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Innovations in Quality Improvement in Long-Term Care

The purpose of this column is to discuss innovations and quality improvement advancements across the various long-term care settings. This column is coordinated by Marilyn J. Rantz, PhD, RN, FAAN, NHA, rantzm@missouri.edu.

Using FOCUS PDSA to Improve Antipsychotic Medication Management

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FOR many years, The Centers for Medicare and Medicaid Services (CMS) have had in place two (2) regulations (F 309 & 329) for long-term care facilities to assess, evaluate, and attempt gradual dose reductions in the use of antipsychotic, antianxiety, and hypnotic/sedative medications.[1] In 2012, CMS challenged long-term and skilled care communities to reduce the use of these medications by 15%.[1,2] The overall challenge from CMS was to improve dementia care, with one (1) focus being the reduction of antipsychotics in addition to implementation of other key principles in dementia care.[1] These goals are challenging nursing facilities to develop new care approaches for residents and medication review processes.

This article describes how a 240-bed long-term skilled/rehabilitation facility developed and implemented a rapid cycle improvement process targeted at gradual dose reductions in antipsychotic, antianxiety, and sedative/hypnotic medication to achieve compliance with the federal targets.[1-4] The article also explains how the facility focused their efforts to evaluate "dementia care" and not only medications to ensure that the right cares are being done for residents. This facility is 1 of 16 nursing homes in the St Louis area participating in the Missouri Quality Initiative sponsored by CMS Innovations Center and the Medicare-Medicaid Coordination Office in the national *Initiative to Reduce*

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Avoidable Hospitalizations among Nursing Facility Residents.

RAPID CYCLE PROCESS IMPROVEMENT

Rapid-cycle methodologies were developed out of the need to see improvement quicker and to reduce wasted activity and efforts.[5] Rapid cycle process improvement is not a new concept, but it is new in the long-term skilled care community.[5] The process improvement approach enables facilities to do and complete processes faster and better.[5]

Traditionally, quality improvement (QI) committees tend to spend their time convening meetings, receiving available data, and planning future activities, which often include collecting more data from a large number of medical records.[5] This typically requires frequent, regular meetings that can span weeks or months. Unfortunately, all this activity and energy too often leads to little change in clinical care processes. As a result, committee members grow disinterested and withdraw from the QI effort.

FOCUS-PDSA

The FOCUS-Plan Do Study Act (PDSA) QI process enabled this long-term skilled/rehabilitation facility to strategically guide their efforts to narrow its focus, collect data and select and organize a committee to attempt gradual dose reductions of medications.[5] FOCUS-PDSA includes the components listed in Table 1.

Table 1. Components of FOCUS-PDSA

F—Find a process to improve
O—Organize to improve the process
C—Current knowledge of the process
U—Understand sources of process variation
S—Select the process improvement
P—Plan
D—Do
S—Study
A—Act

Implementing process improvement—FOCUS and PLAN

The long-term facility brought together significant leadership roles within the facility to develop an Antipsychotic Medication Review (AMR) Committee. The newly formed committee included the Facility Administrator, Director of Nursing/Assistant Director of Nursing, Social Services Director/Social Worker assigned to specific divisions, Activities Director, Consulting Pharmacist, Consulting Psychiatrist, and Advanced Practice Registered Nurse (APRN). The AMR Committee considered the following essential questions to meet the CMS goal of gradual dose reduction including the following[5]: (1) What is the committee attempting to accomplish? (2) How will the committee know that a change is an improvement? (3) What changes will the committee need to make that will result in improvement?

Most recently, a new QI process is being implemented nationwide by CMS called the Quality Assurance Process Improvement (QAPI).[1,3] There are 2 key components that made the AMR Committee successful with the new QAPI process. Those components are (1) having key stakeholders in the process and (2) stakeholders seeing themselves as part of the same care process working toward the same goal.

To be effective, the AMR the committee needed to choose members on the basis of knowledge of and involvement in processes directly relating to achieving appropriate gradual dose reductions of psychotropic medications. A key component of the process was to identify a champion with expertise about the topic, particularly a leader among the nursing staff members, who would be able to provide care to many of the residents who were receiving antipsychotic medications. The AMR Committee determined that there should be a joint leadership position shared with the facility administrator and the facility APRN. This shared leadership provided a senior leader with the authority to promote or enhance implementation

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of the improvement in conjunction with the APRN who has the expertise or special knowledge about process improvement as well as gradual dose reductions.

At one of the committee's first meetings, the committee discussed the need to develop policies and processes for implementing a systematic review of residents receiving antipsychotic medications. Primaris,[6] the regional QI organization, published on their Web site Changing Antipsychotic Thinking documents.

One of the Changing Antipsychotic Thinking[6] documents identified 16 specific antipsychotic medications that have black box warnings and are implicated in negative outcomes in the elderly people.[6] The facility implemented a screen for all new admissions prescribed (or given) for antipsychotic medications (Table 2). The nurse who admits the residents to the facility initiates this screen, and the form is forwarded to the APRN for review and recommendations for medication management.

Implementing process improvement—DO

The AMR committee then explored the national Achieving Excellence Web site[7] and found a sample policy for implementing an AMR Committee. The AMR Committee modified the Achieving Excellence sample policy by adding the leadership roles that represented the facility. In the new policy, the AMR Committee described the specific steps needed to implement a process for antipsychotic drug reduction. The committee then developed a review schedule. The CMS guideline[1] indicates a specific frequency for antipsychotic, antianxiety, and hypnotic medication reviews and gradual dose reduction attempts based on the specific medication type category.[8] The AMR Committee decided to target antipsychotic medications first.

The facility has 6 divisions of residents. The AMR Committee determined that 1 division would be reviewed each week. During the weekly divisional review, the APRN took the lead in gathering current resident information and preparing the agenda for the committee meeting. The Director of Nursing printed a listing of residents who had specific antipsychotic medication orders. The APRN then would talk with the divisional charge nurse to review any documented or observed behaviors about the resident.

To be most effective, the AMR Committee decided that meetings should be held on each respective division. This approach enabled the AMR Committee to include all of the resident's care providers. For example, nursing assistants, as well as not having the charge nurse leave the division. During each division meeting, the AMR Committee reviewed when the medication was originally ordered, when the medication was last reviewed, and if there had been a gradual dose reduction attempted according to the CMS guideline.[1] The committee explored whether nonpharmacological interventions had been used with the resident and their effectiveness.[6] The final decision of the AMR Committee was to continue the current medication, titrate the medication by attempting a gradual dose reduction, or discontinue the medication. The AMR Committee proceeded, with the same process of meeting and review; division over the next 6 weeks.

The AMR Committee developed and reviewed the AMR policy and finalized the policy following initial review of all 6 divisions.

Table 2. Antipsychotic Medications[6]

Abilify (Aripiprazole)	Saphris (Asenapine)	Thorazine (Chlorpromazine)
Clozaril (Clozapine)	Fanapt (Iloperidone)	Mellaril (Thioridazine)
Geodon (Ziprasidone)	Invega (Paliperidone)	Trilafon (Perphenazine)
Latuda (Lurasidone)	Risperdal (Risperidone)	Stelazine (Trifluoperazine)
Seroquel (Quetiapine)	Zyprexa (Olanzapine)	Navane (Thiothixene)
	Haldol (Haloperidol)	

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The committee also asked: "What lessons had the committee learned?," "What was the committee doing well?," and "What should the committee do differently or stop?" The AMR Committee determined that the process was working well. They also decided the process needed to be continued for 2 more cycles on each division, or 12 more weeks to determine the effectiveness of the antipsychotic review process.

After the first round of medication reviews by the AMR, the facility administrator suggested that the facility consider using the CMS Hand-in-Hand training program,[9] a national program from CMS. The Hand-in-Hand training program was designed to assist nursing homes and other long-term care centers in the care of residents with dementia; the program provides a means for care providers to recognize, prevent, and predict resident behaviors before initiating inappropriate medication therapy.[9] The AMR Committee reviewed the training program and decided to use it to educate of the all of the facility staff. Along with the dose-reduction process, the Hand-in-Hand training program provided additional support to understand the basis of each resident's behaviors and implement nonpharmacologic interventions.[9]

The AMR Committee developed a documentation process and a care plan modification tool during the second cycle of medication reviews. The AMR Committee worked directly with the division charge nurses to modify the residents' care plans so as to identify nonpharmacological interventions to enhance behavior management. The AMR Committee also developed a continuous entry log book so that the committee and division charge nurses could readily review changes in medications across all residents in a division as each of the planned review cycles occurred. The AMR Committee developed and implemented a year-long review schedule (Supplemental Digital Content, Table 1, available at http://links.lww.com/JNCQ/A108) that would meet the intent of the CMS F-tag frequencies.[1]

The PDSA cycle was used in rapid successions. After the AMR process was implemented, data from the first 6 weeks of medication review was examined to see if dose reductions and resident assessments were occurring. The data indicated that the process was not "hardwired" or able to be sustained in the existing care systems on each division and needed to be continued for at least 2 more cycles. Following the third cycle, the AMR Committee officially adopted the planned medication review process as an ongoing care system in the facility. With each division review of residents, the AMR managed multiple small changes in an effort to keep the process aimed at the goal of gradual dose reductions that achieve or exceed improvements targeted by CMS goals.[6]

Psychotropic medication review form

The AMR Committee next developed the AMR form. The AMR form assists the AMR by pulling together salient information about the resident's medication dose, the date of the original order, when the medication was last changed, and any nonpharmacological interventions resident care staff may have performed. The form also provides a means for the AMR Committee to review documented resident behaviors and use of "as needed" medications (Table 3). This form acts as the AMR agenda for each resident with a psychotropic medication order and directs the dialogue. When it is time to review division 1 residents for the next cycle, the committee is able to go to the division AMR form in each person's medical record and readily review what medication changes had been made and if the changes had been effective.

AMR Committee recommendations form

Second, the Committee developed an AMR Committee Recommendation form to make recommendations to the patient's health care provider (Table 4). This form enables the AMR Committee to communicate the review

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Table 3. Antipsychotic Medication Review Form

Resident's Name	**Room Number**	**Date**
Diagnosis	Medication	Dose
Medication order date	Medication review date	
Recommended medication changes: continue/titrate/discontinue	Identified nonpharmacological interventions	Were changes successful? Yes/No
Care plan updated? Yes/No	Signature of reviewer	

and assessment of the resident's current state. The form also provides a means to suggest gradual dose reductions or medication recommendations to the resident's provider. The AMR Committee Recommendations form asks for a provider order and provider note. The provider can agree or disagree with the recommendations. Following the review, the form is placed in the resident record as documentation of the medication review process.

Resident care plan supplement form

With changes in the care direction of the resident, the AMR Committee also developed a form to enhance a resident's plan of care. The Resident Care Plan Supplement form (Supplemental Digital Content, Table 2, available at http://links.lww.com/JNCQ/A109) provides the charge nurse and resident care team with a means of addressing the resident's presenting behaviors and various interventions that may be used to recognize, predict, or prevent those behaviors.[10]

Gradual dose reduction process improvement results—STUDY

When the AMR Committee began the medication review process, only 4 of the 16 drugs identified by Primaris[6] (Table 2) were being used in the home with 36 residents receiving an antipsychotic medication. Of the 36 residents, 6 were on Abilify, 10 residents were on Risperdal, 9 were on Seroquel, and 11 were on Zyprexa.

At the end of the 18-week period, there were 4 residents on Abilify, 8 residents on Risperdal, 6 residents on Seroquel, and 8 residents on Zyprexa. The number of residents receiving an antipsychotic decreased from 36 to 26 residents, by 27% at the end of the 18 week period.

Table 5 displays the breakdown of reduction cycles. Of the residents who were on Abilify, 6 residents were receiving the medication during cycle 1, and residents 4 during cycles 2 and 3. At the end of cycle 3, the amount of administered Abilify was reduced by 34%, from 23.5 to 15.5 mg. There were

Table 4. AMR Committee Recommendations Form

Facility Name	FAX Number	Date
Dear Doctor		
Your resident _____ has been receiving the psychotropic medication _____, since _____ without the benefit of a dose reduction.		
The Antipsychotic Medication Review Committee met on _____ and had made the following recommendations based upon a comprehensive behavioral and psychological assessment.		
Please consider a dose reduction or provide a risk/benefit statement why this recommendation would not benefit the resident. Please return your comments for our files. Thank you		
Provider Order		
Risk Benefit		
MD Signature/Date		

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Table 5. Antipsychotic Drug Reduction by Specific Drug

	Cycle 1	Cycle 2	Cycle 3
Abilify			
Total dose	23.5	16.5	15.5
Average dose	3.9	4.125	11.5
Range	2-10	0-10	0-10
Persons on med, n	6	4	4
Reduction			34%
Risperdal			
Total dose	10.125	6.375	3.5
Range	0.125-1.5	0-0.5	0-0.5
Persons on med, n	10	8	8
Reduction			20%
Seroquel			
Total dose	575	487.5	262.5
Range	50-100	12.5-100	0-100
Persons on med, n	9	9	6
Reduction			33%
Zyprexa			
Total dose	41.25	37.5	30
Range	0-5	0-10	0-10
Persons on med, n	11	10	8
Reduction			27%
Total, n	36	31	26

10 residents during cycle 1 who received Risperdal, with 8 residents taking Risperdal during cycles 2 and 3, a reduction of 33%. The total administered dose of Risperdal was reduced 65% from 10.125 (cycle 1) to 3.5 mg (cycle 3). Nine residents were on Seroquel during cycle 1 and cycle 2 but only residents 6 in cycle 3. At the end of cycle 3, the administered dose of Seroquel was reduced from 575 mg to 262.5 mg, or by 54%. Lastly, there were 11 residents who were on Zyprexa during cycle 1, 10 during cycle 2, and 8 during cycle 3, a decrease of 27%. The total administer dose of Zyprexa at the end of cycle 3 had been reduced 27% from 41.25 mg to 30 mg.

Comparison with national and state usage—STUDY

Data from the home's Certification and Survey Provider Enhanced Reports were provided each quarter to the home by Primaris and the Missouri Quality Initiative team to monitor progress toward the national goals related to psychoactive medication use in absence of psychotic or related conditions, and to compared with Missouri state and national averages. The Quality Measure (QM) titled "Psychoactive Medication Use in the Absence of Psychotic or Related Condition" is calculated from data transmitted by the facility from the Minimum Data Assessment tool for residents, which is completed on admission, then quarterly, and finally when there is a resident's condition. Supplemental Digital Content, available at http://links.lww.com/JNCQ/A107, displays the progress the facility made in reducing the QM for antipsychotic use on a quarterly basis, 21.4%, 15.5%, 14.3%, and 12.7%, respectively. The QM declined from slightly above the national average of 21.1% the quarter before the process improvement to well below. The declining QM of the nursing facility indicates the effectiveness of the AMR Committee and the Hand-in-Hand education efforts at the nursing home. Sustainability in the decrease of psychoactive medication use will be evident as the QM score is monitored by the AMR Committee.

Ongoing evaluation—ACT

One of the key elements to share in a committee is the responsibility for making it a success.[9] For the committee's work to be successful, commitment and dedication are required from each committee member. The committee's power lies in having people freely share their ideas and experiences.

The members of the AMR each bring a unique perspective. Following through on commitments is a top priority. The AMR Committee members rely on each other to ensure that all of the care providers' perspectives are discussed when considering altering

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a resident's medication profile. A factor in the AMR's success has been the committee's ability to contribute ideas and suggestions during discussions, and also to listen closely to feedback from other committee members say is the heart of teamwork and also a sign of respect. It encourages team members to participate and thereby demonstrates shows that opinions and ideas are valued.

Important to ongoing evaluation are signs of improving the resident's quality of life as dosage reduction progresses. One resident who was among the first group where a gradual dose reduction was attempted is a good example. This person presented with many behaviors such as yelling, refusing care, standing unattended, and placing herself on the floor unobserved. The resident had been on multiple antipsychotic and benzodiazepines. When dose reductions were trialed, the staff members on the division were nervous that the resident would display increased behaviors and would be more difficult to manage. Yet, as the Hand-in-Hand program roll out occurred, staff members used more behavioral and nonpharmacological approaches. Dose reductions were done carefully and gradually with this resident. Over several weeks, the resident progressively became more interactive and communicative. For example, during one of the holidays, the resident distributed holiday candy and greeted visitors to the division. The resident smiled for the next 2 days. A year ago, the resident would have been somnolent, standing unassisted, and combative.

CONCLUSION

Success of the AMR Committee came slowly but methodically due to key stakeholders, and to committee members who were active listeners, kept the gradual dose reduction goal as the focus of the process, and were willing to explore the QAPI methodology. The development and implementation of an AMR Committee in a long-term care facility demonstrated that by using FOCUS-PDSA systems and processes, facilities can meet the CMS regulations related to antipsychotic medication management. The committee's results indicate that gradual dose reductions can successfully occur with a team effort. Every resident who was receiving an antipsychotic medication was routinely evaluated, assessed, and monitored for behavioral changes after dose reductions occurred. During the 18-week period, all but 2 of the residents who had a gradual dose reduction had their dose reductions remain intact.

It is important to emphasize that the process adopted by this long-term care facility included teaching staff members the importance of meeting residents "where they are in their reality."[9] A key to dosage reduction is to broaden the awareness of all long-term care staff that behaviors are a form of communication. Behaviors provide staff with insight into how to work with residents and make a difference.[9] The inclusion of the Hand-in-Hand program in the dose reduction program provided the care providers with the opportunity to communicate differently with residents.[9] Staff members were able to find new ways to connect with the residents without the addition of medications.

Future work in long-term care could build upon the FOCUS-PDSA, QAPI processes, and tools developed by the AMR Committee to continue examination not only antipsychotic medication reduction but also overprescribing of other medications. The processes established by this team could provide a systematic way to examine evidence-based reasoning behind maintaining greater than 9 medications for some residents. The processes also may be used for medication treatment improvement such as reducing the use of sliding scale to basal bolus dosing of insulin in residents with diabetes and other evidence-based medication regimens.

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