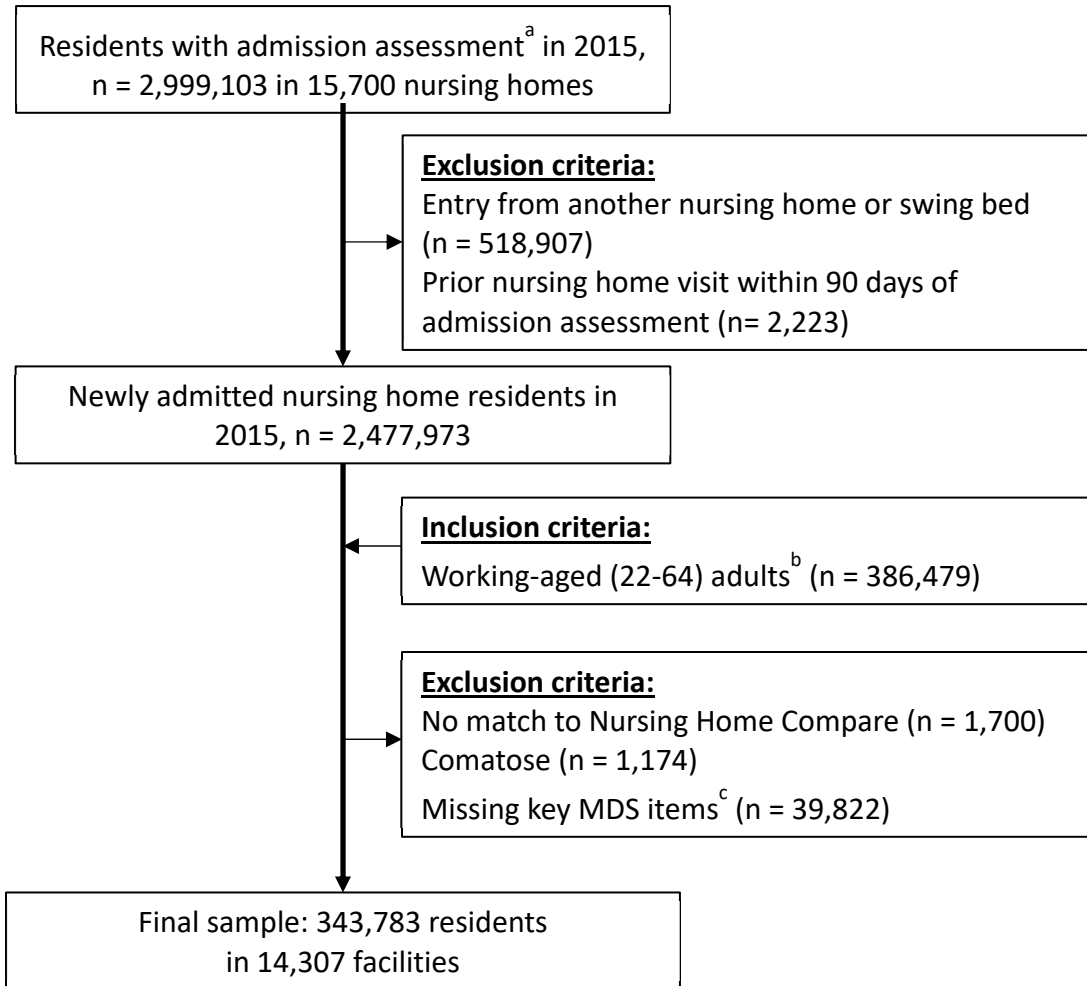


Supplementary Figure. Eligibility criteria



^a Admission assessment defined by type of entry (A1700 = 1) and Federal OBRA reason for assessment (A0310A = 01)

^b Random new admission assessment selected for those with duplicates (n = 93,813 assessments)

^c key MDS items: health inspection star rating, SMI diagnosis, age, sex, race/ethnicity, and marital status

Supplemental Table. Estimates for logistic mixed effects model of serious mental illness in working age adults admitted to U.S. nursing homes in 2015

	Adjusted odds ratio	95% Confidence Interval
<i>Level 1 effects</i>		
<i>Sociodemographic covariates</i>		
Age in years		
22-34		reference
35-44	1.18	1.10-1.26
45-54	1.11	1.05-1.18
55-64	0.98	0.93-1.04
Sex		
Female	1.23	1.21-1.26
Race/ethnicity		
Non-Hispanic White		reference
Non-Hispanic Black	0.78	0.76-0.81
Hispanic	0.65	0.62-0.69
American Indian, Alaska Native, Asian, Native Hawaiian, Pacific Islander, or Multi-racial	0.62	0.57-0.67
Marital status		
Never married		reference
Married	0.46	0.44-0.47
Widowed	0.60	0.57-0.63
Divorced/separated	0.74	0.73-0.77
Admitted from		
Community		reference
Acute hospital	0.86	0.82-0.90
Psychiatric hospital	9.05	8.26-9.92
Other	0.63	0.57-0.70
<i>Functional covariates</i>		
Physical function		
Independent/ limited assistance required for ADLs		reference
Extensive assistance required for ADLs	0.79	0.77-0.81
Dependent/total dependence for ADLs	0.54	0.53-0.56
Cognitive function		
Intact		reference
Mild impairments	1.71	1.66-1.76
Moderate impairments	2.15	2.07-2.24
Severe impairments	1.54	1.44-1.63

Clinical covariates

Comorbidities

Hypertension	0.97	0.94-0.99
Cardiovascular	0.81	0.79-0.83
Diabetes	1.04	1.02-1.07
Gastrointestinal	1.12	1.10-1.15
Pulmonary	1.41	1.37-1.44
Musculoskeletal	0.97	0.95-1.00
Genitourinary	0.91	0.89-0.94
Infection	1.01	0.99-1.04
Cancer	0.66	0.63-0.69
Malnutrition	0.80	0.75-0.85

Psychiatric comorbidities

Depression	1.19	1.17-1.22
Anxiety disorder	1.73	1.69-1.78
Post-traumatic stress disorder	2.85	2.65-3.06

Level 2 effects

Ownership

For-profit		reference
Government-owned	0.87	0.79-0.95
Nonprofit	0.73	0.69-0.76

Urbanicity

Urban	1.01	0.96-1.06
Rural		reference

Certified beds

Quartile 1 (low): < 63 beds		reference
Quartile 2: 63 to < 100 beds	1.10	1.03-1.17
Quartile 3: 100 to < 128 beds	1.05	0.98-1.11
Quartile 4 (high): ≥ 128 beds	1.17	1.10-1.25

Nursing Home Quality

1-star survey rating		reference
2-star survey rating	0.95	0.91-0.99
3-star survey rating	0.90	0.86-0.94
4-star survey rating	0.85	0.81-0.89
5-star survey rating	0.78	0.73-0.84

Note: ICC=0.1105. Values based on SAS PROC GLMIMMIX; Estimation method: Laplace.
Models adjusted for state and all covariates listed in Tables 1 and 2 (other than dementia and neurological conditions).

Appendix A. Item numbers

Variable name	MDS item number
<i>Minimum Data Set</i>	
Type of entry	A1700_ENTRY_TYPE_CD
Federal OBRA reason for assessment	A03310A_Fed_OBRA_Cd
Entered from	A1800_Entrd_From_Txt
Entry date	A1600_Entry_Date
CMS certification number	A0100B_CMS_CRTFCTN_NUM
Comatose	B0100_CMTS
Manic depression	I5900_MNC_DPRSN
Schizophrenia	I6000_SCHZOPRNIA
Psychotic disorder	I5950_PSYCHTC
Additional active diagnosis	I8000A_ICD_1 - I8000J_ICD_10
Resident age (calculated)	C_Rsdnt_Age_Num
Sex	A0800_GNDR
Race/ ethnicity	A100: Race/Ethnicity
Marital status	A1200_MRTL_STUS
Urbanicity	C_URBN_RRL
Admission from	A1800_ENTRD_FROM
Dual Eligibility	bene_ID
Cognitive Function Scale	C0500_BIMS_Scre_Num
Activities of Daily living	G0110J1_PRSNL_HYGNE_SELF G0110I1_TOILTG_SELF G0110E1_LOCOMTN_ON_SELF G0110H1_EATG_SELF
Dementia/ Alzheimer's	I4200_ALZHMR_CD I4800_DMNT_CD
Diabetes	I2900_DM_CD
Hypertension	I0700_HYPRTNSN_CD
Any cardiovascular (other than hypertension)	I0200_ANEMIA_CD I0300_DYSRHYTHMIA_CD I0400_CAD_CD I0500_DVT_CD I0600_HRT_FAILR_CD I0800_HYPOTNSN_CD I0900_PVD_CD

Any musculoskeletal	I3700_ARTHTS_CD I3800_OSTPRS_CD I3900_HIP_FRCTR_CD I4000_OTHR_FRCTR_CD
Any neurological (other than dementia/Alzheimer's)	I4300_APHASIA_CD I4400_CRBRL_PLSY_CD I4500_STRK_CD I4900_HEMIPLG_CD I5000_PARAPLG_CD I5100_QUADPLG_CD I5200_MS_CD I5250_HNTGTN_CD I5300_PRKNSN_CD I5350_TOURT_CD I5400_SZRE_CD I5500_BRN_INJURY_CD
Any pulmonary	I6200_ASTHMA_CD I6300_RSPRTRY_FAILR_CD
Any cancer	0100_CNCR_CD
Any gastrointestinal	I1100_CRRHS_CD I1200_GERD_CD I1300_ULCRTV_CLTS_CD
Any genitourinary	I1400_BPH_CD I1500_ESRD_CD I1550_NRGNC_BLADR_CD I1650_OBSTRCT_URPTHY_CD
Any infection	I1700_MDRO_CD I2000_PNEUMO_CD I2100_SPTCMIA_CD I2200_TB_CD I2300_UTI_CD I2400_VRL_HPT_CD I2500_WND_INFCTN_CD
Malnutrition	I5600_MALNTRTN_CD
Depression	I5800_DPRSN_CD
Anxiety	I5700_ANXTY_DSORDR_CD
Post-traumatic stress disorder	I6100_PTSD_CD

<i>Nursing Home Compare</i>	
Provider number	provnum
File Date	filedate
Health inspection	survey_rating
Overall composite	overall_rating
Quality rating	quality_rating
Staffing rating	staffing_rating
RN staffing	RN_staffing_rating
location (state)	state
ownership type	ownership
number of certified beds	bedcert

Appendix B. ICD Codes

Diagnosis	ICD-9 code	ICD-10 code
Schizophrenia-related		
Schizophrenia	295.00 - 295.95	F20.0 - F20.9
Schizoaffective	included above	F25.0, F25.1 F25.8, F25.9
Schizophreniform	included above	included above
Manic Depression	296.0, 296.1 296.4 - 296.8	F31.0-F31.9
Psychotic disorders		
Brief psychotic disorder	298.3, 298.4 298.8	F23
Delusional disorder	297.1	F22
Major depressive disorder (severe, psychotic features)	298.0	F32.3 F33.3
Others	298.1 298.9	F28 F29