060438
pct_hs	.0082551	.0174749	0.47	0.637	-.025995	.0425052
competition	-.0028861	.0026591	-1.09	0.278	-.0080978	.0023256
_Istate_2	.3642584	.3893554	0.94	0.350	-.3988641	1.127381
_Istate_3	.0458198	.2493657	0.18	0.854	-.4429281	.5345676
_Istate_4	.1076105	.3141333	0.34	0.732	-.5080795	.7233004
_Istate_5	-.1132841	.2742096	-0.41	0.680	-.650725	.4241568
_Istate_6	.1038086	.2438233	0.43	0.670	-.3740762	.5816935
_Istate_7	.0795828	.220334	0.36	0.718	-.3522639	.5114296
_Istate_8	.4571377	.2639832	1.73	0.083	-.0602598	.9745352
_Istate_9	.1508217	.2892768	0.52	0.602	-.4161505	.7177939
_Istate_10	0	(omitted)				
_Istate_11	.7092903	.3449124	2.06	0.040	.0332743	1.385306
_Istate_12	1.96187	.3033851	6.47	0.000	1.367246	2.556494
_Istate_13	-.0863022	.2656167	-0.32	0.745	-.6069013	.434297
_Istate_14	-.1410865	.2667528	-0.53	0.597	-.6639123	.3817393
_Istate_15	-.6165485	.2611895	-2.36	0.018	-1.12847	-.1046266
_Istate_16	.5634339	.3538039	1.59	0.111	-.1300089	1.256877
_Istate_17	.3276608	.3134242	1.05	0.296	-.2866394	.941961
_Istate_18	.1971289	.2482928	0.79	0.427	-.2895161	.6837739
_Istate_19	.1727114	.245694	0.70	0.482	-.3088401	.6542628
_Istate_20	.6067165	.236676	2.56	0.010	.14284	1.070593
_Istate_21	1.125638	.3469427	3.24	0.001	.4456427	1.805633
_Istate_22	.541372	.2868404	1.89	0.059	-.0208249	1.103569
_Istate_23	.4245588	.2877147	1.48	0.140	-.1393517	.9884692
_Istate_24	.6310083	.3349625	1.88	0.060	-.0255061	1.287523

_Istate_25		0	(omitted)				
_Istate_26		.4362028	.2435864	1.79	0.073	-.0412177	.9136233
_Istate_27		.254548	.2936791	0.87	0.386	-.3210524	.8301484
_Istate_28		.5031646	.5027066	1.00	0.317	-.4821222	1.488451
_Istate_29		.2417123	.2603994	0.93	0.353	-.2686612	.7520857
_Istate_30		.2456785	.2616073	0.94	0.348	-.2670624	.7584193
_Istate_31		.9690154	.8859457	1.09	0.274	-.7674062	2.705437
_Istate_32		-.9533327	.263198	-3.62	0.000	-1.469191	-.4374741
_Istate_33		.128047	.2879209	0.44	0.657	-.4362675	.6923616
_Istate_34		.5055536	.2753454	1.84	0.066	-.0341134	1.045221
_Istate_35		.1838555	.5454063	0.34	0.736	-.8851211	1.252832
_Istate_36		.0984815	.2866416	0.34	0.731	-.4633257	.6602887
_Istate_37		.3323665	.2930198	1.13	0.257	-.2419418	.9066748
_Istate_38		.9051359	.2583095	3.50	0.000	.3988585	1.411413
_Istate_39		.6949986	.4049419	1.72	0.086	-.098673	1.48867
_Istate_40		-.3276599	.2999922	-1.09	0.275	-.9156338	.260314
_Istate_41		.1043283	.2308978	0.45	0.651	-.348223	.5568797
_Istate_42		.1072035	.3336496	0.32	0.748	-.5467377	.7611447
_Istate_43		-.1248703	.4237795	-0.29	0.768	-.9554628	.7057222
_Istate_44		.051852	.2446166	0.21	0.832	-.4275877	.5312918
_Istate_45		0	(omitted)				
_Istate_46		.146338	.4034374	0.36	0.717	-.6443847	.9370607
_Istate_47		.0997345	.278816	0.36	0.721	-.4467348	.6462038
_Istate_48		-.8692259	.2555687	-3.40	0.001	-1.370131	-.3683203
_Istate_49		-.4925803	.3225628	-1.53	0.127	-1.124792	.1396312
_cons		-3.851014	1.803294	-2.14	0.033	-7.385405	-.3166221

Supplementary Table S4. Full model results – 2-part model for weekly number of new COVID-19 confirmed cases among nursing home staff

(Std. Err. adjusted for clustering on County_name)						
weekly_case_s~f	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
logit						
qrt2_minority	.215271	.0886663	2.43	0.015	.0414881	.3890538
qrt3_minority	.3807505	.0977916	3.89	0.000	.1890824	.5724186
qrt4_minority	.4987952	.1182801	4.22	0.000	.2669705	.7306199
beds	.0018158	.0012863	1.41	0.158	-.0007053	.0043368
num_resident	.0057071	.0014982	3.81	0.000	.0027707	.0086435
nfp	.0535337	.0818351	0.65	0.513	-.1068602	.2139276
gov	-.1534493	.1610462	-0.95	0.341	-.469094	.1621954
chain	-.015202	.0583534	-0.26	0.794	-.1295726	.0991686
_Ihosibase_2	.0803232	.1863412	0.43	0.666	-.2848988	.4455451
pctmcaid	-.0042821	.0015234	-2.81	0.005	-.007268	-.0012962
pctmcare	.0011078	.0028148	0.39	0.694	-.0044091	.0066248
avg_casemix	.3728081	.2143257	1.74	0.082	-.0472626	.7928787
rn_hprd	-.0734813	.1319546	-0.56	0.578	-.3321077	.185145
total_hprd	.0760505	.0549114	1.38	0.166	-.0315739	.1836748
overall	-.0168381	.0237796	-0.71	0.479	-.0634454	.0297691
cnty_casek_nonh	-.0017819	.0042186	-0.42	0.673	-.0100502	.0064864
tot_pop_100k	.0163531	.003491	4.68	0.000	.0095109	.0231953
pct_65	-.0163694	.0134074	-1.22	0.222	-.0426474	.0099086
med_inc_k	.0199686	.0035068	5.69	0.000	.0130955	.0268418
pct_hs	-.0504025	.0112725	-4.47	0.000	-.0724963	-.0283088
competition	.0092394	.0023281	3.97	0.000	.0046764	.0138023
_Istate_2	-.5888821	.4252085	-1.38	0.166	-1.422276	.2445113
_Istate_3	-.5621888	.4467338	-1.26	0.208	-1.437771	.3133934
_Istate_4	-1.759731	.3149611	-5.59	0.000	-2.377043	-1.142418
_Istate_5	-.8811936	.3696469	-2.38	0.017	-1.605688	-.156699
_Istate_6	-.1670427	.3491388	-0.48	0.632	-.8513422	.5172568
_Istate_7	.0986787	.303021	0.33	0.745	-.4952315	.6925889
_Istate_8	-.5350412	.3094843	-1.73	0.084	-1.141619	.071537
_Istate_9	-.0899713	.2970994	-0.30	0.762	-.6722754	.4923328
_Istate_10	0	(omitted)				
_Istate_11	-.084819	.3238352	-0.26	0.793	-.7195244	.5498864
_Istate_12	-.1531794	.5626955	-0.27	0.785	-1.256042	.9496835
_Istate_13	-.0212896	.2945525	-0.07	0.942	-.5986019	.5560227
_Istate_14	-.4332916	.2863358	-1.51	0.130	-.9944994	.1279162
_Istate_15	-1.481867	.6165427	-2.40	0.016	-2.690269	-.2734661
_Istate_16	-.2852554	.374494	-0.76	0.446	-1.01925	.4487392
_Istate_17	.2209499	.3107589	0.71	0.477	-.3881265	.8300262
_Istate_18	.3649856	.2728119	1.34	0.181	-.1697158	.899687
_Istate_19	.3051589	.339283	0.90	0.368	-.3598236	.9701415
_Istate_20	-1.123469	.5132587	-2.19	0.029	-2.129437	-.1175
_Istate_21	-.0732969	.3234914	-0.23	0.821	-.7073283	.5607346
_Istate_22	.2281552	.3607489	0.63	0.527	-.4788997	.93521
_Istate_23	-1.114154	.4073855	-2.73	0.006	-1.912615	-.3156932
_Istate_24	.9178865	.3152989	2.91	0.004	.2999119	1.535861
_Istate_25	0	(omitted)				
_Istate_26	-.6513403	.3005277	-2.17	0.030	-1.240364	-.0623168
_Istate_27	-.2231925	.8779522	-0.25	0.799	-1.943947	1.497562
_Istate_28	.2172394	.3281991	0.66	0.508	-.426019	.8604979
_Istate_29	.2958428	.4950215	0.60	0.550	-.6743815	1.266067
_Istate_30	1.359749	.2803208	4.85	0.000	.8103304	1.909168
_Istate_31	-.9976881	.4238389	-2.35	0.019	-1.828397	-.166979
_Istate_32	-.2844545	.2857023	-1.00	0.319	-.8444206	.2755117
_Istate_33	1.140559	.2814077	4.05	0.000	.5890101	1.692108
_Istate_34	-.5227923	.2888146	-1.81	0.070	-1.088858	.0432738
_Istate_35	-1.142743	.3872752	-2.95	0.003	-1.901789	-.3836977

_Istate_36	-2.172099	.7593842	-2.86	0.004	-3.660465	-.6837335
_Istate_37	-.229237	.2751408	-0.83	0.405	-.768503	.310029
_Istate_38	.3739791	.3331656	1.12	0.262	-.2790134	1.026972
_Istate_39	-.1092626	.3062767	-0.36	0.721	-.7095539	.4910286
_Istate_40	.1406944	.4677469	0.30	0.764	-.7760727	1.057461
_Istate_41	-1.038566	.3269634	-3.18	0.001	-1.679403	-.3977299
_Istate_42	-1.335	.2831058	-4.72	0.000	-1.889877	-.7801226
_Istate_43	-1.026797	.4728333	-2.17	0.030	-1.953534	-.100061
_Istate_44	-.4249723	.3415172	-1.24	0.213	-1.094334	.2443891
_Istate_45	0	(omitted)				
_Istate_46	-1.051769	.483769	-2.17	0.030	-1.999939	-.1035992
_Istate_47	-.1918411	.3526853	-0.54	0.586	-.8830915	.4994093
_Istate_48	-2.444244	1.085676	-2.25	0.024	-4.57213	-.3163584
_Istate_49	-.0928788	.815384	-0.11	0.909	-1.691002	1.505244
_cons	-.1351193	.9293328	-0.15	0.884	-1.956578	1.686339

glm						
qrt2_minority	.1271511	.1067893	1.19	0.234	-.0821521	.3364543
qrt3_minority	.0744526	.1157481	0.64	0.520	-.1524095	.3013146
qrt4_minority	.1809328	.1344898	1.35	0.179	-.0826623	.4445279
beds	.002283	.0015399	1.48	0.138	-.0007351	.0053012
num_resident	-.0058713	.0017673	-3.32	0.001	-.0093351	-.0024076
nfp	.1252861	.0855568	1.46	0.143	-.0424022	.2929744
gov	.0194353	.2341667	0.08	0.934	-.439523	.4783935
chain	-.0636684	.066829	-0.95	0.341	-.1946507	.067314
_Ihosbase_2	-.5375946	.1754244	-3.06	0.002	-.8814201	-.1937692
pctmcaid	.0051149	.00193	2.65	0.008	.0013321	.0088976
pctmcare	.0066451	.0034653	1.92	0.055	-.0001467	.0134369
avg_casemix	.1127841	.2506125	0.45	0.653	-.3784074	.6039756
rn_hprd	.0538452	.1789289	0.30	0.763	-.296849	.4045394
total_hprd	-.0006815	.0739939	-0.01	0.993	-.1457069	.1443438
overall	-.0208457	.0258279	-0.81	0.420	-.0714674	.0297761
cnty_casek_nonh	.0037981	.0012784	2.97	0.003	.0012924	.0063038
tot_pop_100k	-.0039853	.0026211	-1.52	0.128	-.0091226	.001152
pct_65	-.0074603	.0104135	-0.72	0.474	-.0278704	.0129499
med_inc_k	-.0007384	.0025316	-0.29	0.771	-.0057004	.0042235
pct_hs	-.0300704	.0110126	-2.73	0.006	-.0516547	-.0084862
competition	.0001972	.0024329	0.08	0.935	-.0045713	.0049657
_Istate_2	.703466	.4676058	1.50	0.132	-.2130244	1.619957
_Istate_3	.4926112	.3716399	1.33	0.185	-.2357895	1.221012
_Istate_4	.1027107	.2866873	0.36	0.720	-.4591861	.6646076
_Istate_5	.5681595	.3080941	1.84	0.065	-.0356938	1.172013
_Istate_6	.3576698	.314296	1.14	0.255	-.258339	.9736785
_Istate_7	.1167189	.2837082	0.41	0.681	-.4393389	.6727766
_Istate_8	.2340799	.2702309	0.87	0.386	-.295563	.7637227
_Istate_9	.2782053	.3093903	0.90	0.369	-.3281886	.8845992
_Istate_10	0	(omitted)				
_Istate_11	.699924	.3877209	1.81	0.071	-.0599951	1.459843
_Istate_12	-.0287617	.2976134	-0.10	0.923	-.6120733	.5545498
_Istate_13	.1559845	.3366397	0.46	0.643	-.5038172	.8157862
_Istate_14	.3187819	.3652458	0.87	0.383	-.3970867	1.03465
_Istate_15	.7574329	.6953057	1.09	0.276	-.6053412	2.120207
_Istate_16	.474547	.3301733	1.44	0.151	-.1725808	1.121675
_Istate_17	.2661892	.3562355	0.75	0.455	-.4320195	.9643979
_Istate_18	.1311835	.2791263	0.47	0.638	-.415894	.6782609
_Istate_19	.5391871	.3131033	1.72	0.085	-.0744841	1.152858
_Istate_20	.3873243	.4168191	0.93	0.353	-.4296262	1.204275
_Istate_21	.9905984	.2588116	3.83	0.000	.483337	1.49786
_Istate_22	.2563153	.2645631	0.97	0.333	-.2622189	.7748495
_Istate_23	.3955305	.3924547	1.01	0.314	-.3736665	1.164728
_Istate_24	.3762181	.3034443	1.24	0.215	-.2185217	.9709579

_Istate_25		0	(omitted)				
_Istate_26		.0781923	.3189323	0.25	0.806	-.5469036	.7032881
_Istate_27		.5653915	.2605682	2.17	0.030	.0546872	1.076096
_Istate_28		.0873835	.308339	0.28	0.777	-.5169499	.6917169
_Istate_29		.5859236	.3179811	1.84	0.065	-.0373079	1.209155
_Istate_30		.4930913	.2631986	1.87	0.061	-.0227685	1.008951
_Istate_31		-.1485744	.3527316	-0.42	0.674	-.8399156	.5427669
_Istate_32		-.3672813	.2459744	-1.49	0.135	-.8493822	.1148197
_Istate_33		.5282944	.2752602	1.92	0.055	-.0112056	1.067794
_Istate_34		.531	.2879387	1.84	0.065	-.0333495	1.095349
_Istate_35		-.6348931	.2660759	-2.39	0.017	-1.156392	-.1133939
_Istate_36		-.4130505	.2407237	-1.72	0.086	-.8848603	.0587594
_Istate_37		.2562138	.2809949	0.91	0.362	-.2945261	.8069537
_Istate_38		.1262308	.3057672	0.41	0.680	-.4730618	.7255235
_Istate_39		.052079	.3030863	0.17	0.864	-.5419593	.6461172
_Istate_40		.4211086	.5673478	0.74	0.458	-.6908727	1.53309
_Istate_41		-.172452	.3752194	-0.46	0.646	-.9078685	.5629645
_Istate_42		-.1065343	.2954745	-0.36	0.718	-.6856538	.4725851
_Istate_43		1.043252	.5728851	1.82	0.069	-.0795818	2.166086
_Istate_44		.3520297	.2974861	1.18	0.237	-.2310324	.9350918
_Istate_45		0	(omitted)				
_Istate_46		1.137133	.3986234	2.85	0.004	.3558454	1.918421
_Istate_47		.1854963	.3058493	0.61	0.544	-.4139573	.7849499
_Istate_48		-.5348712	.2642542	-2.02	0.043	-1.0528	-.0169426
_Istate_49		-.1551573	.3435228	-0.45	0.652	-.8284496	.518135
_cons		-1.143361	1.069975	-1.07	0.285	-3.240473	.9537505
