# Outpatient Falls Reduction Utilizing a Universal Fall Screening Tool

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4/19/2023

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Abstract

*Background:* Outpatient falls result in injuries and hospitalizations that generate billions of dollars in medical costs annually. Adults aged 65 and older are the group most frequently affected by falls. Changes in healthcare status, decreasing eyesight, strength, and mobility issues can all contribute to issues for this patient population. One proven way to help decrease falls is identification and intervention with at-risk individuals. The use of a universal screening tool is an efficient and effective way to identify patients who are at-risk for falling or have already fallen and require interventions to avoid future falls.

*Purpose:* The purpose of this quality improvement project is to identify older adults who are at risk for falls through utilization of a universal fall screening tool.

*Methods/Implementation/Plan/Procedure:* The project was implemented at Michigan State University Health System Family Medicine Clinic. Clinic staff were educated on the CDC STEADI fall screening tool, flyers were used as reminders in the clinic, and an implementation staff 'champion' was identified and utilized. Older adults were screened for fall risk using the CDC STEADI fall screening tool and flagged within the electronic health record. Use of the STEADI fall screening tool in older adult patients and appropriate flagging of at- risk patients were evaluated as the primary outcomes. Fall incidence and fall-related injuries are among the secondary outcomes.

*Implications/Conclusion:* Identification of at-risk older adults using a universal screening tool is an appropriate and cost-effective approach to prevention and reduction of falls and fall-related injuries in older adults.

***Keywords****:* Falls, older adults, elderly, seniors, geriatric, primary care, primary healthcare, general practice, GP

# Outpatient Falls Reduction Utilizing a Universal Fall Screening Tool

A fall is an unintended descent to the floor that may result in an injury to an individual (Phelan et al., 2015). What often comes to mind when one thinks about patient falls is a hospitalized patient made fragile and at-risk by illness, medications, or surgery. It may be surprising to learn that falls in the outpatient setting are all too common, with injuries and hospitalizations costing insurance companies billions of dollars annually (Centers for Disease Control and Prevention [CDC], 2021). Besides the financial cost, lives can be altered or lost due to injuries sustained like broken bones and head injuries (CDC, 2021). Older adults, age 65 and older, are the group most frequently subject to accidental fall-related hospitalizations and deaths (Injury and Violence Prevention Section, 2018). Falls in older adults can result in serious injuries affecting patients in several aspects such as decline in ability to perform daily living activities, increase in emergency room visits, institutionalization, or even death (Taylor-Piliae et al., 2017). There is an increase in incidence of falls in older adults, injuries related to the falls and the cost of treatment of injuries related to falls. Falls result from multiple factors such as individuals that are frail related to age, chronic diseases and environmental interactions and can lead to serious injuries such as fractures and brain trauma injuries (Berková & Berka, 2018). The purpose of this paper is to identify a usable tool to help reduce the incidence of falls and fall-related injuries in the outpatient setting.

## Background

In 2014, there were 29 million falls in the United States, with 7 million of those falls requiring medical treatment (Lee, 2017). In 2018, there were approximately three million emergency room visits, over 950,000 hospitalizations, and about 32,000 deaths as a result of fall-related injuries (Moreland et al., 2020). In 2015, fall-related medical costs totaled more than $50

billion; Medicare and Medicaid paid for around 75% of this cost (CDC, 2021). The Centers for Medicare and Medicaid Services (CMS) have created a Merit-based Incentive Payment System (MIPS) that measures the quality of care given to patients and reimburses accordingly (Centers for Medicare and Medicaid Services [CMS], 2018). This measurement is based upon various categories, like quality, and this is measured based upon reports of appropriate care and screenings, like a fall-risk assessment, being completed (CMS, 2018).

There are various extrinsic and intrinsic factors that may contribute to an individual's risk of falling. Environmental factors like medications, alcohol and drug use, footwear, and assistive devices can contribute to fall issues (Phelan et al., 2015). Individual factors such as cognitive and/or sensory deficits, acute illness, behavior and choices, and deficits in strength, balance, and/or gait can also be fall risks (Phelan et al., 2015).

The United States population is also aging, with 65 and older individuals projected to be one in five by 2030 (Lee, 2017). In Michigan, from 2006-2015, over 68% of the fall-related hospitalizations, and over 83% of the fall-related deaths, annually, were in individuals over the age of 65 (Injury and Violence Prevention Section, 2018). Older individuals frequently worry about falling, with 50% of older people having worrisome thoughts about falling at some point (Ellmers et al., 2022). Fear of falling can also lead to deconditioning of individuals, with muscle wasting and increased imbalance increasing fall risk (Ellmers et al., 2022). On the other side of the same coin, overconfidence often leads to falls as an individual believes themselves capable of more than they are physically able (de Clercq et al., 2021).

In 2018, 63.7% of the population of the United States, aged 65 and older, had two or more chronic health conditions (Boersma et al., 2020). To manage these chronic conditions, patients frequently visit outpatient care centers including primary care and specialty offices. As

more than 90% of patients typically see a provider at least once per year, this presents an excellent opportunity to screen patients for the various risk factors, many of them modifiable, that place them at increased risk for falls (Dellinger, 2017). There are a variety of risk factors including polypharmacy, balance impairment, gait abnormalities, vitamin D deficiency, vision, impairment, and home/environmental factors (Dellinger, 2017). In 2012, a Cochrane Systematic Review showed that clinical assessment, referral if necessary, and follow up of risk factors helped reduce fall rates by 24% (Phelan et al., 2015). A fall risk assessment consists of 5 pieces: a physical assessment, review of medications, a fall history, and assessment of environment and function (Phelan et al., 2015). Use of an effective fall risk screening tool, utilized to gather initial information about patient health and risk factors, can allow for a more in-depth screen and identification of at-risk patients prior to falls occurring.

**Problem Statement/Clinical Question**

There is a worryingly high incidence of falls in adult patients within outpatient clinical settings. Older adults are at greater risk for falls and injuries related to the falls, and screening for this population for fall risk is key in prevention and reduction of falls and fall-related injuries. Annual fall risk screening in addition to individualized clinical evaluation and management can reduce fall incidence. Multifactorial and individualized fall risk interventions should be implemented to reduce falls and fall-related injuries of patients at risk and for patients with a history of falls. Reduction of falls using fall assessment and intervention can significantly impact public health and improve quality of life in older adults (Moreland et al., 2020; Taylor-Piliae et al., 2017; Berková & Berka, 2018).

Clinical question: PICOT - In adult patients, does the use of a universal fall assessment, identification of high-risk patients in the Athena Health System, and staff education on safe transfer techniques, compared to the current practice decrease fall incidence.

**Organizational Assessment "Gap Analysis" of Project Site**

When assessed in 2022, MSU Health Care had no universal fall screening tool. There was inconsistency in fall risk assessments and screening tools being used by providers. Fall risk assessment was consistently performed on patients during Medicare Wellness Visits, but other than that there was inconsistency in screening. In the fall occurrence report, 2020-2022, 50% of the fall occurrence patients were not assessed for fall risk (Appendix A).

A universal fall risk assessment tool would be useful in identifying adult patients at risk for falls. A universal tool could also provide assessment and intervention, while ultimately reducing fall incidence and fall-related injuries, and hopefully improving patient quality of life.

**Purpose of the Project**

This project aimed to institute a universal screening tool for fall risk, to be utilized by all staff on all pre-identified patients. This project also sought to establish a method of identifying patients deemed at-risk and who necessitate fall risk screening. In identifying at-risk individuals and appropriately screening for fall risk, we hoped to reduce the frequency of outpatient falls.

**Evidence Based Practice Model/QI Model**

The evidence-based practice intervention we utilized to assist in outpatient fall reduction in the clinical setting was the use of a fall-risk assessment tool on patients ages 65 and up. As evidenced in the following literature review, fall-risk assessment tools do help to identify patients at risk. This identification can occur before a fall happens, allowing for targeted education and interventions to hopefully prevent any future falls. The Chronic Care Model

includes six areas that may help to improve health care (Institute for Healthcare Improvement, 2022). Our intervention utilized clinical information systems to assess fall risk, thereby affecting change in patients' lives. Plan Do Study Act (PDSA) cycle is a tool that has been shown in evidence to facilitate quality improvement. The PDSA tool was used to guide in the planning, implementation, review, and analysis of the intervention (Institute for Healthcare Improvement, 2022).

## Review of the Literature

### Search Strategy

A systematic literature search was conducted to determine available literature and data on older adult patient falls in outpatient clinics. Fall screenings and interventions in the older adult population was the focus of the literature search. The literature review search was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and the National Library of Medicine's MEDLINE (PubMed) databases. Key search terms included "Falls" AND "Older adults or elderly or seniors or geriatric" AND "Primary care or primary healthcare or general practice or gp" which yielded 726 articles. "Older adults fall prevention in primary care" yielded 1021 articles.

### Selection Criteria

Studies were selected based on the relevance to the quality improvement project on prevention or reduction of older adult's outpatient clinic falls. Studies were selected based on abstract and title. Inclusion criteria included publication in the last five years, full text, study subjects greater than 65 years of age, demographic in the USA, English language, and human subjects. A total of 13 articles were reviewed based on the themes of intervention (Appendix B). The articles chosen encompassed various study types including randomized control trials (3),

cohort studies (3), systematic review and meta-analyses (4), cross sectional studies (1), observational case-control study (1), and systematic review (1).

## Literature Findings

The literature reviewed demonstrated the importance of fall prevention in older adults and the different intervention strategies that can be implemented to avoid falls, fall-related injuries, hospitalizations, and even death.

### *Fall Risk Screening*

Routine fall risk screening and provider and patient-involved interventions are associated with a reduction in fall frequency and severity (Mark et al., 2020; Mackenzie et al., 2020). Proper screening techniques and utilization of time with the patient for complete assessment of risk factors, many of which are modifiable, can help to minimize the risk of falls (Davenport et al., 2020).

### *Fall Risk Assessment*

Assessing patients' individual fall risk factors using a multifactorial approach to assess items such as age, gait, medications, comorbidities, home environment, visual acuity, history of falls, and fear of falling among others compared to a single intervention has been associated with a reduction in falls (Bhasi et al., 2020; Harper et al., 2017; Gomez et al., 2017; Tricco et al., 2017), fall-related injuries such as fractures (Lamb et al., 2020) and improved quality of life (Lamb et al., 2020). Fall risk assessment including high-risk medications assessment, mobility assessment, and intervention involving physical therapy evaluation or referral or exercise program intervention reduces fall incidences and emergency room visits for fall-related injuries and produces better outcomes with balance-related exercises (Goldberg et al., 2020; Sherrington et al., 2017).

### *Fall Risk Interventions*

Single fall risk interventions, like the use of exercise alone as a fall prevention strategy, were associated with lower risk of injurious falls compared to usual care (Tricco et al., 2017). Other interventions such as fall screening and the deprescribing of medications commonly related to falls such as antiarrhythmics, anticholinergics, sedatives, antipsychotics, antidepressants or antihypertensives as a fall prevention strategy has not been proven to reduce fall incidence as a sole intervention (Lee at al., 2021; Naharci & Tasci, 2020). Individualized and simple algorithm fall screening and intervention such as the STEADI initiative and grouping patients as at-risk or not at-risk with an individualized fall plan of care is a successful tool in reducing older adult falls, fear of falling, and fall-related hospitalizations (Gomez et al., 2017; Johnson et al., 2019).

### *Literature Summary*

In summary, the literature pointed to the benefits of screening and intervention in the reduction of falls and fall risk in older adults. The above findings supported the need for a universal screening process and tool to be utilized within the outpatient setting. Routine universal fall screening, coupled with patient-provider involvement and individualized multifactorial intervention, as highlighted in the CDC STEADI fall screening tool (CDC, 2017) (Appendix G), can be an effective approach to reduce fall incidence in an outpatient clinical setting.

## Goals, Objectives, and Expected Outcomes

The goal of this project was to identify an intervention to reduce the number of falls in the MSU Health Care system. The goal and objectives of the project were identified and set in a specific and measurable manner to achieve the expected outcome. Data was collected using record review to assess the effectiveness of the intervention in meeting the expected outcomes.

Primary outcome of this project was the utilization of the CDC STEADI fall screening tool in patients at MSU Health System and appropriate flagging of at-risk patients in the Athena electronic medical record. Secondary outcomes included fall incidence, injury from falls, hospitalizations, or death.

## Methods

### Project Site and Population

The clinic targeted for this quality improvement project was Michigan State University Health Care. Michigan State University (MSU) Health Care is a non-profit academic medical center of Michigan State University. MSU Health Care is a clinical health system of MSU's human health colleges, whose primary focus is to improve the health of Michigan through healing and caring, form joint ventures and partnerships, and leverage their expansive clinical research and expert educational strengths for their patients. The health system serves a population that includes students, faculty members and their families, and community members across the state of Michigan. MSU Health Care provides services such as diagnostic and support services (imaging and pharmacy), primary care (family medicine, internal medicine, and pediatrics) and specialty care including neurology, cardiology, endocrinology, sports medicine, surgery, physical medicine, and rehabilitation. MSU Health Care is a faculty practice of Michigan State University and is composed of health care professionals from the College of Human Medicine, Osteopathic Medicine, and Nursing who are actively involved in teaching, research, and direct patient care. Team members include physicians, nurse practitioners, physician assistants, pharmacist, nurses, psychologists, social workers, and therapists working together to improve the health of their patients. MSU Health Care operates six primary care

locations and provides an average of 234,918 patient visits annually in the primary care and specialty clinics (Michigan State University [MSU], n.d.).

MSU Health Care uses Athena Health System electronic health record in collaboration with Epion health system. Epion health system is a digital system downloaded into a mobile device providing patient-provider partnership. A typical patient visit involves a pre-visit questionnaire screen form through EPION which includes a medical history, depression screening, anxiety screening, COVID-19 symptoms screening, and check-in. On the day of the visit, the patient is checked in at the front office by the front office staff. Once checked in, the system alerts intake staff (Medical Assistants [MAs]), and the patient is brought to the exam room by the MA and the intake process begins. Intake includes a vitals check, reason for the visit, and medical and medication history review. After intake, the patient is ready for the provider visit and examination. Providers are notified of "patient-ready" status after intake staff document in Athena. The provider (Physician, Nurse Practitioner, or Physician Assistant) meets with the patient for medical history and medication review and a physical assessment, and then works together with the patient to come up with a plan of disease management or prevention and follow up. After completion of the provider visit, the patient is ready for check out, and check out is provided by the front office staff. Nurses are team members in health and play a crucial role in patient education and follow up on patient cases.

**Ethical Considerations/Protection of Human Subjects**

Michigan State University Internal Review Board (IRB) approval was obtained prior to initiating the DNP Project. Once approval was received, the project began in practice. To protect patient confidentiality, an informed consent form was gathered from each patient eligible to be part of the data collection. *Standards of Care* are the level of skill, care, and treatment

demonstrated by one provider that would be recognized as appropriate by another similarly skilled provider (Bergé, 2021). These standards of care, along with HIPPA protection, offer patients assurance that their personal information is gathered only for research purposes and will not be shared unnecessarily.

**Setting Facilitators and Barriers**

MSU Health Care encompasses six locations that see an average of 234,918 patients annually (MSU, n.d.). Site interaction was minimal. As the intervention we were interested in studying involved the use of a tool already in place within the utilized EHR, there was very little required to begin use. A short orientation as to where to find the tool, how to chart it under identified patients, why it was being utilized, and what the goal was in using it was provided to staff prior to initiation of the intervention study timeframe. Our community partner facilitated the site orientation, as she is an employee of MSU Health Care, and familiar with the clinical site being utilized. Strength, weakness, opportunity, and threat (SWOT) analysis was completed (Appendix E) to identify factors that would strengthen or cause barriers to implementation of the universal fall screening tool in MSU Health Care.

**The Intervention and Data Collection Procedure**

The project intervention was the use of a universal fall screening tool in the MSU Health Care EHR system. The universal screening tool used was the CDC STEADI fall screening (Appendix G). CDC STEADI fall screening tool was already implemented in the Athena EHR and was the only tool used by the health system during the project timeframe. The MSU Health Care clinic that initiated the trial of the proposed project was the Family Practice Nurse Practitioner clinic. Clinic staff were educated on the intervention by our team, with reiteration from our partnership with a MA ‘champion’ on-site. Since the screening tool was already

available for use in the electronic health system, we expected and received minimal resistance or barriers to implementation. Plan Do Study and Analyze (PDSA) cycle tool was used in the implementation, analysis, and review of the intervention.

Data was collected using a record review method. Electronic medical record charts of patients within the targeted population, and seen during the intervention time frame, were reviewed at the end of the implementation phase. All deidentified data was gathered by the project's community partner, an employee of MSU Health Care with access to the Athena EHR. Data was provided through a secure email server from the community partner to project authors for analysis. All data has been kept secure in a password protected file. Chart review goal was to identify if the patient was screened for fall using the CDC STEADI fall screening tool, and if they did was the patient flagged appropriately in the electronic medical record chart. Flagging is a feature available in Athena electronic records where a patient is identified using a sticky note by staff. The "flag" feature is a bright color-coded note identifying fall risk status as red (high risk), yellow (at risk) or green (no risk) and is easily visible when a patient's health record is accessed by any staff member. At the completion and data collection stage, it was discovered that sticky note flagging was not a data point that was collectible from patient charts. Baseline data was collected from the clinic identifying the need for an intervention (Appendix A).

**Timeline**

The proposal for this project was submitted for IRB approval September 22, 2022. Approval was received October 20, 2022, and the project was sent to our community health partner at MSU Health Care for implementation that began November 7, 2022, with continual evaluation and review. Data collection and analysis were completed February 2, 2023, with presentation of outcomes and results on April 19, 2023 (Appendix D).

**Measurement Instrument/Tools**

Outcomes of this DNP project were measured using de-identified data collected from electronic chart review. The data collected and analyzed included incidences of fall screening using the CDC STEADI fall screening (Appendix G), age of patient screened, whether screening was completed on all patients based on targeted population, and other outcomes such as fall incidence or injuries from falls. Charts were audited for intervention outcomes as outlined above.

## Analysis

Analysis of project success was twofold. The first piece involved analyzing how well the screening tool was utilized. The screening tool cannot be effective in identifying at-risk patients if it is not consistently used on the identified patient population. In addition, any falls recorded within the identified clinical setting being studied must be analyzed. As over 50% of the recorded outpatient falls occurring within the MSU Health Care system were in individuals 65 and older, the focus of screening tool use was targeted at the departments/specialty offices servicing that age group. The only way to effectively evaluate the intervention was to analyze the data to determine whether it was put into use (i.e. - screening of identified individuals at each visit). Once the intervention time frame concluded, data was retrieved from the site utilized for the intervention. Data gathered included numerical counts of total patients seen, number over age 65, number over age 65 screened using the screening tool, number identified as at-risk, and falls data for the same timeframe (Appendices H, I, & J). Success of the intervention was determined based upon the consistent use of the screening tool, use on the correct age group, and possibly a reduction in fall occurrence during the intervention time frame.

The project was completed based on the identified need for screening and intervention due to occurrence of outpatient falls. As shown in the data gathered between 2020-2022, there were 49 incidences of falls, 40 with injury (Appendix A). Further reiterating the need for intervention, was the fact that 63.2% of the 49 falls were in the 65 and older patient population (Appendix A). Project completion and data collection and analysis revealed multiple interesting points within the study. For example, of the 1,035 eligible patient encounters during the project timeframe, 71 were screened and 964 were not screened (Appendix H). Of the 71 patients screened, 14 were found to be low fall risk, 32 were moderate fall risk, 14 were high fall risk, and 11 were not scored due to missing components on the screening tool (Appendices G & I). There were no incidences of falls reported during the project timeframe. This is of clinical significance for the future use of a universal screening tool. If within the short project timeframe there was a reduction to no incidences of falls, the long-range outlook for the use of screening and fall reduction is positive.

## Sustainability Plan

For the suggested intervention to become a regularly utilized tool, it must become a habit for staff to screen the appropriate patients during each visit. For something to become a habit, it must be practiced consistently for a period of time. The sustainability plan for this project intervention was to make it a required part of the check-in/rooming process for patient visits. Identified staff were responsible for administering the screening tool and interpreting the results. The thought in creating a habit was that if the screening tool is a necessary part of checking a patient in, much like gathering vitals, it will become second nature to make it a part of each visit. Unfortunately, upon analysis of the project data, it was discovered that of 1,035 encounters with patients eligible for screening only 71 were actually screened (Appendix H). Also, there were

multiple opportunities for screening with certain patients, as the 1,035 eligible encounters included patients who were seen more than once during the project timeframe. This inconsistency could be due to numerous factors including short staffing, new staff, and/or float staff within the clinic setting during the time of the project implementation. Whatever the explanation, if the screening is to be truly successful in the future, the inconsistencies will need to be ironed out and the tool utilized without fail with each patient 65 and older.

## Discussion/Implications for Nursing

The MSU Health Care system is made up of various offices containing specialty and family care service providers. Patients seen in these clinics span the ages from birth to old age. As falls can be prevented, the institution and utilization of a universal fall-risk assessment tool could make a significant impact on the patient outcomes and clinical practice of the MSU Health Care providers. Identification of at-risk individuals allows for targeted care and education to hopefully prevent a fall from ever occurring. As there was no universally utilized tool or screening taking place, it was projected, with the data found in other studies, that screening and follow-up with those identified by the tool would result in a reduction of outpatient falls. As the screening tool already exists within the MSU Health Care Athena EHR, there was no cost related to implementation. Further, when looking at the long-term use of this fall-risk assessment tool, there could be various other pieces that could be examined down the road including narrowing the age range, refining the criteria for screening, and fine-tuning the educational practice with those patients identified as at-risk.

Patient falls have an impact on patients and health care systems. Older adults are at a higher risk of injuries, hospitalization, or even death as a result of a fall (Taylor-Piliae et al., 2017). Falls were the leading cause of death in older adults in 2020, causing more than 36,000

deaths. Falls also resulted in injuries such as hip, wrist and arm fractures, and head injuries resulting in more than 3 million emergency room treatments (CDC, 2023). Injuries sustained from falls affect patients' quality of life through the loss of ability to perform daily living activities, often ending up in rehabilitation facilities, long term care, or dependent on family. Furthermore, older adults are often afraid of falling again after a fall or near fall episodes. This affects their lifestyle, as their attempts to avoid falling leads to decreased physical activity, in turn making them weaker and prone to falls (CDC, 2021).

Older adult falls are a huge financial burden to patients and the health care system. Approximately $50 billion is spent yearly on medical costs related to fall-related injuries, with three-quarters of that cost covered by Medicare and Medicaid services (CMS) (CDC, 2023).

Fall screening is a proactive way to prevent falls in the older adult population. Fall prevention using universal screening tools will help to identify at-risk individuals. Identification of at-risk individuals will allow for education and follow up that will hopefully prevent falls and fall-related injuries. Prevention of falls can save the patient and the clinic from the financial costs associated with falls and demonstrate the provision of quality collaborative care between the patient and the provider.

## Cost-Benefit Analysis/Budget

The budgetary constraints of this project were neutral to the organization (Appendix F). The screening software was already in place within the Athena EHR. Staff participating in the screening efforts were briefed on the use of the screening tool and its implementation process which was currently in place. A new feature, "flagging" of at-risk patients, in the electronic medical record, was implemented in the software and staff were educated on the new feature and universal STEADI screening tool through daily huddles and quality meetings.

## Conclusion

Outpatient falls present a very real health risk to patients. Patients over the age of 65 are even more at risk due to a variety of issues including, but not limited to, reduced visual acuity, balance and coordination issues, polypharmacy, and home issues. Luckily, there are a variety of interventions that have proven useful in helping to identify patients at risk and offer interventions to hopefully reduce or eliminate falls. One such intervention is the use of a fall risk assessment tool within the outpatient clinical setting to identify at-risk patients. This tool is easily administered, quick to score, and quite useful in starting the conversation about fall risk and risk reduction. Currently, within the MSU Health Care setting, there is no universally administered fall risk assessment, and no parameters as to whom should be screened. This quality improvement project sought to change that by utilizing a tool already in place and easily accessible for clinic staff. Outpatient falls have statistically occurred more frequently in the 65 and older population, thus these patients were the target of the new screening process. The goal of this project was to ensure the routine use of the universal screening tool, specifically on patients 65 and older, and to hopefully see a reduction in fall rates during the project timeline. With the use of the universal screening tool (STEADI) there was an increase in screening of 65 and older individuals from zero to 71. There was a fall reduction in the 65 and older patient population from 63.2% of outpatient falls prior to screening initiation, to zero after project completion. This project has shown that screening is necessary and may be easy to implement into the admission process for each clinic patient. With consistent application and use, the beneficial reduction in fall risk and outpatient falls could be spread throughout the MSU Health Care system. Systemic use of screening would provide quality care, and in turn would reduce medical costs, prevent injury, and allow for patient and provider health collaboration.

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Lamb, S. E., Bruce, J., Hossain, A., Ji, C., Longo, R., Lall, R., Bojke, C., Hulme, C., Withers, E., Finnegan, S., Sheridan, R., Willett, K., Underwood, M., & Prevention of Fall Injury Trial Study Group (2020). Screening and intervention to prevent falls and fractures in older people. *The New England Journal of Medicine*, *383*(19), 1848–1859. https://doi.org/10.1056/NEJMoa2001500

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systematic review and meta-analysis. *BMJ Open*, *11*(2), e035978. https://doi.org/10.1136/bmjopen-2019-035978

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Taylor-Piliae, R. E., Peterson, R., & Mohler, M. J. (2017). Clinical and community strategies to prevent falls and fall-related injuries among community-dwelling older adults. *The Nursing Clinics of North America*, *52*(3), 489–497. https://doi.org/10.1016/j.cnur.2017.04.004

Tricco, A. C., Thomas, S. M., Veroniki, A. A., Hamid, J. S., Cogo, E., Strifler, L., Khan, P. A., Robson, R., Sibley, K. M., MacDonald, H., Riva, J. J., Thavorn, K., Wilson, C., Holroyd-Leduc, J., Kerr, G. D., Feldman, F., Majumdar, S. R., Jaglal, S. B., Hui, W., & Straus, S. E. (2017). Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. *JAMA*, *318*(17), 1687–1699. https://doi.org/10.1001/jama.2017.15006

# Appendices

## Appendix A

**Organizational Data: Falls/Slips 2020-2022**

Table 1: Fall Incidence

| **Patient Population (Age)** | **Fall Incidence** | **Percentage of Fall Incidences** |
|---|---|---|
| Pediatrics (0-21 years) | 4 | 8.2 |
| Adults (22-64 years) | 14 | 28.6 |
| Older Adults (Over 65 years) | 31 | 63.2 |
| **Total** | **49** | **100** |

Table2: Fall Incidence Categories

| **Injury Category** | **Injury Incidence** |
|---|---|
| No injury | 9 |
| Injury | 40 |
| **Total** | **49** |

Table 3: Fall Risk Assessment Status

| **Assessment Status** | **Number of Incidence** |
|---|---|
| Not Assessed | 25 |
| No Data | 22 |
| Not Applicable | 1 |
| No Documentation | 1 |
| **Total** | **49** |

Table 4: Fall Incidence Causes

| **Cause** | **Number of incidences** |
|---|---|
| Accidental | 34 |
| Physiological | 2 |

| | |
|---|---|
| Developmental | 2 |
| No Information | 2 |
| Others | 9 |
| **Total** | **49** |

Appendix B**: Outpatient Falls Sample Literature Table**

| Citation | Design Purpose | Sample | Intervention | Measurement: Variables and Instruments | Findings | Limitations |
|---|---|---|---|---|---|---|
| Bhasin, S., Gill, T. M., Reuben, D. B., Latham, N. K., Ganz, D. A., Greene, E. J., Dziura, J., Basaria, S., Gurwitz, J. H., Dykes, P. C., McMahon, S., Storer, T. W., Gazarian, P., Miller, M. E., Travison, T. G., Esserman, D., Carnie, M. B., Goehring, L., Fagan, M., Greenspan, S. L., … STRIDE Trial Investigators (2020). A Randomized Trial of a Multifactorial Strategy to Prevent Serious Fall Injuries. *The New England journal of medicine*, *383*(2), 129–140. https://doi.org/10.1056/NEJMoa2002183 | Randomized control trial Aim: evaluate effectiveness of a multifactorial intervention in prevention of falls. | N= 5451 | Multifactorial intervention includes risk assessment and individualized plans administered by trained nurses. | First serious fall injury Rate of hospitalization Death | Rate of first serious fall injury was 4.9 (event per 100 person years) in the intervention group and 5.3 in the control group (No significant difference). Rate of reported injury was 25.6 in the intervention group and 28.6 in the control group. The rate of hospitalization or death were similar | Lack of process measures. Lack of health care resource utilization. |

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|---|---|---|---|---|---|---|
| | | | | | in both groups. The intervention was associated with a lower rate of first participant reported fall injury than usual care. | |

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|---|---|---|---|---|---|---|
| Davenport, K., Alazemi, M., Sri-On, J., & Liu, S. (2020). Missed Opportunities to Diagnose and Intervene in Modifiable Risk Factors for Older Emergency Department Patients Presenting After a Fall. Annals of Emergency Medicine, 76(6), 730–738. https://doi-org.proxy2.cl.msu.edu/10.1016/j.annemergmed.2020.06.020 | Cohort study<br><br>Aim: to quantify the number of missed opportunities to identify and reduce fall-risk factors in older adult ED patients presenting after a fall. | N=400 | Review chart for modifiable fall risk factors. | Percentage of missed opportunities to identify risk factors in older adults. Modifiable risk factors such as visual acuity, use of high-risk medication and gait abnormalities. | 349 out of 400 patients had modifiable risk factors. The ED team missed identifiable factors in 335 patients. 96% Visual acuity, 95% high risk medication and 56% gait abnormalities. Providers fail to identify and intervene in modifiable fall risk factors in older adults presenting to the clinic. | Small sample size. Bias potential since it was not a blind study. Variability in providers. |

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|---|---|---|---|---|---|---|
| Goldberg, E. M., Marks, S. J., Ilegbusi, A., Resnik, L., Strauss, D. H., & Merchant, R. C. (2020). GAPcare: The Geriatric Acute and Post-Acute Fall Prevention Intervention in the Emergency Department: Preliminary Data. Journal of the American Geriatrics Society, 68(1), 198–206. https://doi-org.proxy2.cl.msu.edu/10.1111/jgs.16210 | Randomized control trial Aim: Describe a new multidisciplinary team fall prevention for older adults who seek care in the emergency department after fall, assess feasibility and review lessons learnt during initiation. | N=110 | Usual Care group (comparison group) Intervention group (INT). Brief medication therapy management session by pharmacist, fall risk assessment by a physical therapist and referral to outpatient services such as home safety evaluation and physical therapy. | Fall- related injuries Ed visits hospitalization | Intervention participants were half as likely to experience a subsequent ED visit (RR 0.47) and one third as likely to have a fall-related ED visits (RR 0.34) within 6 months compared to the usual care participants. The INT group experienced half the rate of all hospitalizations and there was no difference in fall-related hospitalizati | Role of skilled care facilities was not accounted for in the study. Small sample size. High number of declined participants (n=174) hence reduction in generality of results. |

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|---|---|---|---|---|---|---|
| | | | | | ons between the two groups. | |

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|---|---|---|---|---|---|---|
| Gomez, F., Wu, Y. Y., Auais, M., Vafaei, A., & Zunzunegui, M.-V. (2017). A Simple Algorithm to Predict Falls in Primary Care Patients Aged 65 to 74 Years: The International Mobility in Aging Study. Journal of the American Medical Directors Association, 18(9), 774–779. https://doi-org.proxy2.cl.msu.edu/10.1016/j.jamda.2017.03.021 | Prospective Cohort study Aim: Primary care providers need simple algorithms to identify older adults at higher risk of falling. | N= 1718 | | Risk factors for occurrence of falling; age, sex, BMI, Multimorbidity, cognitive deficit, depression, number falls in the past 12-month, fear of falling, timed chair-rises, balance, and gait. | There was no significant difference between incidence of falls and age group. Fall happened more frequently in women than men (P=0.01). History of falling and fear of falling were significantly associated with occurrence of falls (P<0.01). Reduction on rate of hospitalization for fall related injuries. Depression and chronic | Exploratory tree analysis used and thus need for further testing. Algorithms specific for the age group 65-75 years of age and might not be applicable for other age groups. |

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| | | | | | diseases were significantly associated with subsequent falls. | |

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| Harper, K. J., Arendts, G., Barton, A. D., & Celenza, A. (2021). Providing fall prevention services in the emergency department: Is it effective? A systematic review and meta-analysis. Australasian Journal on Ageing, 40(2), 116–128. https://doi-org.proxy2.cl.msu.edu/10.1111/ajag.12914 | Systematic review and meta-analysis<br>Level I<br>To assess the effects of fall prevention services initiated in the emergency department (ED) to support patients after discharge. | N=40<br>18 | Single: one type of intervention strategy only.<br>Multiple component: a set of combinations of intervention provided to each patient.<br>Multifactorial: intervention is matched to a patient; s fall risk factors that may receive different combinations depending on need. | Number and proportion of older adults who fell.<br>Monthly rate of falls.<br>Number of fall-related injuries.<br>Number of hospital admissions<br>ED presentations<br>Death. | There was significant (P=0.01) reduction in the monthly rate of falling, fall-related injuries, and hospital admissions.<br>Multifactorial interventions significantly reduce fall-related injuries and admissions. | Majority of studies used multifactorial intervention impacting ability to compare with single or multiple components intervention.<br>Availability of original studies.<br>Patient assessments such as cognitive ability and impairments were excluded in information on living conditions was excluded in some studies. |

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|---|---|---|---|---|---|---|
| Johnston, Y. A., Bergen, G., Bauer, M., Parker, E. M., Wentworth, L., McFadden, M., Reome, C., & Garnett, M. (2019). Implementation of the Stopping Elderly Accidents, Deaths, and Injuries Initiative in Primary Care: An Outcome Evaluation. Gerontologist, 59(6), 1182–1191. https://doi-org.proxy2.cl.msu.edu/10.1093/geront/gny101 | Cohort Study Aim: Determine the impact of a STEADI initiative on medically treated falls within a large health system in Upstate New York. | N= 12346 | Three cohort groups -At risk and no fall plane of care (FPOC) -At risk with a FPOC - Not at risk. | Fall related treat and release at the emergency department. Hospitalization. | Older adults at risk for fall with FPOC were 0.6 times less likely to have a fall-related hospitalization than those without FPOC (P=0.041). Fall intervention odds were similar for those who were not at risk. | FPOC was not randomized. Potential for selection bias. Difficult to determine which FPOC was followed. Different elements of FPOC were implemented. |

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|---|---|---|---|---|---|---|
| Lamb, S. E., Bruce, J., Hossain, A., Ji, C., Longo, R., Lall, R., Bojke, C., Hulme, C., Withers, E., Finnegan, S., Sheridan, R., Willett, K., Underwood, M., & Prevention of Fall Injury Trial Study Group (2020). Screening and Intervention to Prevent Falls and Fractures in Older People. *The New England journal of medicine*, *383*(19), 1848–1859. https://doi.org/10.1056/NEJMoa2001500 | Randomized control Trial Level II | N= 9803 | Advice sent by mail, risk screening for falls and targeted interventio n ( Multifactor ial fall prevention or exercise for people at increased risk for falls). The effect of community screening and therapeutic prevention strategies | Incidence of Fractures Use of Health resources | Screening and targeted population did not result in lower rates of fractures. There was (Rate Ratio) RR 1.20 of fractures in the exercise group compared to advice by mail group. RR 1.30 of multifactori al fall prevention compared to advice by mail group. Exercise strategy was associated with improved quality of life and lowest overall costs. | Methods of measuring and reporting falls were retrospective . Maybe underestimat ion of results from restriction of access by one of the practices. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Lee, J., Negm, A., Peters, R., Wong, E., & Holbrook, A. (2021). Deprescribing fall-risk increasing drugs (FRIDs) for the prevention of falls and fall-related complications: a systematic review and meta-analysis. *BMJ open*, *11*(2), e035978. https://doi.org/10.1136/bmjopen-2019-035978 | Systematic review and meta-analysis Level I Determine the efficacy for the prevention of falls and fall-related complications | n=1305 | Fall risk increasing drugs (FRIDS) deprescribing compared to usual care | Rate of Falls, Fall-related injuries, fall-related fractures, or fall-related hospitalizations | Little to no difference in the rate or risk of falls as a sole reduction strategy | Additional studies needed to optimize information and reduce uncertainty of the intervention. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mackenzie, L., Beavis, A.-M., Tan, A. C. W., & Clemson, L. (2020). Systematic Review and Meta-Analysis of Intervention Studies with General Practitioner Involvement Focused on Falls Prevention for Community-Dwelling Older People. Journal of Aging & Health, 32(10), 1562–1578. https://doi-org.proxy2.cl.msu.edu/10.1177/0898264320945168 | Meta Analysis-Systematic review. Level I Aim: Identify effective falls prevention interventions with involvement of general practitioners (GP) | N=2736 | Systematic review of Randomized control trials | Fall incident at least one fall. Multiple falls (two or more) Injurious fall | Overall studies were not effective in reducing falls (P=0.10), Reducing multiple falls (p=0.08) but were effective in reducing injurious falls (P=0.001) Active role of GP was effective in reducing falls. | Risk of bias. Limited to geographical location of English-speaking countries. High heterogeneity between studies hence difficulty in interpretation. |

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|---|---|---|---|---|---|---|
| Mark, J. A., Haddad, Y. K., & Burns, E. R. (2020). Differences in Evaluating Fall Risk by Primary Care Provider Type. Journal for Nurse Practitioners, 16(7), 528–532. https://doi-org.proxy2.cl.msu.edu/10.1016/j.nurpra.2020.04.014 | Cross-sectional study **Level IV** Aim: Differences in clinical fall risk assessment of older adults and clinical resources used by primary care providers (PCP). | N=1128 | Survey questions "Under what circumstances do you screen your patients 65 and older for fall risk?" PCPs could select all the following answers that applied: (1) I rarely screen older adults for fall risk, (2) I screen if the patient presents with a fall injury, (3) I screen if the patient has concerns | Events of fall screening during a healthcare encounter. | Almost half of the providers indicated to routinely screening for falls at each visit. Internal medicine providers (IMs) had lower odds of screening at each wellness visit compared to Nurse Practitioners (NPs). There is an unmet need for fall screening among older adults' patients during healthcare visits. | Potential for bias. Participants were younger hence shorter time in practice (lack of experience). Response rate of NPs was less than 50% hence potential for nonresponsive bias. |

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|---|---|---|---|---|---|---|
| | | | about falling, or (4) I screen at each wellness visit. The next "select all that apply question" was "What standardized approach do you most commonly use when assessing gait and balance in older adults?" Options included (1) Timed Up and Go (TUG), (2) the 30-Second Chair Stand Test (30-SCST), (3) the 4- | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Stage Balance Test (4-SBT), (4) I only observe patient walking, and (5) I do not assess patient | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Naharci, M. I., & Tasci, I. (2020). Frailty status and increased risk for falls: The role of anticholinergic burden. Archives of Gerontology & Geriatrics, 90, N.PAG. https://doi-org.proxy2.cl.msu.edu/10.1016/j.archger.2020.104136 | Observational Case-Control Study Level Aim: to examine the potential association of anticholinergic burden (ACB) with the risk of falls among frail older adults. | N=520 | Using a statistical analysis to identify association between ACB and falls based on frailty and its components. Patients were grouped into "Fallers" patients who reported one or more fall in the last 12 months and "non fallers" were patients who did not report falls. | Fall risk (geriatric assessment), Fall-related injuries, fall-induced fractures. Frailty (fried Frailty Index) Anticholinergic burden (anticholinergic cognitive burden) Mini-Mental State Examination. Physical assessment. | ACB was significantly associated with the frailty components. | Patients with cognitive impairment were not included in the study. Duration of exposure of target drugs was not assessed. Study design shows correlation between anticholinergics with falls but not causation. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Sherrington, C., Michaleff, Z. A., Fairhall, N., Paul, S. S., Tiedemann, A., Whitney, J., Cumming, R. G., Herbert, R. D., Close, J., & Lord, S. R. (2017). Exercise to prevent falls in older adults: an updated systematic review and meta-analysis. *British journal of sports medicine*, *51*(24), 1750–1758. https://doi.org/10.1136/bjsports-2016-096547 | Systematic Review<br>Aim: To test whether exercise prevents falls in older adults. | n-19478 | Exercise program intervention | Incidence of Falls | There was 21% reduction in falls after exercise intervention.<br>Exercise activities that challenged balance and frequency more than 3 hours a week had greater effects in fall reduction 39%.<br>There was fall reduction rates in patients with Parkinson's or other cognitive diseases who exercised. | Small sample size on Parkinson's and cognitive impaired studies hence small study effects. |

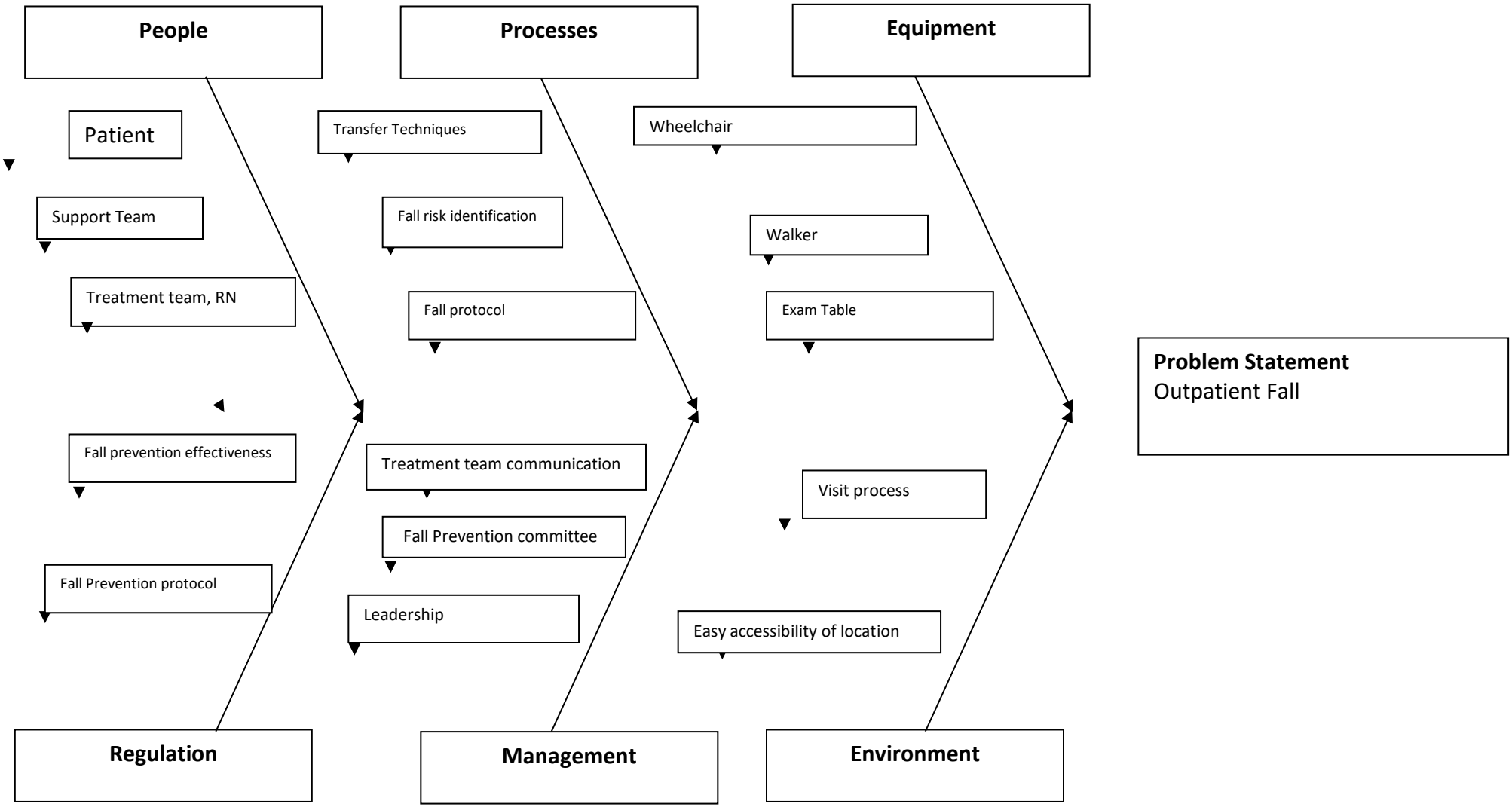
| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | There was no evidence of fall reduction in patients at residential care, stroke survivors or people recently hospitalized. | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Tricco, A. C., Thomas, S. M., Veroniki, A. A., Hamid, J. S., Cogo, E., Strifler, L., Khan, P. A., Robson, R., Sibley, K. M., MacDonald, H., Riva, J. J., Thavorn, K., Wilson, C., Holroyd-Leduc, J., Kerr, G. D., Feldman, F., Majumdar, S. R., Jaglal, S. B., Hui, W., & Straus, S. E. (2017). Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. *JAMA*, *318*(17), 1687–1699. https://doi.org/10.1001/jama.2017.15006 | Systematic review and meta-analysis.<br><br>Level I<br>To assess the potential effectiveness of interventions for preventing falls. | N= 159910 | Examining fall-prevention intervention (single or multifactorial) and comparison between usual care, fall prevention interventions and placebo. | Number of injurious falls and fall-related hospitalization.<br>Rate of falls, cost, number of interventions related to harms and quality of life. | Number of falls (158 RCTS 107300 participants and 77 interventions. Event rate of falls in the usual group was 0.38 across all meta-analysis comparison 6.7% were statistically significant. Five interventions were associated with a lower risk of patients experiencing a fall relative to usual care. Fractures: 86491 participants and 43 | Some groups' analysis and sensitivity were not conducted due to insufficient data. Unclear risk biases. Network Meta-analysis included numerous interventions with sparse data for treatment comparisons, additional analysis is recommended for the future. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | interventions in addition to usual care. The event rate for fractures in the usual group was 0.07. across 946 network meta-analysis comparison 4.8% were statistically significant. One intervention was associated with lower risk of fractures compared to usual care. | |

Appendix C

**Outpatient Fall Fishbone diagram**



Appendix D: **Timeline**

| Task | Task Description | May-22 | Jun-22 | July-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Faculty Advisor Meetings | x | x | x | x | x | x | x | x | x | | | | |
| 2. | Community Liaison Meetings | x | x | x | x | | x | x | x | x | x | | | |
| 3. | Literature Review | | x | x | | | | | | | | | | |
| 4. | Complete Proposal | | | | x | | | | | | | | | |
| 5. | College of Nursing Quality Review Approval | | | | x | | | | | | | | | |
| 6. | IRB Approval | | | | | | x | | | | | | | |
| 7. | Facility Approval for project implementation | | | | | | x | | | | | | | |
| 8. | Implementation of the Universal Fall Screening Tool | | | | | | | x | | | | | | |
| 9. | Collect Outcome Data | | | | | | | | x | x | x | | | |
| 10. | Evaluate Outcome Data | | | | | | | | | | x | | | |
| 11. | Evaluate and Analyze Outcome Data | | | | | | | | | | x | x | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12. | Complete final report | | | | | | | | | | | x | | |
| 13. | Presentation of final report | | | | | | | | | | | | x | |

Appendix E

**SWOT Analysis**

**Strengths**

- Quality Improvement committee
- Knowledgeable staff
- Screening tool already a part of EHR

**Weaknesses**

- No standardized fall screening
- Inconsistent fall screening
- Lack of fall protocol

**Opportunities**

- Chance to assess and avoid falls in individuals 65+
- Large healthcare system serving many patients annually
- Increasing number of individuals 65+ as population ages

**Threats**

- Staff turnover
- Short staffing
- Staff resistance to new practice
- COVID-19 pandemic-related clinic constraints

Appendix F

**Project Budget**

**Project Financial Plan**

| **September 2022 - May 2023** | | |
|---|---|---|
| **Personnel** | **Pay** | **Total** |
| Haley Hathaway | $35/hour x180 hours | $6,300 |
| Irene Maiyo | $35/hour x 180 hours | $6,300 |
| **Other Expenses** | | |
| Educational Supplies | | $200 |
| **Total Expenses** | | **12,800** |

Appendix G

**STEADI Fall Risk Assessment Tool**

Have you fallen in the past year?

- Yes
- No

Do you use or have you been advised to use a cane or walker to get around safely?

- Yes
- No

Do you sometimes feel unsteady while walking?

- Yes
- No

Do you steady yourself by holding onto furniture when walking at home?

- Yes
- No

Do you worry about falling?

- Yes
- No

Do you need to push with your hands to stand up from a chair?

- Yes
- No

Do you have trouble stepping up onto a curb?

- Yes
- No

Do you often have to rush to the toilet?

- Yes
- No

Have you lost some feeling in your feet?

- Yes

- No

Do you take medicine that sometimes makes you light-headed or more tired than usual?

- Yes
- No

Do you take medicine to help you sleep or improve your mood?

- Yes
- No

Do you often feel sad or depressed?

- Yes
- No

STEADI Fall Risk Scoring Guidelines
Check your risk of falling

| Please circle "Yes" or "No" for each statement below | | (Why it matters) |
|---|---|---|
| Yes (2) | No (0) | I have fallen in the past year. (People who have fallen once are likely to fall again.) |
| Yes (2) | No (0) | I use or have been advised to use a cane or walker to get around safely. (People who have been advised to use a cane or walker may already be more likely to fall.) |
| Yes (1) | No (0) | Sometimes I feel unsteady when I am walking. (Unsteadiness or needing support while walking are signs of poor balance.) |

| | | |
|---|---|---|
| Yes (1) | No (0) | I steady myself by holding onto furniture when walking at home. (This is also a sign of poor balance.) |
| Yes (1) | No (0) | I am worried about falling. (People who are worried about falling are more likely to fall.) |
| Yes (1) | No (0) | I need to push with my hands to stand up from a chair. (This is a sign of weak leg muscles, a major reason for falling.) |
| Yes (1) | No (0) | I have some trouble stepping up onto a curb. (This is also a sign of weak leg muscles.) |
| Yes (1) | No (0) | I often have to rush to the toilet. (Rushing to the bathroom, especially at night, increases your chance of falling.) |
| Yes (1) | No (0) | I have lost some feeling in my feet. (Numbness in your feet can cause stumbles and lead to falls.) |
| Yes (1) | No (0) | I take medicine that sometimes makes me feel light-headed or more tired than usual. (Side effects from medicines can sometimes increase your chance of falling.) |
| Yes (1) | No (0) | I take medicine to help me sleep or improve my mood. (These medicines can sometimes increase your chance of falling.) |

| | | |
|---|---|---|
| Yes (1) | No (0) | I often feel sad or depressed. (Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.) |
| Total _ | Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor. | |

* **Low Fall Risk** - score less than 4
*__Moderate Fall Risk__ - score greater than 4, or patient has gait, strength, or balance problem(s)
*__High Fall Risk__ - score greater than 4 **with** a history of falls with/without injury, **or** patient has and of the following: postural dizziness/hypotension, mobility aids and vision problems, or cognitive issues

Appendix H

**STEADI Fall Risk Screening Status**

| **Screening Status** | **Number of Older Adult Encounters** | **Percentage (%)** |
|---|---|---|
| **Screened** | 71 | 6.9 |
| **Not Screened** | 964 | 93.1 |
| **Total** | **1035** | **100** |

Appendix I
**Fall Risk Assessment by Risk Category**

| **Risk Category** | **Number of Individuals** | **Percentage (%)** |
|---|---|---|
| **Low Fall Risk** | 14 | 19.7 |
| **Moderate Fall Risk** | 32 | 45.1 |
| **High Fall Risk** | 14 | 19.7 |
| **Missing Scoring components** | 11 | 15.5 |
| **Total** | **71** | **100** |

Appendix J
**STEADI Fall Screening Results Demographics**

Table 1: Older Adult Individuals Screened for Falls by Race

| **Race** | **Number of Individuals** | **Percentage (%)** |
|---|---|---|
| Caucasian/White | 59 | 83.1 |
| Black/African American | 6 | 8.5 |
| Native Hawaiian/Other Pacific Islander | 1 | 1.4 |
| Asian | 3 | 4.2 |
| Race not identified | 2 | 2.8 |
| **Total** | **71** | **100** |

Table 2: Older Adults Individuals Screened for Falls by Gender

| **Gender** | **Number of Individuals** | **Percentage (%)** |
|---|---|---|
| Male | 18 | 25 |
| Female | 49 | 69 |
| Gender not identified | 4 | 6 |
| **Total** | **71** | **100** |

Table 3: Older Adults Individuals Not screened For Falls

| **Race** | **Number of Individuals (not screened)** | **Percentage (%) of total patients not screened** |
|---|---|---|
| Caucasian/White | 936 | 97.1 |
| Black/African American | 11 | 1.2 |
| Native Hawaiian/Other Pacific Islander | 3 | 0.3 |
| Asian | 8 | 0.8 |
| Race not identified | 6 | 0.6 |

| | | |
|---|---|---|
| **Total** | **964** | **100** |

Table 4: Percentages Based on 1,035 Screening-Eligible Patients

| **Race** | **Screened Patients Percentage (%)** | **Not Screened Patients Percentage (%)** |
|---|---|---|
| Caucasian/White | 5.7 | 90.4 |
| Black/African American | 0.6 | 1.1 |
| Native Hawaiian/Other Pacific Islander | 0.1 | 0.3 |
| Asian | 0.3 | 0.7 |
| Race not identified | 0.2 | 0.6 |
| **Total** | **6.9** | **93.1** |