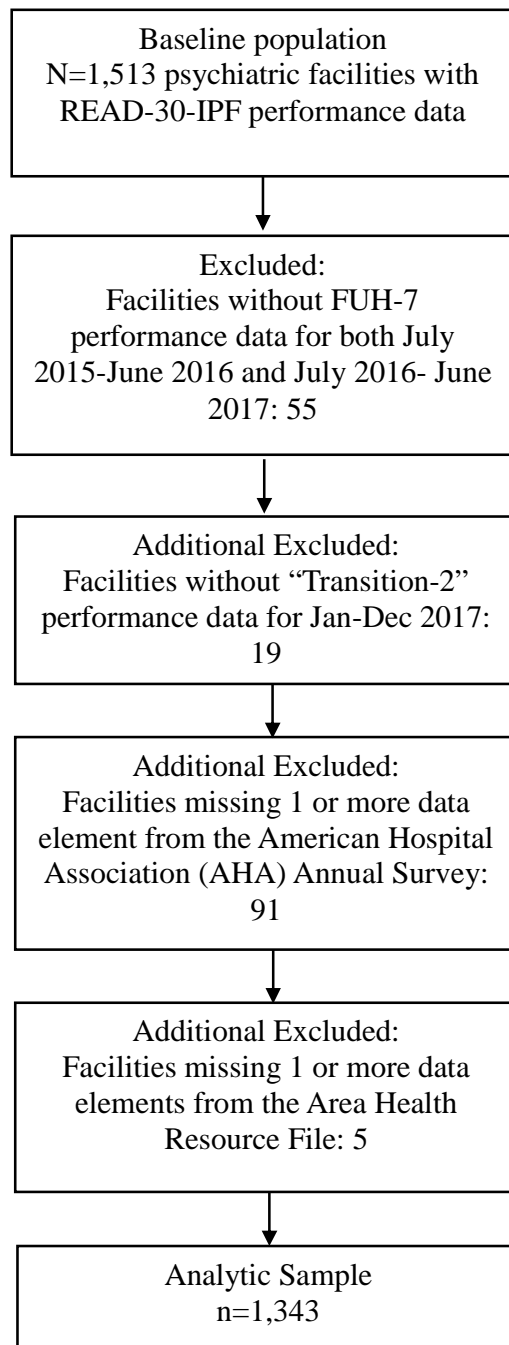


Appendix 1. Missing data details**Reasons for missing IPFQR care coordination measure performance for facilities with publicly reported readmission rates (n=1,631)**

	Facilities with Publicly Available Performance Rates	Facilities where the Number of Cases is Too Few to Report (i.e. number of cases doesn't meet the required minimum amount for public reporting, number of cases is too small to reliably gauge performance, and/or to protect personal health information)	Facilities where Results are Not Available for Reporting Period (i.e. facility elected not to submit data for reporting period, elected to suppress measure from public reporting, or had no claims data for the measure)	No Cases Met Criteria for Measure (i.e. facility didn't have any cases meet the inclusion criteria for the measure)
“Transition-1” (Jan-Dec 2017)	1,493 (98.68%)	1 (0.07%)	11 (0.73%)	8 (0.53%)
“Transition-2” (Jan-Dec 2017)	1,491 (98.55%)	1 (0.07%)	11 (0.73%)	10 (0.66%)
FUH-7 (July 2015-June 2016)	1,116 (73.76%)	368 (24.32%)	24 (1.59%)	5 (0.33%)
FUH-30 (July 2015-June 2016)	1,300 (85.92%)	184 (12.16%)	24 (1.59%)	5 (0.33%)
FUH-7 (July 2016-June 2017)	1,454 (96.10%)	54 (3.57%)	5 (0.33%)	0 (0%)
FUH-30 (July 2016-June 2017)	1,454 (96.10%)	54 (3.57%)	5 (0.33%)	0 (0%)

Source: Hospital Compare

Missing data flow diagram



Appendix 2. Measure specifications for the IPFQR measures

30-Day Readmission Measure

Measure Short Name	READM-30-IPF
Measure Full Name	Thirty-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility
Measure Type	Outcome measure
NQF Endorsement Status	Endorsed, NQF ID: 2860
Numerator	Discharges from inpatient psychiatric facilities (facilities paid through the IPF PPS) that result in readmissions to general medical acute care facilities (facilities paid through the IPPS or critical access hospitals) or inpatient psychiatric facilities (facilities paid through the IPF PPS) within 30-days of discharge
Denominator	Discharges from inpatient psychiatric facilities
Inclusion Criteria	<ul style="list-style-type: none"> • Discharge from a psychiatric facility paid through the IPF PPS • Principal discharge diagnosis of a mental health disorder, substance use disorder, or dementia/Alzheimer’s disease • 18 years or older at time of admission • Alive at time of discharge • Enrolled in Medicare Parts A and B for twelve months prior to the admission, during the admission, and for one month following the admission
Exclusion Criteria	<ul style="list-style-type: none"> • Discharges against medical advice • Transfers (defined as an admission to another psychiatric facility or acute care hospital that occurs on the day of discharge or the day following discharge from the index admission) • Readmissions to the same psychiatric facility within two days of discharge as these readmissions are combined into the same claim as the index admission and thus do not appear as readmissions due to the interrupted stay billing policy • Encounters with subsequent planned readmissions based on the CMS 30-day Hospital Wide Readmission Measure Planned Readmission Algorithm • Encounters with unreliable demographic and vital status data
Risk Adjustment	The READM-30-IPF measure is risk adjusted using a hierarchical logistic regression model. The risk adjustment is based on patient’s age, gender, principal discharge diagnosis for the index admission, medical and psychiatric comorbidities, history of suicide attempt/self-harm, history of aggression, or history of being discharged against medical advice. The comorbidity and history risk factors are based on claims from the index admission and from the twelve months prior to admission.
Measure	Claims-based measure

Collection	
Sampling	No sampling
Data Elements Publicly Available	READM-30-IPF_Denominator READM-30-IPF_Rate READM-30-IPF_Lower_Estimate READM-30-IPF_Higher_Estimate
Sources	<p>CMS. “Inpatient Psychiatric Facility Quality Reporting Program Claims-Based Measure Specifications.” Quality Reporting Center, December 2018. https://www.qualityreportingcenter.com/globalassets/ipf-tools-and-resources/181203_fy2019_ipfqr_cbm_specs_508.pdf.</p> <p>CMS. “Inpatient Psychiatric Facility Quality Reporting Program Manual.” Quality Reporting Center, November 10, 2016. https://www.qualityreportingcenter.com/globalassets/migrated-pdf/ipf_programmanual_v2.2_20161110_final508.pdf.</p> <p>Duseja, Reena, and Megan Keenan. “Measure Dry Run: Thirty-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility.” October 31, 2017. https://www.qualityreportingcenter.com/en/inpatient-quality-reporting-programs/inpatient-psychiatric-facilities-quality-reporting-program/archived-events/ipfqr-event163/.</p> <p>CMS Measure Inventory Tool (CMIT). “Thirty-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility (IPF).” Centers of Medicare and Medicaid Services, May 31, 2019. https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=2800.</p>

7-Day and 30-Day Follow-up Measures

Measure Short Name	FUH-7 or FUH-30
Measure Full Name	Follow-Up After Hospitalization for Mental Illness (within 7-days or 30-days)
Measure Type	Process measure
NQF Endorsement Status	Endorsed, NQF ID: 0576
Numerator	Discharges from inpatient psychiatric facilities that have an outpatient mental health encounter (includes partial hospitalization, intensive outpatient treatment, or outpatient visit with a psychiatrist, neurologist, psychiatric nurse practitioner, psychiatric physician assistant, psychologist, clinical social worker, and psychiatric occupational therapist) within 7-days or 30-days of discharge
Denominator	Discharges from inpatient psychiatric facilities
Inclusion Criteria	<ul style="list-style-type: none"> Discharge from a psychiatric facility paid through the IPF PPS Principal discharge diagnosis of a mental health disorder (does not include substance use disorders or dementia/Alzheimer’s disease)

	<ul style="list-style-type: none"> • Discharged alive • Continuous enrollment in Medicare Parts A and B during the month of the discharge date and at least one month after the discharge date • Six years of age or older on the date of discharge
Exclusion Criteria	<ul style="list-style-type: none"> • Admitted or transferred to acute and non-acute inpatient facilities (SNF, Hospice, inpatient rehab, respite, intermediate care facility, residential substance abuse and psychiatric treatment facilities) within the follow-up period (includes both psychiatric and medical facilities) • Discharged/transferred to other institutions (includes inpatient care, skilled nursing facility, court/law enforcement, inpatient rehabilitation facility, long-term care hospital) based on discharge code • Death during the follow-up period • Patients who use hospice services or elect to use a hospice benefit any time during the measurement year
Risk Adjustment	None
Measure Collection	Claims-based measure (i.e. follow-up must be billed to Medicare to be counted towards measure)
Sampling	No sampling
Citations	<p>CMS. “Inpatient Psychiatric Facility Quality Reporting Program Claims-Based Measure Specifications.” Quality Reporting Center, December 2018. https://www.qualityreportingcenter.com/globalassets/ipf-tools-and-resources/181203_fy2019_ipfqr_cbm_specs_508.pdf.</p> <p>CMS. “Inpatient Psychiatric Facility Quality Reporting Program Manual.” Quality Reporting Center, November 10, 2016. https://www.qualityreportingcenter.com/globalassets/migrated-pdf/ipf_programmanual_v2.2_20161110_final508.pdf.</p> <p>CMS Measure Inventory Tool (CMIT). “Follow-Up After Hospitalization for Mental Illness (FUH).” Centers of Medicare and Medicaid Services, May 31, 2019. https://cmit.cms.gov/CMIT_public/ReportMeasure?measureId=745</p>

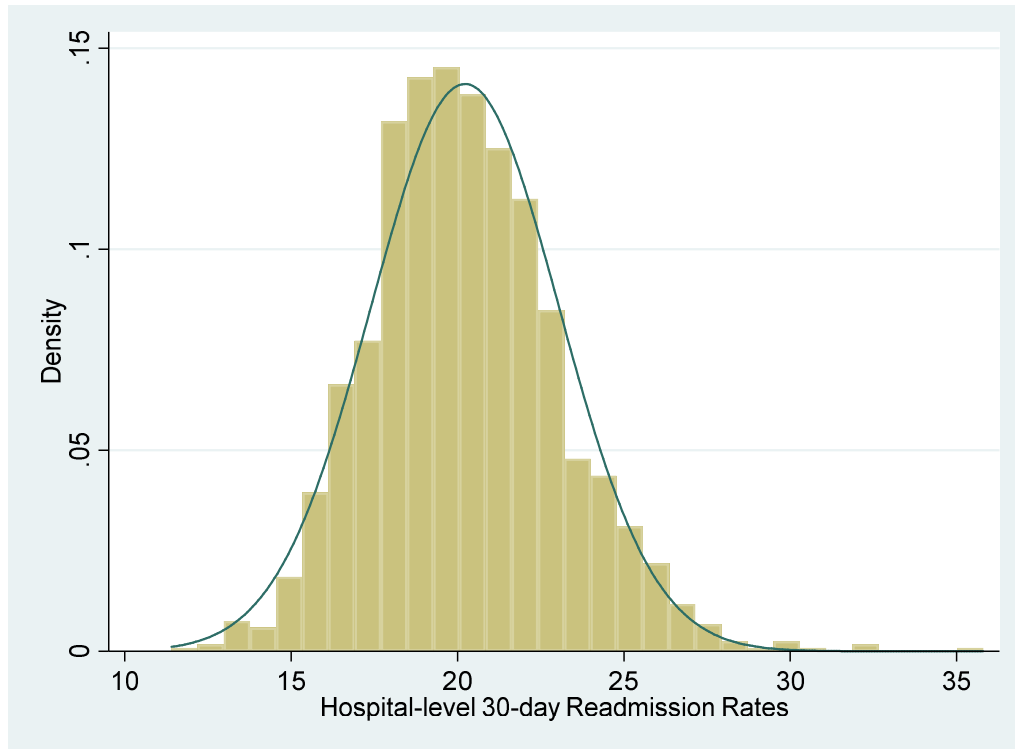
Transition Record Measures

Measure Short Name	No official short name; referred to in this paper as “Transition-1” and “Transition-2”
Measure Full Name	“Transition-1” – Transition Record with Specified Elements Received by Discharged Patients “Transition-2” – Timely Transmission of Transition Record
Measure Type	Process measure
NQF Endorsement Status	“Transition-1” – Endorsement Removed, NQF ID: 0649 “Transition-2” – Not Endorsed, NQF ID: 0648
Numerator	“Transition-1” – Patients/caregivers who received a discharge plan at the time of discharge that includes the following eleven elements:

	<ol style="list-style-type: none"> 1) Reason for inpatient admission; 2) Major procedures and tests performed during inpatient stay and summary of results; 3) Principal diagnosis at discharge; 4) Current medication list; 5) Studies pending at discharge; 6) Contact information for obtaining pending results; 7) Post-discharge self-management instructions; 8) Medical and psychiatric advance care plan or documented reason for not providing advance care plan; 9) 24-hour/7-day contact information for emergencies related to inpatient stay; 10) Plan for follow-up care; and 11) Site designated for follow-up care <p>“Transition-2” – Discharge plan contains eleven elements and is transmitted to the facility or health care professional designated for follow-up care within 24 hours of discharge</p>										
Denominator	Discharges from inpatient psychiatric facilities (“Transition-1” and “Transition-2” have the same denominator)										
Inclusion Criteria	<ul style="list-style-type: none"> • All patients discharged from inpatient psychiatric facility, regardless of age, payer, or discharge location 										
Exclusion Criteria	<ul style="list-style-type: none"> • Death • Left against medical advice (AMA) • Elopement • Failure to return from leave 										
Risk Adjustment	None										
Measure Collection	Chart-abstracted measure (facilities must abstract charts and report aggregate rates of measure adherence to CMS)										
Sampling	<p>Sampling based on total number of discharges</p> <table border="1"> <thead> <tr> <th>Total Number of Annual Discharges</th> <th>Number of Annual Records to be Sampled</th> </tr> </thead> <tbody> <tr> <td>≥ 6,117</td> <td>1,224</td> </tr> <tr> <td>3,057 – 6,116</td> <td>20%</td> </tr> <tr> <td>609 – 3,056</td> <td>609</td> </tr> <tr> <td>0 – 608</td> <td>All cases</td> </tr> </tbody> </table>	Total Number of Annual Discharges	Number of Annual Records to be Sampled	≥ 6,117	1,224	3,057 – 6,116	20%	609 – 3,056	609	0 – 608	All cases
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0 – 608	All cases										
Citations	<p>CMS. “Inpatient Psychiatric Facility Quality Reporting Program Manual.” Quality Reporting Center, November 10, 2016. https://www.qualityreportingcenter.com/globalassets/migrated-pdf/ipf_programmanual_v2.2_20161110_final508.pdf.</p> <p>CMS Measure Inventory Tool (CMIT). “Transition Record with Specified Elements Received by Discharged Patients (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care).” Centers of Medicare and Medicaid Services, May 31, 2019. https://cmit.cms.gov/CMIT_public/ReportMeasure?measureId=2584.</p> <p>CMS Measure Inventory Tool (CMIT). “Timely Transmission of Transition</p>										

	Record (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care) (CTR-AD).” Centers of Medicare and Medicaid Services, May 31, 2019. https://cmit.cms.gov/CMIT_public/ReportMeasure?measureId=2585 .
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Appendix 3. Distribution of hospital-level 30-day readmission rates (n=1,513)



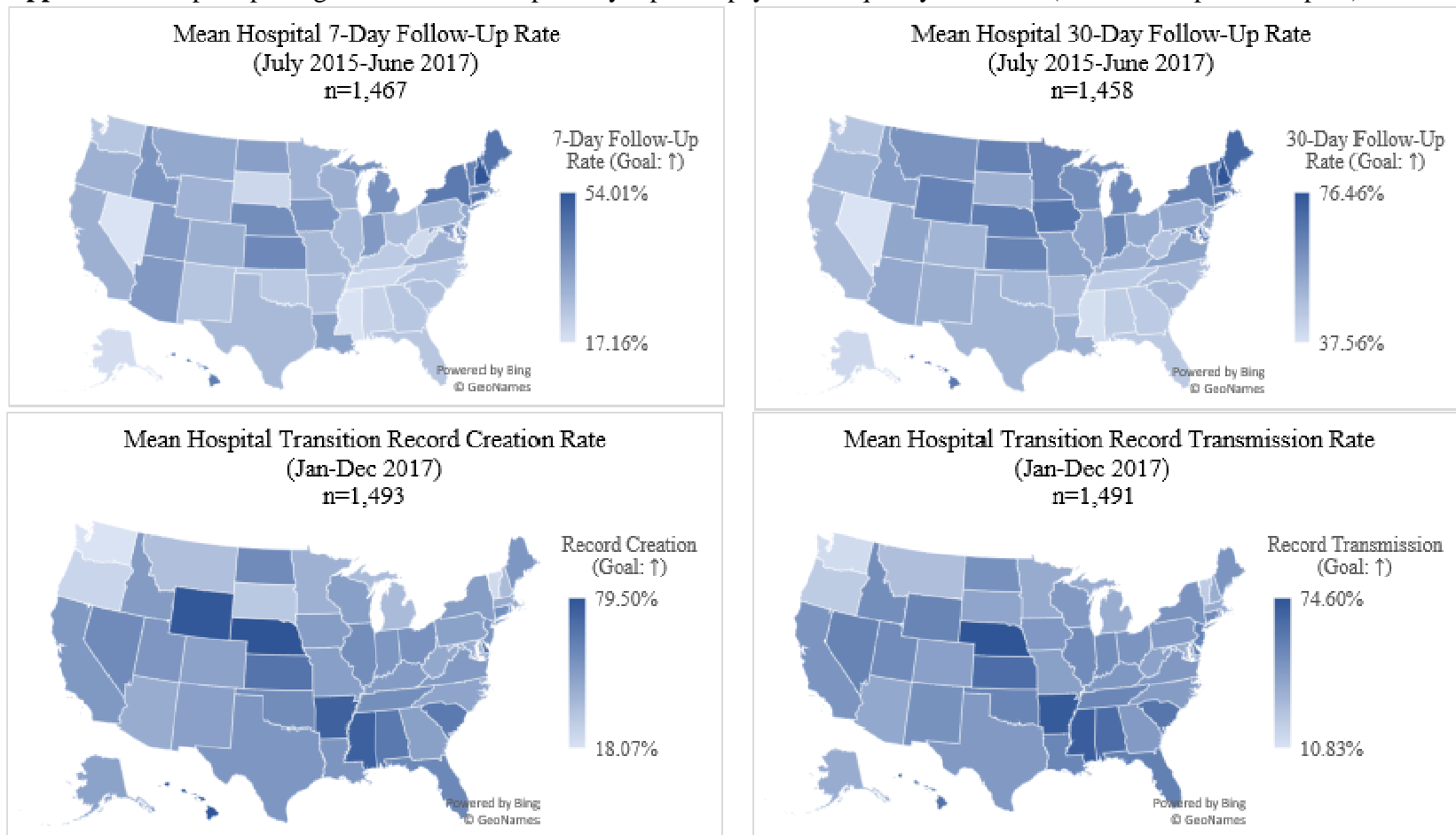
Appendix 4. Descriptive statistics for all hospitals with readmission rates (n=1,513)^a

	n	Mean	Standard Deviation	Range
READ-30-IPF	1,513	20.2%	2.8%	11.4%-35.8%

FUH-7 (July 2015-June 2017)	1,458	30.2%	13.4%	0%-95.8%
FUH-30 (July 2015-June 2017)	1,467	53.3%	14.3%	5.4%-95.8%
“Transition-1” (Jan-Dec 2017)	1,493	50.6%	37.1%	0%-100%
“Transition-2” (Jan-Dec 2017)	1,491	47.0%	36.3%	0%-100%

a. Includes hospitals excluded from main analysis due to missing variables

Appendix 5. Maps depicting state variation on publicly reported psychiatric quality measures (Source: Hospital Compare) ^{a, b}



- a. Limited to facilities with publicly reported 30-day readmission rates
- b. Puerto Rico not displayed (Mean facility-level 7-day follow-up rate=28.61%, 30-day follow-up rate=40.52%, transition record creation rate=45.14%, record transmission rate= 45.29%)

Appendix 6. Screen capture of presentation of “30-day all-cause readmission after psychiatric hospitalization” on the Hospital Compare Website*

▼ Unplanned readmission

Returning to the hospital for unplanned care can increase the risk of infections, and cost more money. Providing high quality hospital care can prevent patients from returning, and reduce their stay if they have to come back. The measure below shows the percentage of patients who return to the hospital for an unplanned inpatient admission after leaving.

[Show Graphs](#)

		NATIONAL RATE
Patients readmitted to any hospital within 30 days of discharge from the inpatient psychiatric facility <i>Lower percentages are better</i>	No Different than the National Rate	20.1%

*Image captured on 1/25/2020 from <https://www.medicare.gov/hospitalcompare/search.html?>