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Reducing the Number of Falls in On Lok Participants by Enhancing Homecare Services

En Zhu

University of San Francisco

Reducing the Number of Falls in On Lok Participants by Enhancing Homecare Services

Abstract

Falls in elderly are one of the major health concerns in the US. They comprise up to 80% of the key risk factors for injuries in the elderly in the US (Spears, Roth, Miake-Lye, Saliba, Shekelle, & Ganz, 2013). The project aims at reduction of falls among the elderly participants in On Lok program. Based on the findings of the literature review and observations conducted, the proposed intervention to address the practice gap will involve emphasizing the need for carrying the mobility devices, such as canes or walkers, along with clearing the participants' home environment from hazards. The anticipated measure of the project success comprises of the outcomes, namely, the reduced number of falls which caused by the participants not using their mobility devices and environmental hazards at home from three to two per month based on the implemented intervention. The results of the project will be evaluated with regard to the usefulness and success of the intervention to addressing the problem and the conclusions will be drawn whether the strategy is likely to lead to healthcare service improvement for elderly population, as expected by the project goals.

Introduction

Problem Description

The proposed improvement of fall prevention among the elderly patients is important for On Lok Inc. due to several reasons. Primarily, the On Lok Program of All-inclusive Care for the Elderly (PACE) aged 55 years and more is the service that aims to enable their independent living in community (On Lok, Inc., 2016). With a number of healthcare and other staff members been engaged in an interdisciplinary team for a wide-scope service provision, injury or disease

prevention is one of the prioritized care areas. According to the reports provided by the Onlok PACE program operated by Institute on Aging (IOA), the averages of fall at PACE IOA in 2018 were 15 per month. The root cause analysis showed that 20% of the incidents, three falls were either due to insecure home environment or ignored use of the mobility devices at home, such as canes or walkers, even though these measures have been recommended by the occupation therapists and physical therapists at On Lok. As a result, the problem negatively impacts the productivity of the PACE program in terms of ensuring safe and quality care provision for the participants and facilitating their autonomous and continuous living in the community as specified in the organization's goals and objectives.

Available Knowledge

The project is well-aligned with the existing literature on the topic as discussed further. In this context, the proposed PICO question is formulated as follows: in PACE program involving participants aged 55 years and more (P), is a multifactorial fall prevention strategy (I) more effective in fall reduction (O) than using assistive devices (C) ? The population involves participants of the Onlok program who are at risk of falls due to the disability or possible cognitive impairment according to the patient history of falls specified in the medical data. Intervention refers to implementing a multifactorial healthcare improvement intervention, mitigating the home environment hazards combined with using assistive devices, as recommended by Hopewell, Adedire, Copsey, Boniface, Sherrington, Clemson, Close, and Lamb (2018) in their systematic review. As a comparison intervention, sole using assistive devices is considered as one of the most common ways to prevent falls in elderly individuals as specified in the literature on the topic (Kaminska, Brodowski, & Karakiewicz, 2015). Finally, the outcome is targeted as the reduced number of falls among elderly patients in light of preventive measures

implemented by means of the key strategy of interest (I) as a way to ensure its effectiveness for further utilization of the strategy and improved service delivery overall.

Synthesis of Existing Literature

Primarily, falls comprise the leading cause of fatal and non-fatal injuries among elderly people, whereas at least 30% of those who experience falls tend not to report the cases to either caregivers or medical staff (Kaminska et al., 2015). Some of the fall-related consequences include long-term disability, immobility, autonomy loss, decreased quality of life and life span, morbidity or mortality (Barban et al., 2017; Kaminska et al., 2015). Therefore, the phenomenon requires effective preventive measures.

While the problem of falls in elderly is common, approaches towards eliminating the challenges vary across the studies. To illustrate, Chesser, Woods, Reyes, and Rogers (2018) proposed a need to evaluate fall-related literacy in elderly to be able to address the knowledge gaps in a thorough and holistic manner. To compare, a comprehensive assessment of the participants and their home environment can be conducted to be fully aware of the fall-related risks at their homes, their psychological condition and individual capability to prevent the risks, and create the personalized response strategies. To address the issue in a comprehensive manner, the researchers verified referring to the following instruments: the Geriatric Environmental Inquiry (GRI), the Barthel Scale (BS), the Abbreviated Mental Test Score (AMTS), and the Geriatric Depression Scale (GDS) can be utilized (Kaminska et al., 2015).

At the same time, the previous studies in the field emphasized the need for expanding the scope of services to including specific fall prevention training for elderly. For instance, Barban et al. (2017) proposed a need to combine motor and cognitive training of their balance and strength in order to develop their fall prevention measures as well as mitigate their fear of falls. Luk,

Chan, and Chan (2015) evidenced the value of a number of fall prevention strategies, including: (a) mnemonic fall risk assessment and prevention; (b) regular multidimensional exercising; (c) a combined balance and strength training based on Tai Chi; (d) combined modification of home environment and footwear change; (e) review of medication intake and prescription of vitamin D supplements; (f) correction of vision; and (g) management of cardiovascular and fracture risk factors. Luz, Bush, and Shen (2017) provided empirical evidence that using canes or walkers can be a useful measure to prevent falls in older adults as compared to neglecting using these devices, though overcoming the psychological barriers is necessary in this regard as well. Hopewell et al. (2018) have offered wide-scope evidence that proved the significance of using multicomponent and multifactorial strategies as a good option to address the problem in a well thought out manner and taking into account a complex nature of the phenomenon.

Overall, the findings are summarized in the evaluation table in Appendix 2 showing the complex nature of the problem along with verified best practice solutions available in the field which can be useful to consider when assessing the impact of the strategic update in the program.

Rationale

The project aimed at reduction of falls among elderly On Lok's patients is more than reasonable in light of the microsystem data available. In particular, the fishbone diagram demonstrates a number of factors which are likely to contribute to addressing the challenge of high-level fall rates among the seniors (see Appendix 4). While the project's environment is concerned with On Lok as a healthcare setting, the implementation of the healthcare improvement strategy extends to the patients' homes as a way to enable their continuous living in the community. In this way, the availability of interprofessional team is strength for implementing a change. Although the PACE program at IOA is well-organized for meeting

diverse healthcare needs of the target population, the evidence-based practice guides and tested best practices appear somehow overlooked in terms of smooth and comprehensive fall prevention (see Appendix 6). On these grounds, it is possible to update the existing policies with such evidence-based methods and common interventions recommended by the professional agencies in the field as making home environments hazard-free as well as ensuring that the participants refer to assistive devices to prevent falls (Hopewell et al., 2018; Van Voast Moncada & Mire, 2017). The project aims to accomplish the set goal of reducing the fall risks by applying the process map framework as briefed in Appendix 3. Specifically, the homecare workers will clean the home environment from clutters as well as leave visible reminding notes for the patients reminding them to use assistive devices, such as walkers or canes, to prevent falls.

To reach the goals and objectives, the project will utilize the Plan-Do-Study-Act (PDSA) model that allows solving the problem in a systematic manner based on four steps of continuous improvement (Nelson, Batalden, & Godfrey, 2007). This well thought out approach for testing the improvement focuses on goals and aspirations of the intervention while testing the proposed strategies on a small scale and making adjustments in process using minimal resources (Nelson et al., 2007). In the scope of the current project, the 'Plan' stage will involve formulating the improvement goals aimed at fall prevention, identifying the measures to be evaluated as a project outcome, such as reduced number of falls among elderly, as well as planning the intervention and engagement of the interprofessional team members (see Appendix 5). Next, the 'Do' step will entail implementation of the change by following the process map guidelines along with aggregating the falls-related data in the charts of fall reporting. At the 'Study' stage, the researcher will weigh the obtained data with regard to the anticipated outcomes, such as reduction of the specified falls from three to two per month (see Appendix 5). Finally, the 'Act'

phase will be useful to determine if improvements in the strategy are necessary or it can be established as an organizational policy and further practiced as an integral part of the PACE program. As a result, the PDSA enables implementing a balanced approach towards practice update, with an opportunity for staff engagement, commitment and professional and personal development as the factors contributing to the potential success of the venture (Nelson et al., 2007).

Specific Project Aim

The key objective of the project is to decrease the number of falls due to insecure home environment or ignore the use of mobility devices at home among the participants at PACE program operated by Institute on Aging from the 2018 baseline of three to two per month by the end of July 2019 by enhancing home care services.

Theme for Improvement: safety and quality of care to elderly through fall prevention.

Methods

Context

Microsystem Assessment

OnLok/ PACE program operated by Institute on Aging currently provides care services to 295 seniors and people with disabilities aged 55 and above. Their ethnic representation is multidimensional, including 55% of Asian, 14% of Hispanic, 11% of African American as well as 11% of European American origin, while 9% of patient population comprise of other ethnicities. Health conditions of the patients range from aging complications, like frailty, to chronic health conditions among others. As for the staff composition, the PACE service delivery

is grounded on the work of 6 physicians, 3 nurse practitioners, 8 registered nurses, 4 licensed vocational nurses, 6 social workers, 3 physical therapists, 2 occupation therapists, 9 van drivers, 7 van escorts, 15 center workers, and 43 homecare workers.

Culture Assessment

The problem is often attributed to the miscommunication or fragmentary collaboration between the members of the interprofessional team. As mentioned earlier, the root cause analysis of the On Lok patient data helped in revealing the key risks for elderly falls, such as ignoring using assistive devices or overlooked clutters in the home environment. For this reason, it will be necessary to create a brief report or booklet for the engaged staff members to be able to communicate the essence of the problem, its significance, rationale for the project, as well as the intervention to be implemented, with explicit rationale for persuasive dissemination of the information for ensuring personnel's buy-in.

SWOT analysis.

To conduct the intervention as a framework that leverages the benefits and strengths of the setting while eliminating the shortcomings and weaknesses in the program, it is useful to conduct the strengths, weaknesses, opportunities and threats (SWOT) analysis of the PACE program operated by Institute on Aging. As for the strengths, the program has a rather diversified strategy to address the multiple health needs and problems of the elderly individuals by means of the collaboration of the members of the interdisciplinary team. At the same time, the problem of high-level rate of falls among the elderly reveals the gap in implementation of the services as anticipated, which is the weakness of the PACE project. The problem is often attributed to the miscommunication or fragmentary collaboration between the members of the interprofessional team. However, the available contemporary scholarly literature on the topic suggests a number of

favorable opportunities to mitigate the challenge. While the current strategy in the scope of the PACE is in line with common practices in the field, the staff merely needs to update the framework by combining the best practices (reminding on using assistive devices and making the home environment hazard-free for elderly) and stricter monitoring of these services as a good option to address the problem in a comprehensive and holistic manner.

ROI plan. The current average wage for the homecare worker at On Lok (operated by Institute on Aging), San Francisco, California, is approximately \$18 per hour. In the scope of the PACE program, 152 participants receive homecare services and are under risk of falls. Hence, the participants need assistance with cleaning the clutters in their home environments and making reminders for using assistive devices at home in light of their physical and/or cognitive impairment. The proposed plan is to have the homecare workers to clean the walkway in the participants' home environment and make sure the written reminders for using assistive devices are in place (e.g. on the fridge or wall) once a month. The homecare workers will verbally remind these seniors to use their assistive device at every visit. It will add one extra hour to each participant's total monthly homecare hours. The estimated cost for this fall prevention intervention is \$2,736 per month. In this regard, it is critical to position the transformation as a vital necessity for the organization because it entails a measure of cost-efficiency, making the return on investment (ROI) a justified measure of the anticipated success of the project. To illustrate, studies estimate that elderly falls are root causes of fatal and non-fatal injuries among the target population with estimated expenditures of at least \$3.2 million for treatment of the patients in the US annually (Burns, Stevens, & Lee, 2016). Thus, prevention of falls can be explicitly regarded as a valid option for prevention of additional healthcare cost incurred.

Communication Plan Due to the fact that falls in elderly are one of the major health concerns both in the US and On Lok setting in particular, especially in light of soaring costs for both providers and families, there is a need to provide well-justified rationale to engage employees in project aimed at improvement of the situation. Since the project entails a critical success factor for the On Lok's operations as a service for elderly care and their quality life in the community, making improvements in the project will be necessary to ensure the strategy works as expected and the process is mutually beneficial for all the stakeholders. Hence, clear communication of the needs and solutions for improvements in preventing such incidence will be positioned as a measure to decrease the expenditures for the setting while being accountable for the participants' safety and quality of service in order to engage the staff in the committed strategy implementation.

Intervention

The intervention will involve homecare workers to post a reminder on the fridge or wall in the seniors' home in their native language, such as Spanish, Chinese and Russian, of the following content "please use your assistive device at home to prevent fall" and add the homecare task of "cleaning up the clutters on the floor and/or clearing the walkway" to their homecare plan (see Appendix 13). In addition, the homecare RNs will provide a brief health education communication with the homecare workers, participants and their families on the need to both prevent falls as well as do not hesitate to report the cases of falls to make sure these instances are not overlooked and health consequences or comorbidities are minimized.

At the initial stage of the project, the homecare workers will be instructed on adherence to the two key aspects of the intervention strategy as specified above. The homecare RNs will monitor the interventions during each of their scheduled visits to the participants. At the post-

intervention phase, I will collect the data on the number of falls by participants' self-report, reports by the homecare workers and other On Lok professionals.

Measures

To evaluate the efficacy of the improvement initiative for addressing the challenges due to falls among elderly patients of On Lok, the project utilizes such a family of measures as outcome, process and balancing.

Outcome

The key outcome measure in the scope of the intervention involved the goal of reducing falls due to insecure home environment or ignore the use of mobility devices at home among the participants at PACE program operated by Institute on Aging from the 2018 baseline of three to two per month by the end of the project by enhancing home care services.

Process

The primary process-related focus entailed study of the patients' health history, especially history of falls and their consequences, along with evaluation of the scholarly findings on the topic to identify the common fall-related risks. In this way, the project team determined availability of clutters or hazards in the home environment and non-use of assistive devices as the most common threats (Ungar, Rafanelli, Iacomelli, Brunetti, Ceccofiglio, Tesi, & Marchionni, 2013). On these grounds, the second process measure was defined as creating reminders for seniors to use the assistive devices as well as cleaning the walkway from clutters. Finally, one more process measure was reporting falls with regard to following the above intervention guidelines in the charts, which also contained a specific column for identification of other reasons for falls was created to expand the scope of risk prevention in future.

Balancing

Balancing measure was concerned with prevention of barriers for implementation of the improvement strategy. According to the brainstorming activity involving the interprofessional team members, it was identified that miscommunication or lack of communication between the professionals and the increased workload for homecare workers can be challenging. To mitigate the barrier, one extra hour has been added to the weekly homecare plans, while arranging a meeting with the engaged staff to disseminate the project-related information, emphasizing the significance of the problem, solution and staff's contribution as a key to success was a measure to mitigate the other shortcoming.

Ethical Considerations

The principle of autonomy is one of the major principles in the context of the study involving human subjects, especially such a vulnerable group as that of elderly (Vanclay, Baines, & Taylor, 2013). In the scope of the current improvement intervention, the participants may experience/ feel loneliness, privacy invasion, or limitations on or lack of independence (Vanclay et al., 2013). To address the issue, the project utilizes participants and staff members' education in order to educate them on ethicality of the research. The strategy comprises of explaining the sample the fall-related problem as well as the significance of its prevention for patient safety while emphasizing that the implemented intervention is the best evidence-based practice in the field. Explaining these factors along with promoting patient autonomy, the CNL is likely to foster the work environment that is both ethical and safe.

Results

The intervention on fall risk reduction in elderly On Lok participants was put into practice as planned according to the ‘Do’-part of the PDSA cycle (see Appendix 5). With this theoretical perspective, the improvement intervention had an opportunity for a small-scale focus for and testing of the improvement along with early measuring of small successes, if any, with minimized utilization of resources and clear role redistribution (Nelson, Batalden, & Godfrey, 2007). The timeline for the project was set for two months. For the sample size of 152 patients aged 55 years and more who lived in the community, the homecare nurses updated the homecare plans adding one extra hour for implementing the intervention based on the process map indicated in Appendix 6. After checking if the home of the patient on possible clutters, the nurses ensured cleaning the clutters and walkway in participant’s home to make their home environments hazard-free at the moment of the nurses’ visit. In addition, the homecare workers have posted the written reminders in the participants’ home in their native language, such as Spanish, Chinese and Russian as specified in Appendix 10. The reminders were printed in large-size font to catch the patient’s attention and placed to ensure their visibility, such as on refrigerators or near patient’s bed. The homecare workers were instructed to adhere to the homecare plan and remind the participant to use assistive device at each visit. The homecare RNs monitored the implementation of the interventions during each of the scheduled visits to the participants, while the members of the team reported falls’ incidence daily and weekly according to the chart in Appendix 11 based on the data collected on their own, participant’s or their relative’s self-report. The chart allowed indicating the incidence of falls, using/ non-using assistive devices, or existing of clutters, as well as specification of other reasons for falls, if any.

In this way, the reports of falls were collected on a weekly basis on the grounds of the participants' self-report, reports by the homecare workers, and other On Lok professionals.

However, after the first two weeks of the improvement intervention, the homecare workers informed that some of the participants did not report falls as they did not want the team and family to know about the issues. This factor was specified as a barrier for accurate data collection. In this regard, the implementation procedure for the healthcare improvement strategy on fall prevention was updated. Specifically, the intervention team members were acknowledged of the likelihood of seniors' underreporting of falls. As a result, the homecare nurses were instructed on monitoring the bruises, injuries, reduced mobility or pain among other potential consequences of falls as specified in the 'Act'-part of the PDSA model (see Appendix 5). Such observational data was specified in the 'other' column of the chart from Appendix 11. Still, the nature of the observed injuries could not be considered as solely fall-related and rather subjective in essence, somehow undermining the quality of these data. In general, the homecare nurses reported that the majority of the patients (above 94%) tended to follow the recommended interventions.

Overall, based on the implementation of the improvement strategy, the data showed that the goal of reducing the number of falls due to insecure home environment or ignore the use of mobility devices at home from three to two per month among participants at PACE IOA was met, to a great extent. The raw data for the number of falls, as the key outcome-focused measure in the context of the project, is summarized in a table in Appendix 12 explicating that 6 falls were reported during the project duration. In particular, in month one of the intervention, two falls were reported; while in month two, there were four fall. For month one, two falls were related to patients' non-use of assistive devices. The same was observed for two out of four falls

reported for month two. However, two other falls for month two were caused by the patients' experiencing medical events (stroke and syncope), thus, non-related to the variables aimed to be controlled in the scope of the current project. As a result, the data revealed the anticipated reduction of falls in elderly On Lok's patients from three falls identified as baseline to two falls on average, as targeted by the project. Therefore, the project goal was met and positive results were drawn on the grounds of the improvement project as seniors have enhanced their safety awareness with the interventions which were implemented. In this way, the results allow drawing a clear measure-outcome association.

Discussion

For the most part, the results demonstrated the positive outcome of reaching the set goal, namely, reducing one fall a month among the participants of PACE program at Institute on Aging. On the one hand, the primary evidence derived from the implementation of the healthcare improvement initiative seems valid in terms of revealing the effectiveness of the intervention of fall prevention among elderly, including making the home environment as hazard-free as well as reminding of using the assistive devices. On the other hand, the empirical data collected during the implementation process allowed an opportunity for making explicit correlation with the earlier studies on the topic in question. In this regard, the results showed that the chosen ways of preventing risks of falls in elderly (i.e. such assistive devices as canes and walkers) can be effective for reducing the numbers of falls in the target population. Moreover, the effectiveness of implementation seems to be reasonably associated with proper planning process at the initial stages of designing the intervention on the basis of the PDSA model as well as best evidence-based practices in the sector. Specifically, the assumption relates to pre-intervention discussion of the problem with the engaged staff members as well as considering strategies concerned with

knowledge gaps in the seniors. This finding is in line with that of Chesser, Woods, Reyes, and Rogers (2018) who emphasized the need to address the fall-related literacy in the target audience as a background factor for successful fall prevention interventions.

Likewise, the fact that the implemented project combined several initiatives is also in correspondence with the previous research as a contributor to the positive change outcomes. Indeed, Luz, Bush, and Shen (2017) along with Hopewell et al. (2018) explicated a necessity of combining techniques of fall prevention to ensure reaching the set goals. At the same time, the results of the current project showed the likelihood of underreported findings, including elderly's unwillingness to inform about falls to the caregivers or family members. This finding reflects Kaminska's et al. (2015) statement that at least 30% of those who experience falls tend not to report the cases to either caregivers or medical staff. The above factor may entice the intervention team considering the family members' inclusion into the intervention team as facilitators of the proposed strategies to prevent falls, for instance, education of the families in terms of the role of assistive devices' or reminders' accessibility for elderly. In addition, an emphasis on friendliness and empathy should be regarded as a way to maintain trustworthy and supportive relationships between patients, their families, and healthcare providers as facilitating drivers for the reporting of falls, their risks or other related issues. Therefore, the well-planned fall prevention strategy, as implemented in the project, can be useful for sustainable service delivery for On Lok's patients.

Conclusions

Drawing upon the findings of the project, its value for provision of healthcare to seniors should not be underestimated. Specifically, both theoretical and empirical findings showed an acute and topical need to take into account the risks of falls in elderly population, especially

when their continuous living in the community is concerned. With these findings, On Lok can upgrade the PACE service with a particular emphasis on falls prevention, while also taking into consideration the need for comprehensive assessment of patients for fall risks to make the interventions not merely standardized but more personalized, as suggested and recommended by the regulators and followers of best practices in the field. On a similar note, the intervention allowed testing and verifying the common fall prevention tools among elderly, such as reminding to use mobility devices as well as making the patient's home environment as hazard-free. Thus, the strategy can be further used in order to eliminate the problem for the target population group. As for the potential expansion of the proposed solution, one can consider widening the scope of intervention, including exercising and handling the cardiovascular challenges in patients at risk based on the assessment findings as well as according to best practices available in the up to date literature on topic.

Apart from the positive lessons learned from the improvement intervention, it is necessary to identify some shortcomings in the implementation process, or rather the ways to expand the scope of the intervention and make the procedure more thorough and holistic. In particular, regulators, practitioners and scholars promoting best practices in the field of elderly fall prevention emphasize the need for the preliminary comprehensive patient assessment in order to formulate and carry out the individualized prevention strategies (Van Voast Moncada & Mire, 2017). In this respect, the practitioners may utilize the verified tools, such as the Geriatric Environmental Inquiry (GRI), the Barthel Scale (BS), the Abbreviated Mental Test Score (AMTS), and the Geriatric Depression Scale (GDS), to list a few (Kaminska et al., 2015). Some other factors of specific level of caution and risks for falls can be the patient's age or previous experiences of falls with severe outcomes, traumas, or stroke. These factors were overlooked in

the current project while the common risks for falls were taken for granted, such as cluttering in the home environment and forgetfulness of using assistive devices. Nevertheless, during the practical implementation of the quality improvement intervention, it was noted that some of the falls occurred due to patient's experiencing stroke, for example. Hence, even though the usefulness of reminding to use assistive devices and creating the hazard-free home environment appeared of sufficient value for fall reduction rate, the other potential risks have not been mitigated.

At the same time, the previous studies in the field emphasized the need for expanding the scope of services to including specific fall prevention training for elderly as another way to expand the scope of the intervention, thus, its anticipated outcomes for the target audience. For instance, the widened scope of multifactorial interventions may involve: (a) combined motor and cognitive training of patients' balance and strength for enhancing their fall prevention capacities along with mitigating their fear of falls (Barban et al., 2017); (b) review of prescription of vitamin D supplements and medication intake evidenced; and (c) management of cardiovascular and fracture risk factors, to list a few (Hopewell et al., 2018; Luk et al., 2015). Overall, while the falls' reduction strategy can be replicated as rationalized in the current project, sufficient improvements can be made to adjust the intervention and ensure it is of more comprehensive nature for gaining more holistic results for patients and developing a more sustainable practice in On Lok and other settings.

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Appendices

Appendix 1: IRB Non-research determination form

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

STUDENT NAME: En Zhu

DATE: 3/23/2019.

SUPERVISING FACULTY: Institute on Aging.

Instructions: Answer YES or NO to each of the following statements:

Project Title: Reducing the Number of Falls in On Lok Participants by Enhancing Homecare Services	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	X	
The specific aim is to improve performance on a specific service or program and is a part of usual care . ALL participants will receive standard of care.	X	
The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.	X	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.	X	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	X	
The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	X	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	X	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: <i>“This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”</i>	X	

ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. IRB review is not

required. Keep a copy of this checklist in your files. If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

Appendix 2

Table 1

Evaluation Table

	Citation	Conceptual framework	Design/ method	Sample/ setting	Major variables	Findings	Worth to practice
1.	Barban, F. et al. (2017). Reducing fall risk with combined motor and cognitive training in elderly fallers. <i>Brain Sciences</i> , 7(2), E19. doi: 10.3390/brainsci7020019.	None	Multicenter RCT	481 elderly people	Executive function based training and motor skills training	Combined training reduced the fear of falls	Usefulness of combined strategies for fall prevention
2	Chesser, A. K., Woods, N. K., Reyes, J., & Rogers, N. L. (2018). Health literacy and older adults: Fall prevention and health literacy in a Midwestern state. <i>Journal of Aging Research and Healthcare</i> , 2(2), 31-40. doi: 10.14302/issn.2474-7785.jarh-17-1911.	None	Retrospective analysis of state-wide data Behavioral risk factor surveillance survey	Statewide	Health literacy rates and falls among older adults aged 65 and more	The highest number of falls between men of metropolitan area	Identification of at-risk groups
3	Hopewell, S., Adedire, O., Copsey, B. J., Boniface, G. J., Sherrington, C., Clemson, L., Close, J. C. T., & Lamb, S. E. (2018). Interventions based on individual assessment of falls risk and multiple component interventions for preventing falls in older people in the community. <i>Cochrane Database of Systematic Reviews</i> , 7, Art. No.: CD012221. doi: 10.1002/14651858.CD012221.pub2.	None	Systematic literature review	43 trials	Fall prevention strategies compared: - Multifactorial interventions - attentional control - exercising - multiple component interventions	Multifactorial interventions/ combination of exercising, assistive devices and modification of home environment/ found the most effective ones	Identification of best practice strategies
4	Kaminska, M. S., Brodowski, J., & Karakiewicz, B. (2015). Fall risk factors in community-dwelling elderly depending on their physical function, cognitive status and symptoms of depression. <i>International Journal of Environmental Resources and Public Health</i> , 12, 3406-3416. doi: 10.3390/ijerph120403406.	None	Survey: the Geriatric Environmental Inquiry (GRI), the Barthel Scale (BS), the Abbreviated Mental Test Score (AMTS), and the Geriatric Depression Scale (GDS)	304 patients aged 65-100 years	Fall risk factors: Home environment Mental health depression	Higher falls' rates in people with lower functional status, depressive symptoms, affective relationships or cognitive impairment	Identification of at-risk groups
5	Luk, J. K. H., Chan, T. Y., & Chan, D. R. Y. (2015). Falls prevention in the elderly: Translating evidence	None	Literature synthesis	Elderly people	Risks of falls Risk and needs	Usefulness of diverse fall-related	The wide scope of the problem

	into practice. <i>Hong Kong Medical Journal</i> , 21(2), 165-171. doi: 10.12809/hkmj144469.				assessments Falls prevention strategies	interventions confirmed, especially if combined	
6	Luz, C., Bush, T., & Shen, X. (2017). Do canes or walkers make any difference? Nonuse and fall injuries. <i>The Gerontologist</i> , 57(2), 211-218. doi: 10.1093/geront/gnv096.	None	Cross-sectional study using self-administered survey	262 participants aged 60 and more	Use of canes or walkers for fall prevention as compared to non-use	Better fall prevention with assistive devices	Evidence for usefulness of assistive devices in falls prevention
7	Spears, G. V., Roth, C. P., Miakel-Lye, I. M., Saliba, D., Shekelle, P. G., & Ganz, D. A. (2013). Redesign of an electronic clinical reminder to prevent falls in older adults. <i>Medical Care</i> , 51(3 Suppl 1), S37-43. doi: 10.1097/MLR.0b013e31827807f8.	None	Survey	3 Veterans Health Administration clinics 2943 veterans aged 75 years and more	Patient screening for fall risks Electronic clinical reminders for fall prevention or quick response	Electronic reminders can be useful for routine fall prevention, but more attention should be paid to exercising as well	Value of reminders in fall prevention

Appendix 3

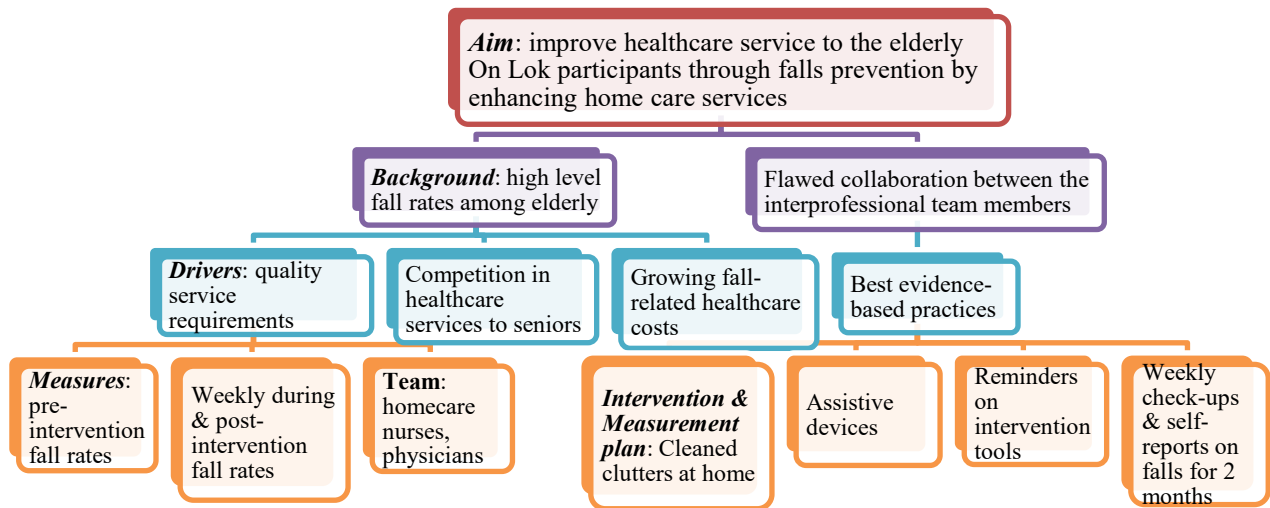


Figure 1. Charter that includes the project’s aim, background, measures, driver diagram, team, intervention and measurement strategy, as well as timeline

Appendix 4

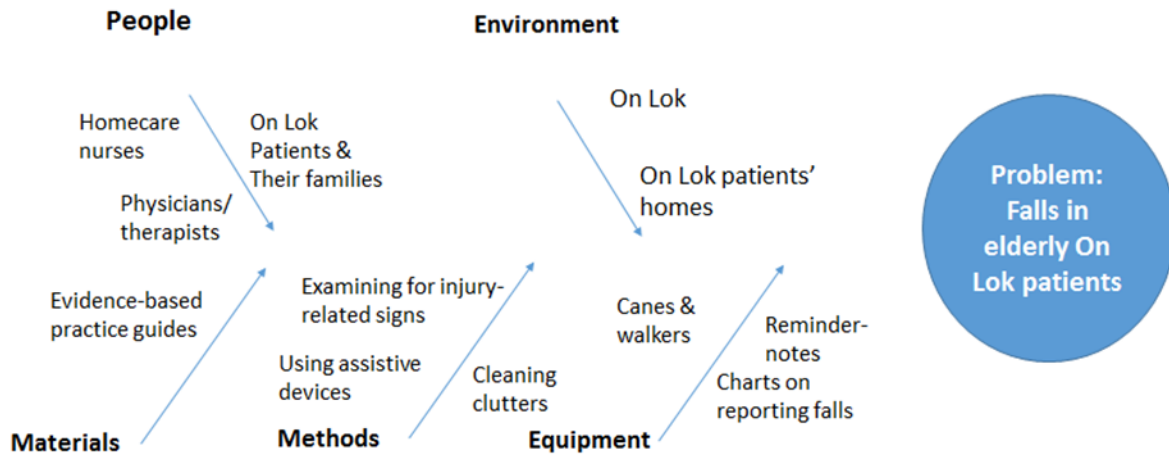


Figure 12. Fishbone diagram on addressing the problem of falls at home

Appendix 5

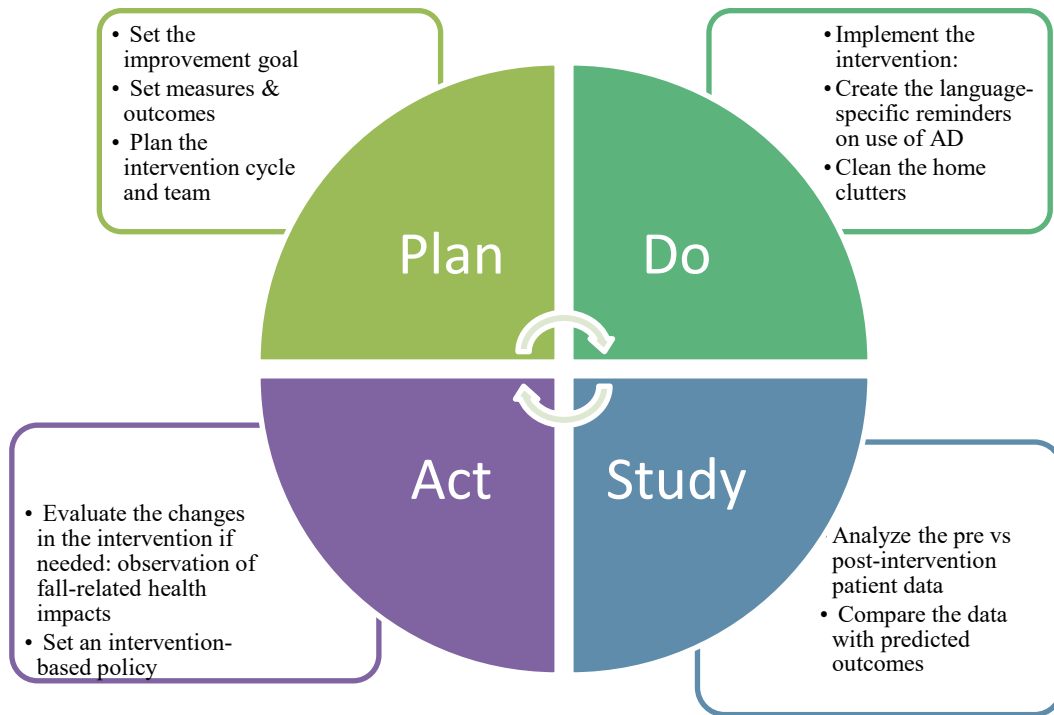


Figure 2. The PDSA plan for the On Lok program aimed at fall prevention in elderly

Appendix 6

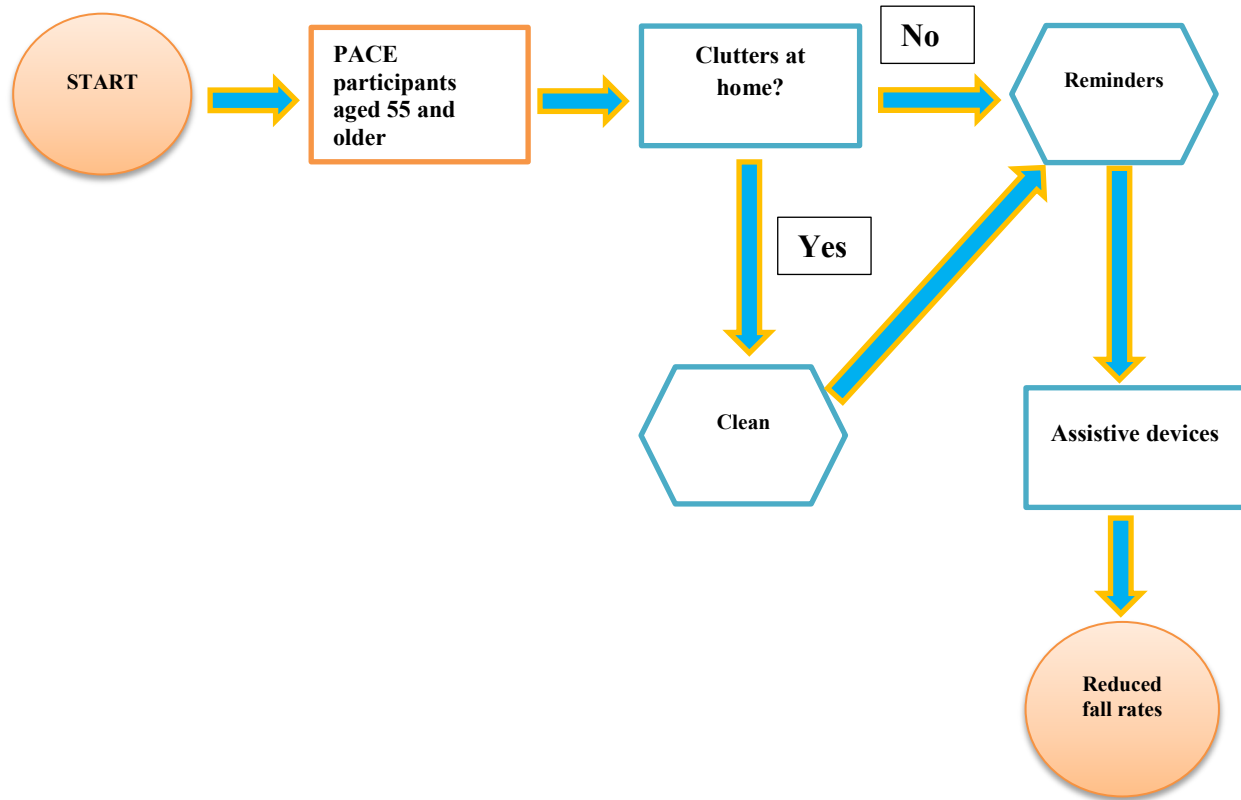


Figure 3. The process map for reduction of falls in On Lok participants

Appendix 7

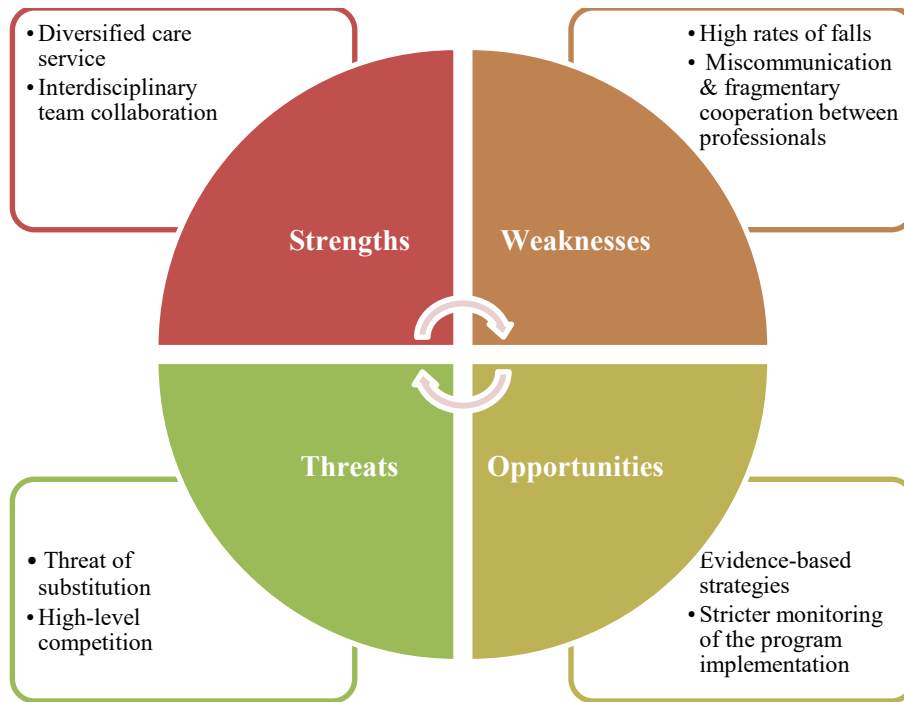


Figure 4. SWOT analysis for the On Lok's PACE program

Appendix 8

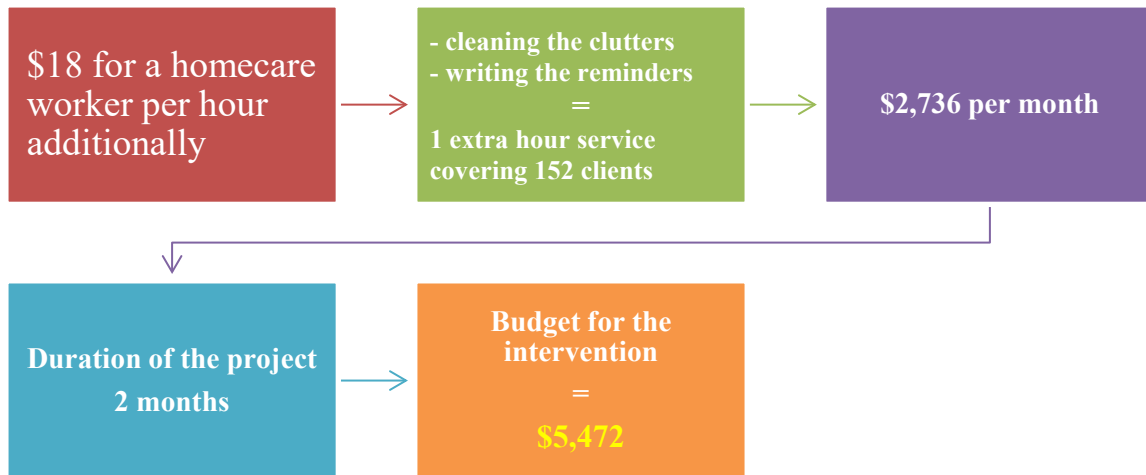


Figure 5. Budget for the program

Appendix 9

Table 2

Cost-Utility Analysis for the Fall Prevention Program

Fall prevention	Cost per client	Measure of Effectiveness				Overall utility	Cost-utility ratio
		<i>No cluttering</i>	<i>Assistive devices</i>	<i>Fall risk reduction</i>	<i>Client Satisfaction</i>		
	\$36	7	7	7	7	7	\$7.71
	(\$5,472/ 152)						
		1.4	1.4	2.8	1.4		
Importance Weight		0.2	0.2	0.4	0.2		

Appendix 10

Sample note for reminding to use assistive devices

English: “Please use your assistive device at home to prevent fall”

Russian: “Пожалуйста, используйте трость или ходунки дома чтобы предотвратить падение”

Spanish: “Por favor, use su dispositivo de asistencia en el hogar para evitar caídas”

Chinese: “请在家中使用的辅助设备，以防止跌倒”

Appendix 11

Table 3

Sample Chart for Reporting Falls

Month _____		Number of falls	Clutter Y/N	AD Y/N	Other
Week _____	Day 1				
	Day 2				
	Day 3				
	Day 4				
	Day 5				
	Day 6				
	Day 7				

Appendix 12

Table 4

Results of the Intervention

Months	Falls in Week 1	Falls in Week 2	Falls in Week 3	Falls in Week 4
June	0	1	1	0
July	1	2	1	0

Appendix 13

Duration:

6/3/2019 to 7/28/2019

Month One (June 2019)

Week 1: 6/3/19-6/9/19

Week 2: 6/10/19-6/16/19

Week 3: 6/17/19-6/23/19

Week 4: 6/24/19-6/30/19

Month Two (July 2019)

Week 1: 7/1/19-7/7/19

Week 2: 7/8/19-7/14/19

Week 3: 7/15/19-7/21/19

Week 4: 7/22/19 – 7/28/19

Appendix 14

Sample Homecare Plan

Homecare Plan

Date: 6/3/2019

Client: CW

Attendance: Monday – Friday *van pickup 8:30AM, drop-off 3:45PM-4PM*

Assignment:

Monday to Friday 7AM to 8:30AM (1.5 hrs)

- Assist with toileting
 - Assist with dressing
 - Assist with Soothe & Cool cream: apply cream to skin around buttocks & groin area at diaper change
 - Assist with Hemorrhoid cream if needed for irritation/discomfort in anal area
 - Assist with hygiene/grooming
 - Assist with preparing breakfast *client needs supervision with eating because of risk for aspiration
 - Remind client to eat slowly
 - Remind client to lean forward & tuck her chin when eating and swallowing *client tends to lean neck backwards and swallow, which increases her risk of having foods going into airway, causing issue*
 - HCW stabilize and hold client's neck upright when she eats to prevent client leans neck backward, increasing risk of aspiration
 - Med cueing if family hasn't done
 - Light housekeeping: wash dishes, clean up table/counter after meal prep, empty/clean bedside commode
 - Make sure to help client get ready for van pickup
 - **Remind client to use assistive devices**
-

Monday & Friday PM 4PM – 5:30PM (1.5 hrs)

- Assist with showering
- Assist with Soothe & Cool cream: apply cream to skin around buttocks & groin area at diaper change
- Assist with Hemorrhoid cream if needed for irritation/discomfort in anal area
- Assist with meal prep if family hasn't prepared yet
- Cue client to eat her meal, including snacks and fruits
- Med cueing if family hasn't done *ok to give whole pills; big pills cut in ½*

- Light housecleaning: clean bathroom floor after shower; empty/clean bedside commode
- **Remind client to use assistive devices**
- **Clean the clutters in client's bedroom/living room/kitchen and clear the walkway (every Friday +1 hr)**

➔ **Total HC hours: 11.5 hrs/wk**

*Notify HC DEPT immediately if there's any fall, concern or issue.