May 2020

Since 1987
NRI
Analytics Improving Behavioral Health℠

Creating Quality

a journal of the Division of Performance and Quality Improvement at the National Association of State Mental Health Program Directors Research Institute, Inc. (NRI)

In This Issue….

WELCOME

This second issue of *Creating Quality* is devoted to sharing the quality improvement initiatives at several psychiatric facilities. The major focus of a quality improvement initiative is to improve care processes and produce better outcomes for recipients of care. Quality improvement is also referred to as a local action, in that its efforts are directed at a local problem. However, the local problem is also a problem in other healthcare settings and those settings can benefit from a well-told quality improvement story. How to spread the word is the focus of two articles, and how to actively engage clinical staff is the focus of one article in this issue of *Creating Quality*. The journal highlights the experiences of three facilities that had taken significant steps to improve care, the underlying documentation which is the evidence of that care, and the development of clinically useful tools to assist the clinical staff with staying on-track with best practices. We recognize the considerable effort these facilities' staff committed to providing their stories and reviewing the final format. The Advisory Group also conducted a review and commented on the contents of this issue.

We welcome feedback from all our clients so that we can make *Creating Quality* the go-to journal for inpatient psychiatric care.

Best Regards,
Lucille Schacht, PhD, CPHQ, Senior Director and Editor for this issue

Acknowledgements:
We would like to recognize the following individuals who contributed to the production of this issue. NRI researcher Robert Shaw, M.A., for conducting the initial interviews with facilities and beginning the framework for the articles. Consultant Dwight McCall, Ph.D., L.P.C. for a review of the articles and identification of critical content. NRI principal biostatistician Glorimar Ortiz. M.S., Ph.D.c. for final review and structure of quality improvement stories for NRI publication.

Writing the Quality Improvement Story as it Develops

By: Lucille Schacht, Ph.D., C.P.H.Q.

Introduction

We have three compelling first-hand stories from psychiatric facilities in this issue of *Creating Quality* and in this article, we share our learning about the process and a strategy to assist facilities with the continued peer-to-peer sharing that is so vital to improvement in our system of inpatient psychiatric care. The sections below are organized to follow the structure of the stories presented in this journal. *Creating Quality* does not use the strict criteria of the Standards for QUality Improvement Reporting Excellence [SQUIRE] format (SQUIRE, 2017), but we encourage quality improvement teams to consider more fully documenting their projects with a plan to publish and share their results at the conclusion.

In addition to sharing your quality improvement stories through NRI (in the format described below), The Joint Commission's Journal on Quality and Patient Safety and NAHQ's Journal for Healthcare Quality accept articles using the SQUIRE format.

All quality improvement projects involve a team of individuals with areas of expertise and responsibility for carrying out specific parts of the initiative. Most quality initiatives are chartered by leadership thereby gaining the needed organizational support to change practice to improve care. A champion often volunteers to be the voice of wisdom and support the staff in the needed changes. The quality management division is often the keeper of the data that illustrates prior performance and tracks the impact of changes on outcomes. The team designates a project manager that coordinates the initiative and tracks all documentation related to the initiative.

Quality Improvement Story Outline

Background

The selection of the area of focus is often one that meets the criteria of high risk (severity), high volume (incidence or prevalence), or problem prone. In many cases, this criterion was stated in terms of low performance on a required measure. Additionally, the importance of the measure and the underlying clinical activity or workflow should be clearly stated. There are many worthy efforts for quality initiatives and most facilities have several projects occurring at the same time.

The background section can be improved with information on how this measure became an area of focus for the facility; for example, was there a clinical incident, was there a cost associated to low performance. The background should clearly state the value of this project for patient outcomes and improvements in care. The background also includes all the upfront learning on current performance, standards of care related to the area of interest, expected performance, identification of practice gaps, and identification of documentation issues.

The Problem

The problem is the initial push for action, which brought this measure or workflow issue to the attention of the leadership and the creation of a quality initiative. The problem is often stated as a trend of low performance over a long period. The perceived reason for the low performance is often stated in terms of the disconnect between current and preferred or best practice.

The perceived impact on consumers could be added as this is related to the development of actions and the measurement of compliance of staff to those actions.

Desired Result(s)

A list of initial outcomes expected from the quality initiative is identified. The desired results may also be referred to as the aims of the initiative: what is the initiative trying to accomplish. These may be higher-level goals as set in the original charter for the quality initiative or they may be more granularly developed by the quality improvement team. For each of these outcomes, a metric should be developed and discussed in the remaining sections of the story. An important internal review activity for the quality improvement team is determining whether the metrics developed were specific enough for data collection and for demonstrating that the specific actions, and no other actions, were the source of the improvement.

Method

A project plan document should be used that is structured and appropriate to the facility. The document should be updated with each team meeting, and include discussion items, decision items, specific activities, metrics, timelines, and accountabilities. The project plan can serve as the basis of information for the methods sections. It also becomes the historical record for the project and should be saved for future reference.

The methods section describes the Plan and Do stages of PDSA cycles. Here it is important to include information on who, generally by role, was involved in the design of the initiatives, including the discrete actions and whether they were sequential or concurrent. Often an iterative process, it is important to note whether there was learning from one action that influenced the adoption of a subsequent action. It is also important to identify where steps required approval from higher authorities as this may increase the overall timeline for implementing the desired actions and may delay improvement.

It is equally important to identify which staff, also by role, carried out the initiatives, and what resources they were provided to be successful. Staff training takes many forms, so it is useful to explain what models were used and whether this required additional resources. Discussion of staff training should also address whether there was testing of competency after the training events.

There is also much information that comes directly from the quality improvement team's meetings. The methods section summarizes the learning and planning from these meetings where the analyses of current data are shared with clinicians, IT, leaders, and all departments that may have an impact on the measure of interest. These meetings often produce insights from brainstorming potential causes and suggesting alternative actions. This is where certain QI tools are most effective: control charts, pareto charts, cause and effect diagrams, value stream mapping, etc. Documenting the tools used during these meetings can lend credibility to the results achieved as being based on disciplined and planned actions.

The team meetings are also the source of information on strategies for motivating staff for change, placement of visual prompts (posters), electronic alerts (in an EHR), new forms (admission orders, discharge plans) and taking old forms out of circulation. These strategies become action steps and require a monitoring plan. The monitoring plan should be specified. Identifying the frequency of monitoring and the metrics used are necessary for interpreting the impact of the intervention. The team also discusses the results of regular monitoring and identifies whether the actions were carried out as specified or if there were adaptions or workarounds created. This collaborate review will provide the context for interpreting the outcomes of the initiatives and the next steps in quality.

Observed Results

The major metric should be displayed showing performance both before and after the initiative. The preferred chart for quality improvement activities is the control chart because it can identify whether the intervention had a significant impact on the outcome. In the stories that follow, the control chart was drawn using the QIMacros tools (KnowWare International Inc, 2020) and assess the change in performance levels based on when the initiatives started. The chart should display several

months after the initiative to demonstrate whether the new level was sustained.

A brief explanation of the investigation of any outlier data points that occurred after the intervention should be added to highlight the route cause and the action taken to remediate the identified issue. A concern for all facilities is the sustainability of a change effort, therefore insights from unusual performance can be used to make adaptions in action plans or monitoring plans.

Lessons Learned and Insights

Lessons learned and insights is an opportunity for the quality improvement team to share key strategies used to become more knowledgeable about the problem at their facility and to change practices that resulted in improved outcomes for consumers. There are many interconnected processes in a facility. Identifying the impact of the changes on other aspects of the facility may lead to further quality efforts. Identifying improvements in other processes that were not the target of the initiative may also suggest great uptake of a quality characteristic by members of the staff (for example a culture of "safety first" may have become more prominent due to a quality initiative and other safety indicators may have also seen an improvement).

Many facilities may be concerned with "gaming" a measure through the identification of documentation changes that do not have a corresponding clinical action change. Clearly stating the relationship may provide guidance to other facilities to address this issue.

As EHRs become the standard for documenting the entire clinical process, attention should be given to the impact of alerts and workarounds on clinical workflow and the potential loss of documenting the richness of the clinical interaction. Abstracting data and documenting clinical interactions should not be adversaries, so the strategies to resolve these competing demands should also be explored.

Critical Documentation

Every quality improvement story should have a project plan from which to build the story. Ensuring that the plan includes all updates in the action steps and a review of the monitoring activities will enable a facility to compose their story with some ease. To meet the higher standards of the SQUIRE format, we recommend that the SQUIRE tool be included with the project plan from the beginning and discussed among the project team.

The quality improvement team likely uses many tools during their assessment of current performance and causes of low performance. All these powerful resources should be saved with the project plan documents. The resources can also serve a second benefit to the facility – they can become training aides for quality teams which include real-world examples.

As noted previously, a wealth of information is shared during team meetings. Often this information leads to adaptions in the plan or action steps and influences the final roll-out to the facility of the new practice or procedure. Changes in the plan also document failed actions, the cause of those failures, as well as the development of new actions. It is important for the team to know that not all actions will lead to improvement, but failed attempts can provide insights into what really needs to change.

References

Standards for QUality Improvement Reporting Excellence [SQUIRE]. (2017) http://www.squire-statement.org/

KnowWare International Inc. (2020). QIMacros add-in for Excel. https://www.qimacros.com/

Improving Reasons for Use of Multiple Antipsychotic Medications

By: Kate Oliver, Public Health Informaticist II, Patrice Deren, Director of Pharmacy, and Carrie Turner, RN IV

Introduction

The Alaska Psychiatric Institute (API) provides acute, inpatient mental health services for Alaskans aged 13 and older who require hospitalization for a psychiatric crisis. With an 80-bed capacity, the hospital includes one unit for adolescent care (10 beds), three units for adult civil patients (60 beds), and one unit for adult forensic patients (10 beds). The hospital is located in Anchorage, the largest urban center in the state but serves Alaskans from across the state. Due to staffing shortages, the bed capacity in 2018 was held to 60 beds or less throughout the year. The average daily census during this year was 52 patients with average lengths of stay for civil and forensic patients at 15.6 and 44.4 days, respectively.

The Quality Improvement Process

>>>Background<<<

In reviewing API's BHPMS reports in late summer of 2017, the QAPI team identified a need to look at their reasons for multiple antipsychotic medications at discharge to meet the identified standards for best practice. These data were collected in the HBIPS-5 measure: *Patients Discharged on Multiple Antipsychotic Medications with Appropriate Justification* which requires specifying the reason more than one antipsychotic medication was ordered at discharge. The review of API's most recent ORYX report from The Joint Commission indicated that from the second quarter of 2015 and continuing through the first quarter of 2017, the results for this measure fell below the set target limits. Therefore, a thorough data quality assessment of that year's data was performed.

In the fall of 2017, QAPI staff with assistance from pharmacy staff conducted a review of records for 100 patients who has been discharged on polypharmacy between 1/1 and 11/6 of that year. The reasons for polypharmacy were assessed for accuracy. The initial findings showed that a significant number of patients whose primary medication was Clozapine were given the reason of "symptom reduction" rather than "Augmentation of Clozapine". A discussion with NRI's Glorimar Ortiz confirmed that the latter reason was the only one of the two considered by The Joint Commission to be an appropriate reason for neuroleptic polypharmacy.

The finding that symptom reduction was used as the justification rather than augmentation of Clozapine was presented to the Chief Pharmacist who determined that further review was warranted in order to examine additional chart information regarding polypharmacy reasons. The continued review revealed that another significant number of patients who were on polypharmacy due to having had three or more failed monotherapies had also been given the reason of symptom reduction instead of the accurate reason indicating a history of failed monotherapies. Additionally, this review found evidence that nurses were entering Patient Being Monitored for Side Effects as a default reason when none appeared to be listed by the physician.

>>>The Problem<<<

For eight consecutive quarters it was found a statistically significant "Undesirable Result" for the prescription of antipsychotic medications with appropriate justification. API staff were discharging patients on multiple antipsychotic medications but without documented appropriate justification. The main problem was that physicians were over relying on symptom reduction as a reason for multiple antipsychotic medication resulting in a significant degree of data inaccuracies.

>>>Desired Results<<<

1. Increase the understanding by clinicians on the appropriate reasons for prescribing multiple antipsychotic medication at discharge.
2. Improvement of data reporting accuracy for the measure.
3. Improvement in measure rate.

>>>Method<<<

The results of the analysis were presented to the hospital medication management committee (MMC) during their monthly meeting held in March 2018. The committee, comprised of the Chief Pharmacist, Director of Psychiatry, Director of Nursing, Infection Control Coordinator, Director of QAPI, and one staff from the Hospital Education group, reviewed the results and the need for an action plan to improve reporting accuracy. The review and discussion produced three overarching action areas:

1. Improvement in the understanding by physicians about the meaning and importance of the various reasons and which are related to better patient outcomes.
2. Improvement in documentation of providers' progress notes in the electronic medical record to support reasons for multiple antipsychotic medications.
3. Improvement in the hospital's electronic healthcare record options in order to facilitate more accurate reporting that the appropriate justifications were actually evident and appropriate for the physicians to report.

The following steps were taken beginning in April 2018 to achieve the action areas. The MMC:

1. Reviewed the existing 8 reasons for polypharmacy, and determined that the options were out of date and required revision.
2. Proposed that the three appropriate justifications: History of a minimum of three or more failed trials for monotherapy, Recommended plan to taper to monotherapy or tapering in process (cross taper), and Augmentation of Clozapine, would be supplemented with one other reason: symptom reduction.
3. Developed a Drug Utilization Review Criteria Summary, to provide an easy reference document for physicians that included the appropriate clinical rationale for each reason and the expected documentation standards.
4. Requested additional review and approval by API's medical executive committee for the implementation of both the change recommendations and the criteria summary required.
5. Presented the recommendations and associated documentation to the medical executive committee which gave final approval for the truncated list of reasons for polypharmacy, as well as, the Drug Utilization Review Criteria Summary. The medical executive committee included 27 members of which 14 were in attendance. Members were from various departments including administration, medical, nursing, and social work.
6. The IT/ Health Informatics team took action in June to complete the technical changes to Meditech, API's electronic medical record system.
7. The pharmacy and health informatics group updated the system's discharge medications and brought the list into alignment with the New Generation Antipsychotic Medications referenced in the current BHPMS Implementation Guide.
8. The IT/Health informatics team developed a new report that would provide Pharmacy with the history of medications received by any patient readmitted to API.

Physicians and nursing staff were notified of the change to reporting protocols through a series of hospital-wide emails sent from the IT/ Informatics team. The Chief Pharmacist continued efforts to educate care providers through ongoing medication management and medical executive committee meetings, as well as, electronic communications to targeted audiences.

Further revision of the process also occurred to address the volatility created in values that were generally based on small numbers of patients

receiving antipsychotic polypharmacy. QAPI staff and the Chief Pharmacist met and agreed that when the monthly data were compiled for the NRI submissions, any polypharmacy record found in noncompliance would go through additional review before submission.

Specific to the pharmacy team, the below improvement efforts were taken:

- ✓ The Chief Pharmacist revised the order of reasons in a duplicative treatment prompt which allowed physicians to quickly identify and select from the now truncated list of reasons for polypharmacy.
- ✓ Pharmacy staff conducted an additional review of all polypharmacy orders for accuracy. The review used information provided from the newly developed medications history report which was now available for all readmitted patients.
- ✓ Pharmacy staff made any necessary corrections to the order and contacted the respective physician to request that he or she update their progress notes accordingly so that the corrected reason for polypharmacy would be available to future care providers.
- ✓ All corrections made to the orders were also documented in the pharmacy's Drug Utilization Evaluation report.

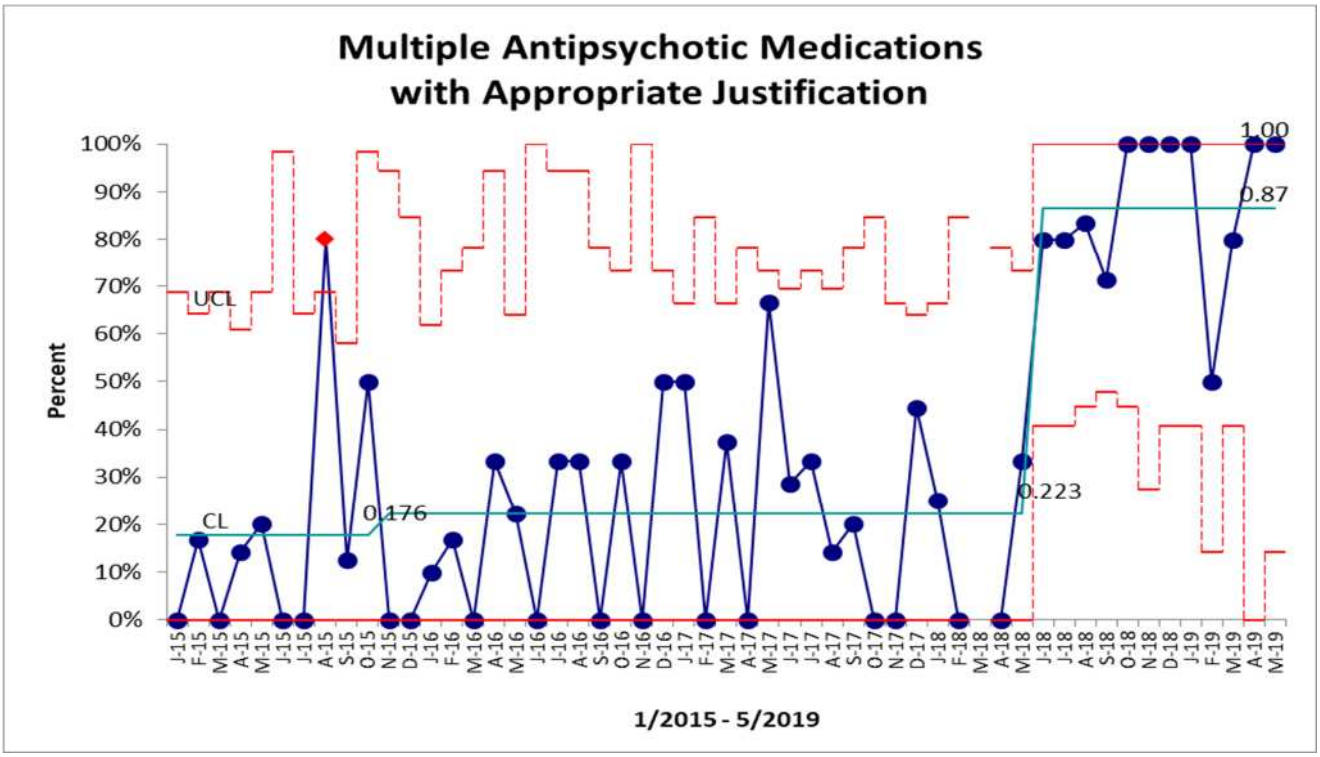
API continues to monitor uptake of the new processes through the following processes:

- ✓ Through regular review of monthly results provided in available NRI reports and follow up discussions between QAPI and Pharmacy staff.
- ✓ Through regular review of The Joint Commission ORYX reports and discussions between QAPI and Pharmacy Staff.
- ✓ Through regular internal review of the Pharmacy's Drug Utilization Evaluation Report and findings presented at the medication management committee meetings.

>>>Observed Results<<<

In the five-month period between April and September 2018, the percentage of discharges on multiple antipsychotic medications which listed an appropriate reason rose from 0% to 100%. The rate was sustained at 100% through January 2019. However, the rate in February fell to 50% but rose to 80% in March.

In late fall of 2019, a major transition in staffing resulted in a temporary destabilization of the new review process. QAPI staff identified that only 25% of the 12 records for polypharmacy met compliance. The follow up review with pharmacy



resulted in data corrections that increased compliance to 75%.

Lessons Learned and Insights

The API highlight some lessons learned and insights that might serve other psychiatric hospitals attempting to improve performance on a particular measure.

1. Review compliance measures using BHPMS Implementation Guide to enhance understanding of the discrete data elements underlying the measure; it is critical that compliance information is shared with frontline staff who may not even be aware of noncompliance issues.
2. Review procedures that create current data, including (1) physician understandings of clinical and accountability implications of the use of various reasons for multiple medications, and (2) data entry by nurses.
3. Involve all staff impacted by the change process. In addition to physicians, nurses and pharmacy staff, it was important to engage other staff needed to implement change. For example, this meant involving the IT and Health Informatics teams early on so we would know about any technical limitations in making changes to the EHR system. These teams also provided recommendations for change timelines. The new medications history report was also developed based on their input.
4. Educate staff on changes, aided by easy-to-use reference materials. The medication management committee and the medical executive committee were instrumental in getting the message out to the physicians.
5. At the start of this project there was some resistance to change because as the Chief Pharmacist noted, "We have been selecting symptom reduction predominantly for several years now". Additionally, the pharmacy and medical staff did not know that this reason was actually considered unacceptable by the Joint Commission. Given that the numbers had been noncompliant for so long, there was some consideration given to "just living" with the low rates. However, buy-in occurred readily once the committees, leadership and staff were presented the analysis results and educated about the importance of this measure as it related to patient care.

The API has also identified additional benefits from this activity. They were able to update the list of medications in the EHR system, which had been outdated and did not include some of the newly available antipsychotic medications. They were able to improve the information given to the outpatient provider to address continuity of care particularly around medication history.

The API did require changes to the EHR. This process was not problematic or expensive because Meditech, the electronic health record system has the flexibility for expedient system modifications. Additionally, the IT and Health Informatics team have the expertise to readily implement technical modifications, notify staff, and provide guidance for how to work with the new changes.

An important aspect also brought forward in this effort was the challenge associated with new patients for whom no medication history was readily available. For this population, the reason of failed monotherapies could not be considered as a reason which resulted in an increased likelihood that symptom reduction was selected as the reason for polypharmacy.

API currently has no means to capture medication histories associated with patient treatment outside the hospital. Unlike most of Alaska's hospitals, API does not currently participate in an Electronic Data Interchange (EDI) which allows for the sharing of treatment information across facilities. The QAPI team has begun investigating how API might join the EDI as a means for improving the continuity of care for all its patients.

Using a Medication Questionnaire to Enable Best Practices in Polypharmacy

By: John D. Justice, MD (Chief Medical Officer); Amy Hull, RPh (Director of Pharmacy); Brittany Cross, PA-Psych (Director of Advanced Practice Professionals); Paramjit Chumber, MD (Deputy Medical Director); Ahmed Aboraya, MD (Pharmacy and Therapeutics Chair); Deep Yadava, MD (Utilization Management Chair); Dixie Watson, RN (Utilization Review); and Tammy Bush, RN (Utilization Review)

Introduction

William R. Sharpe Jr. (Sharpe) Hospital is a state acute care hospital for behavioral health, located in Weston, West Virginia, serving adults with acute and chronic psychiatric conditions. The hospital has 100 beds for forensic patients, 77 beds for adult general psychiatry, and 23 beds for geropsychiatry. The general psychiatry units tend to serve very acute patients where a majority are discharged within 20 days. The forensic and geropsychiatry units tend to serve a greater mix of short and longer terms patients (60% acute). Among patients with an acute length of stay less than 120 days, forensic admission average 58 days, general psychiatry admissions average 28 days and geropsychiatry admission average 35 days. Over the years, Sharpe Hospital has emerged as a premier center for mental health education and research in West Virginia.

The Quality Improvement Process

>>>Background<<<

The healthcare providers at the hospital had a strong commitment to obtain positive results and improvement in patients' mental health status with the least amount of medications possible while achieving maximum results.

Multiple antipsychotic use in inpatient psychiatric facilities, particularly state hospitals, has been identified by utilization management, regulatory agencies, and insurance companies as problematic. Concerns include:

- Lack of research-based evidence that there is any benefit of adding more than one antipsychotic medication (although exceptions do occur).
- Research-based evidence that use of multiple antipsychotic medications may cause numerous side effects and result in medical complications.
- Use of inappropriate clinical reasons for polypharmacy.

In Sharpe Hospital, the Director of Pharmacy, noting that The Joint Commission ORYX Performance Measure Reporting Requirements track the number of patients with antipsychotic medications with appropriate justification, ran internal reports which showed that the facility had a baseline of 31% of patients receiving multiple antipsychotics.

>>>The Problem<<<

Sharpe Hospital physicians were commonly reporting "Other" or "Symptom Reduction" as the reason(s) (neither of which are considered appropriate justifications) for polypharmacy. Appropriate justifications as defined by The Joint Commission for use of multiple antipsychotics

include: history of 3 or more failed trials of monotherapy, taper to monotherapy, and augmentation of Clozapine.

>>>Desired Results<<<

1. Decrease the percent of patient on multiple antipsychotic medications.
2. Increase the quality of evidence-based care using evidence-based reasons for polypharmacy.
3. Reduce burden of side effects.

>>>The Method<<<

The Chief Medical Officer, Director of Pharmacy and the Medical Staff reviewed the literature on the use of multiple antipsychotic medications and best practices for their patients. In response to the reported level of use of multiple antipsychotics in the patients in Sharpe Hospital, often with use of inappropriate reasons for such prescriptions, the Chief Medical Officer, Director of Pharmacy and the Medical Staff implemented a three-step process to improve quality.

1st: Medical and pharmacy staff were educated on evidence-based practice guidelines and the adverse effects of antipsychotic medication. They were given the definitions of the appropriate reasons for two or more antipsychotic medications.

2nd: To monitor compliance with the standards as well as positive and negative effects of procedural modification, the Chief Medical Officer, Director of Pharmacy, and the medical staff developed the Multiple Antipsychotic Medication Questionnaire (MAMQ; see Appendix), including a modification of the Texas Medication Algorithm Project for Psychosis. The MAMQ is focused on determining whether it was truly necessary for a particular patient to receive multiple antipsychotics.

The questionnaire was filled out in its entirety by the medical provider whenever a second antipsychotic medication was requested. The answers to the questionnaire were reviewed by the Chief Medical Officer and the Director of Pharmacy who, in turn, determined if the use of multiple antipsychotics was justified. When multiple antipsychotics were requested, the Pharmacy Staff and the Chief Medical Officer consistently responded to the prescribing physician under the following guideline:

- If practice guidelines, e.g., appropriate justification for a second antipsychotic, were not met, the second medication was not approved.

3rd: Staff identified current patients with multiple antipsychotic medications. Each patient was assessed for reason for multiple antipsychotic medications using the new form. The Pharmacy Staff and the Chief Medical Officer consistently responded to the prescribing physician under the following guidelines:

- If current patients did not meet the evidence-based criteria for receiving multiple antipsychotic medications, they were titrated off the least effective of their medications.
- If a current patient met the qualifications for multiple antipsychotics, a minimum time period to conduct an adequate trial of the medications was established.
- If necessary, the Chief Medical Officer and Director of Pharmacy met individually with the medical providers and required evidence of clinical benefit of multiple antipsychotics to be documented in the patient's record.

>>>Observed Results<<<

The overall percentage of patients on multiple antipsychotics decreased since the initiation of the Multiple Antipsychotic Medication Questionnaire. In 2015, an average of 27% of patients were on multiple antipsychotic medications, reducing to an average of 10% on 2018 (See Figure 1).

As shown in Figure 2, on average 12% of patient on multiple antipsychotic medications had appropriate justifications. A year later, the average increased to 51 %, rising to an average of 82% for calendar 2017. Since June 2017, the rate has been 100%, sustaining this level for more than two years. All patients remaining on multiple antipsychotic medications are meeting appropriate justification requirements.

Figure 1. Use of Multiple Antipsychotic Medications

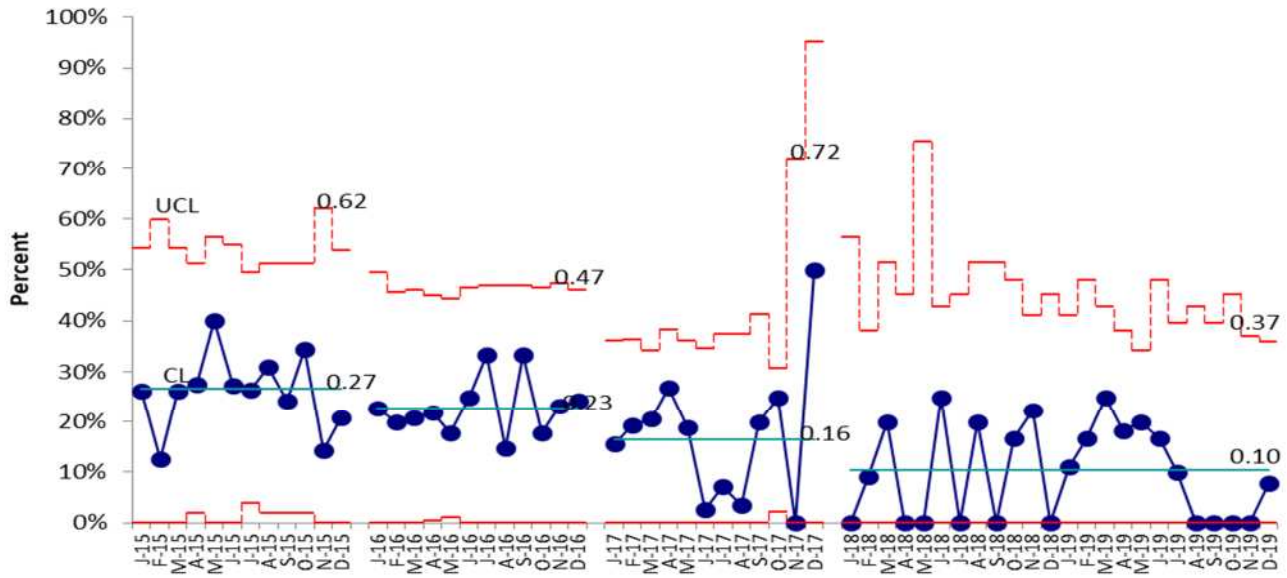
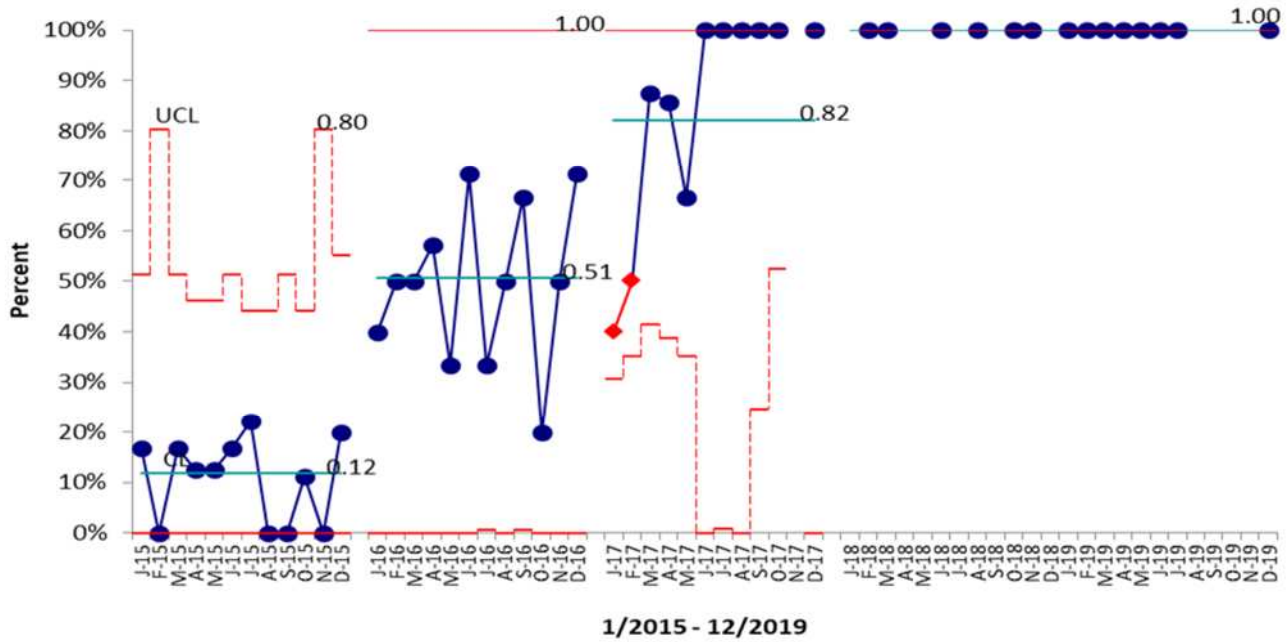


Figure 2. Multiple Antipsychotics with Appropriate Justification



The perceived outcomes of the effort of the quality improvement initiative include:

- Near immediate reduction in use of multiple antipsychotics, accompanied by increased utilization of Clozapine.
- Clinical improvement in patients rather than decompensating.
- Patients exhibiting fewer short- and long-term medication side effects.
- Improvement in the quality of patient care.
- Lowered costs for patients and hospital.
- Stronger communication and teamwork among staff.

- Transfer of staff education into other disciplines.

Lessons Learned and Insights

The process that was adopted to implement the quality improvement measures was comparatively simple. The hospital first educated their staff on evidence-based practices regarding use of multiple antipsychotics, reinforced by requiring completion of a questionnaire when requesting multiple antipsychotics. Both of these steps significantly facilitated change in outdated practicing and prescribing patterns. By following Evidenced Based Guidelines, the prescribers also increased utilization of the antipsychotic medication Clozapine which as expected often resulted in further patient clinical improvement.

Implementing the quality improvement plan was initially challenging. Some of the medical providers thought that the patients would get worse with the practice change, and that the patients required additional antipsychotic medications often because of their symptoms of aggression. The resistance to the process change was, in general, less in those practitioners closer to residency completion. Potential resistance from medical providers regarding clinical impact and managing aggression was initially tempered by use of evidence-based rationales for change. Resistance was further mitigated by the clinical improvements in patient symptomatology.

The practice changes also increased focus on proper diagnosis, adequate medication dosing and length of a proper trial, reviewing the patient's medication history, measurement-based outcomes and clear supportive chart documentation.

Facilities looking to implement a similar process should encourage their medical providers to work together with other hospital departments such as Pharmacy and Utilization Management. Best clinical practice is to constantly look for opportunities to eliminate multiple antipsychotics and make changes for the benefit of the patient.

The communication processes this facility used will be beneficial in the future to address other clinical changes.

Related Research Articles

Fisher, M.D., Reilly, K., Isenberg, K., et al. (2014). Antipsychotic patterns of use in patients with schizophrenia: polypharmacy versus monotherapy. *BMC Psychiatry, 14*(1), 341

Fleischhacker, W.W., & Uchida, H. (2014). Critical review of antipsychotic polypharmacy in the treatment of schizophrenia. *Internaltional Journal of Neuropsychopharmacol, 17*(7), 1083-1093

Appendix
Multiple Antipsychotic Medication Questionnaire

Provider: _____ Date: _____

Regarding Patient: _____

The patient named above has been prescribed the following antipsychotic medications to be given on a regularly scheduled (not PRN) basis:

_____

Please complete the following questions explaining the rationale for prescribing two or more antipsychotics concomitantly to this patient.

****Return the form to the Pharmacy WITHIN 24 HOURS.**

1. Is a cross-titration period of two antipsychotics with the intent to discontinue one of the medications being implemented?
   _____YES _____NO
   IF yes, and a proper cross-titration (duration not to exceed 8 weeks) is in progress list the medication being tapered and titrated:
   _____

2. Is there is a history of a minimum of 3 or more failed trials of monotherapy?
   _____YES _____NO
   If yes, list each monotherapy for which an adequate trial (4–9 weeks) was tried AND list the maximum therapeutic or tolerable dose utilized:
   _____ _____ _____

3. Did the patient undergo a minimum trial, 12 Weeks, of clozapine prior to a combination antipsychotic therapy?
   ___ YES ___ NO

   If "no" explain why:
   _____

4. If a partial response was seen to an adequate trial (3–6 months) of clozapine, was an augmenting agent such as another antipsychotic, mood stabilizer, antidepressant, or ECT tried?
   ___ YES ___ NO

5. Is the addition of another antipsychotic an Augmentation of Clozapine?
   ____YES _____NO

6. Is there another NON-EVIDENCED based reason not approved by Joint Commission?
   _____YES _____NO

   If yes, explain why:
   _____

7. Has the objective benefit been clearly documented for the current multiple antipsychotic regimen over past monotherapy and /or combination therapy regimens that were tried?
   _____YES (refer to Dates/time frames in the Medical Record) _____NO

   Explain: _____

8. What is the patient's clinical diagnosis that will be treated by the additional antipsychotic?
   _____

9. What are the signs, symptoms, and functional impairments that will be targeted by the additional antipsychotic? Please attach any progress notes that will support the addition.
   _____

Improving Screening for Metabolic Disorders

By: Aimee Brown, Director of Quality, Matt Davis, Clinical Director and Comprehensive Pharmacy Services

Introduction

Riverview Psychiatric Center is a state psychiatric facility located in Augusta, Maine, the state's capital. The hospital provides acute and continuing care services for adults with serious, persistent mental illness, and co-occurring substance use disorders. Riverview is comprised for four units, two forensic units with 44 beds and two general units with 48 beds. More than half of the total episodes of care were for acute stays, under 120 days, and the average length of stay was 59 days for general units and 39 days for forensic units. The hospital has a strong collaboration with the community service providers to achieve continuous care spanning the service system. The hospital also has a strong commitment to a total health conscious environment where physical and emotional and mental health care issues are identified, and good health practices are available and encouraged.

The Quality Improvement Process

>>>Background<<<

Since 2017, hospitals participating in the CMS IPFQR program have been monitoring the screening for metabolic disorders for patients discharged on at least one routinely scheduled antipsychotic medication. The screening requires that four elements - body mass index, blood pressure, HbA1c or glucose, and full lipid panel are completed in the 12 months prior to the discharge date.

Staff concern for metabolic screening was related to the fact that patients are at increased risk of adverse metabolic changes secondary to the antipsychotic medications that they take. The administrative team made the decision to make improvement in screening an organizational priority. The goal of the initiative was to improve patient outcomes by the early detection of metabolic changes, to improve the quality of the care they provide and prevent poor outcomes.

>>>The Problem<<<

The staff at Riverview found the rate for screening for metabolic disorders was still only 25% in the first quarter of 2018. The metabolic screen measure was started in Jan 2017 and the performance rate in calendar year 2017 averaged at 25% of patients receiving complete metabolic screens. More than 80% of patients are prescribed antipsychotic medications, indicating a large population is at risk for metabolic disorders.

>>>Desired Result<<<

Improvement in the screening for metabolic disorders performance measure rate.

>>>The Method<<<

Given the directive from the administrative team, an interdisciplinary team was created to examine the issue, and the team received full buy-in from all stakeholders involved. Staff looked at the elements of the measure and through analysis of 2017 data determined that the HbA1c was not ordered for the majority of patient and full lipid panel was not ordered for almost half of the patients on antipsychotic medications. Staff determined an approach to improve performance on these specific tests.

A team leader was designated from the pharmacy staff to design and manage a new specialized database. Pharmacy personnel began screening the profiles of the patients on a weekly basis to identify those being treated with new generation antipsychotic medications. A database was created that tracked the patient IDs, hospital units, admission dates, body mass indices, weight in pounds, blood pressure, HbA1c, anti-glycemic

therapies, lipid profiles including triglycerides, draw dates of the most recent screenings, and due dates for follow up screenings for the patients. Prior to the creation of the database, there had been no central information clearinghouse where the data were collected and there was no one person tasked with following up with the clinicians.

The operational changes that the hospital made were more at the administrative level than at the provider level. For example:

- Fasting lipid profile and hemoglobin A1c were added to the admission lab order sets, and
- Data reflecting the elements of the screening measure came to be reported out weekly, monthly and quarterly, thereby creating a greater awareness of the issues faced by the patients.

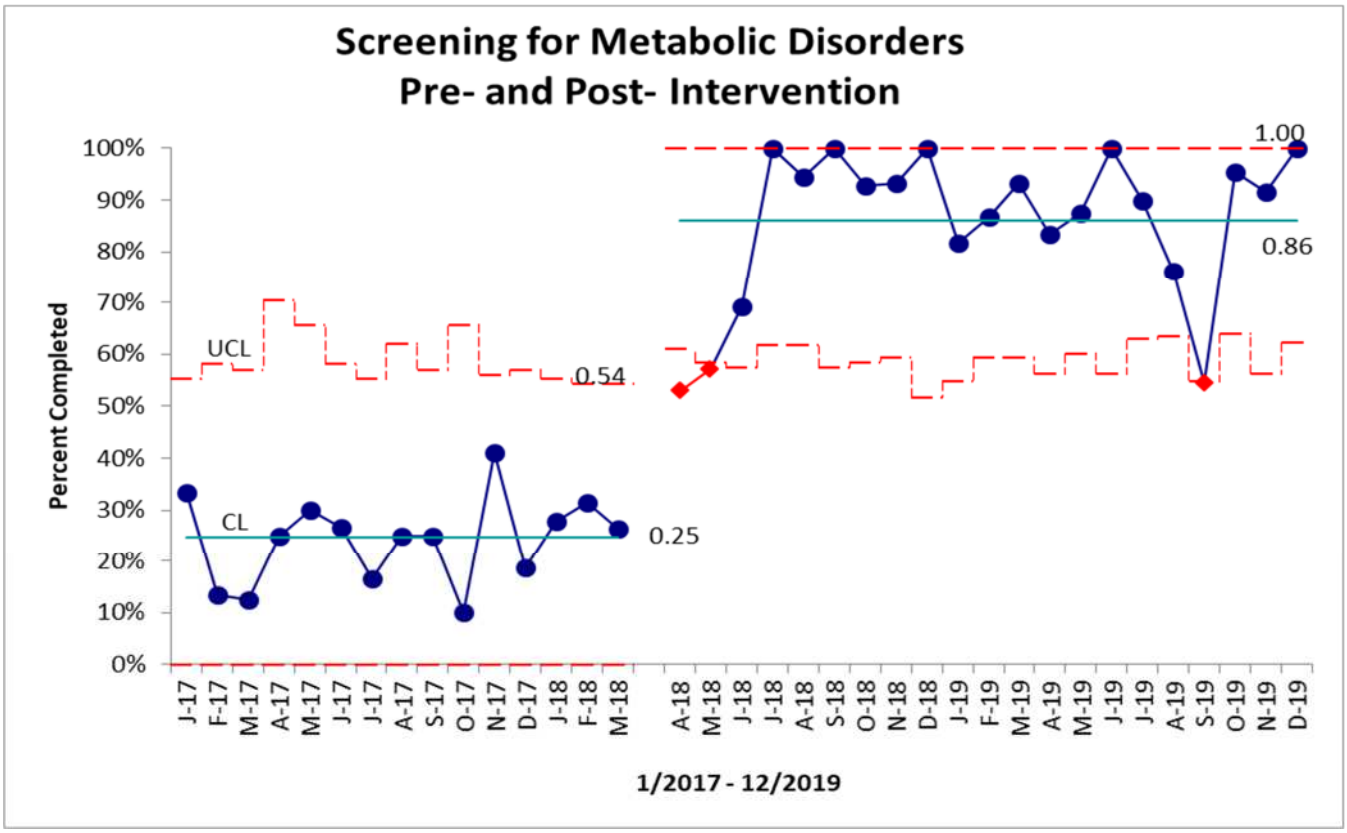
At the provider level, staff were made more aware of the risks of adverse metabolic changes related to antipsychotic medications. The addition of specific labs to the admission order encouraged clinicians to assess the need for the tests particularly for patients on antipsychotic medications.

>>>Observed Results<<<

The changes were implemented in the second quarter of 2018 at the hospital. Success of the changes was quickly seen in the improvement in metabolic screening rates. After the implementation of administrative and clinical changes, the rate of screening for metabolic disorders rose from an average of 25% to an average of 86%. The variation from month to month has also decreased demonstrating more consistent practice, as shown in the figure below.

As a result of the quality initiative, Riverview Psychiatric Center adopted a new lab service that made lab results available online to the pharmacists. This allowed the pharmacy to track any metabolic screenings being completed and changes experienced by the patients. Clinicians then had access to this information to assess the medical impact of antipsychotic medications on their patients.

In addition, the facility is now more focused on serving their patients medically and nutritionally, as well as mentally. Two key initiatives in this area were:



- Removing the vending machines in the facility thereby reduced patients' access to unhealthy foods, and
- Encouraging their patients to make positive changes in their exercise regimens and to make healthier lifestyle choices.

Although staff understood that wholistic care for psychiatric patients includes attention to physical well-being, they were apprehensive regarding patient response to removal of the vending machines. Thus, they were pleasantly surprised when there were relatively few complaints from patients who recognized that this was done to help improve their overall health.

Lessons Learned and Insights

Any facility looking to improve their screening rates for metabolic disorders should:

- Secure buy-in from hospital administration and the clinical staff.
- Designate a program champion.
- Establish a hospital-wide standard for monitoring metabolic screening frequency and clinical results.
- Create a centralized database available to staff.
- Maintain administrative persistence in following up with clinicians.

The creation of the centralized database also allowed real-time evaluation of screenings completed and results that could be used to inform clinical decisions. While the measure itself is calculated for patients that are discharged, the benefit of active monitoring throughout the patient's stay mirrors Riverview's overall wholistic approach to care.

Related Research Articles

Carra, G., Bartoli F., Carreta, D., et al. (2014). The prevalence of metabolic syndrome in people with severe mental illness: A mediation analysis. *Society of Psychiatry & Psychiatric Epidemiology, 49*, 1739-1746

Grundy, S.M., Cleeman, J.I., Daniels, S.R., et al. (2005). Diagnosis and management of the metabolic syndrome: An American Heart Association/National Heart, Lung, and Blood Institute scientific statement. *Circulation, 112*, 2375-2752

Lin, J.J., Liang, F.W., Li, C.Y., & Lu, T.H. (2018). Leading causes of deaths among decedents with mention of schizophrenia on the death certificates in the United States. *Schizophrenia Research, 197*, 116-123

Malik, S., Wong, N.D., Franklin, S.S., et al. (2004). Impact of the metabolic syndrome on mortality from coronary heart disease, cardiovascular disease, and all cause in United State adults. *Circulation, 110*, 1245-1250

Mitchell, A.J., Vancampfort, D., Sweers, K., et al. (2013). Prevalence of metabolic syndrome and metabolic abnormalities in schizophrenia and related disorders – A systematic review and meta-analysis. *Schizophrenia Bulletin, 39*, 306-318

Improving Measure Rates on the NRI's Inpatient Consumer Survey

By: Glorimar Ortiz, M.S., Ph.D.c

Introduction

The NRI's Inpatient Consumer Survey (ICS) was developed to help facilities providing inpatient psychiatric care monitor the consumer's perspective of care (Schacht, 2001). It is composed of 28 items embedded in six measures of care that cover outcome of care, dignity, respect, facility environment, participation in treatment, and empowerment. The ICS has excellent psychometric properties and item scores have been used for quality improvement initiatives (Ortiz, 2014; Ortiz & Schacht, 2012). There are currently 74 inpatient psychiatric facilities participating in the ICS measures and using measure rates at the local level for comparison with other facilities and for trending local performance.

The Quality Improvement Process

>>>Background<<<

In 2019, a survey was developed and sent to facilities participating in the ICS measures to collect qualitative information about the implementation process of the ICS at the facility level and about activities related to improvement of measure rates. The survey was preferably completed by the person(s) in charge of managing the survey at the facility level. More than one person from the same facility could complete the survey. Forty-nine percent of facilities completed the survey. This QI story relates to how facilities improved low performance measure rates.

>>>The Problem<<<

Facilities that have implemented the ICS self-reported low performance measure rates. The next table displays the percent of respondents indicating low rates across the ICS measures.

% of facilities	ICS measure
38%	**Rights**
31%	**Participation in treatment**
29%	**Dignity**
29%	**Outcome of care**
27%	**Facility environment**
17%	**Empowerment**

>>>Desired Results<<<

To increase the low performance scores on the ICS measures.

>>>The Method<<<

To improve low performance scores three main steps are suggested:

1. *Identify the cause of lower performance measure rate*
   a. *Review the NRI-BHPMS reports on the ICS*: At the end of each reporting month, download the NRI-BHPMS reports related to the ICS. Meet with the facility's QAPI team to review the reports and identify problematic areas. Comparison charts provide information about points in time where the facility is experiencing a lower performance measure rate compare to national benchmark data. Item response reports display item ratings and allows for the identification of low item ratings within a measure. Involve the QAPI team to plan, implement, and monitor performance improvement plans.
   b. *Monitor the ICS survey response rate:* Keep records at the facility level of how many consumers are eligible for annual review and for discharge for a particular month and how many complete the ICS survey.

A low response rate (≤20%) may be problematic because negative ratings on a few items will negatively impact the performance rate. The facility may want to make changes to the ICS administration protocol to increase the number of consumers completing the survey.

c. *Plan patient meeting discussions:* Provide consumers the opportunity to meet with treatment teams as often as possible. Discussions with consumers can be shared across programs during the patient government meetings. The information may be shared with involved staff. For example, if the facility experiences lower scores in the facility environment domain, include the housekeeping staff in the conversations.
d. *Understand the population served:* Individuals with mental illness may provide responses heavily influenced by the acuity of their illness or their diagnosis. The facility staff may want to understand the potential reasons for the responses. Facilities serving a large group of consumers with a diagnosis of anosognosia may face challenges improving low performance scores because these consumers believe that they don't have mental illness, and therefore have no reason to be at the hospitals. Facilities serving forensic populations may also experience negative scores because usually these consumers do not choose the facility for their psychiatric treatment, their treatment options may be limited, and they do not have a choice in discharge plans.

2. *Identify a solution(s). Some examples include:*
   a. Encourage consumer involvement in every team meeting where the consumer is discussed.
   b. Deliver ongoing staff training on patient's rights, dignity and respect.
   c. Offer constant therapy for patients to understand their mental illness.
   d. Develop a process protocol for activities that need to be constantly checked. For example, room and water temperatures.
   e. Develop a policy that delineates reporting and documenting internal and external notifications of consumer complaints.
   f. Increase the encounters between the treatment team and the consumer.
   g. Involve physicians, therapist, nurses, and the facility director in community meetings. Patients may also be included as consumer representatives. These representatives attend management meetings to relay concerns/feedback and participate in certain decision making.
   h. Frequently evaluate the improvement plans developed and implemented by the QAPI teams to assess the success/failure in measure rate improvement.
   i. Identify the 5 lowest items scores in each facility unit and share them with the client rights office and at program executive meetings. Brainstorm on possible reasons for lower measure rate and establish teams that will develop actions plans for improvement.

3. *Measure the progress of solutions*
   a. Document baseline data (the reporting month with lower performance measure rate) for the domain and/or item(s) experiencing lower ratings.
   b. Document the implemented solution (e.g., staff training) including description, people involved, and starting date.
   c. Collect and document longitudinal data (monthly progress).
   d. Develop reports and audit trend data (in team's meetings).
   e. Talk to consumers to gather their feedback and complement data reports.
   f. Keep or modify the solution.

>>>Observed Results<<<

Applying the activities described above, alone or in combination, have helped facilities improve the ICS measure rates.

Lessons Learned and Insights

Survey respondents provided insights about the challenges with the survey or solutions that affect ICS measure rates. The table below provides a summary of the most frequent challenges, their impact, and the opportunity for improvement.

Four main themes emerged from survey respondents related to soliciting the consumers perspective:

1. PROVIDE SUFFICIENT INFORMATION TO CONSUMERS: Explain to consumers the purpose and the importance of collecting information about the psychiatric care from the consumer's perspective.

2. COMMUNICATE WITH CONSUMERS: Improve the quality of communication between management/treatment teams and consumers.

3. ACKNOWLEDGE THE CONSUMER'S VOICE: Continuously review consumer's complaints.

4. ACT ON CONSUMER' S VOICE: Include consumer's feedback into decisions.

References

Schacht, L. (2001). *NRI/MHSIP Inpatient Consumer Survey: results of pilot implementation.* Alexandria, VA: National Association of State Mental Health Program Directors Research Institute, Inc.

Ortiz, G. (2014). Examining patients perceptions of care to identify opportunities for quality improvement in psychiatric inpatient hospitals. *Patient*, 7(3), 301-312. Doi: 10.007/s40271-014-0052-5.

Ortiz, G., & Schacht, L. (2012). Psychometric evaluation of an Inpatient Consumer Survey measuring satisfaction with psychiatric care. *Patient,* 5(3), 163-173. Doi: 10.1007/BF03262489

Challenge	Impact	Opportunity
Consumers may not want to participate/complete the survey.	Stagnant low performance rates.	Educate consumers on the purpose and importance of the survey.
Due to consumer's impairment, validation of responses may be challenging.	Low reliability of performance rates.	Debrief consumers responses and qualitatively validate them.
Facilities may lack enough human/staff resources to implement solutions to improve measure rates.	Delay in solution implementation, continued low scores.	Re-evaluate the proposed solution. Think outside the box.
Hospital staff may resist the solution's implementation.	Delay in solution implementation, continued low scores.	Share and discuss lower performance rates with staff. Continued staff training and education.
Solutions may be expensive to maintain.	No implementation of solution, continued low scores.	Re-evaluate the proposed solution.

Spinning the Golden Thread into Golden Fabric

By: Missy Rand, LPC, CSAC

Introduction

The Golden Thread is a well-known concept to mental health clinicians generally referenced as the process of connecting the assessed needs of a client to an individualized treatment plan and reflected in the progress notes written by the clinicians. Clinical supervisors, quality review teams and payors should be able to see this thread clearly and easily when reviewing a medical record.

Following the Golden Thread is ideally seamless: clinical interventions are evidence-based and grounded in the needs and strengths identified with the client and family. The individualized treatment plan can easily be differentiated between clients being served by the same clinician or team. Goals and objectives are tailored together with the client (e.g. shared decision-making) which can include medication preferences, modality choices, stage and ordering of treatment priorities, language and cultural practice inclusion, and negotiated timelines estimating when success in skill acquisition is targeted. Regular review using principles of Measurement Based Care (Waldrop, McGuinness, 2017; Lewis et al., 2019) allows for an objective assessment by client, family and treatment team to determine if adequate progress towards goals is occurring. If not, modifications to the treatment plan should be implemented (Scott and Lewis, 2015).

As members of a collaborative treatment team, we begin threading the needle with the end stitch in mind: how will we all know that treatment has been successful enough so that the client, at the center of the treatment team, can be discharged from the hospital to a lower level of care where recovery can continue? In this article, we will expand the Golden Thread by spinning it into Golden Fabric. Golden Fabric is created through the targeted use of objective data in a quality improvement model.

The Clinical Work of the Golden Thread

Strengths based, recovery/ resiliency oriented mental health models incorporate shared decision-making with the client's and family's values at the center of treatment planning through the discharge recommendations. Psychiatric treatment interventions include medication assistance, psychoeducation, supported employment, case management, evidence-based group/individual/ family therapy modalities which are in concert with the values and choices of the person being served.

Demonstration that the client is an active participant in the treatment delivered should be clear in the progress notes in the medical record. These notes are documentation by a variety of hospital staff who engage with the client. Each specialty, including nurses, psychiatrists, psychologists, licensed mental health counselors and social workers, peer providers, art, recreation, education and employment specialists, pharmacists, and case managers, may have distinct or interdisciplinary notes.

> **The Golden Thread: Progress Notes**
>
> The progress notes must flow from the treatment plan by specifically reflecting the service provided, the consumer's participation in their treatment, progress towards the identified steps/objectives and overarching goals, and the consumer's response to treatment.

For purposes of this article a clinical activity is any interaction designed to engage the client to share personal information, encourages consideration of alternative thoughts or actions which may improve the life of the client, supports the health, wellness, resilience, and recovery of mind/body/spirit, and is connected to the shared goal of discharge from the inpatient psychiatric hospitalization currently

experienced by the client. Clinical activity, therefore, may be conducted by an intake clerk who gathers demographic and initial medical information from a client's family. It is also the traditional psychological assessment conducted by a psychologist or the medication review elicited by a nurse. Peer providers also engage in clinical activity when they assist a client in creating a Wellness Recovery Action Plan (WRAP) (Advocates for Human Potential, 2018; Copeland Center for Wellness and Recovery, 2020).

During a psychiatric hospital stay, clinical activity is captured in the progress notes that relate the implementation of the individualized treatment plan with the client's development of skill and insight coupled with the impact of medication. Objective data regarding the impact of interventions can be slow to declare itself in persons living with serious mental illness who often present with complex co-occurring conditions. One established clinical practice that heavily uses objective data is Measurement Based Care. This practice is a strategy to distill some interventions into trackable components which the client and staff can use to assess what is helping, what is not, and adapt interventions or change the treatment plan in order to continue supporting the client forward in recovery and hospital discharge. Planful review of these data points engages and empowers the client towards ongoing recovery self-management while in hospital care and serves to model strategies for success post-discharge.

Spinning the Thread

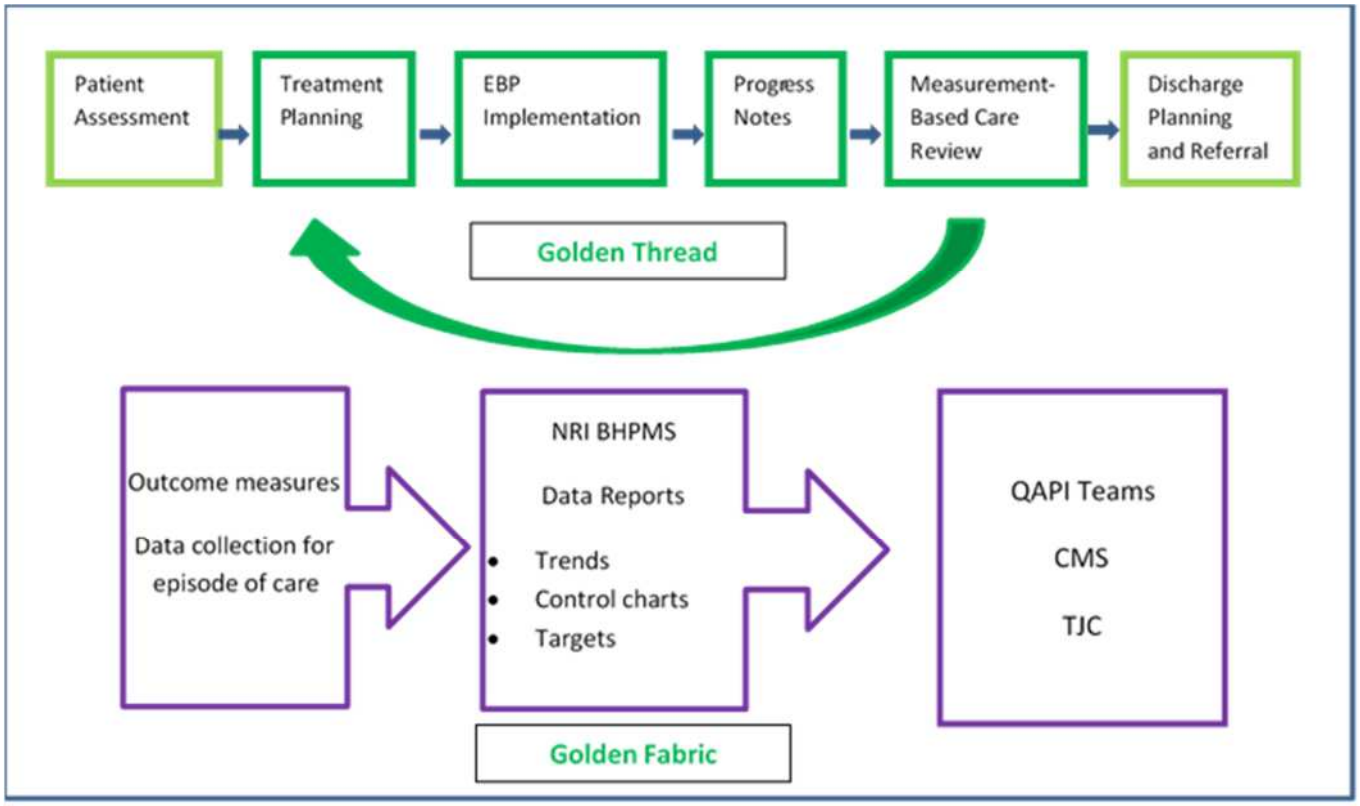
Medical records are maintained to document medical necessity and provision of psychiatric care, including the basis for the type, extent, duration and modality of treatment delivered throughout an episode of care. Clinical documentation should focus on the varied interventions delivered to the client/family which are tied to the treatment plan goals and objectives designed to assist the individual in a return to a health level that no longer requires hospitalization. Quality Assurance (QA) efforts are often utilized to ensure the Golden Thread is spinning together to create a whole cloth to wrap around the client. QA actions identify breaks in the thread that can contribute to "holes" in the treatment of a client. Examples may include incomplete psychological assessment notes, non-reviewed diagnosis, delayed discharge summaries, or metabolic labs that were ordered but which lack the returned lab outcome notes.

While Measurement Based Care data are directly used by the clinician in their interactions with clients, clinical progress notes become the foundation of numerous measures about how the hospital performs. Hospital performance is reported to payors and stakeholders and is often also published for public use. Tension can be created among treatment teams and across a hospital system when those performing discreet clinical activities are not involved in the design or are poorly informed about how documentation of their work is utilized by others. Connecting clinical threads to data output is generally not taught as part of the formal training for mental health providers, therefore there is a need for on-the-job training. And how clinical activity connects to data output varies widely across hospitals, out-patient systems of care, electronic health records, and over time. Investing in continual cross-training so that all staff interacting with documentation and data design and extraction can reduce these tensions and allow for a leaner flow process while promoting improved hospital performance on reported measures.

Questions to consider: Does the staff conducting the clinical activity know how it is connected downstream to a particular outcome measure? How can QAPI teams assess the through-put knowledge base of key staff? When measures change, how is this change communicated effectively? Does the data extractor appreciate why the data is important and what clinical activity it is connected to? Does the IT vendor know the best place for extraction of measure data from within the medical record?

From Spinning to Whole Cloth

The Golden Thread can only take us conceptually to the end point of client discharge. Spinning the threads of a single client with those of others in care over time creates a Golden Fabric we can use to describe the client population based on age,

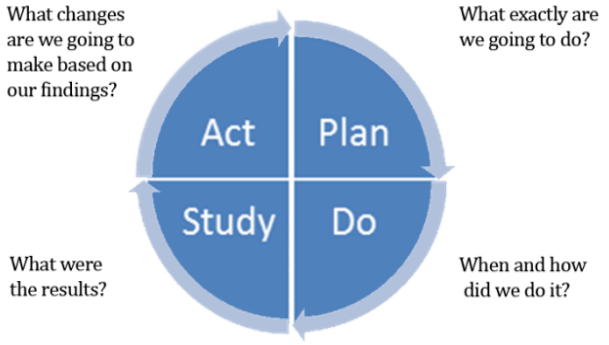


gender, forensic involvement, diagnosis, tobacco/alcohol/drug use, referral to appropriate services, number and reason for anti-psychotic medications prescribed, and other groupings of interest to clinical staff and hospital operations. In addition to a summary description of the clients served, aggregate data provides the rates of restrictive interventions like seclusion and restraint, number of days patient beds are empty but held for potential client returns, staff and client injuries, and medication error rates. Collecting the threads of data presents the opportunity to view the cloth from different perspectives so we can assess the value, utility, and consider creative uses of the Golden Fabric with future hospital residents. Quality Improvement endeavors are a mechanism for looking at this cloth.

Clinician Supported Improvement Strategies

The Golden Thread concept has a parallel model in quality improvement. **Plan-Do-Study-Act** is a familiar basis for exercising change in an organizational system targeting improvement in an outcome or process as shown in Figure 1 (Institute for Healthcare Improvement, 2020). Several examples of applied inpatient psychiatric quality improvement efforts are available within this issue of *Creating Quality*.

Figure 1.



The **Plan** step is equivalent to performing a client assessment. Careful and organized collection of data from key informants to the quality improvement effort should be undertaken. Staff who represent each point in the flow from clinical intervention to data interpretation should be included for a full and complete plan to evolve. Use of objective data from NRI can be reviewed for benchmarking and determination of the scope and breadth of both the problem and strengths.

Questions to consider: Describe specifically what you aim to change. What has brought an outcome measure or issue to the attention of the quality management team? What are the current strengths and weaknesses of the process? Why is this important and why now? Is change being thrust upon the system which requires re-tooling (new EHR, new forms, new treatment modalities, safety failures, a viral pandemic, legal requirements, new funding or reporting requirements)? What approaches have been used previously and what different approaches could be considered? Who else can contribute to this knowledge assessment to appreciate the total picture of how this current issue fits into the whole organization? What are the NRI data benchmarks which inform our trend status? What percent change do we expect to see and over what period of time? Are we availing ourselves of the SQUIRE tool (SQUIRE, 2017) so we can communicate the story of this quality improvement effort to others?

The **Do** Step aligns with how clinicians design a treatment plan. The design of what clinical interventions will be undertaken is collaborative and grounded in a realistic understanding of the strengths, talents, abilities, resources, and values of an organization at a particular point in time. Cooperation and enthusiasm are needed within and across teams to ensure that all staff are following a design that has had input from all stakeholders. Communication and education as to the specific item/behavior/data point/process being targeted for change, why this is important now, and how it will help clients/staff/the organization/society is crucial for change. Threads must be spun together to create a viable and strong fabric that can be useful and not just decorative. Just like individuals, a system must encourage the motivation to do things differently for change to occur and be sustained.

Questions to consider: What is the goal of the expectations for changed behaviors and workflow? Who is expected to do what, why, for how long, at what cost, for what greater good? How much effort and time is expected of participants? How can we start small and scale up change efforts? What rewards (extrinsic and intrinsic) will the organization provide for this extra effort? How will we all know when success has been achieved?

The **Study** phase embraces similarities to principles of Measurement Based Care. Measurement Based Care involves the systematic administration of client symptom rating scales utilizing the results to drive clinical decision making. This approach optimizes the efficiency, accuracy and consistency of symptom assessment. Brief diagnostic-specific symptom rating scales have been empirically validated to assess the severity and change in severity of most psychiatric disorders (Rush et. al., 2006). Use of objective criteria to review implementation of quality improvement activities allows a rational assessment of pre- and post-system interventions. This is where previous review of benchmarking data permits the determination of effectiveness and rate of change as implementation occurs across a system. It may also highlight differences between units, teams, and individuals so that ongoing training and support to sustain a change may be targeted.

Questions to consider: What progress has been made this month/ quarter as demonstrated by outcome measures? What percent of individuals on the team/ unit/ campus have received training and support for this change so far? What barriers are being reported regarding implementation? What adjustments are needed in the implementation plan? Beginning with the end in mind, earlier determination for project success criteria enhances knowing when the end goal has been reached for a quality change endeavor.

Lastly, the **ACT** phase functions like a chart review after a client has been discharged. Bringing an objective and focused eye to the episode of care looking from the end point is critical to determining what contributed to the success from the perspectives of the entire care team, including the client and family. Quality assurance activities function to ensure that identified markers known to support resiliency and recovery occurred with the client during the hospital stay. Assessment of the quality and timing of evidence supported clinical interactions may be scored as feedback to the clinical team including client observations and

evaluations of the services given. Following an intentional organizational change, reviewing benchmarked data from the point of implementation to stabilization provides the objective view of success so that it may be applied to the next generation of clients entering psychiatric care. Maintenance of change fidelity should then be periodically accessed and positively reinforced. The system should also monitor for change in the population being served to determine if adaptations are in order (e.g., Was this alcohol screening instrument normed for pregnant females as well as forensically involved males or do we need more choices in screening tools?)

Questions to consider: As we return to compare benchmark data with current trends, what changes are noted? Has the aim of this project been met? Why or why not? Were there other unintended consequences of the change that should be addressed? Can this change be more broadly disseminated? How will we determine if broader implementation is improving our outcomes? How can the system continue to support and sustain this change? What barriers need to be addressed for sustainability? Have all older iterations of the previous practice been eliminated as a paper or electronic resource to prevent errors? Has the change been incorporated into new client and staff orientation practices and expectations?

Clinician's direct engagement with clients is often the target of quality improvement initiatives. Education on a required performance measure may be a key first step to understanding where the intervention documentation fits into downstream performance measures. All staff involved in the engagement, documentation, extraction, review, and interpretation of data bring a valuable voice to the quality improvement table. Appreciation by medical record designers of the natural flow of client communication may inform the best extraction location for clinical utility and data capture while eliminating duplication of effort.

Questions to consider: Once clinicians are educated on a measure, how might they inform outcome measure capture and improvement steps that occur next? How can change design weave together the best flow from initial stitch to whole cloth as the hospital system strives towards continuous improvement to serve our clients?

References

Rush, AJ, et. al. (2006). Comparisons of Self-Report and Clinical Ratings on Two Inventories of Depressive Symptomatology, *Psychiatric Services*. 57 (6), 829-837. https://ps.psychiatryonline.org/doi/pdfplus/10.1176/ps.2006.57.6.829

Waldrop J, McGuinness TM. (2017). Measurement-Based Care in Psychiatry. *J Psychosoc Nurs Ment Health Serv.* 55(11):30-35. https://www.ncbi.nlm.nih.gov/pubmed/28840934. doi: 10.3928/02793695-20170818-01.

Lewis CC, Boyd M, Puspitasari A, Navarro E, Howard J, Kassab H, Hoffman M, Scott K, Lyon A, Douglas S, Simon G, Kroenke K.(2019). Implementing Measurement-Based Care in Behavioral Health: A Review. *JAMA Psychiatry*. 76(3):324-335. https://www.ncbi.nlm.nih.gov/pubmed/30566197. doi: 10.1001/jamapsychiatry.2018.3329.

Scott K, Lewis CC. (2015). Using Measurement-Based Care to Enhance Any Treatment. *Cognitive and Behavioral Practice*. 22(1): 49–59. https://www.sciencedirect.com/science/article/abs/pii/S1077722914000121

Advocates for Human Potential, Inc. (2018). Wellness Recovery Action Plan (WRAP). https://mentalhealthrecovery.com/wrap-is/.

Institute for Healthcare Improvement (IHI). (2020). http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx

SQUIRE (2017). http://squire-statement.org/index.cfm?fuseaction=Page.ViewPage&PageID=471

Copeland Center for Wellness and Recovery. (2020). https://copelandcenter.com/wellness-recovery-action-plan-wrap

From Quality Improvement Initiatives to Research Studies

By: Glorimar Ortiz, M.S., Ph.D.c

Introduction

Healthcare facilities implement quality improvement (QI) initiatives that help teams solve clinical problems that have an impact on patients' outcomes. The initiatives are primarily designed to be implemented at the local level, but when they are proven successful, they could have a greater impact on the larger service sector. Many successful QI stories stay at the local level, however, the interest for their wider dissemination has increased as other healthcare settings may experience similar problems and actively seek effective solutions. In order to disseminate these QI innovations, it may be necessary to strengthen the overall QI effort to meet the standards of empirical research studies. Wider dissemination of research findings involves the publication in peer-reviewed journals and presentation at national and international conferences that have rigorous requirements for acceptance. Introducing modifications into the design of a QI initiative may take it from an initiative to a sounded research study. Innovations at the local level that are more widely shared may lead to faster uptake of best clinical practices and improved outcomes for patients.

This paper provides discrete activities than could move a QI initiative to a research study. While standard guidelines for reporting QI initiatives has been established, this report provides general ideas about how to enhance a QI initiative such that it would likely meet the research requirements for evidence to support a change in clinical practice and to further additional research. First, what is a QI initiative is defined in terms of purpose, process, and expected outcome. Second, what is a research study is defined along the same lines. Finally, a discussion of how to transition a QI initiative into a research study begins with a review of the main conceptual differences of these approaches and ends with a suggested course of action to enhance QI initiatives. Teams at the local healthcare settings are encouraged to develop QI initiatives that interconnect key principles of research and transfer their knowledge about successful QI innovations to a higher scale. The integration of a researcher into the QI team will help strengthen the development of an innovation that would likely successfully shift the innovation into a research study.

What is a Quality Improvement Initiative?

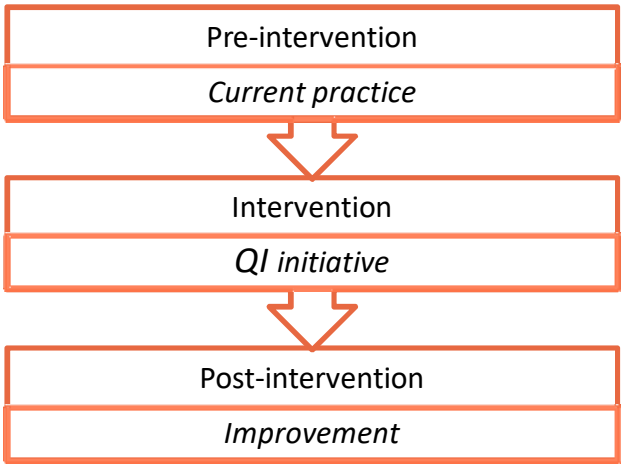
Quality improvement (QI) has been defined as *a process of systematic, data-guided activities designed to bring about immediate, positive changes in the delivery of health care in particular settings* (Baily et al., 2006). QI embodies a planned procedure towards the achievement of a desired result(s); it begins with a statement of the best outcome. QI initiatives are evidence-based activities targeting an anticipated goal largely exemplified by improvement in patient's outcomes. QI initiatives embrace at least one of the six pillars of quality care: safety, effectiveness, efficiency, timely, patient-centered, and equitable. The initiatives are designed and implemented to identify the system level problem that is counter to the pillars of quality of care at the local clinical setting and that have an impact on patients' outcomes (Oermann, Turner, & Carman, 2014).

QI initiatives are usually framed under a pre- and post-intervention approach that allows the assessment of changes in current practice and the measurement of the effect on patient care outcomes (Gregory, 2015). It allows the intervention to change, in a planned course, until it is successful at the local level which provides useful information about the final intervention activities (Jones, Vaux, & Olsson-Brown, 2019).

Figure 1 depicts the strategy applied in QI initiatives in their goal of improving performance. It is a planned process that assures that activities align with objectives and are different from current practice (Pre intervention). It is highly likely to

produce positive changes that result in improvement (Post intervention). This strategy essentially relies on the Plan-Do-Study-Act framework, a dynamic approach for planning, implementing, observing, and reacting until a sustainable improvement occurs (Baker, 2006).

Figure 1. *QI Initiatives Approach*



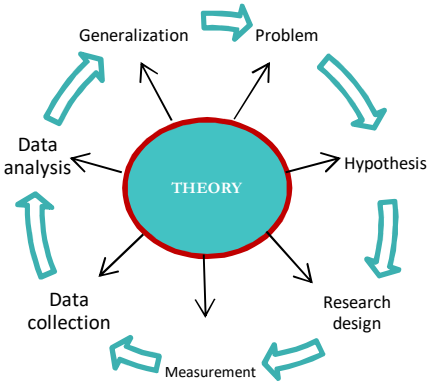
QI initiatives are desired because they contribute to the quality of care. The changes in care at the local level that are driven by evidence (both objective outcome data and proven practices) could be replicated across other healthcare sites. Because the underlying framework is dynamic, a successful strategy at a local level could be adapted and implemented at different sites. The intrinsic value of QI initiatives has been acknowledged (Grady et al., 2015). However, to be able to disseminate the initiatives, the associated interventions and outcomes at a larger scale, it is important to strengthen the intervention itself. A collective and endorsed suggestion is to design interventions that can be transitioned from QI initiatives to research studies thus promising outcomes that could be further generalized.

What is a Research Study?

Research has been defined as a *systematic study directed toward fuller scientific knowledge or understanding of the subject studied* (National Institutes of Health [NIH], 2015). A research study embraces the pillars of the research process: problem, hypothesis, research design, measurement, data collection, data analysis, and generalization which are a series of activities in which researchers engage in order to produce knowledge (Frankfort-Nachmias & Nachmias, 1996). The main purposes of research studies are to explore, describe, and explain phenomena and the causal relationships (Babbie, 2017).

Figure 2 depicts the main steps of the process applied in research studies. The process is cyclical and usually starts from an identified problem and concludes with a possible empirical generalization about the problem (Babbie, 2017). The recurring nature of the process allows for testing proposed generalizations and if rejected, to formulate new ones for testing (Babbie, 2017). The main aspect of the research process is that it is theory-grounded where each step affects theory and is affected by theory as well (Babbie, 2017).

Figure 2. *Steps in the research process.* Adapted from Frankfort-Nachmias & Nachmias, 1996.



The main outcome of the research process is the research report that is usually disseminated at a larger scale, thereby increasing its utility to a larger sector. The research report will include extensive details of each process step which allows for the replication of the research study in different settings. A research study can be implemented to explore, or describe, or explain, one at a time, or a mix of these, or all together. Whatever the purpose(s) of a research study, it requires a research design that is exhaustive and clear enough that the main purpose, the method and outcomes can be easily simulated by others.

Research studies follow the key principles that characterize the research process: starting with literature-based research hypotheses, to structured

study protocols that specifically define the collection, analysis and interpretation of the data, to the dissemination of the findings. These principles could be adopted by QI initiatives when the interest is to disseminate successful evidence-based efforts implemented at the local level to a greater audience.

Transitioning from QI Initiative to Research Study

There is a growing interest of transitioning QI initiatives to research studies mainly to maximize the dissemination of innovations beyond the local setting (Oermann, Christenbery, & Turner, 2018). While there may be a correspondence between QI initiatives and research studies, these initiatives may lack the pragmatic approach that is rooted within research studies (Portela et al., 2015). This shortcoming could be overcome by many of the successful QI innovations (Portela et al., 2015). But first, to make a transition from QI initiatives to research studies, it is important to understand their differences.

Table 1 summarizes the main conceptual differences. QI initiatives use observed evidence while research studies search for new evidence. Research studies are framed under a conceptual theory and look to fill a research gap while QI initiatives purposely implement improvement activities to secure positive change. Both follow a specific methodology, but research studies consider the power of the study and the effect size of the findings to be able to make generalizations which is not a concern in QI initiatives. Research studies also strive to determine the level of significance of the positive change increasing the confidence in the findings. QI initiatives test for change after the implementation of an initiative while research may test for the change and will also explore the relationships that can explain such change. Because only one setting is generally included as part of the QI initiative, making generalizations to other settings may be constricted. Research studies increase the external validity of the findings as they often include larger sample sizes and multiple sites. Finally, QI initiatives findings are mainly disseminated at the local level while research studies findings may

Table 1. Conceptual differences between QI initiatives and research studies

	QI initiative	Research study
Main goal	Use CURRENT knowledge to specify	Search NEW knowledge to generalize
Groundwork	Low performance scores High percent of patient risk	Theory Gap in research
Approach	Planned methodology What?-Who?-Where?-When?-Why?-How?	Rigorous methodology What?-Who?-Where?-When?-Why?-How?
Design	Usually PDSA to test a change Pre- & Post-Intervention Doesn't test if the change is significant unless specific tools like control charts are used	Correlational, Experimental, Quasi-experimental To test a change To establish relationships To predict Provides level of significance
Validation of findings	At the local level	At the local and higher level (state, national, etc.)
Generalization of findings	No	Yes
Dissemination of findings	Internally, QI related publications and presentations	Internally, externally, peer-reviewed publications, national/international conferences

Adapted from *Differentiating between research and quality improvement.* Gregory, 2015.

reach higher levels because there are more methods and expectations for dissemination.

After understanding the main conceptual differences, it is important to decide on the audience(s) to whom the findings will be released. Questions such as *Are the findings pertinent to people at the local level only*? Or *Is there an interest for sharing the findings with a wider audience*? are important to answer to determine the study design. Along with these decisions, it is highly recommended to review the Standards for QUality Improvement Reporting Excellence (SQUIRE) guidelines. These guidelines have been vastly recommended and endorsed when the collective interest is for broader dissemination. The guidelines have also been extensively described, interpreted and explained by researchers (Davidoff et al., 2008; Holzmuellar & Pronovost, 2013; Oermann, Turner, & Carman, 2014).

The following recommendations could further the transitioning from QI initiatives to research studies. The activities can be developed with the expertise from a researcher, often available from another department within the facility or an oversight organization.

- ✓ State the (research) problem or the negative impact people are experiencing or could experience if the QI initiative is not implemented.
- ✓ Perform a literature search related to the identified problem.
- ✓ Align the current problem with a research gap in the literature.
- ✓ Identify a conceptual framework or theory that could explain the observed problem.
- ✓ Make a statement of significance and how the initiative could have a social impact.
- ✓ Explain what has been studied on the topic and what needs to be studied.
- ✓ Improve the design type. Use PDSA as a foundation and add another layer of inquiry that can help understand the findings such as predictions of risk factors.
- ✓ Specify the data analysis method used such as qualitative, quantitative, mixed methods, cross-sectional, longitudinal, primary, or secondary data analysis.
- ✓ Provide a demographic description of the sample under study.
- ✓ Add inferential analyses such as analyses testing for mean differences or predicting improvement controlling for other possible confounders.
- ✓ Discuss the findings in light of the theoretical framework.
- ✓ Develop conclusions accounting for the limitations of the study.
- ✓ Provide the application of the findings to how current practice can be improved.

Transitioning from a QI initiative will require some additional activities of the QI team, but it may benefit the wider healthcare field in the adoption of innovations that improve outcomes.

References

Babbie, E. (2017). *The Basics of Social Research.* Boston, MA: Cengage Learning

Baily, M.A., Bottrell, M., Lynn, J., Jennings, B., & Hastings, C. (2006). The ethics of using

QImethods to improve health care quality and safety. *Hastings Center Report, 36*(4), S1-S40

Baker, G.R. (2006). Strengthening the contribution of quality improvement research to evidence based health care. *Quality Safety in Health Care, 15*, 150-151

Davidoff, F., Batalden, P., Stevens, D. et al. (2008). Publication guidelines for quality improvement in health care: Evolution of the SQUIRE project. *Quality Safety in Health Care, 17*, i3-i9

Frankfort-Nachmias, C., & Nachmias, D. (1996). *Research Methods in the Social Sciences*. New York, NY: St. Martin's Press

Grady, D., Redberg, R.F., O'Malley, P.G. (2015). Quality improvement for quality improvement studies. *JAMA Internal Medicine, 178* (2), 187

Gregory, K.E. (2015). Differentiating between research and quality improvement. *JPNN Journal*, April/June, 100-102

Holzmueller, C.G., & Pronovost, P.J. (2014). Organizing a manuscript reporting quality improvement or patient safety research. *BMJ Quality Safety, 00*, 1-91

Jones, B., Vaux, E., & Olsson-Brown, A. (2019). How to get started in quality improvement. *BMJ, 364*, 1-4

National Institutes of Health. (2015). *Glossary & acronyms list*. Retrieved from https://grants.nih.gov/grants/glossary.htm#R

Oermann, M.H., Turner, K., & Carman, M. (2014). Preparing quality improvement, research, and evidence-based practice manuscripts. *Nursing Economics, 32*(2), 57-69

Oermann, M.H., Christenbey, T., Turner, K.M. (2018). Writing publishable review, research, quality improvement, and evidence-based practice manuscripts. *Nursing Economics, 36*(6), 268-275

Portela, M.C., Pronovost, P.J., Woodcock, T., Carter, P., & Dixon-Woods, M. (2015). How to study improvement interventions: A brief overview of possible study types. *BMJ Quality Safety, 24*, 325-336

Call to Action

By: Lucille Schacht, Ph.D., C.P.H.Q.

Share Your Story to Enable Others to Benefit

While there are numerous psychiatric facilities that are undertaking improvement initiatives and have completed improvement initiatives, there is little publication of that great work. Today we begin the process to improve the sharing of this vital learning that could save other psychiatric facilities countless hours identifying, designing, and testing "solutions" that have not proven to be successful and engage in promoting the best practices for both patient care and improved outcomes.

In the first article, I discussed the components of the QI story and the information that could make each section more salient to other psychiatric facilities. NRI has developed and is continuing to improve our survey tool to help a facility build their quality improvement story. Feel free to contact us for the survey and we will assist you in building your quality improvement story for succinct documentation at the local level and/or future publication.

Key Learnings

Some highlights from the facilities' stories provided in this issue:

- There is information deep in the medical record that needs to be pulled forward for the current clinician to use. Whether paper or electronic, ease of access is an issue that must be addressed.
- Supplemental information depicting the trend of the identified problem may provide a foundation for documentation of the problem.
- QI teams require diverse skill sets relevant to the issue at hand suggesting a multidisciplinary approach to the problem.
- New forms and visual aids can improve compliance to best practice.
- Clinical best practice needs to be at the center of the improvement effort. Mandated performance measurement might serve to kick-start a discussion, but ultimately the clinical activity needs to be the focus of action.
- Homegrown data stores could be enriched with process-behavior information to increase the opportunity to have more granular information and may be a foundation for requesting changes in an EHR.

Similarity of the Clinical Process and the Quality Improvement Process

While reading "Spinning the Golden Thread into Golden Fabric" by Missy Rand, I saw the similarity of the clinical process to a rapid cycle improvement process. The assessment connects to treatment options and the evaluation of the effectiveness of those options cycles back to both re-assessing needs and re-designing treatments. The process is much improved when grounded in objective criteria. Clinicians are very familiar with this framework and their expertise greatly serves the quality improvement efforts of facilities.

Adding More Science to Strengthen the Potential Uptake of Your Efforts

In the final article, Glorimar Ortiz discussed the actions needed to move quality improvement initiatives into research studies. As was noted, research studies are grounded in prior research and attempt to fill a gap in knowledge. Using scientific methods and quantifying improvements not only adds to the credibility of the research, but also its replicability and its uptake by the clinical workforce. Glorimar outlines concrete suggestions for next steps, and as a biostatistician, she would also welcome the opportunity to discuss your specific interests and provide additional support.

Contact Us

We are interested in your feedback on this issue of *Creating Quality*. Our goal is to continue to work with facilities to share their quality improvement

stories so that the whole community benefits. The ultimate intention is to develop a quality improvement solutions' catalogue where quality improvement stories will be indexed to allow facilities to identify an issue and browse for possible solutions. Please write to TechSupport@nri-inc.org with your feedback.

If you have a quality improvement story to share and would like to consider publication in a future issue of *Creating Quality*, please send me an email at lschacht@nri-inc.org. We will share a copy of our survey tool to assist in your efforts and we will engage in active dialogue with you as you compile your story.

Feel free to contact any of our staff authors for additional guidance as you continue your important work to improve the quality of care and outcomes for clients.

Lucille Schacht, PhD, CPHQ
Senior Director
Division of Performance and Quality Improvement
National Association of State Mental Health Program Directors Research Institute, Inc. (NRI)
3141 Fairview Park Drive, Suite 650
Falls Church, VA 22042
703-738-8160
www.nri-inc.org
https://bhpms.nri-inc.org/

Glorimar Ortiz, MS, PhDc
Principal Biostatistician
gortiz@nri-inc.org

Missy Rand, LPC, CSAC
Clinical Quality Educator
mrand@nri-inc.org