Estimate of Community Resources to Address Mental Health Discharge Delays in Minnesota Hospitals

Results from the Minnesota Hospital Association Mental and Behavioral Health Data Collection Pilot and additional analysis

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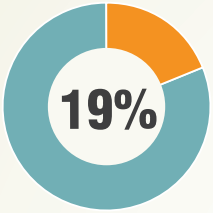
Contents

Needed Community Resources to Address Mental Health Discharge Delays in Minnesota Hospitals

Results from the Minnesota Hospital Association Mental and Behavioral Health Data Collection Pilot and additional analysis

Rates of Potentially Avoidable Days

Of the **32,520** possible bed days in the 20 participating hospitals, **6,052** were potentially avoidable



of Bed Days were Potentially Avoidable

Top Reasons for Potentially Avoidable Days

	Reason	Number of days	Percent of PADs	Conservative est. of beds needed per day[a]
1	State psychiatric hospital bed unavailable at a Community Behavioral Health Hospital (CBHH)	836	14%	46
2	Chemical dependency treatment bed not available	681	11%	54
3	Intensive Residential Treatment Services (IRTS) bed not available	639	10%	72
4	State psychiatric hospital bed unavailable at Anoka Metro Regional Treatment Center (AMRTC)	445	7%	70
5	Group home bed not available	424	7%	24

[a]These are conservative estimates of needed bed space for the 20 participating hospitals, but it does not include the needs of other sources of referrals, such as outpatient sources or other community hospitals.

Background

The Minnesota Hospital Association contracted with Wilder Research to conduct a pilot study with 20 hospitals across Minnesota. This study measured:

- The number, percent, and reasons for Potentially Avoidable Days (PADs), which are defined as days in inpatient hospital care when a patient is stabilized and ready to be discharged, but is unable to be discharged
- The estimated number of additional beds that would be needed in each facility on an average day to fulfill demand, given the facility's rate of patient turnover

This summary includes data collected from March 15, 2016 through April 30, 2016.

The average length of stay was provided by the Minnesota Department of Human Services and Anoka Metro Regional Treatment Center.

Participating hospitals

Allina Health – Abbott Northwestern Hospital
Allina Health – Cambridge Medical Center
Allina Health – Mercy Hospital
Allina Health – New Ulm Medical Center
Allina Health – Owatonna Hospital
Allina Health – United Hospital
Allina Health – Unity Hospital
CentraCare Health – St. Cloud Hospital
Essentia Health – Duluth
Essentia Health – St. Joseph's Medical Center
Essentia Health - St. Mary's Medical Center*
HealthEast Care System – St. Joseph's Hospital
Hennepin County Medical Center
Hutchinson Health
Mayo Clinic Health System in Albert Lea and Austin (Austin)
Mayo Clinic Health System in Mankato
Mayo Clinic Health System in Rochester
North Memorial Medical Center
PrairieCare Brooklyn Park
Regions Hospital
Sanford Bemidji Medical Center*
St. Luke's Hospital

** These hospitals participated in the pilot study, but were excluded from the aggregate analysis because they are the only participating hospitals without an inpatient psych unit*

This pilot study was led by:

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March 2017

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Minnesota Hospital Association

See the full report *Reasons for Delays in Hospital Discharges of Behavioral Health Patients: Results from the Minnesota Hospital Association Mental and Behavioral Health Data Collection Pilot* for more information.

Purpose

In December 2015, the Minnesota Hospital Association released a white paper supporting their focus on mental health as one of their highest priorities. The Association identified a vision of "a comprehensive and robust statewide mental and behavioral health system that serves all residents of Minnesota with appropriate, high-quality, accessible care." However, hospitals often face challenges finding appropriate community-based resources for patients who are ready to be discharged from inpatient psychiatric units. These delays inhibit the optimal provision of care, and may cause stress for patients, their families, and providers. In addition, hospital-based care may be more expensive than some kinds of community-based care. Often, patients who no longer require hospital-based care remain in hospitals because more appropriate care options are not available.

To address this issue, Wilder Research conducted a pilot study in 2016 to identify opportunities for mental health and behavioral patient care outside the hospital system, and to determine reasons for delays in the discharge of patients. In March 2017, additional analysis was performed to quantify needed community resources to help mitigate these delays. This 2016 study and additional analysis, conducted at the request of the Minnesota Hospital Association, can inform policy and practice within the mental health infrastructure in Minnesota. The pilot may be replicated or expanded in the future if participating hospitals wish.

For the analysis, Wilder Research collected data from 22 participating hospitals throughout Minnesota to measure:

- Inpatient hospital admissions: reasons for inpatient behavioral health hospital admissions in which a patient does not meet inpatient admission criteria or there is no lower intensity disposition option available (NoLIDOs)
- Potentially avoidable days: reasons for days in inpatient behavioral health hospital care when a patient is stabilized and ready to be discharged, but is unable to be discharged. These patients still require some treatment, but no longer need hospital level care.
- Projected additional community resources to address inpatient PADs: The estimated number of community resources takes into account the estimated number of patients with inpatient psychiatric PAD days for each reason, as well as the average length of stay in each facility to account for the rate of patient turnover. These estimates were calculated for the top facility related delays.

Twenty hospitals had inpatient psychiatric units; two hospitals did not. These two groups of hospitals are described separately in this report because the way potentially avoidable days are counted, tracked, and explained differs greatly between these two types of facilities.

This report reflects results for 45 days of the pilot period, from March 15, 2016 through April 30, 2016 and the additional analysis was performed using length of stay data from the Department of Human Services and Anoka Metro Regional Treatment Center. Nearly all patients with potentially avoidable days were Minnesota residents (99%) and most were admitted from the Emergency Department (90%).

Findings

Inpatient hospital admission

There were approximately 455 patients during the pilot period with potentially avoidable days in hospitals with inpatient psychiatric units. Most patients (94%) met the facility's criteria for inpatient hospital admission for behavioral health issues. In a few cases (4%), the patient did not meet the eligibility criteria for admission, but was court ordered to be admitted to the hospital, including through a mental health commitment or a revocation of conditional discharge. In even fewer cases (2%), patients were admitted because there was no lower intensity disposition option available, such as a community residential treatment option.

Potentially avoidable days

Rate of potentially avoidable days

Across the 20 participating hospitals with psychiatric units, there were 32,520 inpatient behavioral health bed days during the 45-day pilot period. Of those bed days, 6,052 were potentially avoidable, meaning the patient is stabilized and ready to be discharged, but is unable to be discharged. This accounts for about 1 in 5 patient bed days (19%). If that rate of potentially avoidable days is extrapolated to a full year for the 20 participating hospitals, it would equal approximately 48,000 potentially avoidable days. This estimate should be interpreted with caution, though, because the pilot period may not represent the full year's rate of potentially avoidable days.

Reasons for potentially avoidable days

The pilot study asked hospitals to identify reasons for potentially avoidable days from a list of 26 possible reasons that fell into four categories (Figure 1 includes the full list of reasons within each category). The majority of reasons given for potentially avoidable days fell into the category of lack of space or a wait list (64%), followed by external social service or government agency delays (30%). Patient and family delays (4%) and internal hospital staff delays (1%) were less common.

The specific reason that accounted for the most potentially avoidable days was a lack of bed space at a state psychiatric hospital (1,341 days; 22%) (Figure 1). This includes bed

space at a Community Behavioral Health Hospital (CBHH; 14%), the Anoka Metro Regional Treatment Center[1] (AMRTC; 7%), or St. Peter Regional Treatment Center (60; 1%).

Delays associated with Intensive Residential Treatment Services (IRTS), including a lack of bed space (10%) or waiting for the county to identify an IRTS facility (6%), accounted for 977 (16%) of all potentially avoidable days.

Bed space at chemical dependency treatment also accounted for over 10 percent of potentially avoidable days (681 days; 11%).

[1] Several pilot sites noted that they did not track delays due to bed space limitations at AMRTC because they either do not make active referrals to AMRTC or do not expect patients to be admitted to AMRTC. As such, this count likely underrepresents of the number of potentially avoidable days that could be attributed to this reason.

1. Reasons for potentially avoidable days

	Number of days	Percent of days
Lack of space or wait list in safe setting		
State psychiatric hospital bed unavailable at a Community Behavioral Health Hospital (CBHH)	836	14%
Chemical dependency treatment bed not available	681	11%
Intensive Residential Treatment Services (IRTS) bed not available	639	10%
State psychiatric hospital bed unavailable at Anoka Metro Regional Treatment Center (AMRTC)	445	7%
Group home bed not available	424	7%
Child/Adolescent Residential Treatment Center bed not available	216	4%
Other group facility not available	130	2%
Nursing home bed not available	128	2%
Child or adult foster care bed not available	87	1%
Outpatient service or provider unavailable	75	1%
Hospital bed not available/delay in transfer to medical bed (awaiting accepting medical doctor orders)	72	1%
Crisis home/crisis bed not available	66	1%
State psychiatric hospital bed unavailable at St. Peter Regional Treatment Center	60	1%
Child and Adolescent Behavioral Health Services (CABHS) Willmar bed not available	37	1%
Lack of housing	34	1%
External social service or government agency delays		
Delay due to patient legal involvement, including civil commitment	476	8%
Awaiting Community Access for Disability Inclusion (CADI) Waiver approval	343	6%
Waiting for a social service or government agency to identify an IRTS placement	338	6%
Other social service or government agency delay, such as an authorization delay	316	5%
Awaiting insurance authorization	181	3%
Waiting for a social service or government agency to identify chemical dependency treatment programming	91	1%
Waiting for a social service or government agency to identify a child or adult foster care (CFC/AFC) placement	51	1%
Waiting for a social service or government agency to identify a nursing home referral	15	0%
Patient or family delays		
Non-adherence to plan of care	235	4%
Internal staff delays		
Delay in creating or implementing care plan/execution of medical doctor orders	71	1%
Delay of social work plan/referral paperwork	5	<1%

Estimated community resources to address inpatient PADs

The pilot study data was used to estimate the number of additional beds needed in chemical dependency treatment, IRTS, CBHH, AMRTC, group home, and crisis home or crisis beds to address the potentially avoidable days attributed to those facilities on an average day. Projections for these facilities are possible because information about the average length of stay was available from the Minnesota Department of Human Services and AMRTC. These reasons were also chosen because they were the top facility-related delays. Projections for other facilities could be calculated in the future if average length of stay information for those facilities becomes available. For example, it would be possible to calculate these same estimates for Child/Adolescent Treatment Center, Child and Adolescent Behavioral Health Services, nursing home, child or adult foster care, and St. Peter Regional Treatment Center beds.

The estimated number of beds takes into account the estimated number of patients with inpatient psychiatric PAD days for each reason, as well as the average length of stay in each facility to account for the rate of patient turnover. The formula used to calculate this need is:

$$\frac{\text{Estimated number of patients needing facility} * \text{Average length of stay in facility}}{\text{46 days in the pilot study}}$$

The number of patients with each PADs reason was reported by the participating hospitals during the pilot study. However, there may be duplication in which the same patient had more than one inpatient stay (possibly at more than one hospital) during the 46-day pilot period, so the number of patients with PADs for each reason is considered an estimate.

The estimated community resources are underestimated as these findings only reflects the needs calculated in the 20 participating hospitals' inpatient psychiatric units, but it does not include the needs of other sources of referrals, such as emergency departments, other non-psychiatric units in these 20 hospitals, outpatient sources or other community hospitals across the state. In addition, these estimates are based on a 46-day sample that may not represent a full year; the average length of stay may not represent the full range of patient turnover; there may be duplication between patients during the 46-day study; and estimates for AMRTC likely under-represent the need because hospitals have stopped viewing AMRTC as a viable referral option.

Based on these conservative estimates, there would need to be an additional 72 IRTS beds, 70 AMRTC beds, 54 chemical dependency beds, 46 CBHH beds, and 24 group home beds on any given day to serve the 20 pilot hospitals (Figure 2).

2. Projected beds needed per day to address psychiatric inpatient PADs

	Estimated number of patients	Average length of stay[a]	Estimated number of additional beds needed per day
IRTS bed	50 patients	66 days	72 beds
AMRTC bed	24 patients	133 days	70 beds
CD treatment bed	58 patients	43 days	54 beds
CBHH bed	45 patients	47 days	46 beds
Group home bed	24 patients	3-4 years[b]	24 beds

[a] The average length of stay was provided by the Minnesota Department of Human Services and Anoka Metro Regional Treatment Center

[b] The average length of stay in group home beds is so long (3-4 years) that there is essentially no patient turnover to account for. Therefore, every individual in need of a group home bed would need their own bed, rather than waiting for another patient to transition out of the facility. Also, it is important to note that the lack of bed space is likely specific to a lack of appropriate bed space.

Full duration of potentially avoidable days

The sample drew on all behavioral health patients who were in inpatient care at any time during the study period in any of the 20 hospitals with inpatient psychiatric units. Most of the hospitals provided data beginning with each patient's admission date into the unit, even if that date preceded the study period. Overall, the patients included in the pilot had a total of 2,708 potentially avoidable days prior to March 15. However, the number of potentially available days per patient varied greatly, from 1 to 253 days.

The reasons associated with the longest potential delays were waiting for CADI waiver approval, waiting for AMRTC beds, and waiting for CBHH beds. In addition, patient legal involvement delayed discharge.

Hospitals without inpatient psychiatric units

The main focus of this report is potentially avoidable days within inpatient psychiatric units. However, many hospitals across Minnesota do not have inpatient psychiatric units. Two hospitals without inpatient psychiatric units chose to participate and track potentially avoidable days for behavioral health patients across their medical units, as a pilot for other community medical hospitals.

These two hospitals had a total of 90 potentially avoidable days during the 45-day pilot. Because there is not a dedicated unit for behavioral health patients in these hospitals, it is difficult to determine what proportion of possible behavioral health bed days were potentially

avoidable. Of the behavioral health patients with potentially avoidable days, 83 percent of their stays were potentially avoidable, versus 17 percent that were unavoidable.

These two hospitals endorsed six reasons for potentially avoidable days (Figure 2). The need for an inpatient behavioral health bed accounted for nearly half of the potentially avoidable days (48%). This reason was unique to these two hospitals. About one-quarter of potentially avoidable days (23%) were due to patient legal involvement. In particular, these delays were often attributed to difficulty placing patients in community-based settings because of criminal histories. The remaining delays were due to a lack of access to community-based settings, though these delays tended to be relatively brief.

3. Reasons for potentially avoidable days for hospitals without inpatient psychiatric units

Reason	Number of days	Percent of PADs
Inpatient behavioral health unit bed not available	43	48%
Delay due to patient legal involvement, including civil commitment	21	23%
State psychiatric hospital bed unavailable at AMRTC	8	9%
Crisis home/crisis bed not available	7	8%
Chemical dependency treatment bed not available	6	7%
Waiting for a social service or government agency to identify an IRTS placement	5	6%

Implications

This 45-day study with 22 hospitals has documented a large number of potentially avoidable days spent in hospital psychiatric units. This additional analysis helps quantify the needed community resources that can help prevent and reduce these inpatient potentially avoidable days. Many patients spend time in inpatient psychiatric units after they could be safely discharged to an alternative setting because of shortages in these alternative settings. The striking results of the study have at least the following implications.

First, the study demonstrates that research can relatively accurately establish the extent of the problem of potentially avoidable days for patients coming from these 20 inpatient psychiatric hospitals and estimate the number of community resources needed to help address this problem. Similar research, involving all hospitals in the state and expanding beyond the analysis of only inpatient psychiatric units, could provide a full, statewide picture. Analysis of costs and outpatient needs might enhance this picture. The results could inform policy development at the state and county level leading to improvements in care of mental and behavioral health patients across the state.

Second, the two most common categories of reasons for potentially avoidable days – lack of available space and, to a far lesser extent, system delays in processing patients –are easy to understand. The challenge is to determine how much the will and the resources exist to address these causes.

Third, patients who remain in inpatient care after they are eligible for discharge result in fewer psychiatry beds available for new patients who need to be served in the hospital. So, while the patients described in this study may not be accessing most appropriate level of care when they are eligible to be discharged, they are also likely preventing other patients from accessing appropriate care within inpatient psychiatric units. This is particularly notable because a 2015 DHS report on the availability of programs for persons with mental illness identified the availability of psychiatric hospitalization as a "core gap" in the service system[2, 3]. An assessment of emergency department referrals of psychiatric patients was outside of the scope of this study, but given that 90 percent of these patients were admitted from the emergency department, such a study could provide information about the rate of patients awaiting inpatient psychiatric admission.

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2 Department of Human Services, *Status of Long-Term Services and Supports: Legislative Report* (St. Paul, August 2015).

3 Wilder Research, *DHS Gaps Analysis Study: Statewide Report* (St. Paul: Department of Human Services, August 2015).

Acknowledgements

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In addition, Wilder Research would like to thank the Minnesota Hospital Association and Behavioral Health Committee for their input and guidance. Wilder Research would also like to thank the members of the Minnesota Hospital Association Chief Medical Officer Group - Subcommittee on Mental and Behavioral Health for advocating for this data collection and analysis.

Finally, Wilder Research would like to thank the staff from the participating hospitals:

Hospital	County
Allina Health – Abbott Northwestern Hospital	Hennepin
Allina Health – Cambridge Medical Center	Isanti
Allina Health – Mercy Hospital	Anoka
Allina Health – New Ulm Medical Center	Brown
Allina Health – Owatonna Hospital	Steele
Allina Health – United Hospital	Ramsey
Allina Health – Unity Hospital	Anoka
CentraCare Health – St. Cloud Hospital	Stearns
Essentia Health - Duluth	St. Louis
Essentia Health - St. Joseph's Medical Center	Crow Wing
Essentia Health - St. Mary's Medical Center	St. Louis
HealthEast Care System – St. Joseph's Hospital	Ramsey
Hennepin County Medical Center	Hennepin
Hutchinson Health	McLeod
Mayo Clinic Health System in Albert Lea and Austin (Austin)	Mower
Mayo Clinic Health System in Mankato	Blue Earth
Mayo Clinic Health System in Rochester	Olmsted
North Memorial Medical Center	Hennepin
PrairieCare Brooklyn Park	Hennepin
Regions Hospital	Ramsey
Sanford Bemidji Medical Center	Beltrami
St. Luke's Hospital	St. Louis

Appendix

A1. Definitions for potentially avoidable days

Reason for delay	Definition and/or examples
Internal staff delays	
Delay in creating or implementing care plan/execution of orders	While patient may meet criteria for being in the hospital, they are not getting the behavioral health services that have been ordered in a timely fashion, i.e., CD evaluations not getting done, psych testing not completed. This includes: ▪ Delays in ordering necessary meds, labs, consults, and discharges. ▪ Delayed or missing documentation. ▪ Delayed follow through with written physician orders due to staff, equipment, or service issues. ▪ Waiting for testing or labs.
Delay of social work plan/referral paperwork	This is when there is a delay in action by the hospital social work staff, for instance the social work staff not completing referrals or having a backup plan. Or the social work initial assessment not completed on admission (hospital day 1) or by hospital day 2.
External social service or government agency delays	
Waiting for a social service or government agency to identify: ▪ An IRTS placement ▪ A child or adult foster care (AFC/CFC) placement ▪ Chemical dependency treatment programming ▪ A nursing home referral	Includes waiting on: County referrals for placement following discharge Or: Requesting financial records from banks, specific information from Social Security office, etc. *Note:* *This is for delays due to identification of placement in which a social service or government agency is involved and responsible for the delay.*
Awaiting CADI approval	Placement found/patient accepted at a Corporate Foster Care and awaiting CADI budget approval from the county.
Awaiting insurance authorization	Delay due to waiting for a health plan authorization for next level of care, i.e., Residential CD treatment programming, etc.
Delay due to patient legal involvement, including civil commitment	Includes delays due to legal involvement AND delays due to the civil commitment process. Example: patient admitted, in commitment process and has stabilized and appropriate for lower level of care but needs to remain hospitalized until commitment process completed.
Other outside social service or government agency delay, such as an authorization delay	All other delays due to social service or government agencies, including delays due to authorization by an agency, i.e., child protection, probation, county "committee" for placements.

Wait list or lack of space in safe setting	
State psychiatric hospital bed unavailable in: ▪ AMRTC ▪ St. Peter ▪ CBHH	Start counting days on the day of commitment (and put the patient on state psychiatric hospital waiting list). When the patient has improved enough to be transferred to IRTS/foster care etc., remove the patient from the AMRTC/St. Peter/CBHH PAD category and place them into the IRTS category until discharged.
Bed not available in: ▪ CABHS Willmar ▪ Child/Adolescent Residential Treatment Center	Use this when a facility has been identified, patient accepted, and there is a delay in bed availability.
Hospital bed not available/delay in transfer to medical bed (awaiting accepting MD decision)	Patient is appropriate for medical bed, but other specialties won't take the patient. OR Patient appropriate and needs to transfer to medical unit who is willing to admit the patient, but there is not a bed.
Bed not available in: ▪ IRTS ▪ Nursing home ▪ Chemical dependency treatment ▪ Child or adult foster care ▪ Group home ▪ Crisis home/crisis bed ▪ Other group facility	Use this when a facility has been identified, patient accepted, and there is a delay in bed availability.
Lack of housing	When the delay is due to issue with finding appropriate housing, excluding options listed above, such as a group home or foster care.
Outpatient service or provider unavailable	Use this option when a patient is ready to go home, but unable to connect to outpatient services necessary for maintaining stability, such as an outpatient psychiatry appointment.
Patient or family delays	
Non-adherence to plan of care	Patient or family not cooperating with necessary paperwork or follow-up, delays in patient or family completing paperwork or completing follow-up, patient or family not participating in care plan.

A2. Data collection tool

Patient ID (only for this study, not the hospital ID): _____ Hospital Name: _____

Minnesota Hospital Association Mental and Behavioral Health Data Collection Pilot

1. Was this patient admitted from the Emergency Department? ☐ Yes ☐ No

2. Is this patient a Minnesota resident? ☐ Yes ☐ No

3. Eligibility of admission:
   - ☐ They met this facility's criteria for inpatient hospital admission for a behavioral health issue
   - ☐ They did not meet this facility's criteria for inpatient hospital admission for a behavioral health issue, but they were court ordered to be admitted
   - ☐ They did not meet this facility's criteria for inpatient hospital admission for a behavioral health issue, but there was no lower intensity disposition option available
   - ☐ Other, please describe: _____

4. Start date of inpatient care: _____

5. Start date of inpatient care that was potentially avoidable: _____
   (i.e., the patient is ready to be discharged, but is unable to be discharged)

6. End date for this **reason** that the patient could not be discharged: _____

7. End date for inpatient care: _____

8. Reason for potentially avoidable days (i.e., why the patient cannot be discharged) - ***Select the single reason from the list below. If there are multiple reasons, separate them into multiple forms with unique dates.***

CHECK ONLY ONE RESPONSE FROM THIS LIST

Internal staff delays
- ☐ Delay in creating or implementing care plan/execution of MD orders
- ☐ Delay of social work plan/referral paperwork

External social service or government agency delays
- ☐ Waiting for a social service or government agency to identify an IRTS placement
- ☐ Waiting for a social service or government agency to identify a child or adult foster care (AFC/CFC) placement
- ☐ Waiting for a social service or government agency to identify chemical dependency treatment programming
- ☐ Waiting for a social service or government agency to identify a nursing home referral
- ☐ Awaiting CADI approval
- ☐ Awaiting insurance authorization
- ☐ Delay due to patient legal involvement, including civil commitment
- ☐ Other social service or government agency delay, such as an authorization delay

Lack of space or wait list in safe setting
- ☐ State psychiatric hospital bed unavailable at AMRTC
- ☐ State psychiatric hospital bed unavailable at St. Peter
- ☐ State psychiatric hospital bed unavailable at a CBHH
- ☐ CABHS Willmar bed not available
- ☐ Child/Adolescent Residential Treatment Center bed not available
- ☐ Hospital bed not available/delay in transfer to medical bed (awaiting accepting MD decision)
- ☐ IRTS bed not available
- ☐ Nursing home bed not available
- ☐ Chemical dependency treatment bed not available
- ☐ Child or adult foster care bed not available
- ☐ Group home bed not available
- ☐ Crisis home / crisis bed not available
- ☐ Other group facility not available
- ☐ Lack of housing
- ☐ Outpatient service or provider unavailable

Patient or family delays
- ☐ Non-adherence to plan of care

Comments (optional):

A3. Detailed study methods

Pilot sample

A total of 22 hospitals agreed to participate in the two-month data collection pilot (see Acknowledgements for list of hospitals). Hospitals were asked to track patients in inpatient care between March 1, 2016 and April 30, 2016 (even if admitted prior to March 1st) who either:

- Were eligible to be admitted to a different care setting (including home), but were not due to reasons such as a court order or a lack of a lower intensity disposition option.
- Were eligible to be discharged to a different care setting, but continue to stay in their facility.

Hospitals with inpatient psychiatry units were asked to only track patients admitted to inpatient psychiatry (excluding partial hospitalization patients). Hospitals without inpatient psychiatry units were asked to track all behavioral health patients admitted to inpatient units.

Data collection tool

Regions Hospital has been collecting data about reasons for potentially avoidable behavioral health hospital days since 2011, so the tools and processes Regions has been using were the basis for this pilot. Staff from Regions, Wilder Research, and the Minnesota Hospital Association adapted the tools being used by Regions Hospital to make them simpler and less hospital-specific for the purposes of the pilot. The tool includes information about patient admission and the dates and reasons for potentially avoidable hospital days (see Appendix A2 for the tool and Appendix A1 for the associated definitions). Hospitals could choose whether to collect this data using paper and pencil or an online data collection form.

Staff training

In order to train staff on the data collection pilot, representatives of Wilder Research, Regions Hospital, and the Minnesota Hospital Association hosted an instructional webinar which included sample cases and time for questions and answers. The webinar was also recorded and made available to participating hospitals. In addition, Wilder Research created a written protocol with comprehensive instructions for completing the pilot tool and provided technical assistance on data collection questions throughout the pilot.

Pilot debriefing

In addition to the primary data collection tool, Wilder Research also administered a debriefing form to gather contextual information from the participating hospitals. The debriefing form asked participating hospitals about any challenges they had collecting the data, and any concerns they had about the quality of the data they submitted. Twelve sites completed the debriefing form. Among the sites that completed the debriefing form, three-quarters reported that collecting the pilot data was "easy" or "very easy." Half of the sites felt they had a good understanding of all of the reasons for potentially avoidable days after the initial training. The other half reported they were "somewhat clear" and understood most of the reasons for potentially avoidable days after the initial training. The debriefing form also asked sites to identify at what point during the pilot they felt were able to collect the pilot data consistently. Some sites offered exact dates, and others offered time ranges. Most sites offered a time range within the first two weeks of the pilot.

Sites were also asked how easy or difficult it would be to continue collecting information about the reasons for potentially avoidable days if it were built into their electronic health record system. Half of the sites reported it would be "easy" or "very easy", and half reported it would be "difficult" or "very difficult." When asked to explain their response to this question, some sites noted that collecting the information was time consuming, and that they did not currently have a work flow or process for gathering and documenting this information on a regular basis. One site noted concerns about potential payment implications and concerns about audits if this information was collected in the medical record. Finally, a small number of sites noted that they would have liked more notice about the project prior to beginning the pilot.

In addition to the debriefing form, several sites offered feedback via one-on-one discussions. Sites also offered feedback throughout the pilot via email and phone. Much of this feedback aligned with information collected on the debriefing forms. In addition, during these discussions several sites noted confusion about how and when to use the "State psychiatric bed unavailable at AMRTC" category. Several sites noted that they do not make active referrals to AMRTC or do not expect patients to be admitted to AMRTC. As such, staff may have had difficulty deciding when it was appropriate to use this category.

Data cleaning

The data required extensive cleaning in order to prepare it for analysis. In particular, the following issues were the most common and addressed in the following ways:

Missing dates: Missing dates were the most common data cleaning issue. The PADs forms were organized sequentially and the end date for the first PAD reason was used as the start date for the second, and so forth. If a hospital admission date was missing, the first PAD reason date was used. If the first PAD reason date was missing, the hospital admission date was used. If the PAD reason end date was missing, then the discharge date was used. If the discharge date was missing, the pilot end date was used.

Missing reasons: If a reason for PADs is missing, then the case was excluded.

Duplicate cases: If a case had a duplicate patient ID number, admission date, PADs start and end date, and PADs reason, the case was unduplicated. If the case had duplicate admission and PADs start and end dates, but unique PADs reasons, each reason was assigned half of the days during the PADs timeframe.

Truncated dates: Many patients were admitted prior to the start of the pilot and many were still admitted at the close of the pilot. In these cases, their start date was revised to the pilot start date (March 15, 2016) and their end date was revised to the end date of the pilot (April 30, 2016).