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Implementing a Fall Screen and Prevention Program in the Primary Care Setting: A Quality Improvement Project

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DNP Project Proposal Paper

Implementing a Fall Screen and Prevention Program in the Primary Care Setting: A Quality Improvement Project

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A DNP project submitted in partial fulfillment of the requirements for the degree of

Doctor of Nursing Practice

Practice Mentor: AM, Adult- Gerontology Primary Care NP

Sacred Heart University Davis & Henley College of Nursing

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Approval Page

This is to certify that the DNP Project Final Report by

Manpreet Singh, BSN-RN, DNP Student

has been approved by the DNP Project Team as well as the Sacred Heart University IRB on

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for the Doctor of Nursing Practice degree

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I would like to thank my project mentor, AM, Adult- Gerontology Primary Care Nurse Practitioner, for his support of my quality improvement project and his willingness to implement the project recommendations into his practice when it comes time for the implementation stage. It has been a pleasure working with AM as we mapped out the initial stages of this DNP project, and I look forward to implementing the project with him in the coming months.

I would like to thank the owner of NJPC, Dr. PG for not only allowing me to carry out my DNP project at his facility, but also for encouragement and support. I am so grateful to have the honor of working with Dr. P. and his wonderful staff as we prepare to carry out this quality improvement project.

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Abstract

Significance and Background: Falls are a major health concern in the inpatient and outpatient clinical setting. They are costly for our healthcare system and lead to a sequela of challenges for patients, families and society. These challenges include fear of falling, injury, reduced quality of life, disability and death. Within the primary care setting, a fall risk assessment is required as part of the Welcome to Medicare examination. Primary care providers are reimbursed through the Medical Annual Wellness Visit. The goal of this quality improvement project was to implement a fall risk screening and intervention too for primary care patients aged 65 years and older.

Purpose: This quality improvement project was to implement a fall screen and a fall prevention program. The goal of this project is for the provider to implement a unique fall prevention program for at risk patients and monitor their success during an 8-week time frame.

Methods: The method used for this quality improvement project was The Institute for Health Care Improvement (IHI) Model (PDSA).

Outcome: After reviewing the data, it was found that 57.1% of at-risk patients received a fall prevention tool and 62.5% used one of the fall prevention resources provided. The final results were that 100% percent of these patients state that they did not have a fall during this 8-week allotted time slot.

Discussion: The outcome of this quality improvement project ultimately concludes that a fall screening and a fall prevention tool should be a part of the annual wellness visit to patients receiving care in the primary care setting.

Keywords and Phrases: *Fall prevention program, primary care, older adults 65+ age.*

Problem Identification and Evidence Review

Falls in Older Adults

Several organizations have identified the risk of falls in older adults as a serious local and global health challenge. These include the World Health Organization, Centers of Medicare and Medicaid services, National Council on Aging, National Institute on Aging, and United States Preventative Task Force (CDC, 2023, WHO,2023, NCOA 2023, USPTF, 2023, CMMS, 2023). They have also funded research, published solutions, screenings, tools, guidelines, risk stratification models and preventative strategies to deal with this challenge. The overarching message from these organizations suggests that screening, assessment, risk stratification and intervention in the older adult population is the key to mitigate the associated risks and costs.

A fall is an unintentional change in position or an unplanned descent resulting in the individual coming to rest on the ground, floor, or onto the next lower surface (e.g., onto a bed, chair, or bedside mat) (WHO, 2021). A fall can result in injury such as fractures, lacerations, internal bleeding, and prolonged immobility and bedrest leading to hospitalization and death. Falls are a leading cause of morbidity and mortality in older adults. The literature suggests 30-40% of Americans, aged 65 and older (older adults) experienced a fall, resulting in 36 million falls, and 8 million fall related injuries (Moreland B,2020). Approximately one in three community-dwelling people aged 65 years or older will fall at least once per year, and the risk of falling increases with age. This imposes a significant social and economic burden for individuals, their families, community health services and the economy (CDC,2020). The high prevalence of falls in the elderly necessitates a standardized approach; a systematic clinic-based fall risk

assessments and necessary intervention. Primary care practitioners (GPs) see these patients on a regular basis and can identify patients at risk for falls and initiate fall prevention programs. It's essential to consider that a fall risk assessment is required for all Medicare recipients as part of the Welcome to Medicare examination (CMS, 2020). Reimbursement for primary care providers is provided for fall risk assessments through the Medicare Annual Wellness visit and incentive payments for managing fall risk. The decision of the fall screening tool, program or referral is at the discretion of the PCP.

Literature Review

The literature review of this Quality Intervention (QI) implementation is a two-part process:1) selection of a fall screening tool, and 2) a fall prevention exercise-based program intervention. There were several fall screening options and fall prevention program options to select from. One review reported that a systematic approach which includes clinical assessment by a health care provider combined with individualized treatment of identified risk factors, referral if needed, and follow-up reduced the rate of falls by 24% (Gillespie LD, 2012). This review also found exercise as a single intervention, prevents falls (Gillespie LD, 2012), and to be the most commonly tested single fall prevention intervention.

There are several fall screening tools which can be implemented in the primary care setting. They range in complexity from simple questionnaires to more time intensive formal functional assessments (Berg Balance Scale, the Tinetti balance, Timed Up- and-Go, the 30-Second Chair Stand test, and the 4-Stage Balance test).

Two articles were reviewed as part of selecting a valid fall screening tool (Burns E, 2022, Lin CC, 2022). The "three-key-questions" (3KQ) screening was selected in part

due to the ease of its use. It's based on the American and British Geriatrics Societies' (AGS/BGS) clinical practice algorithm for preventing falls in older persons. It requires the patient to answer three questions: (1) Have you fallen in the past year? (2) Do you feel unsteady when standing or walking? (3) Do you have worries about falling? With a sensitivity of 68.7% and a specificity 57.9% in one study and 100% and 75% respectively in another study, it was determined to be the tool of choice (Burns E, 2022, Lin CC, 2022).

Five articles were selected as part of implementation of the fall program intervention. Since exercise is the most tested single fall prevention intervention, giving the patients a variety of fall prevention program options was key. The articles reviewed for this section included various types of supervised and unsupervised exercises and fitness options including strength training, balance training, Pilates, Yoga, Tai Chi, and Otago.

The first article explored the relationship between all types of exercise and the reduction of falls in older adults (Sherrington et al., 2019). Exercises that target balance, gait and muscle strength have been found to prevent falls in this group. Of the 108 articles selected for this Cochrane Systematic Review, eighty-one trials compared exercise (of all types) versus a control intervention that was not thought to reduce falls in people living in the community. The key metric of this study concluded that exercise reduces the rate of falls by 23% (Sherrington et al., 2019).

The second article, a Systematic Review and Meta-analysis, compared various multi-component skill related fitness interventions for preventing falls in older adults (Tricco A, 2017). This network meta-analysis (NMA), including 54 studies and 41, 596

participants, found that exercise as an intervention was significantly associated with reductions in injurious falls; exercise (OR, 0.51 [95% CI, 0.33 to 0.79], (Tricco A, 2017).

The third article a systematic review, looked at the impact of the Otago Exercise Program (OEP) on the prevention of falls in older adults (Yang Y, 2022). The OEP is an exercise training program composed of four parts: warm-up activities, strength training, balance training, and walking training. This review looked at 34 randomized control trials and concluded that the OEP is a multifaceted exercise program which has positive benefits in preventing falls in older adults with improvements occurring through a process known as the mind-body connection. There were several pre-fall related metrics as well which showed improvements. These included improvement in the cognitive function of older adults, enhanced the muscle strength of lower limbs and the ability of dynamic and static balance, and improvement in the gait stability and posture control ability. All of this translated into a reduced fall reduction rate (Yang Y, 2022).

The fourth article reviewed was a meta-analysis looking at the effectiveness of Tai Chi for falls prevention (Lomas-Vega R, 2017). Of the 891 eligible studies in this meta-analysis, ten were high quality randomized controlled trials which analyzed the effect of Tai Chi versus other treatments on risk of falls. The results of this review were strong and suggested the following: Tai Chi practice may reduce the rate of falls 43% and injury by 50%, respectively for at-risk adults and older adults.

The fifth article reviewed was a systematic review and meta-analysis that looked at the effect of how yoga-based exercise improved balance and mobility in older adults (Sabrina Y, 2016). Yoga-based activity takes many forms and styles, includes static postures, breathing techniques, and balance activities. It found six trials of relatively

high methodological quality, totaling 307 participants. Overall, yoga interventions had a small effect on balance performance and a medium effect on physical mobility. When combining these activities together, this has a significant impact in fall prevention.

Description of Local Problem

This quality improvement project will be implemented in a primary care setting in New Jersey Practice Setting (NKPC) with a Primary Care Nurse Practitioner. Currently, there is no protocol in place at the facility for a combined fall preventative screening and prevention programming. The 3KQ screening and a fall prevention program utilizing community resources will be implemented.

Organizational Priority

This project has the support of the owner of NJ Primary Care and the lead Primary Care Nurse Practitioner (Adult- NP) at the facility. This quality improvement project will implement the 3KQ screening along with an accompanying risk stratification algorithm and fall preventative programing with the option of outpatient or in-home physical therapy referral. Patients with low to moderate risk for falls will be provided with a fall program. Those with high risk for falls will be referred to In-home physical therapy or outpatient physical therapy. Data will be collected for eight weeks. Patients will be called in week 4 and week 8 to assess if the fall prevention program was implemented and if they had a fall.

Clinical Question

In 65+ and older adult patients (P), how does the use of a fall screen and prevention program in the primary care setting (I) compared to not implementing a plan (C) improve fall risk (O) over an eight-week period (T)?

Evidence Search Plan for External Evidence

A search of the database PubMed-Medline, COCHARNE, CINAHL, and GOOGLE SCHOLAR were used to gather evidence to support this quality improvement project. The keywords searched were fall screen, fall prevention program, or fall reduction program, primary care or primary health care or primary healthcare, older adults or elderly or seniors or geriatrics.

Limits/filters for all searches included, English language, and published in the last 11 years between 2012 – 2023. Criteria used when selecting articles for critical appraisal included a setting of primary care setting, older adult population ages 65+, some form of exercise treatment, and assessing validity of tools. In Appendix B, Table B displays the search terms used and results of the database search.

Evidence Search Plan and Results for Internal Evidence

As part of the process to better understand the current policy at this Primary Care Facility, the Adult Primary care NP, who is the lead adult health nurse practitioner at the facility, was contacted. To date, there is no combined standardized protocol in effect for how providers screen their patients for falls, implement a fall prevention program and follow up assessment for these treatment outcomes. Currently all patients are screened for falls and are not provided with a fall prevention program.

Evidence Appraisal Summary, Synthesis, and Recommendations

Appraisal of each article was performed using the Rapid Critical Appraisal (RCA) Tools (Melnyk & Fineout-Overholt, 2019). Two studies were used as part of the fall screening tool while five were included as evidence to support use of the fall prevention

program. The five studies used had levels of evidence ranging from I to II (Appendices D and E). An evidence summary table of these studies can be found in Appendix E.

The evidence supports the reliability and validity of the 3KQ tool in detecting and stratifying fall risk in patients 65 years of age and older. The 3KQ is based on the American and British Geriatrics Societies' (AGS/BGS) clinical practice algorithm for preventing falls in older persons. The evidence also supports a more comprehensive fall risk assessment through a physical therapy referral.

Exercise as a single intervention, prevents falls with balance and posture training, more specifically at the top of the list of fall preventative strategies. Overall evidence supports various forms of exercises as part of a fall reduction program. These include yoga, Pilates, Tai Chi, balance training, strength and conditioning, vibration, posture, step and gait training.

Based on the evidence, the recommendation is to screen all patients with the 3KQ tool and initiate the fall prevention program at initial visits with primary care providers as a means of obtaining baseline data–the patient is screened and provided with a prevention tool. The screening tool and program should then be re-administered on an annual basis to assess treatment outcomes and monitor for new or worsening fall risk.

Successful implementation of this tool will improve the detection rates of patients at risk for fall, identify the severity level, and help guide the fall prevention treatment option.

Project Plan

Project Goals

1. GOAL #1: 75% of eligible patients will complete the fall screening tool at their first office visit with the provider. (Aim is to establish data points, identify fall risk level, and guide treatment plan).

2. GOAL #2: 75% of eligible patients who were identified as not having been screened with the 3kQ fall screening tool in the last 12 months will have the tool administered to them at the follow-up visit.

3. GOAL #3: LONG TERM-GOAL: Re-administer the 3KQ fall screening tool to all patients on an annual basis to assess treatment success or to identify fall risk.

4. GOAL #4: Patients identified with a risk for falls will be referred to a Physical Therapy program or given resources for fall prevention.

Framework

The John Hopkins Evidence-Based Practice (JHEBP) model will be used as the framework for this quality improvement project due to its applicability. This framework is a step procedure called the PET process, which stands for Practice question, Evidence, and Translation (John Hopkins, 2023).

The first step is to develop a practice question through identification of the population, interventions, comparison, and outcomes (PICO). In step one, stakeholders and team members are also identified who will help support the project. The second step is to complete a literature review to acquire and appraise the evidence that answers or supports the clinical question. The third step is to translate that evidence into practice through implementation of the plan, evaluating outcomes, and disseminating the findings (John Hopkins, 2023).

The Institute for Health Care Improvement (IHI) Model (PDSA) was also used to guide this project implementation and evaluation (IHI, 2023). This project used one PDSA cycle.

Context

The NJPC provides primary care services for all populations and age groups. Fall screens (3KQ) will be completed by all providers and student providers during the initial encounter of clinic patients at each visit. A fall prevention program or physical therapy referral resources will be offered to this population group. Participants will be NP students, providers, and adult patient population over the age of 65+.

Project Team and Roles

Table 1. Displays the project team members and their roles.

Table 1.

Project Team and their Roles

Person	Role
Manny Singh, DNP student	Project leader/manager; responsible for developing, implementing, and evaluating the quality improvement project
AM Adult NP,	Project Mentor
AM Adult NP	Provider implementing the quality improvement project into practice
Dr. PG Owner	Providing guidance to navigating within the facility
Sue Penque, PhD, ANP-BC, NE-BC	DNP project faculty advisor, EBP and QI expert

Key Stakeholders, Staff, and Buy-in

Key stakeholders identified for this project include passionate clinical staff members including an adult nurse practitioner, and a medical doctor. The project site is located at New Jersey. The patient population consists of all ages, primarily from young adult professionals to older retired adults. Participants of the proposed project include the owner, a Medical Doctor, the adult nurse practitioner at the practice, and patients. The electronic health record system used at the facility is ECW or E-Clinical Works.

The practice's lead practice provider is the Adult Nurse Practitioner who has signed a practice mentor agreement, acknowledging his support of implementing the proposed quality improvement project into his practice (see appendix I).

Description of the Practice Change

The practice change will be guided by the John Hopkins Evidence-Based Practice model utilizing the framework's PET process: Practice, Evidence, and Translation phases (John Hopkins, 2023).

Practice Phase

This DNP student has met with the lead provider at the NJPC practice to discuss this clinical concern. Currently, there is no combined fall screen and fall prevention program in place at the facility for this population. Providers primarily use an informal fall screen but a preventative program with physical therapy referral and follow-up is not evident.

Evidence Phase

This DNP student will meet with the practice's lead practice provider who is an Adult Nurse Practitioner to provide hard copies of the 3KQ tool (Appendix A) and

provide education of how the tool will be used. The evidence obtained from literature review that supports the validity and use of the 3KQ tool and the fall prevention program will be shared with the provider (Appendix D).

The participating providers will be provided with data collection forms, which will be completed by the provider on adult patients who are being treated for fall screening and fall prevention programming. Before implementation, the data collection form will be reviewed in detail with the provider for opportunity for questions or concerns.

Translation Phase

The translation phase involves the initiation and implementation of the QI project. This phase entails weekly visits to the facility to obtain collected data. Other reason for the visit would be to address any barriers, concerns, opportunities for improvement, or to address any other input regarding the plan. My contact information will be provided for the project team to reach out to me for any questions via e-mail or cell phone.

The items on the data collection forms will be organized into tables to display the results. The goal is to have 3KQ scores on 75% of patients who are primarily being seen for their initial evaluation or follow up visit. The project will be carried out for 8 weeks, with a goal of having at least 30 data collection sheets to evaluate treatment outcomes and 3KQ evaluation and follow up. The DNP student will present the results and findings of the quality improvement project with the facility's primary care providers and the owner through a poster-board presentation.

Evaluation Plan

- GOAL #1: 75% of eligible patients will have completed the fall screening tool at their first office visit with the provider (Aim is to establish benchmark score, identify fall risk level, and guide treatment plan)
- GOAL #2: 75% of eligible patients who were identified as not having been screened with the 3kQ fall screening tool in the last 12 months will have the tool administered to them at that follow-up visit.
- GOAL #3: LONG TERM-GOAL: Re-administer the 3KQ fall screening tool to all patients on an annual basis to assess treatment success or to identify fall risk.
- GOAL #4: Patients identified with a risk for falls will be referred to a Physical Therapy program or given resources for fall prevention.

Barriers to Implementation

Table 2. describes the anticipated barriers to implementation and the strategies to mitigate these barriers.

Table 2.

Barriers to Implementation and Strategies for Mitigation

Barrier	Strategy for Mitigating
• New documentation in EMR	• Ensure comfortable prior to go-live date. • One-one education. • Assign champion staff or super user.
• Resistance to change	• Direct engagement for buy-in. • Celebrate success.

Sustainability with Mitigation Plan

The application of a new standardized fall screening policy with the 3KQ tool amongst nurse practitioners is a simple and sustainable measure to incorporate into everyday practice with older patients 65 years and older. Administering the

standardized fall prevention program was also key. There is little to no cost in administering the tool, and it can be incorporated into the electronic health record for patients to complete before their appointment with providers.

NJPC is one of five offices, privately owned practice and it would be difficult to track adherence to the new policy amongst providers. To keep the policy relevant, it would be suggested to incorporate a review of the 3KQ policy into the facilities meetings, at least annually, as part of a continued learning measure.

Timeline

Table 3. displays the project timeline. Appendix H displays the DNP Project Roadmap with the dates that the DNP project advisor reviewed and approved proposal sections.

Table 3

Project Timeline

Date	Action
June 2023	Meet with the owner and NJPC to discuss proposed project topic
July 2023- August 2023	Prepare project proposal for presentation for the DNP project
August 2023	DNP project proposal oral and paper presentation
September 2023	Submit exempt application to SHU IRB
September 2023	Submission of primary proposal to LH (practice setting organization) for Quality Improvement board to review Meet with the project site owner and NJPC to review data collection sheet and 3KQ tool and fall prevention program
September 2023- November 2023	Implementation of proposed practice change
November 2023	Gather all data collection forms and obtain facility feedback of the interventions

November 2023 to December 2023	Compile data from the 8-12 week period for data display and interpretation
February or March 2024	DNP project final oral and paper presentation

Resources/Budget

Table 4. displays the estimated project costs.

Table 4

Estimated Project Costs

Material Needed	Supplies Ordered	Cost
Data Collection Sheets and printout of PHQ-9 tool for review	Amazon Basics copy paper 8.5”x11.0” (500 sheets)	$13.07
Poster Board	Emran trifold poster board 36”x48”	$31.99
Printer Ink- black	Hp 67xL black ink cartridge	$25.89
Printer Ink- color	Hp 67xL color ink cartridge	$26.89
Total cost		$85.77

Dissemination Plan

The dissemination plan will be done through poster board presentation at the project site with the practice providers. The presentation will include the project’s results, compiled data collection tables, clinical findings, and final recommendations.

In addition, the final DNP project will be presented to Sacred Heart University DNP faculty. Assuming success of the quality improvement project, publication will be considered.

Ethical Review and Project Approvals

This project has been reviewed and approved by the clinic's medical director and Advanced Practice Nurse Practitioner (Appendix I). This project was approved by SHU institutional review board (IRB) as exempt (Appendix K). It was determined by the project sites nurse scientist that no further review by the project site IRB was required (Appendix L). As the DNP program policy, the QI checklist was completed and demonstrated that this was a QI project (Appendix J). This DNP student has successfully completed and obtained certification of CITI training for ethical practice (Appendix M).

Project Implementation

The Model for Improvement framework was used to guide the implementation of this quality improvement project. An 8-week implementation phase was initiated on October 7th – December 9th, 2023. One PDSA cycle was conducted over the 8-week implementation phase.

Plan

An initial meeting was completed with the clinic's APRN as part of the plan phase. It was determined here to start this program with patients scheduled to see the APRN and DNP student. The DNP student created the educational material and resources to be provided to selected patients. The main resource to be distributed was

the fall prevention resource. The DNP student's phone number and email were also included in the resource in case the patients had any questions.

Do

The DNP student began preparations with key members of the team on September 30, 2023. The DNP student conducted a PowerPoint Presentation, review of project implementation steps with key staff and an explanation of fall prevention resource to be distributed to patients. Education included review of the fall risk tool and how to complete the tool. These resources and tools were shared electronically with all key project players. On October 7, 2023, the NJPC clinic began screening patients using the fall screening tool.

Upon arrival of a patient, the Primary care APRN and DNP student obtained a fall screening tool and screened the patient. The full steps in this process are listed below.

1. The patient checks in and is given HRA questionnaire to fill out while waiting.
2. Patient is escorted into a room.
3. Staff gather preliminary data including height/weight, vital signs, BP, pulse ox, pulse, RR, allergies.
4. The provider (APRN/DNP student) gathers other pertinent health history, family history, lifestyle, medications, hospitalizations, surgical history and fall history. 3KQ→Fall screen is completed here. 4.b Phone call: alternative option for the 3kQ fall screen.
5. Visit ends and patient is given Fall prevention plan/resources, patient is informed. that fall prevention team will reach out in a few weeks to follow up.

Study

The DNP student collected and reviewed fall risk scores and fall prevention tool distribution. During the 8-week time frame, 57% (n=8) of the eligible patients were captured out of the eligible fourteen scheduled patients (n=14). At the end of week 4, the APRN and the DNP students had a meeting to review the progress as several issues had come up; the decision was made to keep moving forward and complete this first PDSA. At the end of week 4, Nov 11, 2023 (n=8) patients were contacted to inquire if they had used the provided resources. A subsequent phone call was completed at the end of the study to see if any of the patients had a fall.

Act

Due to the unexpected closure of the clinic and onboarding of new staff, several patients' data was not accounted for. The proposed goal of patients to be screened upon admission was 75%; this PDSA cycle was at 57%. This loss in screening data indicated there was a need for an adjustment in the process which was to potentially be implemented in a second PDSA cycle of the project. The project goal to implement a fall screening tool, creation and education of a fall prevention program, and all staff education on the fall prevention program was successfully achieved in this PDSA cycle.

Encountered Barriers to Implementation

Only one PDSA cycle was implemented for this project due to constraints of staffing, resources and unfortunate clinic closures. The clinic was closed for several days when key stake holders were to meet. Also, several staff members had resigned, and the newly hired staff were being trained for their main duties. At other times the clinic was so busy, eligible patient data was not captured. In essence, the DNP student, manager,

and APRN were the main team members responsible for implementing the fall screening tool and providing the fall prevention program to qualified patients.

Evaluation

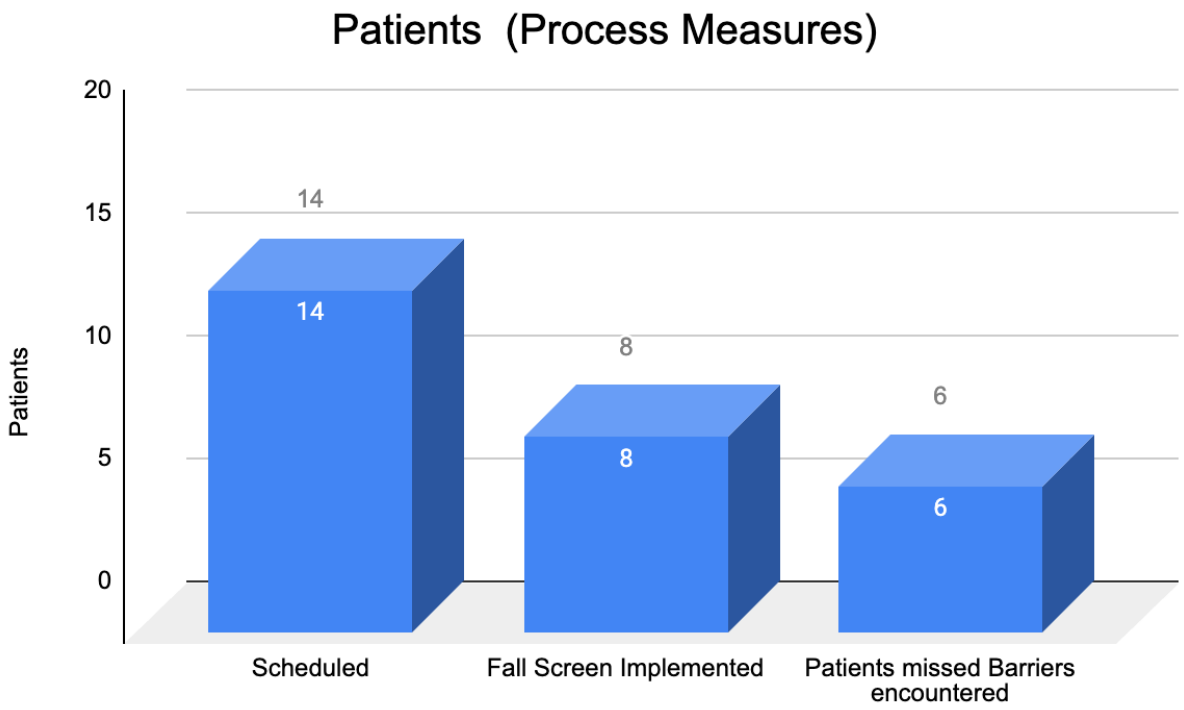
Data retrieval and review was conducted by the DNP student. Specific data retrieval included patients within the project time frame, screened patients, and patients which were provided with the fall prevention tool. Initially identified high risk patient count was provided primarily by the DNP student, APRN and manager. Eight patients were captured and identified as high risk for falls.

Process Measures

The process measurement included the number of patients screened for falls. Over the 8-week period there were 14 patients (age 65+) scheduled for an annual physical exam/follow-up visit, 8 (57.1%) falls screenings were performed at the time of the visit and 6 patients were missed due to barriers. Figure 1 displays the process measured.

Figure 1

Patients Screened Using Fall Screening Tool

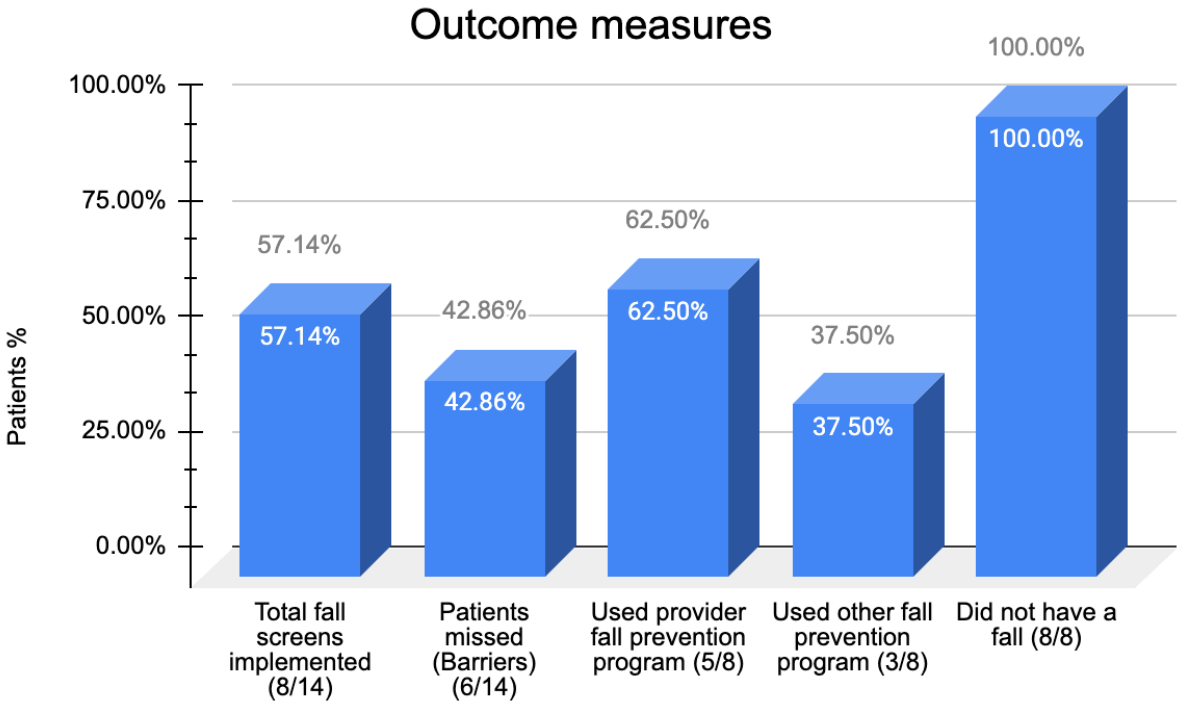


Outcome Measures

The outcome measurement was the number of patients that completed the fall screening tool and received a fall prevention program. Over the 8-week period, 8 patients were screened for high risk of falls. Figure 2 displays the key outcome measures.

Figure 2

Percentage of Patients that were screened, used the intervention tool and did not have a fall.



A total of 57.1% (8/14) received a fall prevention tool and a follow up phone call. The remainder or 42.9 % (6/14) of the patients scheduled were not captured due to barriers encountered. Of these final 8 patients, 5 or 62.5 % used one or more of the fall prevention resources provided and did not have a fall. The remainder, 37.5 % (3/8) used another type (non-provider) of fall prevention program and did not have a fall. 100% or the (8/8) patients did not have a fall due to participating in some form of fall prevention exercise program. Several authors have confirmed similar findings (Sherrington C, 2019, Tricco A, 2017).

Dissemination

Implications of Project Results to Organization and Practice Community

The project successfully developed and implemented a fall screening tool aligned with Medicare guidelines. Some of the improvements for the future included capturing

more of the eligible patients by reaching out to them via a phone call option or some better communication strategy. Regardless, all eligible patients should be given a fall prevention tool.

Sharing Project Results Locally and Regionally

A PowerPoint presentation will be completed for leadership, the project clinics shared governance, and the Sacred Heart University community. A poster presentation was submitted and accepted at presentation at Sacred Heart University “DNP Project Poster Presentation” (Appendix P). An article is planned to be published for the NJPC clinic newsletter “NJPC News. An abstract is being prepared for submission to the Nursing (AACN) annual conference for May 2025.

Key Lessons Learned

One key lesson is that the success of a quality improvement project in a family-owned primary care business practice was welcomed. A family-owned primary care practice is unique in that it falls under the category of a small business. As the owner and operator of such an entity, it's a “all hands-on deck” philosophy and there is no room for poor quality patient care. Small businesses usually have a hard time surviving if the doors are closed for a few days. Even with the clinic having to close due to unforeseen events, this clinic and family endured a challenging time in their lives. Moreover, a significant key lesson revolves around the importance of effective project leadership. The DNP student was present weekly to manage this project as the main member of the leadership team. As new staff were onboarded to the clinic, there wasn’t much time to train front desk staff and nurses on the project goals, implementations, and roadmaps; they had too many responsibilities on their hands. Finally, having a great mentor was

part of the success of this project. The A.P.R.N and DNP project advisor were always available to communicate and resolve any hurdles as part of implementing this DNP project.

Executive Summary

The fall screening process for Medicare eligible patients 65 years and older patients was routine at this practice setting. The fall prevention program intervention was a new tool added into standard practice for this primary care setting. The goal of this quality improvement project was to improve the overall quality of life by reducing the risk of falls for the respective population.

The practice change took place in a primary care clinic that routinely completes annual physical exams and sick visits for adults between the age of 18 years and older. This quality improvement project implemented a fall screening and combined it with a fall prevention program for patients 65 years and older. The goal of this project is for the provider to implement a unique fall prevention program for at risk patients and monitor their success during an 8-week time frame. The project implementation was guided by the The Institute for Health Care Improvement (IHI) Model (PDSA). A total of one PDSA cycle was completed.

From October 7th, 2023, to November 25th, 2023, a total of 8 patients completed the 3kQ fall screen. Of the 8 patients screened, all 8 were at risk for fall. The outcome of this quality improvement project ultimately concludes that a fall screening and a fall prevention tool should be a part of the annual wellness visit to patients receiving care in the primary care setting.

The practice is hoping to sustain the 3KQ screen and fall prevention program in their daily practice for older adults aged 65 years and above. There are several other sister offices this program has to potential to be merged into.

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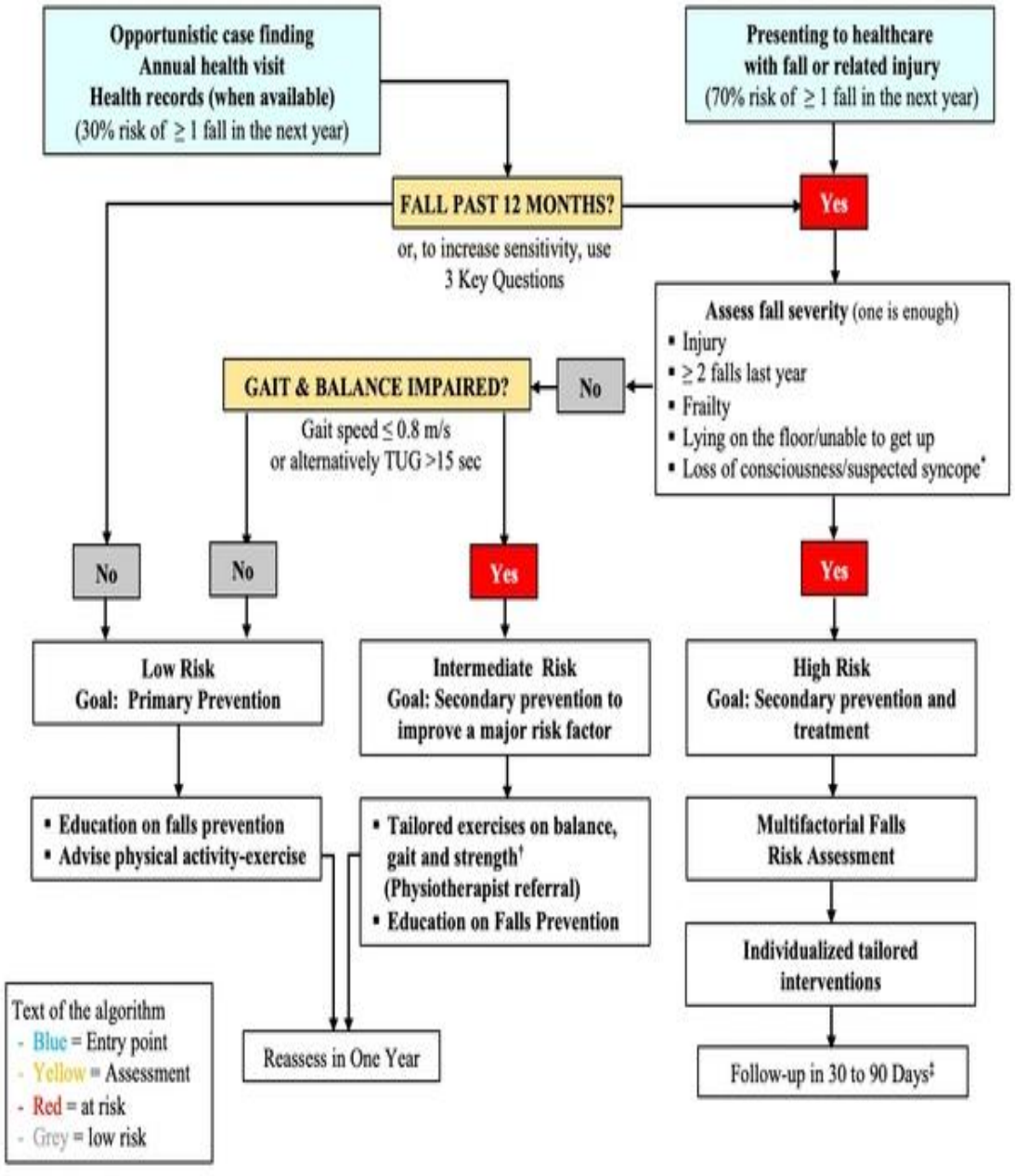
Appendix A

Three Key Questions Screen (3KQ) and associate risk stratification

The **3KQ** screening tool was selected as part of its simplicity and the risk stratification.

- (i) Have you fallen in the past year
- (ii) Do you feel unsteady when standing or walking?
- (iii) Do you have worries about falling?



Apendix B

Database Search Results

Table B

PubMed Complete Search Terms and Search Results

Search Terms	Number of hits	Number of articles reviewed	Number of articles selected
Fall in older adults, Fall prevention fall screening	1705	3	1
3KQ fall screen	848	5	2
Fall prevention programs in older adults	524	10	4
		Total articles selected	*7*

Appendix C

Rapid Critical Appraisal of a Systematic Review Worksheet

Project Title: Implementing the 3KQ fall screening tool and fall prevention program to all patient's 65 years and older yearly as a standard of practice- A quality improvement project

Date: 8/15//23

PICO Question: In 65+ and older adult patients (P), how does the use of a fall screen and prevention program in the primary care setting (I) compared to not implementing a plan (C) improve fall risk (O) over an eight-week period (T)?

Article citation (APA): Lin CC, Meardon S, O'Brien K. The Predictive Validity and Clinical Application of Stopping Elderly Accidents, Deaths & Injuries (STEADI) for Fall Risk Screening. Adv Geriatr Med Res. 2022;4(3):e220008. https://doi.org/10.20900%2Fagmr20220008

Indicate the level of the study you are appraising: Level 1

Recommendation for article inclusion in the body of evidence to answer your question: The clinical site I will be doing my DNP project at does not routinely administer the 3KQ tool as a screening tool. Evidence strongly supports the validity of this tool in predicting falls and is recommended to be used as a routine screening tool on all patients in primary care settings 65 years of age and older. This systematic review provides sensitivity and specificity levels of the 3KQ tool.

1. Purpose of study, including research question(s) or hypotheses: To determine the clinical utility of the 3KQ as a predictive tool for fall screening within the primary care setting.
2. Design/Method: A systematic review
3. Sample: 42 studies
4. Setting: systematic review of 10 RCT studies

Quality of the Study

Validity: Are the results of this study valid?

1. Did the systematic review/meta-analysis address a focused clinical question?

☒Yes ☐No ☐ Unknown

   a. What was the focused clinical question? To determine the clinical utility of the 3KQ as a screening tool for falls within the primary care setting.

2. Was the search for relevant studies detailed and exhaustive?

☒Yes ☐No ☐Unknown

Comment: The criteria and search process was very detailed and discussed under the section: "Information sources and search strategy". Table 1 also presents characteristics of the studies and populations used at length

3. Did the systematic review/meta-analysis include RCTs? ☒Yes ☐No

   a. Was criteria used to select articles for inclusion? ☒Yes ☐No

   b. What were the criteria for inclusion? ☒Yes ☐No

c. Random assignment to treatment groups? ☒Yes ☐No

d. Analyzed in assigned groups? ☐Yes ☒No

e. Complete follow-up of subjects? ☐Yes ☒No

f. Blind? ☐Yes ☒No

g. Double-blind? ☐Yes ☒No

Comments:SYSTEMATIC REVIEW OF several articles which used the 3kQ fall screening tool.

4. Did the systematic review/meta-analysis include non-RCTs? ☐Yes ☒No

   a. Was criteria used to select articles for inclusion? ☐Yes ☐No

   b. What were the criteria for inclusion? N/A

   c. Analyzed in assigned groups? ☐Yes ☒No

   d. Complete follow-up of subjects? ☐Yes ☒No

   e. Blind? ☐Yes ☒No

   f. Double-blind? ☐Yes ☒No

5. Were the included studies appraised to be highly quality by the authors?

   ☒Yes ☐No Unknown

Comments: SYSTEMATIC REVIEW OF several articles which used the 3kQ fall screening tool.

6. Were the methods consistent from study to study? ☒Yes ☐No. ☐Unknown

   a. Were the populations in the included studies comparable? ☒Yes ☐No

b. Were the outcomes, interventions, and exposures measured the same way in the groups being compared in the included studies?☒Yes ☐No

Comments: CONSISTENT AND SPECIFIC CRITERIA FOR INCLUSION OF STUDIES

7. Were the results consistent across the included studies? ☒Yes ☐No ☐ Unknown

Comments: 3KQ s used as a screening tool for falls in most of the studies

8. Was there freedom from conflict of interest? ☒Yes ☐No ☐ Unknown

- Sponsorship/funding agency
- Investigators

Comments: The systematic review specifically states there is no conflict of interest

9. Was the date range of the cited literature current? ☒Yes ☐ No ☐Unknown

a. What date ranges were included? 2006 to 2020

b. If older literature was included, why? This systematic review was published in 2020, they used studies less than 10 years old

Comments: Literature used is current for the systematic review

<u>Reliability: Are these valid study results important?</u>

10. What were the main results of the systematic review/meta-analysis?

a. Sensitivity range 57-100% specificity 65%-75%

11. Were the results clinically significant? ☒Yes ☐ No ☐Unknown

a. Were the following reported: NNT, NNH, OR, RR? ☐Yes ☒No

Comments: This was a systematic review

12. Were potential confounders identified? ☐Yes ☒ No ☐Unknown

    a. Were the potential confounders discussed in the relationship to the results? No

13. Were adverse events identified? ☐Yes ☒ No ☐Unknown

    Comments: n/a

Applicability/Generalizability: Can I apply these valid, important study results?

14. Can the results be applied to my population of interest? ☒Yes ☐No ☐Unknown

    a. Is the treatment feasible in my care setting? ☒Yes ☐No

    b. Do the outcomes apply to my population of interest? ☒Yes ☐No

    c. Are the likely benefits worth the potential harm and costs? ☒Yes ☐No

    d. Are the subjects/participants in this study similar to my population of interest? ☒Yes ☐No

    e. Were all clinically important outcomes considered? ☒Yes ☐No

15. Will you use the study/article in your practice to make a difference in outcomes? ☒Yes ☐No ☐Unknown

    a. If yes, why would you do this & how? This systematic review demonstrates the predictive value of the 3KQ Fall screening tool in the primary care setting.

    b. If no, why would you not include the results to make a difference? n/a

Strength of Study

Level of study: ☒ I ☐II ☐III ☐IV ☐V ☐VI ☐VII

Quality of Study: ☒High ☐Medium ☐Low

Strength = Level + Quality

What is the strength of this study? Strengths include the extent of the review, the total sample size and systematic approach used to review the literature

What is your recommendation for article inclusion in the body of evidence to answer your question?

☒Include this article in the body of evidence (place article on evaluation and synthesis table)

☐Do NOT include this article in the body of evidence.

Additional comments: This article supports my quality improvement project

Appendix D

Evidence Summary Table

Table D

Summary of Articles Acquired as Supportive Evidence in Literature Review

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Outcome Measurement	Data Analysis	Findings	Level of Evidence	Quality of Evidence: Critical Practice Worth to
Author Year Title County Funding	Theoretical basis for study		Number Characteristics Exclusion criteria Attrition	Independent variables IV1 = IV2 = Dependent variables	What scales used - reliability info (alphas)	What stats used	Statistical findings or qualitative findings	Level =	Strengths Limitations Risk or harm Feasibility of use in your practice
Keeper Article #1 Title: Exercise for preventing falls in older people living in the community **Citation:** Sherrington C, Fairhall NJ, Wallbank GK, Tiedemann A, Michaleff ZA, Howard K, Clemson L, Hopewell S, Lamb SE. Exercise for preventing falls in older people living in the community. Cochrane Database Syst Rev. 2019 Jan 31;1(1):CD012424. doi: 10.1002/14651858.CD012424.pub2. PMID: 30703272; PMCID: PMC6360922. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6360922/									

(Sherrington et al., 2019) United States Funding National Institute for Health Research (NIHR) via Cochrane Infrastructure funding to the Cochrane Bone, Joint and Muscle Trauma Group	At least one-third of community-dwelling people over 65 years of age fall each year. Exercises that target balance, gait and muscle strength have been found to prevent falls in these people. An up-to-date synthesis of the evidence is important given the major long-term consequences associated with falls and fall-related injuries.	Cochrane Database Systemic Review	This Systematic study reviewed 108 randomised controlled trials (RCTs) evaluating the effects of any form of exercise as a single intervention on falls in people aged 60+ years living in the community. This review includes 108 randomised controlled trials with 23,407 participants carried out in 25 countries.	Variables Exercises of all types Fall rates	Rate of falls (falls per person year)	Analysis 106 of these studies provideed raw data for rate of falls and number of fallers when available	Findings The key metric of this study concluded that exercise reduces the rate of falls by 23% (Sherrington et al., 2019).	Level 1 evidence	Significance This systematic review gives a wide view of the various forms of exercise categories aka interventions used to reduce rate of falls Strong support for my DNP project as part of the community resource recommendations various programs. Strong support for my DNP project
Keeper Article # 2 **Title**: Comparisons of interventions for preventing falls in older adults: a systematic review and meta-analysis **Citation:** Tricco A, Thomas S, Veroniki A, et al. Comparisons of interventions for preventing falls in older adults: a systematic review and meta-analysis. JAMA. 2017; 318(17): 1687-1699. https://doi.org/10.1001/jama.2017.15006									

Tricco et al., 2017) United States	What types of fall-prevention programs may be effective for reducing injurious falls in older people?	A systematic review and meta-analysis	In a network meta-analysis including 54 studies and 41 596 participants.. Randomized clinical trials (RCTs) of fall-prevention interventions for participants aged 65 years and older	Variables Exercises of all types Fall rates	The primary outcomes were the numbers of injurious falls and fall-related hospitalizations.	Analysis NMA including 192 studies revealed that the following single interventions, compared with usual care, were associated with reductions in number of fallers: exercise (risk ratio [RR] 0.83; 95% confidence interval [CI] 0.77–0.89) and quality improvement strategies (e.g., patient education) (RR 0.90; 95% CI 0.83–0.98). Exercise as a single intervention was associated with a reduction in falls rate (RR 0.79; 95% CI 0.73–0.86).	Findings Exercise (OR, 0.51 [95% CI, 0.33 to 0.79]; absolute risk difference [ARD], −0.12 [95% CI, −.20 to −0.05]) (Tricco A, 2017)	Level 1 evidence	Significance This systematic review gives a wide view of the various forms of exercise categories aka interventions used to reduce rate of falls Strong support for my DNP project as part of the community resource recommendations

Keeper Article # 3

Title: The impact of Otago exercise programme on the prevention of falls in older adult: A systematic review.
Citation: Yang Y, Wang K, Liu H, Qu J, Wang Y, Chen P, Zhang T, Luo J. The impact of Otago exercise programme on the prevention of falls in older adult: A systematic review. Front Public Health. 2022 Oct 20;10:953593. doi: https://doi.org/10.3389%2Ffpubh.2022.953593

(Yang Y, 2022) United States	Otago exercise has positive benefits in preventing falls in older adult, which can improve the cognitive function of older adult, enhance the muscle strength of lower limbs and the ability of dynamic and static balance, and then improve the gait stability and posture control ability of older adult	A systematic review	The study group consisted of older adults 65 years and older who were at risk of falls or had a history of falls. (2) The experimental group had a strict exercise prescription design. (3) The exercise prescription of the experimental group must be based on the OEP, and the control group can be prescribed other exercises or not intervene. (4)The prescription design is following the standards of the American College of sports medicine (ACSM).	Variables Otago specific exercises improve various fitness compoents interconnected with falls Fall rates The evaluation indexes mainly include cognition, balance ability, lower extremity muscle strength, and fall efficacy.	Rate of falls (falls per person year)	Analysis	Findings Through the full-text analysis, 34 papers meet the qualification criteria. Otago exercise programme is beneficial to improve the cognitive function of older adult, enhance their lower limb muscle strength and dynamic and static balance ability, and then improve the gait stability and posture control ability of older adult, which has significant positive benefits for the prevention of falls in older adult.	Level 1 evidence	Significance This systematic review gives a wide view of the various forms of exercise categories aka interventions used to reduce rate of falls Strong support for my DNP project as part of the community resource recommendations Strong support for my DNP project

			.						

Keeper Article # 4

Title: Tai Chi for Risk of Falls. A Meta-analysis..
Citation: Lomas-Vega R, Obrero-Gaitán E, Molina-Ortega FJ, Del-Pino-Casado R. Tai Chi for Risk of Falls. A Meta-analysis. J Am Geriatr Soc. 2017 Sep;65(9):2037-2043. https://doi.org/10.1111/jgs.15008

(Lamos-Vega 2017)	To analyze the effectiveness of tai chi for falls prevention.	A meta-analysis	Of the 891 eligible studies in this, 10 high quality randomized controlled trials which analyzed the effect of tai chi versus other treatments on risk of falls were selected	Variables Tai chi and fall rates interconnected with falls Fall rates The evaluation indexes mainly include cognition, balance ability, lower extremity muscle strength, and fall efficacy.	Rate of falls (falls per person year)	There was high-quality evidence of a medium protective effect for fall incidence over the short term (IRR = 0.57; 95% CI = 0.46, 0.70) and a small protective effect over the long term (IRR = 0.87; 95% CI = 0.77, 0.98). Regarding injurious falls, we found very low-quality evidence of a medium protective effect over the short term (IRR = 0.50; 95% CI = 0.33, 0.74) and a small effect over the long term (IRR = 0.72; 95% CI = 0.54, 0.95)	The results of this review were strong–In at-risk adults and older adults, tai chi practice may reduce the rate of falls 43% and injury by 50%, respectively.	Level 1 evidence	Significance The results of this review were strong–In at-risk adults and older adults, tai chi practice may reduce the rate of falls 43% and injury by 50%, respectively.

Keeper Article # 5

Title: Yoga-based exercise improves balance and mobility in people aged 60 and over: a systematic review and meta-analysis
Citation: Sabrina Youkhana and others, Yoga-based exercise improves balance and mobility in people aged 60 and over: a systematic review and meta-analysis, Age and Ageing, Volume 45, Issue 1, January 2016, Pages 21–29, https://doi.org/10.1093/ageing/afv175

(Sabrina et. al 2016 Australia	Physical fitness of the elderly is related closely to physical health and reduced risk of falls. Yoga is a multimodal activity that improves muscle strength, balance, and flexibility in the elderly, and physical activity policies should continue to promote yoga as an activity that enhances physical and mental wellbeing in this population	A systematic review	Studies that showed the impact of yoga on fitness parameters fall reduction . The study entailed the review of six trials included in the primary analysis involved a total of 307 participants.	Variables Yoga and fall rates interconnected with falls Fall rates The evaluation indexes mainly include cognition, balance ability, lower extremity muscle strength, and fall efficacy.	Balance and mobility Rate of falls (falls per person year)	Analysis Effect Size	Findings The pooled estimate of the effect of yoga on mobility indicates a medium, statistically significant effect on mobility in yoga versus control participants (SMD 0.50, 95% CI 0.06–0.95). The pooled estimate of the effect of yoga on balance indicates a small but statistically significant effect on balance in yoga versus control participants (SMD 0.40, 95% CI 0.15–0.65)	Level 1 evidence	Significance 12 studies were included in the meta-analysis. Strong support for my DNP project as part of the community resource recommendations

Keeper Article # 6

Title: Validity and Clinical Application of Stopping Elderly Accidents, Deaths & Injuries (STEADI) for Fall Risk Screening.
Citation: Lin CC, Meardon S, O'Brien K. The Predictive Validity and Clinical Application of Stopping Elderly Accidents, Deaths & Injuries (STEADI) for Fall Risk Screening. Adv Geriatr Med Res. 2022;4(3):e220008. https://doi.org/10.20900%2Fagmr20220008

(Lin et. al 2022) Worldwide	There are many falls screening tools and not all have been validated for their ability to predict future falls.	Clinical guidelines American Geriatrics Society, CDC, Centers of Medicare and medicaid services, National Council on Aging, National Institute on Aging	Total of 12 screening tools were reviewed	Variables NA.	Various screening tools assessed	Analysis This paper is about established clinical guidelines	Findings Sensitivity of the 3KQ 100% for the 3KQ and Specificity estimates ranged from 75% for the 3KQ	Level 1 evidence	Significance Clinical established guidelines for use of the 3KQ screening tool Strong support for my DNP project

Keeper Article # 7

Title: Validation and comparison of fall screening tools for predicting future falls among older adults
Citation: Burns, E. R., Lee, R., Hodge, S. E., Pineau, V. J., Welch, B., & Zhu, M. (2022). Validation and comparison of fall screening tools for predicting future falls among older adults. Archives of Gerontology and Geriatrics, 101. https://doi-org.sacredheart.idm.oclc.org/10.1016/j.archger.2022.104713

(Burns et. al 2022) Worldwide Funding: NORC at the University of Chicago and the CDC under contract number HHSD2002013 M53955B	There are many falls screening tools and not all have been validated for their ability to predict future falls.	Clinical guidlines American Geriatrics Societ, CDC, Centers of Medicare and medicaid services, National Council on Aging, National Institute on Aging	Total of 12 screening tools were reviewed	Variables NA.	Various screening tools assessed	Analysis This paper is about established clinical guidlines	Findings Sensitivity of the 3KQ 68.7% for the 3KQ and Specificity estimates ranged from 57.9% for the 3KQ	Level 1 evidence	Significance Clinical established guidlines for use of the 3KQ screening tool Strong support for my DNP project

Appendix E

Synthesis Tables: Levels of evidence

Table E

Levels of Evidence for the five articles

Level of Evidence	1	2	3	4	5	6	7
Level I: Systematic review or meta-analysis	X	X	X	X	X	X	X
Level II: Randomized controlled trial							
Level III: Controlled trial without randomization							
Level IV: Case-control or cohort study							
Level V: Systematic review of qualitative or descriptive studies							
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project							
Level VII: Expert opinion							

LEGEND

1:(Sherrington et al., 2019), (Tricco et al., 2017), (Yang Y, 2022)(Lamos-Vega 2017), (Lin et. al 2022), (Sabrina et. al 2016),(Burns et. al 2022)

Appendix F

Synthesis Table: Evidence Outcomes

Table F

Outcomes of the seven articles used for evidence

SYMBOL KEY

↑ = Increased, ↓ = Decreased, NC = No Change, NE = Not Examined, NR = Not Reported, ✓ = applicable or present

Articles	1	2	3	4	5	6	7
Outcome #1 Fall prevention program incorporating this group of exercises and fall reduction	✓						
Outcome #1 Fall prevention program incorporating this group of exercises and fall reduction		✓					
Outcome #1 Fall prevention program incorporating this group of exercises and fall reduction			✓				
Outcome #1 Fall prevention program incorporating this group of exercises and fall reduction				✓			
Outcome #1 Fall prevention program incorporating this group of exercises and fall reduction					✓		
Outcome #2 Validation and selection of fall screening tool						✓	
Outcome #2 Validation and selection of fall screening tool							✓

Appendix G

Data Collection Form (Fall Prevention Program)

Jersey City Fall Prevention Resources

1. Four Fitness 667 Montgomery St, Jersey City, NJ 07306

2. Urban Sadhu Yoga Jersey City 171 Newark Ave 2nd Floor, Jersey City, NJ 07302

3. Jane DO - Jersey City Fitness Studio 160 Newark Ave 3rd floor, Jersey City, NJ 07302

4. Tai Chi Academy 614 14th St suite 2R, Union City, NJ 07087

5. Club Pilates 171 Morgan St, Jersey City, NJ 07302

Physical Therapy Providers List

1. Excel Physical Therapy 201 Marin Blvd, Jersey City, NJ 07302 (551) 313-7300

2. Exchange PT Group 200 Hudson St #127, Jersey City, NJ 07311 (201) 721-6130

3. Jag Physical Therapy 323 Marin Blvd, Jersey City, NJ 07302. (551) 230-2498

Appendix H

DNP Project Roadmap

Figure H

Doctor of Nursing Project Roadmap

	Doctor of Nursing Practice Project Roadmap	
Component	**Definition**	**Date Done**
Phase 1: Problem Identification and Evidence Review		
Clinical Inquiry including background and significance of problem	Describe local problem and its significance. Include data to frame local problem.	8/1/23
Organizational priority	Summarize information that supports topic/problem is an organizational priority.	8/1/23
Searchable Question	Write a focused, searchable question using an established method (e.g. PICO).	8/1/23
Evidence search	External evidence ● Summarize search strategy (e.g. databases, keywords, filters/limits, criteria for article selection, tools for critical appraisal). Include practice-based evidence (e.g. evidence-based solutions that experts/other health systems have implemented to address practice problem).	8/1/23
	Internal evidence ● Summarize applicable unit/community/department/hospital/organizational level data or data required for national entities (e.g. CMS, NDNQI, AHRQ).	8/1/23
	Perform needs assessment if applicable.	N/A
Evidence appraisal, summary, and recommendations	Organize evidence that answers focused clinical question in a clear concise format (e.g. table or matrix).	8/1/23
	Appraise literature for quality and applicability of evidence using established method (e.g. Johns Hopkins Nursing EBP Research Evidence Appraisal	8/1/23

	Tool, Joanna Briggs Institute Critical Appraisal Tools, Fuld Institute for EBP critical appraisal tools etc.).	
	State recommendations(s) and link to evidence strength and quality and risk/benefits.	8/1/23
Phase 2: Project Planning		
Project goals	State intended, realistic outcomes of project using established method (e.g. SMART criteria).	8/1/23
Framework	Select framework/model to guide implementation (e.g. EBP model, QI framework, Change model).	8/15/23
Context	Describe project setting and participants or population, or other elements that are central to where the change will occur.	8/15/23
Key stakeholders	Identify agencies, departments, units, individuals needed to complete the project and/or affected by project, and strategies to gain buy-in.	8/15/23
Practice change/intervention	Provided detailed description of practice change or intervention (e.g. new or revised policy).	8/15/23
Evaluation	Summarize plan for evaluating the effectiveness of the practice change. Identify applicable process and outcome data to be collected/tracked and tools to do this. Identify the methods for analyzing/interpreting the data (e.g. control, run or Pareto charts).	8/15/23
Possible barriers to implementation	Identify possible barriers and implementation strategies to mitigate these barriers.	8/15/23
Sustainment	Identify strategies to sustain the change.	8/15/23
Timeline	Create a realistic timeline for project completion.	9/15/23
Resources	Identify all resources (e.g. indirect and direct) needed to complete the project.	9/15/23
Ethical merit	Identify and obtain the required review and approval needed for implementation (e.g. institution, community agency, IRB).	9/15/23
Phase 3: Implementation		
Implement project	Carry out the project using selected implementation framework/model.	10/7/23
	Track any deviations/changes from the project plan.	10/7/23
Phase 4: Evaluation		

Results/Interpretation	Using an established method (e.g. run or control charts) display data and interpret project outcomes.	12/7/23
	Report evaluation of the effectiveness of the practice change, including extent the practice change was implemented (process outcome) and extent to which the desired outcome(s) were achieved.	12/7/23
Return on investment	Identify the final resources that were used to implement the project. Calculate and report the return on investment.	12/7/23
Phase 5: Dissemination		
Traditional	Disseminate to the project setting in a manner meaningful to them (e.g. executive report, poster, presentation at a meeting, poster with QR code to access details of project, etc.)	4/2024
	Disseminate in the format required by the academic institution (e.g. poster, public presentation) and	
	Prepare final project write-up using established reporting guidelines (e.g. EPQA, SQUIRE) and academic institution requirements.	
Non-traditional	Develop a website to display project, use personal or program social media (e.g. Twitter, Facebook) to share project information.	4/2024

PICO, Population, Intervention, Comparison, Outcome; **CMS**, Center for Medicaid and Medicare Services; **NDNQI**, National Dataset of Nursing Quality Indicators; **AHRQ**, Agency for Healthcare Research and Quality; **SMART**, specific, measurable, attainable, relevant, timely; **IRB**, Institutional Review Board; **EPQA**, Evidence-Based Practice Process Quality Assessment Guidelines; **SQUIRE,** Standards for QUality Improvement Reporting Excellence

Appendix I

Practice Mentor Agreement for DNP project

DR. SUSAN L. DAVIS, R.N.,
& RICHARD J. HENLEY
COLLEGE OF NURSING
Sacred Heart University

BSN- FNP/DNP Hybrid Program
DNP Project Practice Mentor Agreement

A. Student and Faculty Information (Please type):

Student Name: Manpreet Singh
Student Email: singhm3@mail.sacredheart.edu
Student Telephone Number: 9174704227
DNP Project Faculty Advisor Name: Prof. Susan Penque
DNP Project Faculty Advisor Email: penques@sacredheart.edu

B. DNP Project Practice Site Mentor Information (Please type):

Mentor's Nam[redacted]
Position/Title:
Facility Name:
Facility Addres
City, State, Zip

Email:
Telephone Nur

C. Consent to Mentor the Student for the DNP Project.

I am authorized to mentor and support the above student with the DNP project development and implementation at this facility. I received a copy of the DNP project course objectives, DNP project practice mentor overview, and student responsibilities workflow as it relates to my role in the project (attached below). If applicable, I will support the student with IRB application (or equivalent) for this project. I will provide feedback to the student during the course of the DNP project. I agree to participate in the final approval of the DNP project proposal and coordinate an opportunity for the student to present his/her final DNP project to the appropriate personnel at this facility.

[redacted]
Practice Mentor Signature, Date

Appendix J

QI Checklist

Differentiating Quality Improvement and Research Activities Tool

Question	Yes	No
1. Is the project designed to bring about immediate improvement in patient care?	X	
2. Is the purpose of the project to bring new knowledge to daily practice?	X	
3. Is the project designed to sustain the improvement?	X	
4. Is the purpose to measure the effect of a process change on delivery of care?	X	
5. Are findings specific to this hospital?	X	
6. Are all patients who participate in the project expected to benefit?	X	
7. Is the intervention at least as safe as routine care?	X	
8. Will all participants receive at least usual care?	X	
9. Do you intend to gather just enough data to learn and complete the cycle?	X	
10. Do you intend to limit the time for data collection in order to accelerate the rate of improvement?	X	
11. Is the project intended to test a novel hypothesis or replicate one?		X
12. Does the project involve withholding any usual care?		X
13. Does the project involve testing interventions/practices that are not usual or standard of care?		X
14. Will any of the 18 identifiers according to the HIPAA Privacy Rule be included?		X

Adapted from Foster, J. (2013). Differentiating quality improvement and research activities. Clinical Nurse Specialist, 27(1), 10–3. https://doi.org/10.1097/NUR.0b013e3182776db5

Appendix K

CITI Training Certificates

CITI PROGRAM

Completion Date 25-Jul-2023
Expiration Date N/A
Record ID 49684731

This is to certify that:

Manpreet Singh

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

CITI Health Information Privacy and Security (HIPS)
(Curriculum Group)
Information Privacy and Security (IPS)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w8f8dcb01-2578-43fd-9894-a760809f9862-49684731

CITI PROGRAM

Completion Date 04-Jul-2023
Expiration Date 04-Jul-2027
Record ID 49684733

This is to certify that:

Manpreet Singh

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Conflict of Interest mini-course
(Curriculum Group)
Conflict of Interest
(Course Learner Group)
1 - Stage 1
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w2319393a-121a-4ca0-b652-d20b7fb8cc28-49684733

CITI PROGRAM

Completion Date 19-Jun-2022
Expiration Date 18-Jun-2025
Record ID 49684728

This is to certify that:

Manpreet Singh

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

CITI Good Clinical Practice
(Curriculum Group)
CITI Good Clinical Practice Course
(Course Learner Group)
1 - GCP
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

This GCP training contains all of the attested CITI Program modules from the **GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus) Version 2**. This ICH E6 GCP Investigator Site Training meets the Minimum Criteria for ICH GCP Investigator Site Personnel Training identified by TransCelerate BioPharma as necessary to enable mutual recognition of GCP training among trial sponsors.

Verify at www.citiprogram.org/verify/?w7de7cc38-7b56-4ac5-850c-1bdd1ded0abb-49684728

CITI PROGRAM

Completion Date 09-Jul-2023
Expiration Date 09-Jul-2026
Record ID 49684732

This is to certify that:

Manpreet Singh

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

Sacred Heart University, Inc.

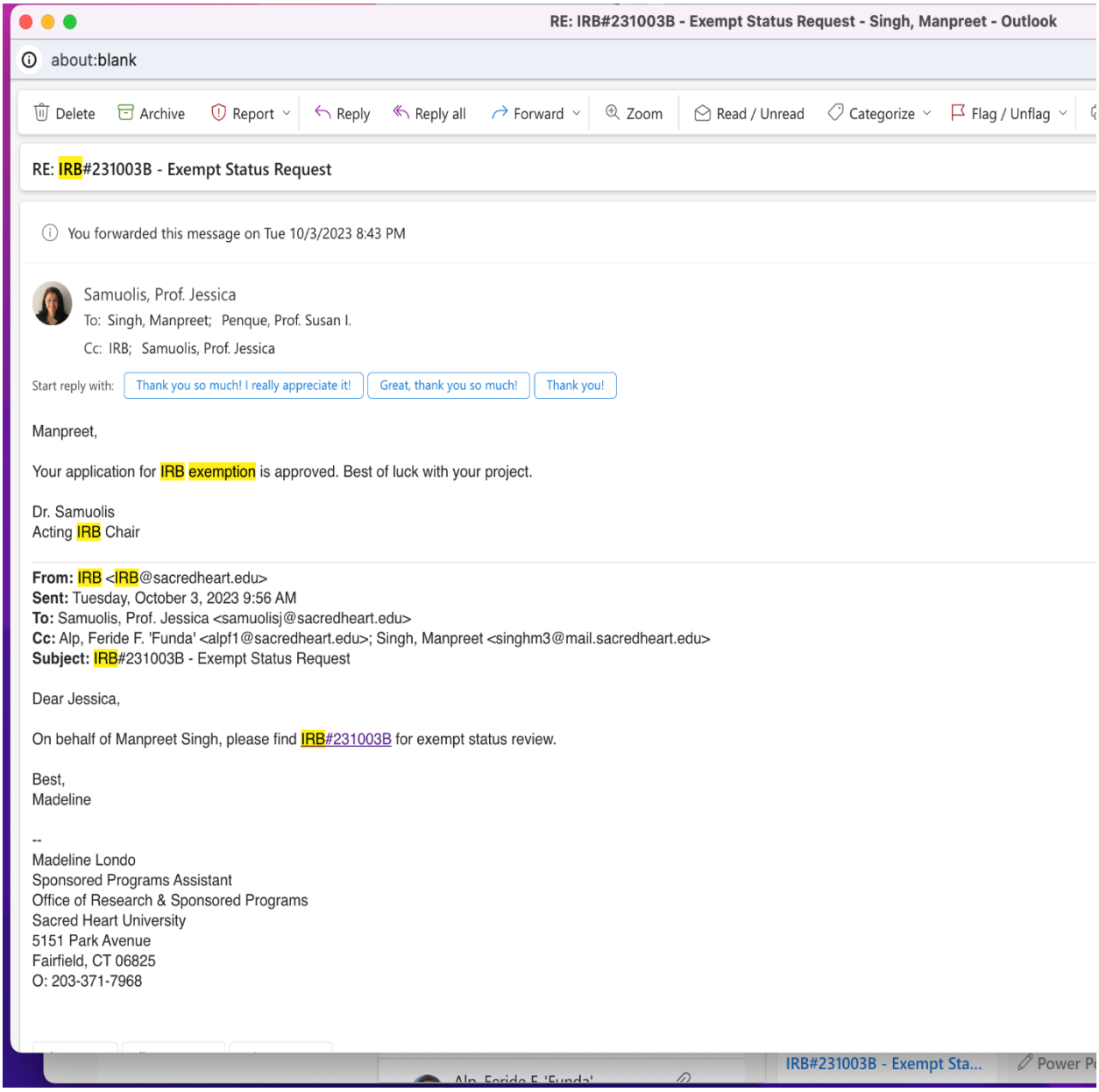
CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w06f7de17-0c04-483c-8953-635cdb1b1396-49684732

Appendix L

Approval letter/email from SHU IRB



RE: IRB#231003B - Exempt Status Request - Singh, Manpreet - Outlook

about:blank

Delete | Archive | Report | Reply | Reply all | Forward | Zoom | Read / Unread | Categorize | Flag / Unflag

RE: IRB#231003B - Exempt Status Request

You forwarded this message on Tue 10/3/2023 8:43 PM

Samuolis, Prof. Jessica
To: Singh, Manpreet; Penque, Prof. Susan I.
Cc: IRB; Samuolis, Prof. Jessica

Start reply with: Thank you so much! I really appreciate it! | Great, thank you so much! | Thank you!

Manpreet,

Your application for IRB exemption is approved. Best of luck with your project.

Dr. Samuolis
Acting IRB Chair

From: IRB <IRB@sacredheart.edu>
Sent: Tuesday, October 3, 2023 9:56 AM
To: Samuolis, Prof. Jessica <samuolisj@sacredheart.edu>
Cc: Alp, Feride F. 'Funda' <alpf1@sacredheart.edu>; Singh, Manpreet <singhm3@mail.sacredheart.edu>
Subject: IRB#231003B - Exempt Status Request

Dear Jessica,

On behalf of Manpreet Singh, please find IRB#231003B for exempt status review.

Best,
Madeline

--
Madeline Londo
Sponsored Programs Assistant
Office of Research & Sponsored Programs
Sacred Heart University
5151 Park Avenue
Fairfield, CT 06825
O: 203-371-7968

IRB#231003B - Exempt Sta... | Power P