

1. **Title:** The Use of a Cognitive Aid within the Electronic Record can greatly improve the effectiveness of communication among care givers and reduce patient injuries from falls.

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3. **Background Knowledge:** According to the Center for Disease Control and Prevention (CDC), one out of three adults aged 65 and older will fall each year. With this aged group of adults, falls are the leading cause of death. Studies show that 20% to 30% of people who fall will suffer moderate to severe injuries. Examples of possible injuries can be lacerations, hip fractures, or head traumas. Sustaining these types of injuries can also make it extremely hard for the aged adults to get around or live independently, thus increase their risk of early death in some population groups.<sup>1,2</sup> In 2000, the medical cost of all fall injuries exceeded \$19 billion per year.<sup>3</sup> By 2020, the annual direct and indirect cost of fall injuries is expected to reach \$54.9 billion (in 2007 dollars).<sup>4</sup>

4. **Local Problem:** Veterans Healthcare System of the Ozarks (VHSO) serves over 53,000 Veterans living in or visiting twenty-three counties in northwest Arkansas, southwest Missouri and eastern Oklahoma as of September 31, 2010. The facility has an inpatient bed capacity of 72 and has an average daily census of 59.50 per the facility's September 2010 Fiscal Service Business Office Report. VHSO has a long standing history in evaluating and developing interventions to prevent falls, but more importantly preventing injuries from falls.

A multidisciplinary team is assigned to conduct annual Root Cause Analyses (RCA) on all reported falls of the Veterans to the Patient Safety Managers. Periodically, a team is chartered by the Director to conduct individual RCAs when the safety of a Veteran is compromised. Facility falls reported via incident reports to Patient Safety from October 01, 2006 to September 31, 2007 totaled at 173 inpatient and outpatient falls with one major complication, a fracture requiring surgical intervention, in this case a hip fracture within the inpatient setting. From October 01, 2007 to September 31, 2008, there were 189 reported inpatient and outpatient falls with two inpatient major complications. Both injuries were hip fractures. From October 01, 2008 to September 31, 2009, 173 reported inpatient and outpatient falls with one major complication from the inpatient setting. From October 01, 2009 to September 31, 2010, there were 179 inpatient and outpatient falls with one major complication, a hip fracture in the outpatient setting.

5. **Intended Improvement:** In 2008, the Fall RCA Aggregate team elected to embed a cognitive aid within the most frequent nursing notes to remind the nursing staff the safety measures one could take each time they are conducting their patient assessments upon rounds and upon transferring care to others. The team hoped that with this added function, within specific notes, would prompt the staff to take corrective actions when changes were noted with their assigned patients.

6. **Planning the intervention:** After a general review of all falls within the last two years and after comprehensively reviewing the record of a specific injury incident, the RCA team was chartered to review and make recommendations on how to prevent future injuries within the inpatient setting. After an extensive review of current, evidence-based clinical practice guidelines, the team developed a list of safety measures or actions (Figure 1) to take. This change would assist in reminding the nursing personnel to implement in an effort to prevent an injury. The list of safety measures were then discussed at length with the clinical experts and with the Information Technology Specialist. The specialist was able to format the information into a template field for the team to review and discuss. Consideration was taken to ensure the information would be easily understood by various disciplines. This was done by placing the new note into a test environment, allowing the staff and the team to practice the flow of information and this provided an opportunity to provide feedback to the team. Upon approval from the facility Director, the new notes having the embedded documentation fields were submitted for committee approval, starting the implementation process.

7. **HIT Dimensions:** Computerized Patient Record System (CPRS) is an electronic system which provides clinicians, managers, support staff, and other various disciplines, an integrated patient medical record. The electronic health record was developed and is maintained by the Department of Veterans Affairs (VA). This system organizes and presents all relevant patient information to support multiple clinical decisions. A wide variety of software programs have been written to interface with CPRS. The CPRS system provides a client-server interface that allows care givers to review and update a patient's electronic medical record, and has the ability for the healthcare clinicians to conduct order entry activities such as orders for medications, special procedures, and radiology tests, nursing interventions, diets, consults and laboratory tests. CPRS improves communication by sending alerts and clinical notifications thus improving the facilitation in the timeliness of critical information required to care for each Veteran.

8. **Outcomes:** In October 2010, the facility can report that there has not been a major fall injury complication reported to Patient Safety for twenty-one months within the inpatient setting and sixteen months within the outpatient setting. The multidisciplinary Fall RCA Aggregate Team recognized the advantages of having essential information embedded into the computerized medical record to guide the care of the Veteran, thus the team began to look at other ways in making documentation improvements. In August 2010, the multidisciplinary Fall RCA Aggregate Team facilitated the implementation of having a clinical reminder note (Figure 2) developed to assist the clinicians in their practice to ensure the Women Veterans at risk for Osteoporosis would be assessed annually for this disease. The reminder note will be triggered by the woman's date of birth. The expected outcome for assessing Women Veterans for Osteoporosis will be to improve diagnosis and treatment of this disease, then in turn decreasing the chance for this population to be susceptible to fractures (or broken bones). Historically, the facility has utilized specified mandatory documentation fields for caregivers and clinicians to use to facilitate their charting practices, but it is quickly being recognized across health care disciplines that certain clinical guidelines can be embedded into the notes to guide clinical practice, reminding the clinicians to ensure nothing is forgotten.

9. **Barriers Encountered:** The most opposing barrier the team encountered was convincing nursing personnel that the added documented fields would be beneficial to the documentation process. The

nursing personnel have verbally objected in the past that the notes within the computerized record had become so lengthy that they spend all of their time charting rather than taking care of their patients. This barrier was overcome by having the RCA team members representing nursing, to work with staff to streamline the process and to reassure and laud added benefits.

10. **Challenges Faced:** Implementing any change in documenting our practice is taxing among healthcare professionals and care givers. With the ever growing body of documentation requirements, staff resistance is expected when another mandatory documentation field is added to an already extensive computerized patient record system note. The most challenging aspect in this project was to get the cognitive aid written in a format required for the organization's approval process. The RCA team was unfamiliar with the process for approval of new forms or templates. Once this was recognized and the team understood the process, an individual was assigned to complete all form submission requirements. The complete implementation process took approximately 2.5 months from the approval process to the implementation process.

11. **Summary:** Since the implementation of safety action documentation fields have been embedded within the notes of electronic record, VHSO has sustained twenty-one months with no major complication within our inpatient population, a major accomplishment in a setting with an average patient turnover rate of 6.35 per month. The facility has continuous sixteen months with no major complication (fracture requiring surgical intervention) with any Veteran fall incident reported via incident reports to Patient Safety with both the inpatient and the outpatient group. As the RCA teams continue to review falls and other patient injuries, there is a consensus that the cognitive aid assists all clinicians and care providers with improving the efficiency of their care documentation and improving the safety of their patients. With the added benefit of incorporating clinical practice guidelines within the computerized notes to guide and remind caregivers to follow certain procedures, essential information is not intentionally overlooked, thus improves the quality of care delivered.

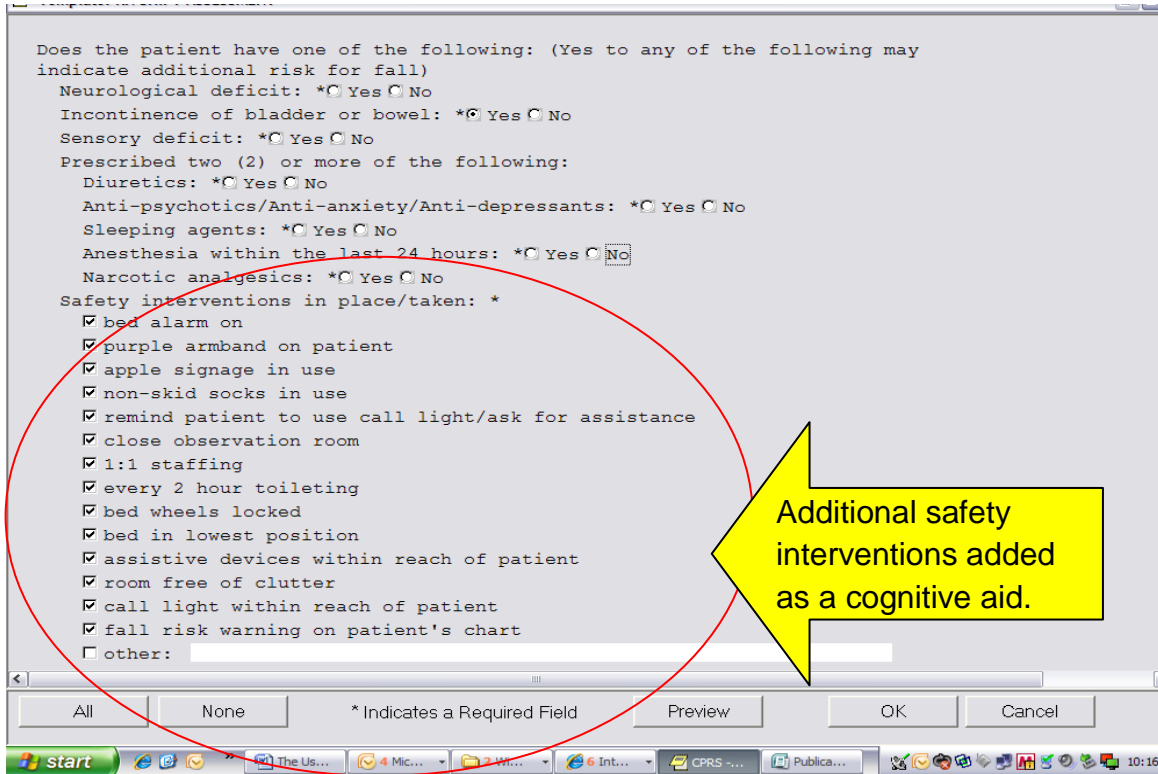
12. **Interpretation:** The use of embedded required documentation fields has greatly impacted the quality of documentation among various medical departments. This action has proven to be very successful and has extended into other clinical notes and the clinical staff has continued to place active and inactive cognitive aids within the documentation fields to improve quality, safety, efficiency, and reduce health disparities.

13. **Conclusions:** The implementation of embedding a cognitive aid within the Registered Nurse Shift Assessment note and within the Activity of Daily Living Assessment notes has greatly impacted the communication among staff in being able to view what safety measures have been taken in fall prevention and frequently reminds them to double check what safety measures could be taken when the nursing staff is having to work routinely, work with divided attention, or work in various emergent situations. When staff is required to rely on memory, there is an opportunity for one to omit or make treatment missteps.

14. **Financial Considerations:** No budget estimates were done for this Patient Safety initiative. The facility has an Information Technology Specialist who is assigned specifically to CPRS, within the Office and Information (O&IT) department, to assist the facility in solving computerized patient record system

problems. This specialist frequently communicates to various staff departments and is quite familiar in assisting the Patient Safety Managers and staff in looking for ways to improve the quality of care to our Veterans. The specialist's extensive knowledge of the CPRS system as it functions at our facility makes it easy for the specialist to interpret the facility's requirements. Estimating a financial cost for just one major fall complication, such as a hip fracture, the facility has a potential cost savings of \$34K per patient as per information presented in the National Center for Patient Safety's electronic Falls Toolkit posted on the website.

**Appendix: Figure 1.**



Does the patient have one of the following: (Yes to any of the following may indicate additional risk for fall)

Neurological deficit: \* Yes  No

Incontinence of bladder or bowel: \* Yes  No

Sensory deficit: \* Yes  No

Prescribed two (2) or more of the following:

Diuretics: \* Yes  No

Anti-psychotics/Anti-anxiety/Anti-depressants: \* Yes  No

Sleeping agents: \* Yes  No

Anesthesia within the last 24 hours: \* Yes  No

Narcotic analgesics: \* Yes  No

Safety interventions in place/taken: \*

- bed alarm on
- purple armband on patient
- apple signage in use
- non-skid socks in use
- remind patient to use call light/ask for assistance
- close observation room
- 1:1 staffing
- every 2 hour toileting
- bed wheels locked
- bed in lowest position
- assistive devices within reach of patient
- room free of clutter
- call light within reach of patient
- fall risk warning on patient's chart
- other: \_\_\_\_\_

All None \* Indicates a Required Field Preview OK Cancel

**Figure 2. Clinical Reminder**

**Reminder Resolution: Bone Density Screen**

**\*\*Bone Density Screening due once in a lifetime for females age 60 and older\*\***

Order Bone Density screening test(s)

Historical entry of Bone Density Screening results.

Patient refuses bone density screening.

Life Expectancy is Less Than 6 Months.

Clear    Clinical Maint    Visit Info    < Back    Next >    Finish    Cancel

**<No encounter information entered>**

\* Indicates a Required Field

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