Fall Prevention in Older Adults

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Grant Request: $100,000

Abstract:

When researching fall prevention in older adults, we found that fall injuries are the leading cause of morbidity and mortality. Throughout the CDC and other sources, we have determined that without making changes in this population's daily life injuries and deaths will continue to rise. We have come up with an eight week program that is designated to strengthen the parts of the body through different exercises and activities. This program will reduce fall risk in older adults in Allegheny county significantly. Another major goal is to educate the older population on the severity of falls and what will happen if they do not take proper care of themselves. With this grant we will be able to broaden our program to other counties and reduce the statistics of fall risk.

Section 1: Background and Significance

Falls are the leading cause of morbidity and mortality in older adults. According to the Centers for Disease Control and Prevention (CDC), each year in emergency departments 3 million older people are treated for fall injuries (*Facts About Falls 2021*). Preventing falls with various strategic programs and education will help older adults realize the severity of the life altering consequences due to falls. The fall death rate in older adults in this country increased 30% from 2007 to 2016 (*Facts About Falls 2021*). Looking a decade into the future, if this statistic does not decrease we expect to see several deaths every hour in older adults.

King's College London did an updated systematic review and meta-analysis on exercise to prevent falls in older adults. Some recommendations they identified for fall prevention in older adults include at least 3 hours of exercise per week, ongoing participation in exercise or benefits are lost, and fall prevention exercises in group or home-based settings (Sherrington 2017).

A systematic review was done on physical activity programs for balance and fall prevention. It showed that the world's demographic changes were progressively aging. Due to that, the physiological decay of elderly adults could lead to a decrease in ability to balance, having an increased rate in risk of falling. In order to prevent this from happening, it has been proven effective that physical activity improves balance, decreasing the likeliness of a fall. After analyzing the effects of resistance, aerobic exercise, balance training, adapted physical activity and Wii Fit training on balance outcomes, studies showed improvements between 16%- 42% compared to baseline assessments. (Thomas 2019).

To decrease the percentage of falls in older adults, there is a need for programs that are focused towards gaining strength and educating about fall risk and prevention. This has become increasingly important as the older adult population continues to grow.

Section 2: Goals and Objectives

Goal 1: Reduce fall risk in older adults significantly by exercise programs in Allegheny county

Objectives:

- At least 10% of community-based older adults in Allegheny county will be provided with complimentary 8 week exercise programs which will include improving balance exercises by the end of 2022.
- Of exercise program participants, at least 50% will exercise for 3 or more hours each week during their 8 week exercise program.

Goal 2: Increase the awareness of fall risk in older adults

Objectives:

- At least 50% of community-based older adults in Allegheny county will be mailed an educational brochure about the risk of falling and actions to take to prevent falls by the end of the first quarter of 2022.
- Provide educational seminars about the risk of falling in older adults to at least 20% of community-based older adults in Allegheny county by mid-year 2022.
- At least 80% of seminar participants will receive follow-up communication from a local healthcare provider by the end of the 2022 year.

Section 3: Project Description

When researching the statistics of fall prevention in older adults, the best outcomes would come from an eight week exercise program. During this program, we are trying to increase the amount of time older adults exercise each week. We will provide educational brochures and facts about the severity of what could happen when falls occur.

Week 1: Who Will Receive Services

We will recruit members to our program by putting up flyers and mailing out brochures to the at risk population. With this recruiting, we will have 20-25 spots available for the first trail run of this program.

Week 2: Services Available

Provided by the members running the program, there will be transportation available to meet at a local community center. In the community center, there will be beginner level activities that strengthen stability in older adults.

Week 3: Services Delivered

Leaders of the program will gather equipment that will help gain strength of the older adults that are participating. Activities such as WII fit or sports, one pound weights for increasing mobility, step aerobics, resistance bands, etc.

Week 4: Facilities Provided

We will rent out the community center to provide the community with a safe environment to participate in these activities. Concerning transportation, we will start with an accessible van company that will help if any participants need assisted transportation.

Week 5: Management of Programs

Have an outline that is provided to the participants before it starts with the activities that will be provided. Do a survey every week to hear how the program is going and what we can do to make it more friendly to the participants.

Week 6: Staff Needed

People such as college students that are in health related programs. We can provide an internship to these students in order to fulfill their majors curriculum. There will also be other trained volunteers that will oversee the activities and transportation.

Week 7: Timeline

We will have our program three times a week and provide a variation of each activity each week. This will start at beginner level and work up to more vigorous activities. There will also be an adaptive version that requires less movement if they are not comfortable proceeding to the advanced level.

Week 8: Logistics

The logistics are reasonable due to the amount of volunteering staff and the facilities that are provided. We obtain all the equipment, resources, and personnel that is needed for the program to be a success.

Section 4: Expected Outcomes

The expected outcomes from the program will reduce fall risk in older adults significantly by exercise programs. This will consist of improvements resulting from 20-25 older adults who successfully completed the eight week long program. We expect 50% of the participants to complete at least 3 hours of balance exercises per week of the duration of this program. The program will also aim to increase awareness of fall risks and prevention in the population of older adults residing in Allegheny county. The expected outcomes will result in s50% older adults receiving a mailed educational brochure about the risk of falling and actions to take to prevent falls. This program will also provide educational seminars about the risk of falling in older adults to at least 20% of Allegheny county mid year of 2022. Of these participants, 80% will receive follow-up communication from a local healthcare provider by the end of the 2022 year. The financial component from the grant will allow for purchasing exercise equipment, rent to a larger facility, expand transportation, and gain more participants to the program. It can also allow more funding to financially compensate the volunteers who donate their time to aid the program.

Section 5: Project Evaluation

The project's success will be evaluated by continuing to use surveys and get feedback from the participants. Data will be collected with the use of surveys given to participants, there will be a section in the survey that includes fall prevention and will ask if they feel more stable after taking the classes.

Sample Strategy & Method

The sample size will be the 20-25 older adults, male and female who will be participating in the fitness classes. Due to this being a new and up running program, this sample size will allow us to see if the program is successful, having an impact on older adults, giving us time to make any changes and get more money in order to expand our program to more participants and volunteers.

Data Collection

To increase response rate we will ask all of the survey questions in person, to each participant and surveys will always be given at the same time. Data will be collected by writing down responses, there will be a volunteer who is assigned to record responses and then put all data into Google Forms that will provide data and graphs for the responses. This was chosen to ensure that all participants take part in the survey, if they choose to. Also, to make sure that responses are given in a timely manner. Furthermore, this prevents any issues from arising during the response collection, such as not getting all responses, and also accounts for those that do not have internet/phone access.

Quantitative Data Measurements

We will measure how much weight the participants are able to lift, their mobility range, and their balance/stability at the start of the program and at the end of the program. To measure

the weight participants can hold we will test various movements holding 1-5 pound weights and making sure they can safely lift them. We will track how much they can lift at the beginning and then see how much more weight they can lift at the end of the program. To measure mobility range we will measure how far participants can move in various stretches/movements at the beginning and end of the program. Balance/stability will be measured by several assessments that will be provided by physical therapists, to check participants gross motor skills.

Section 6: Project Budget

The staff total came out to be $55,000. Some people may see this as a high total but there are many reasons as to why it is that amount. It is important to have program directors and staff that are educated and certified in order to exemplify the correct exercises to the participants. Without certification, people may believe that it is not an accredited program and will not provide adequate results. The equipment total came out to be $17,000, specifically equipment purchases having the majority of the section budget with $10,000. We allocated this money so that we can have the appropriate fitness equipment needed to ensure that the older adults are gaining fall prevention techniques.The category “other total” came out to be $23,000. The professional services subcategory came to a total of $2,900. This includes financial, legal and payroll services as well as insurance costs. These are crucial to be included into the grant project in order to have professional services. The faculty subcategory came to a total of $2,100. This includes areas such as meeting rooms, office supplies and postage costs to support our grant proposal. Occupancy expenses have subcategories labeled as rent, cleaning/maintenance, and utilities. It’s important to have a space to rent in order to perform our services and need ample money since the average building rent is around $600 a month. Cleaning/maintenance is a major big part of our space in order to maintain cleanliness and sanitation as well as making sure our equipment and technology are up to date and working properly for the safety of our staff and the public. With the lease that we are signing with it is an extra $300 for gas, water and electricity. Transportation total came out to be $16,000. We are offering transportation to people who are not capable of getting to our facility and would like to participate still. The service total came out to be $5,000. This spending will go towards participants including, marketing/outreach, printing/reproduction, screening for eligible participants, and program/intervention delivery in

order to increase participants and advertise our program. This comes to a grand total of $100,000, which is what we are asking of our investors.

BUDGET PROPOSAL - Fall Prevention Program Document #1 Grant Year 2022	Budget Line Item Amount
STAFF CATEGORY	
SALARIES	
Program Director	$ 30,000.00
Staff members	$ 10,000.00
Salary Subtotal	$ 40,000.00
BENEFITS	
Program Director	$ 10,000.00
Staff members	$ 5,000.00
Benefits Subtotal	$ 15,000.00
STAFF TOTAL	$ 55,000.00
EQUIPMENT CATEGORY	
Equipment Purchase	$ 10,000.00
Equipment Lease/Maintenance	$ 5,000.00
Computer/Server/Website Maintenance Agreements	$ 2,000.00
EQUIPMENT TOTAL	$ 17,000.00
OTHER CATEGORY	
PROFESSIONAL SERVICES	
Attorney	$ 500.00

Audit	**$ 500.00**
Bookkeeping/Accounting	**$ 300.00**
Information Technology/software	**$ 500.00**
Liability Insurance	**$ 300.00**
Payroll Service	**$ 300.00**
Staff Training/Education	**$ 500.00**
FACILITY	
Meeting Room Charge	**$ 600.00**
Office Supplies	**$ 500.00**
Program Supplies	**$ 500.00**
Postage and Overnight Mail	**$ 500.00**
OCCUPANCY EXPENSES	
Rent	**$ 600.00**
Cleaning/Maintenance	**$ 400.00**
Utilities	**$ 300.00**
TELEPHONE/INTERNET/FAX	
Cell phone service	**$ 200.00**
Landline telephone service	**$ 200.00**
Teleconference service	**$ 100.00**
Internet service	**$ 200.00**
TRAVEL	
Travel - Transportation	**$ 16,000.00**

OTHER TOTAL	**$**	**23,000.00**
SERVICES TO PARTICIPANTS		
Marketing/Outreach	**$**	**1,000.00**
Printing/Reproduction	**$**	**1,500.00**
Screening for eligible participants	**$**	**1,000.00**
Program/Intervention delivery	**$**	**1,500.00**
SERVICES TOTAL	**$**	**5,000.00**
GRAND TOTAL	**$**	**100,000.00**

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